

# RECEIVED

By dehloptoxic at 7:46 am, Feb 15, 2007

Project No. **7584.P.001.01** 

February 9, 2007

Mr. Robert Strong 500 Bollinger Canyon Way, Suite A4 San Ramon, CA 94583

Subject:

224 Rickenbacker Circle Livermore, California

#### INTERIM SITE CHARACTERIZATION REPORT

Reference:

ENGEO Inc., Revised Work Plan for Soil and Groundwater Sampling; 224 Rickenbacker Circle, Livermore, California; December 26, 2006; Project No. 7584.P.001.01.

Dear Mr. Strong:

ENGEO Incorporated is pleased to present our findings regarding Task 1, the soil vapor assessment, completed for 224 Rickenbacker Circle (Property) in Livermore, California (Figure 1). The soil vapor assessment was requested by Alameda County Environmental Health as the first part of the required additional site characterization.

#### SITE HISTORY

The Property was formerly operated as a dry cleaning facility that utilized a tetrachloroethene (PCE)-based machine. According to the property owner, approximately 10 years ago the PCE-based machine was replaced by an Exxon DF2000 clean solvent machine and subsequently a silicon-based machine. All equipment was removed from the building in October 2005. Based on a site reconnaissance, a former boiler room was located in the southeastern corner of the building and a conventional washing machine pad with a grated drain was observed just north of the boiler room. A concrete patch was visible on the floor, as indicated on Figure 2, which is the assumed sanitary sewer alignment. A sanitary sewer cleanout was visible between the building and Rickenbacker Circle.

In October 2005, JMK Environmental Solutions, Inc. advanced three soil borings to a depth of approximately 35 feet below the ground surface and recovered soil samples from each boring. Analytical results of the soil samples indicated the presence of PCE to the maximum depth explored in the two borings nearest the dry cleaning machine location. Based on review of the laboratory results for the soil samples, several samples exhibited concentrations of PCE in excess of the San Francisco Bay Regional Water Quality Control Board Environmental Screening

7584.P.001.01 February 9, 2007 Page 2

Levels (ESLs) for vapor intrusion. Groundwater was not encountered during the investigation, and therefore, no groundwater samples were collected.

A copy of the report prepared by JMK Environmental Solutions, Inc. was submitted to the Alameda County Health Services Agency along with a request for Site/Case Closure. Alameda County issued a letter dated July 6, 2006, in response to the request for case closure, requesting a work plan to delineate the extents of contamination at the Property.

#### SCOPE OF SERVICES

The scope of work for Task 1 included a soil vapor survey. The purpose of the soil vapor survey is to determine if potentially hazardous levels of volatile organic compounds (VOCs) may exist at the Property.

The scope of services provided by ENGEO consisted of the following:

- Notifying Underground Service Alert to identify known subsurface utilities.
- Use of a private utility locator to identify any subsurface utilities within proposed exploration locations.
- Advancement of nine soil vapor probes (SG-1 through SG-9) to 5 feet bgs (Figure 2).
- Analysis of the soil vapor samples for Volatile Organic Compounds by EPA Method 8260B utilizing an on-site mobile laboratory.
- Recovery of two soil samples from approximately 1 foot and 5 feet bgs at two locations (Figure 2).
- Analysis of the soil samples for Volatile Organic Compounds (VOCs) and total petroleum hydrocarbons as gasoline, diesel, and motor oil.
- Preparation of this interim letter report documenting the field and laboratory activities.

### FIELD ACTIVITIES, LABORATORY TESTING, AND RESULTS

Prior to the start of work, boring locations were marked in the field and Underground Service Alert (USA) was contacted for underground utility clearance. Additionally, a private utility locator was contracted to identify any potential subsurface utilities within the proposed exploration locations.

7584.P.001.01 February 9, 2007 Page 3

### Soil Vapor Sampling

On January 22, 2007, under the supervision of ENGEO, nine soil vapor probes (SG-1 through SG-9) were advanced to 5 feet bgs. Locations of the nine soil vapor probes are depicted on Figure 2. Soil vapor samples were recovered using standard protocol developed by TEG - Northern California, Inc. (TEG) and in general accordance with CAL-EPA and CA DTSC methodology (Appendix A). The Strataprobe direct-push soil vapor probes utilized a hydraulic hammer to drive a 1-inch-diameter rod to the desired sampling depth, and a bentonite seal was applied between the drive rod and ground surface. A disposable drive tip at the end of the rod was fitted with disposable poly tubing to which a sampling port with a stainless steel post run fitting was attached.

After the 20-minute equilibration period, the soil vapor was withdrawn from the inert tubing using a calibrated syringe connected by way of an on-off valve. A purge volume test was conducted at the first soil vapor location and the purge volume with the highest analytical value was used for subsequent sampling. During sampling, a leak check gas was used. For quality assurance purposes, a leak detection compound, 1,1-Diflouroethane was used during sampling. Probe rods were decontaminated with a non-phosphate detergent and three-bucket wash between each soil boring location.

The mobile laboratory analytical report prepared TEG is presented as Appendix A. A summary of soil vapor analytical results are presented in Table 1, and are compared to the San Francisco Regional Water Quality Control Board's (SFRWQCB's) environmental screening levels (ESLs¹) for evaluation of potential indoor air impacts (Table E-2). Volatile organic compounds were detected in all soil vapor samples collected. Reported concentrations for tetrachloroethene (PCE) exceed the ESLs set forth by the SFRWQCB in all soil vapor samples recovered. In the soil vapor sample recovered from directly below the former dry cleaning machine, reported concentrations for *cis*- and *trans*-1,2-dichloroethene, trichloroethene and vinyl chloride exceed their respective environmental screening levels.

#### Shallow Soil Sampling

Two shallow soil samples were recovered from the Property on January 22, 2007, using a proprietary penetrometer-percussion probe. The soil samples were recovered from approximately 1 foot and 5 feet bgs next to the drain the boiler room (P-1) and within the former waste/chemical storage area near the southeastern corner of the building (P-2). Drilling was performed under the direction of an ENGEO Environmental Engineer. Sampling equipment was cleaned between borings with Alquinox and rinsed with distilled water.

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<sup>&</sup>lt;sup>1</sup> San Francisco Bay Regional Water Quality Control Board; February 2005, Interim Final, Screening for Environmental Concerns at Site with Contaminated Soil and Groundwater, Volume 1, Table K-1, Direct-Exposure Screening Levels, Residential Exposure Scenario.

The soil samples were recovered in ¾-inch by 6-inch brass liners which were sealed with Teflon sheets secured by tight fitting plastic end caps and tape. The samples were labeled to indicate a unique sample number, sample location, and time and date collected. Following recovery, the samples were labeled and preserved in a cooled ice chest for transportation to Severn Trent Laboratories, Inc. in Pleasanton, California.

The soil samples were analyzed for the following:

- Total Petroleum Hydrocarbons (TPH) as diesel and motor oil by EPA Method 8015B.
- Volatile Organic Compounds (VOCs) by EPA Method 8260B.

The laboratory analytical reports prepared by Severn Trent Laboratories, Inc. are included in Appendix B. A summary of the soil analytical results are presented in Table 2.

Several VOCs were detected in the recovered shallow soil samples. In sample P-1, acetone was detected at concentration of 62 ug/kg in the 1-foot sample, and tetrachloroethene (PCE) was detected at a concentration of 5.5 ug/kg in the 5-foot sample. No VOCs were reported above laboratory detection limits for sample P-2.

Total Petroleum Hydrocarbons as diesel were reported at both sampling locations and TPH as motor oil was detected at sample location P-1. Reported concentrations for TPH as diesel were 2.6 ug/kg and 190 ug/kg in the 1- and 5-foot samples for sample P-1 respectively, and at a concentration of 2.9 ug/kg in the 1-foot sample at P-2. TPH as motor oil was detected at a concentration of 1000 ug/kg in the 5-foot sample at location P-1.

The reported concentrations for VOCs are below the San Francisco Regional Water Quality Control Board's environmental screening levels (ESLs) for commercial soil to indoor air (Table E-1b). Additionally, the reported concentrations for TPH as diesel and motor oil did not exceed the ESLs for commercial direct exposure, and would not be expected to impact commercial use of the property.

#### CONCLUSIONS

Concentrations of VOC compounds detected during the soil vapor survey indicated that the property has been adversely affected by past use as a dry cleaning site. Based on the results of the survey, we have proposed five boring locations to delineate the extents of the PCE-impacted soil and possible groundwater impact. The boring locations were selected based on previous soil data presented by JMK Environmental, results of soil gas survey, and to address potential uncertainty in the direction of groundwater flow (Figure 2).

7584.P.001.01 February 9, 2007 Page 5

A Geoprobe® direct-push sampling rig will be used to recover soil samples in 1½-inch-diameter sample cores in clear acrylic tubes. Descriptions of the drilling activities and the soil samples will be prepared by an ENGEO Environmental Geologist/Engineer. Sampling equipment will be cleaned with Alquinox and rinsed with distilled water between each sample recovery. Soil samples will be recovered at 5, 10, 20, and 30 feet below the ground surface (bgs). An additional soil sample will be collected at the saturated zone in the boring located near the northwestern corner of the building. A photoionization detector will be used to screen the soil for organic vapors during drilling activities. A sample will be recovered from any location where a significant organic vapor reading is recorded (greater than 100 ppmv). A soil sample will be recovered at the top of the saturated zone from each boring location. We expect 12 to 15 soil samples will be retained for analysis.

Groundwater will be sampled from all borings. The borings will be advanced to approximately 50 feet below the ground surface and temporary casing will be advanced in the borehole and grab-groundwater samples will be recovered using a dedicated polyethylene tube equipped with a check valve.

Following recovery, the groundwater samples will be decanted into appropriate laboratory glassware. All soil and groundwater samples will be labeled with a unique sample number, sample location, and time and date collected. The samples will be preserved in a cooled ice chest for delivery under documented chain of custody to a certified analytical laboratory. Soil and groundwater samples will be analyzed for petroleum hydrocarbons (EPA 8015) and Volatile Organic Compounds (EPA Method 8260B).

After samples are recovered, the boreholes will be grouted with neat cement in accordance with a permit provided by Zone 7. Field work has been tentatively scheduled for the week of February 26. Based on a one-week laboratory turn around time, a final report can be prepared within two after the completion of the field work.

#### LIMITATIONS

We performed our professional services in accordance with generally accepted environmental engineering principles and practices currently employed in Northern California at the time of this report. No other warranty is expressed or implied.

We limited our investigation to the authorized scope of work. Our investigation is not intended to be comprehensive, to identify all potential concerns, or to guarantee that no additional environmental contamination beyond that described in this report exists at the site.

The findings in this report are valid as of the time of investigation; however, changes in subsurface conditions can occur over time, whether due to natural processes or human activity on the Property or on surrounding properties. ENGEO Incorporated has prepared this report for the

7584.P.001.01 February 9, 2007 Page 6

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exclusive use of Mr. Robert Strong. It is recognized and agreed that ENGEO has assumed responsibility only for undertaking the study for the client. The responsibility for disclosures or reports to a third party and for remedial or mitigative action shall be solely that of the Client.

We appreciate the opportunity to be of continued service to you on this project. If you have any questions, please contact us.

Very truly yours,

ENGEO INCORPORATED

MR Botelho

Kelly Krohn

kk/jb:interimrpt

Attachments: Figure 1 – Vicinity Map

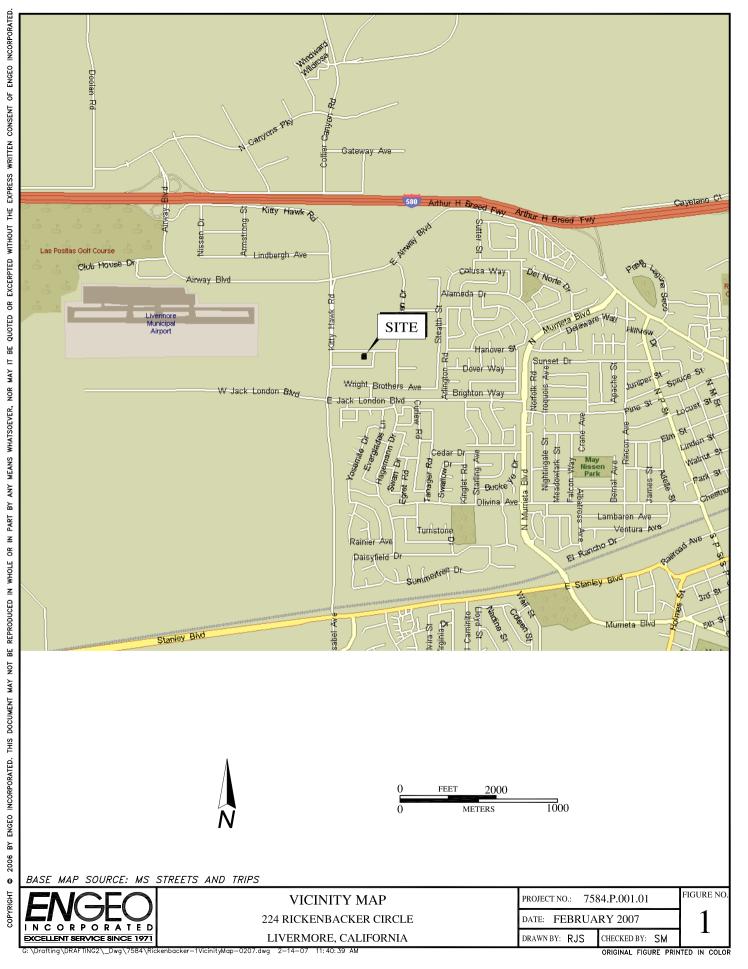
Figure 2 – Sample Locations

Tables 1 and 2

Appendix A – TEG, Soil Vapor Results

Appendix B – Severn Trent Laboratories, Inc., Laboratory Test Results

Shawn Munger, CHG, REAII



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TABLE 1. SOIL GAS DATA

	SFRWQCB	SG-1	SG-2	SG-3	SG-4	SG-5	SG-6	SG-7	SG-8	SG-9
		Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas				
	ESL	5 ft	5 ft	5 ft	5 ft	5 ft				
		1/22/2007	1/22/2007	1/22/2007	1/22/2007	1/22/2007	1/22/2007	1/22/2007	1/22/2007	1/22/2007
	μg/m³	μg/m³	μg/m³	μg/m³	μg/m³	μg/m³	μg/m³	μg/m³	μg/m³	μg/m³
TARGET ANALYTE										
VOCs	TABLE E-2									
BENZENE	290	<100	<100	<100	<100	<100	<100	100	<100	<100
DICHLOROETHENE, 1,1-	120000	<100	<100	<100	<100	4700	<100	<100	<100	<100
DICHLOROETHENE, cis-1-2-	20000	<100	<100	17000	450	780,000 (50)	<100	470	<100	1700
DICHLOROETHENE, trans-1,2-	41000	<100	<100	4000	210	140,000 (50)	<100	<100	<100	500
*DIFLOUROETHANE, 1,1-	N/A	<100	<100	<100	<100	<100	<100	<100	<100	<100
ETHYLBENZENE	1200000	<100	<100	<100	<100	<100	<100	120	<100	<100
TOLUENE	180000	<100	320	220	210	<100	250	550	270	270
TETRACHLOROETHENE	1400	16000	15000	38000	11000	860,000 (50)	25000	5700	4300	4100
TRICHLOROETHENE	4100	150	480	18000	1200	4,600,000 (50)	1300	3000	310	3100
VINYL CHLORIDE	110	<100	<100	<100	<100	1800	<100	<100	<100	<100
XYLENE(S)	410000	<100	120	<100	<100	<100	<100	450	100	130

<sup>\*</sup> LEAK CHECK COMPOUND (NUM) - DILUTION FACTOR FOR COMPOUND

**TABLE 2. SHALLOW SOIL DATA** 

SFRWQCB	P-1	P-1	P-2	P-3
	Soil	Soil	Soil	Soil
ESL	1 ft	5 ft	1 ft	5 ft
	1/22/2007	1/22/2007	1/22/2007	1/22/2007
mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
TABLE E-1B				
3300	0.062	<0.049	< 0.050	< 0.047
0.24	<0.0048	0.0055	< 0.0050	< 0.0047
TABLE K-2				
4600	<48	1000	<49	<50
750	2.6	190	2.9	<0.99
750	<0.24	<0.23	<0.24	<0.25
	ESL  mg/kg  TABLE E-1B  3300  0.24  TABLE K-2  4600  750	Soil     1 ft     1/22/2007     mg/kg   mg/kg	Soil   Soil   Soil       ESL	Soil         Soil         Soil           ESL         1 ft         5 ft         1 ft           1/22/2007         1/22/2007         1/22/2007         1/22/2007           mg/kg         mg/kg         mg/kg         mg/kg           TABLE E-1B           3300         0.062         <0.049



# APPENDIX A

### TEG – NORTHERN CALIFORNIA

Laboratory Analytical Reports



# SOIL VAPOR SURVEY METHODOLOGY DTSC Protocols

### **Active Soil Vapor Sampling System**

TEG's low-dead volume soil vapor sampling system has been inspected, endorsed, and is favored by all regulatory agencies who have seen it, including the EPA and CA DTSC. The design eliminates the risk of air leakage down the soil vapor probe, ensures sample collection from the tip, and greatly facilitates decontamination procedures.

#### **Probe Construction**

TEG's soil vapor probes are constructed of 1 inch outer diameter chrom-moly steel, equipped with a steel drop off tip. The Strataprobe can use a larger diameter probe if needed. Nominal lengths are 4 feet and additional lengths may be added to one another to achieve the required sampling depth. An inert 1/8 inch tube runs through the center of the probe and is attached to the sampling port with a stainless steel post run fitting.

#### **Probe Insertion**

The probe is driven into the ground with an electric rotary hammer, or with the Strataprobe. After inserted to the desired depth, the probe is retracted slightly, which opens the tip and exposes the vapor sampling port. This design prevents clogging of the sampling port and cross-contamination from soils during insertion. Once the probe rod is placed, the sample can be collected after waiting twenty minutes for equilibration.

#### Soil Gas Sampling

Soil vapor is withdrawn from the inert tubing using a calibrated syringe connected via an on-off valve. A purge volume test is conducted by sampling at the first soil vapor location three times after sequentially collecting and discarding one, three, and seven dead volumes of soil vapor gas to flush the sample tubing and fill it with in-situ soil vapor. The purge volume used prior to the sample yielding the highest analytical value is used for all subsequent sampling. After purging, the next 20cc to 50cc of soil vapor are withdrawn in the syringe, plugged, and immediately transferred to the mobile lab for analysis within the required holding time. During sampling, a leak check gas is used to confirm that the sample train and probe rod is tight and leak free. Additional soil vapor may be collected and stored in gas-tight containers (e.g. Summa canisters) as desired.

### Flushing & Decontamination Procedures

To minimize the potential for cross-contamination between sites, all external probe parts are cleaned of excess dirt and moisture prior to insertion. The internal inert tubing and sampling syringes are flushed with large volumes of ambient air between samples or discarded as required. If water, dirt, or any material is observed in the tubing, the tubing is discarded and replaced with fresh tubing.



#### **DTSC Protocols**

### **Analytical Methodology**

Soil vapor samples collected from each probe will be transferred directly to the on-site mobile laboratory and analyzed immediately. There will be minimal lag time between sample collection and analysis, ensuring that the integrity of the sample is maintained.

Samples will be analyzed on a gas chromatograph equipped with capillary columns and a combination of mass spectrometer (GC/MS), TCD, and FID detectors as needed. This combination of columns and detectors ensures compound separation, recognition, and detection at the required levels.

These detectors enable on-site analysis for petroleum hydrocarbons, volatile aromatics (BTEX), and volatile organic compounds (e.g. DCE, TCE, PCE, vinyl chloride) using EPA approved analytical methodology outlined in methods 8260B and 8015m. Output signals from each detector are processed by computer chromatography software and the results entered into a laboratory computer for on-site processing.

#### **Daily instrument Calibration**

Daily continuing calibration is performed at the start of each day by injecting and analyzing a mid-range calibration standard. Acceptable continuing calibration agreement: +/- 15% to 25% to the calibration curve, depending on the compound.

### **Blanks & Duplicates**

Blanks are analyzed at the start of each day and more often as appropriate depending upon the measured concentrations. Typically, when high sample values are encountered, additional blanks may be analyzed. Duplicate samples are analyzed as needed or as requested by the client or regulatory agency.

#### **Compound Confirmation**

A MS (mass spectrometer) detector is used for absolute compound identification of VOCs. Also, a surrogate compound is added to each sample during analysis to confirm that the chromatographic retention times have not shifted during the course of the day and that surrogate recovery is adequate showing proper instrument operation and integrity.



#### **Health and Safety - Training and Medical Monitoring Programs**

In order to reduce potential employee exposure to hazardous materials and reduce the risk of injury incurred during the normal performance of work, TEG maintains active participation of personnel in a Injury and Illness Prevention Program (IIPP). Each TEG employee that performs work in a laboratory or in the field, is required to have completed a 40-hour training session in accordance with 29 CFR 1910.120. The Health and Safety Officer coordinates all aspects of training and maintaining the Injury and Illness Prevention program, including, but not limited to:

- -- annual physical examination of field personnel (including an initial baseline exam upon hiring)
- -- health, safety and hazardous material training
- -- first aid and Cardio-Pulmonary Resuscitation (CPR) training
- -- safety equipment inventory and purchasing
- -- review of health and safety procedures, exposure limits, and plans for each project.

Work procedures and required safety conditions are determined on the basis of anticipated work, environmental conditions and levels of toxic chemicals at a given site. Consultation with client safety personnel or representatives is undertaken to determine potential health hazards to workers at that site. Each TEG employee participates in all pre-job safety meetings at each job site.



### APPENDIX B

SEVERN TRENT LABORATORIES Laboratory Analytical Reports



### **ANALYTICAL REPORT**

Job Number: 720-7405-1

Job Description: 224 Rickenbacker Circle

For: Engeo, Inc. 2010 Crow Canyon Place Suite 250 San Ramon, CA 94583

Attention: Ms. Kelly Krohn

Survider Sidhu

Surinder Sidhu Project Manager I ssidhu@stl-inc.com 01/29/2007

Project Manager: Melissa Brewer

### **EXECUTIVE SUMMARY - Detections**

Client: Engeo, Inc. Job Number: 720-7405-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method	
720-7405-1	P-1@1'					
Acetone	<u> </u>	62	48	ug/Kg	8260B	
Diesel Range Orga	nics [C10-C28]	2.6	0.97	mg/Kg	8015B	
720-7405-3	P-1@5'					
Tetrachloroethene		5.5	4.9	ug/Kg	8260B	
Diesel Range Orga	nics [C10-C28]	190	20	mg/Kg	8015B	
Motor Oil Range Oi	rganics [C24-C36]	1000	980	mg/Kg	8015B	
720-7405-4	P-2@1'					
Diesel Range Orga	nics [C10-C28]	2.9	0.98	mg/Kg	8015B	

### **METHOD SUMMARY**

Client: Engeo, Inc. Job Number: 720-7405-1

Description	<b>Lab Location</b>	Method	Preparation Method	
Matrix: Solid				
Volatile Organic Compounds by GC/MS	STL SF	SW846 8260B		
Purge and Trap for Solids	STL SF		SW846 5030B	
Volatile Organic Compounds by GC/MS (Low Level)	STL SF	SW846 8260B		
Purge and Trap for Solids	STL SF		SW846 5030B	
Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)	STL SF	SW846 8015B		
Microscale Solvent Extraction (MSE)	STL SF		SW846 3570	

### LAB REFERENCES:

STL SF = STL San Francisco

### **METHOD REFERENCES:**

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

### **SAMPLE SUMMARY**

Client: Engeo, Inc. Job Number: 720-7405-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-7405-1	P-1@1'	Solid	01/22/2007 0937	01/22/2007 1640
720-7405-3	P-1@5'	Solid	01/22/2007 0948	01/22/2007 1640
720-7405-4	P-2@1'	Solid	01/22/2007 1004	01/22/2007 1640
720-7405-6	P-2@5'	Solid	01/22/2007 1020	01/22/2007 1640

Client: Engeo, Inc. Job Number: 720-7405-1

Client Sample ID: P-1@1'

 Lab Sample ID:
 720-7405-1
 Date Sampled:
 01/22/2007 0937

 Client Matrix:
 Solid
 Date Received:
 01/22/2007 1640

8260B Volatile Organic Compounds by GC/MS

Method: 8260B Analysis Batch: 720-17583 Instrument ID: Varian 3900E

Preparation: 5030B Lab File ID: c:\varianws\data\200701\01

Dilution: 1.0 Initial Weight/Volume: 5.27 g

Date Analyzed: 01/25/2007 1721 Final Weight/Volume: 10 mL Date Prepared: 01/25/2007 1721

DryWt Corrected: N Result (mg/Kg) Qualifier RLAnalyte 0.24 Gasoline Range Organics (GRO)-C5-C12 ND Surrogate %Rec Acceptance Limits Toluene-d8 (Surr) 98 70 - 130 1,2-Dichloroethane-d4 (Surr) 122 60 - 140

Client: Engeo, Inc. Job Number: 720-7405-1

Client Sample ID: P-1@1'

 Lab Sample ID:
 720-7405-1
 Date Sampled:
 01/22/2007 0937

 Client Matrix:
 Solid
 Date Received:
 01/22/2007 1640

### 8260B Volatile Organic Compounds by GC/MS (Low Level)

Analysis Batch: 720-17560 Instrument ID: Method: 8260B Agilent 75MSD Preparation: Lab File ID: 012407007.D 5030B Dilution: 1.0 Initial Weight/Volume: 5.26 g Date Analyzed: 01/24/2007 1427 Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Methyl tert-butyl ether		ND		4.8
Acetone		62		48
Benzene		ND		4.8
Dichlorobromomethane		ND		4.8
Bromobenzene		ND		4.8
Chlorobromomethane		ND		19
Bromoform		ND		4.8
Bromomethane		ND		9.5
Methyl Ethyl Ketone		ND		48
n-Butylbenzene		ND		4.8
sec-Butylbenzene		ND		4.8
tert-Butylbenzene		ND		4.8
Carbon disulfide		ND		4.8
Carbon tetrachloride		ND		4.8
Chlorobenzene		ND		4.8
Chloroethane		ND		9.5
Chloroform		ND		4.8
Chloromethane		ND		9.5
2-Chlorotoluene		ND		4.8
4-Chlorotoluene		ND		4.8
Chlorodibromomethane		ND		4.8
1,2-Dichlorobenzene		ND		4.8
1,3-Dichlorobenzene		ND		4.8
1,4-Dichlorobenzene		ND		4.8
1,3-Dichloropropane		ND		4.8
1,1-Dichloropropene		ND		4.8
1,2-Dibromo-3-Chloropropane		ND		48
Ethylene Dibromide		ND		4.8
Dibromomethane		ND		9.5
Dichlorodifluoromethane		ND		9.5
1,1-Dichloroethane		ND		4.8
1,2-Dichloroethane		ND		4.8
1,1-Dichloroethene		ND		4.8
cis-1,2-Dichloroethene		ND		4.8
trans-1,2-Dichloroethene		ND		4.8
1,2-Dichloropropane		ND		4.8
cis-1,3-Dichloropropene		ND		4.8
trans-1,3-Dichloropropene		ND		4.8
Ethylbenzene		ND		4.8
Hexachlorobutadiene		ND		4.8
2-Hexanone		ND		48
Isopropylbenzene		ND		4.8
4-Isopropyltoluene		ND		4.8
		· · <del></del>		

Client: Engeo, Inc. Job Number: 720-7405-1

Client Sample ID: P-1@1'

 Lab Sample ID:
 720-7405-1
 Date Sampled:
 01/22/2007 0937

 Client Matrix:
 Solid
 Date Received:
 01/22/2007 1640

### 8260B Volatile Organic Compounds by GC/MS (Low Level)

Method:8260BAnalysis Batch: 720-17560Instrument ID:Agilent 75MSDPreparation:5030BLab File ID:012407007.DDilution:1.0Initial Weight/Volume:5.26 g

Dilution: 1.0 Initial Weight/Volume: 5.26 g

Date Analyzed: 01/24/2007 1427 Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Methylene Chloride		ND		9.5
methyl isobutyl ketone		ND		48
Naphthalene		ND		9.5
N-Propylbenzene		ND		4.8
Styrene		ND		4.8
1,1,1,2-Tetrachloroethane		ND		4.8
1,1,2,2-Tetrachloroethane		ND		4.8
Tetrachloroethene		ND		4.8
Toluene		ND		4.8
1,2,3-Trichlorobenzene		ND		4.8
1,2,4-Trichlorobenzene		ND		4.8
1,1,1-Trichloroethane		ND		4.8
1,1,2-Trichloroethane		ND		4.8
Trichloroethene		ND		4.8
Trichlorofluoromethane		ND		4.8
1,2,3-Trichloropropane		ND		4.8
1,1,2-Trichloro-1,2,2-trifluoroetha	ne	ND		4.8
1,2,4-Trimethylbenzene		ND		4.8
1,3,5-Trimethylbenzene		ND		4.8
Vinyl acetate		ND		48
Vinyl chloride		ND		4.8
Xylenes, Total		ND		9.5
2,2-Dichloropropane		ND		4.8
Surrogate		%Rec		Acceptance Limits
4-Bromofluorobenzene		100		60 - 140
1,2-Dichloroethane-d4 (Surr)		104		60 - 140
Toluene-d8 (Surr)		94		70 - 130

Client: Engeo, Inc. Job Number: 720-7405-1

Client Sample ID: P-1@5'

 Lab Sample ID:
 720-7405-3
 Date Sampled:
 01/22/2007 0948

 Client Matrix:
 Solid
 Date Received:
 01/22/2007 1640

8260B Volatile Organic Compounds by GC/MS

Method: 8260B Analysis Batch: 720-17583 Instrument ID: Varian 3900E

Preparation: 5030B Lab File ID: c:\varianws\data\200701\01

Dilution: 1.0 Initial Weight/Volume: 5.35 g
Date Analyzed: 01/25/2007 1743 Final Weight/Volume: 10 mL

Date Prepared: 01/25/2007 1743

DryWt Corrected: N Result (mg/Kg) Qualifier RLAnalyte 0.23 Gasoline Range Organics (GRO)-C5-C12 ND Surrogate %Rec Acceptance Limits Toluene-d8 (Surr) 96 70 - 130 1,2-Dichloroethane-d4 (Surr) 121 60 - 140

Client: Engeo, Inc. Job Number: 720-7405-1

Client Sample ID: P-1@5'

 Lab Sample ID:
 720-7405-3
 Date Sampled:
 01/22/2007 0948

 Client Matrix:
 Solid
 Date Received:
 01/22/2007 1640

### 8260B Volatile Organic Compounds by GC/MS (Low Level)

8260B Analysis Batch: 720-17560 Instrument ID: Method: Agilent 75MSD Preparation: 5030B Lab File ID: 012407010.D Dilution: 1.0 Initial Weight/Volume: 5.07 g Date Analyzed: Final Weight/Volume: 10 mL 01/24/2007 1543

Methyl tert-butyl ether         ND         4.9           Acetone         ND         4.9           Benzene         ND         4.9           Dichlorobromomethane         ND         4.9           Bromobenzene         ND         4.9           Chlorobromomethane         ND         4.9           Bromoform         ND         4.9           Bromomethane         ND         4.9           sec-Butylbenzene         ND         4.9           catron disulfide         ND         4.9           Carbon tetrachloride         ND         4.9           Chlorobenzene         ND         4.9           Chlorobenzene         ND         4.9           Chlorobenzene         ND         4.9           4-Chlorotoluene         ND         4.9           4-Chlorot	Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Benzene         ND         4.9           Dichlorobromomethane         ND         4.9           Bromobenzene         ND         4.9           Chlorobromomethane         ND         4.9           Bromoform         ND         4.9           Bromomethane         ND         4.9           Methyl Ethyl Ketone         ND         4.9           n-Butylbenzene         ND         4.9           sec-Butylbenzene         ND         4.9           Carbon disulfide         ND         4.9           Carbon disulfide         ND         4.9           Carbon tetrachloride         ND         4.9           Chlorobenzene         ND         4.9           Chlorobenzene         ND         4.9           Chlorobenzene         ND         4.9           Chlorobenzene         ND         4.9           Chlorobethane         ND         4.9           Chlorobluene         ND         4.9           4-Chlorobluene         ND         4.9           4-Chlorobluene         ND         4.9           4-Chlorobluene         ND         4.9           4-Delichlorobenzene         ND         4.9	Methyl tert-butyl ether		ND		4.9
Dichlorobromomethane         ND         4.9           Bromobenzene         ND         4.9           Chlorobromomethane         ND         20           Bromoform         ND         4.9           Bromomethane         ND         9.9           Methyl Ethyl Ketone         ND         4.9           n-Butylbenzene         ND         4.9           sec-Butylbenzene         ND         4.9           tert-Butylbenzene         ND         4.9           Carbon disulfide         ND         4.9           Carbon tetrachloride         ND         4.9           Carbon tetrachloride         ND         4.9           Chlorobenzene         ND         4.9           Chloroform         ND         4.9           Chloroform         ND         9.9           Chloroform         ND         4.9           2-Chlorotoluene         ND         4.9           4-Chlorotoluene         ND         4.9           4-Chlorotoluene         ND         4.9           1-2-Dichlorobenzene         ND         4.9           1-2-Dichlorobenzene         ND         4.9           1-2-Dichlorobenzene         ND         4.9	Acetone		ND		49
Bromobenzene         ND         4.9           Chlorobromomethane         ND         4.9           Bromoform         ND         4.9           Bromomethane         ND         4.9           Bromomethane         ND         4.9           Methyl Ethyl Ketone         ND         4.9           n-Butylbenzene         ND         4.9           sec-Butylbenzene         ND         4.9           Carbon disulfide         ND         4.9           Carbon disulfide         ND         4.9           Carbon tetrachloride         ND         4.9           Chlorochtene         ND         4.9           Chlorochtenezene         ND         4.9           ND         4.9         4.9           1,2-Dichtoroprop	Benzene		ND		4.9
Chlorobromomethane         ND         4.9           Bromoform         ND         4.9           Bromomethane         ND         9.9           Methyl Ethyl Ketone         ND         49           n-Butylbenzene         ND         4.9           sec-Butylbenzene         ND         4.9           tert-Butylbenzene         ND         4.9           Carbon disulfide         ND         4.9           Carbon tetrachloride         ND         4.9           Chlorobenzene         ND         4.9           Chlorobenzene         ND         4.9           Chloroform         ND         4.9           Chloroform         ND         4.9           Chloroform         ND         4.9           2-Chlorotoluene         ND         4.9           4-Chlorotoluene         ND         4.9           1-1.2-Dichlorobenzene         ND         4.9 <t< td=""><td>Dichlorobromomethane</td><td></td><td>ND</td><td></td><td>4.9</td></t<>	Dichlorobromomethane		ND		4.9
Bromoform         ND         4,9           Bromomethane         ND         9,9           Methyl Ethyl Ketone         ND         49           n-Butylbenzene         ND         4,9           sec-Butylbenzene         ND         4,9           tert-Butylbenzene         ND         4,9           Carbon disulfide         ND         4,9           Carbon tetrachloride         ND         4,9           Chlorobenzene         ND         4,9           Chlorobenzene         ND         4,9           Chloroethane         ND         9,9           Chloroethane         ND         4,9           Chlorotoluene         ND         4,9           Chlorotoluene         ND         4,9           4-Chlorotoluene         ND         4,9           4-Chlorotoluene         ND         4,9           4-Chlorotoluene         ND         4,9           1,2-Dichlorobenzene         ND         4,9           1,3-Dichlorotonzene         ND         4,9           1,3-Dichlorobenzene         ND         4,9           1,1-Dichloropropane         ND         4,9           1,1-Dichloropropane         ND         4,9	Bromobenzene		ND		4.9
Brommethane         ND         49           Methyl Ethyl Ketone         ND         49           n-Butylbenzene         ND         4.9           sec-Butylbenzene         ND         4.9           tert-Butylbenzene         ND         4.9           Carbon disulfide         ND         4.9           Carbon tetrachloride         ND         4.9           Chlorobenzene         ND         4.9           Chlorobenzene         ND         4.9           Chloroform         ND         4.9           Chloroform         ND         4.9           Chloroformethane         ND         4.9           2-Chlorotoluene         ND         4.9           Chlorodibromomethane         ND         4.9           1-2-Dichlorobenzene         ND         4.9           1,3-Dichlorobenzene         ND         4.9           1,3-Dichloropropane         ND         4.9           1,3-Dichloropropane         ND         4.9           1,1-Dichloropropane         ND         4.9           1,1-Dichloropropane         ND         4.9           Ethylene Dibromide         ND         9.9           Dibromomethane         ND	Chlorobromomethane		ND		20
Methyl Ethyl Ketone         ND         4.9           n-Butylbenzene         ND         4.9           sec-Butylbenzene         ND         4.9           tert-Butylbenzene         ND         4.9           Carbon disulfide         ND         4.9           Carbon tetrachloride         ND         4.9           Chlorobenzene         ND         4.9           Chlorobenzene         ND         4.9           Chloroform         ND         4.9           Chloroform         ND         4.9           Chloroform         ND         4.9           Chlorodoluene         ND         4.9           Chlorodibromomethane         ND         4.9           4-Chlorotoluene         ND         4.9           Chlorodibromomethane         ND         4.9           1,3-Dichlorobenzene         ND         4.9           1,3-Dichlorobenzene         ND         4.9           1,3-Dichloropropane         ND         4.9           1,1-Dichloropropane         ND         4.9           1,1-Dichloropropane         ND         4.9           1,1-Dichloropropane         ND         4.9           Dichlorodifluoromethane         ND </td <td>Bromoform</td> <td></td> <td>ND</td> <td></td> <td>4.9</td>	Bromoform		ND		4.9
n-Butylbenzene	Bromomethane		ND		9.9
n-Butylbenzene	Methyl Ethyl Ketone		ND		49
sec-Butylbenzene         ND         4.9           carbon disulfide         ND         4.9           Carbon tetrachloride         ND         4.9           Chlorobenzene         ND         4.9           Chlorobenzene         ND         9.9           Chloroform         ND         9.9           Chloroform         ND         4.9           Chloroforme         ND         4.9           Chlorotoluene         ND         4.9           4-Chlorotoluene         ND         4.9           4-Chlorotoluene         ND         4.9           4-Chlorotolivene         ND         4.9           1,3-Dichlorobenzene         ND         4.9           1,3-Dichlorobenzene         ND         4.9           1,4-Dichlorobenzene         ND         4.9           1,1-Dichloropopane         ND         4.9           1,1-Dichloropopane         ND         4.9           Ethylene Dibromide         ND         4.9<			ND		4.9
tert-Butylbenzene         ND         4.9           Carbon disulfide         ND         4.9           Carbon tetrachloride         ND         4.9           Chlorobenzene         ND         4.9           Chloroethane         ND         9.9           Chloroethane         ND         4.9           Chloromethane         ND         4.9           4-Chlorotoluene         ND         4.9           4-Incomposer         ND         4.9           4-1,2-Dichlorobenzene         ND         4.9           1,3-Dichloropropane         ND         4.9           1,3-Dichloropropane         ND         4.9           1,1-Dichloroethane         ND         4.9           1,2-Dichloroethane         ND         4.9           1,2-Dichloroethane         ND <td< td=""><td></td><td></td><td>ND</td><td></td><td>4.9</td></td<>			ND		4.9
Carbon disulfide         ND         4.9           Carbon tetrachloride         ND         4.9           Chlorobetnzene         ND         4.9           Chloroethane         ND         9.9           Chloroform         ND         4.9           Chloroformethane         ND         4.9           2-Chlorotoluene         ND         4.9           4-Chlorothoromethane         ND         4.9           4-Chlorothorobenzene         ND         4.9           1,2-Dichlorobenzene         ND         4.9           1,3-Dichlorobenzene         ND         4.9           1,3-Dichloropenzene         ND         4.9           1,3-Dichloropropane         ND         4.9           1,1-Dichloropropane         ND         4.9           1,1-Dichloropropane         ND         4.9           Ethylene Dibromide         ND         4.9           Dibromomethane         ND         4.9           Dichlorodifluoromethane         ND         4.9           1,1-Dichloroethane         ND         4.9           1,2-Dichloroethane         ND         4.9           1,2-Dichloroethene         ND         4.9           cis-1,2-Dichloropro			ND		4.9
Chlorobenzene         ND         4.9           Chloroethane         ND         9.9           Chloroform         ND         4.9           Chlorothane         ND         9.9           2-Chlorotoluene         ND         4.9           4-Chlorotoluene         ND         4.9           Chlorodibromomethane         ND         4.9           1,2-Dichlorobenzene         ND         4.9           1,3-Dichlorobenzene         ND         4.9           1,4-Dichloropropane         ND         4.9           1,4-Dichloropropane         ND         4.9           1,2-Dibromo-3-Chloropropane         ND         4.9           1,1-Dichloropropene         ND         4.9           Ethylene Dibromide         ND         4.9           Dibromomethane         ND         4.9           Dibromomethane         ND         9.9           Dichlorodifluoromethane         ND         4.9           1,2-Dichloroethane         ND         4.9           1,2-Dichloroethane         ND         4.9           1,2-Dichloroethene         ND         4.9           1,2-Dichloropropane         ND         4.9           trans-1,2-Dichloropropene			ND		4.9
Chlorobenzene         ND         4.9           Chloroethane         ND         9.9           Chloroform         ND         4.9           Chlorothane         ND         9.9           2-Chlorotoluene         ND         4.9           4-Chlorotoluene         ND         4.9           Chlorodibromomethane         ND         4.9           1,2-Dichlorobenzene         ND         4.9           1,3-Dichlorobenzene         ND         4.9           1,4-Dichloropropane         ND         4.9           1,4-Dichloropropane         ND         4.9           1,2-Dibromo-3-Chloropropane         ND         4.9           1,1-Dichloropropene         ND         4.9           Ethylene Dibromide         ND         4.9           Dibromomethane         ND         4.9           Dibromomethane         ND         9.9           Dichlorodifluoromethane         ND         4.9           1,2-Dichloroethane         ND         4.9           1,2-Dichloroethane         ND         4.9           1,2-Dichloroethene         ND         4.9           1,2-Dichloropropane         ND         4.9           trans-1,2-Dichloropropene	Carbon tetrachloride		ND		4.9
Chloroethane         ND         4.9           Chloroform         ND         4.9           Chloromethane         ND         9.9           2-Chlorotoluene         ND         4.9           4-Chlorotoluene         ND         4.9           Chlorodibromomethane         ND         4.9           1,2-Dichlorobenzene         ND         4.9           1,3-Dichlorobenzene         ND         4.9           1,4-Dichlorobenzene         ND         4.9           1,3-Dichloropropane         ND         4.9           1,3-Dichloropropane         ND         4.9           1,2-Dibromo-3-Chloropropane         ND         4.9           1,1-Dichloropropane         ND         4.9           Ethylene Dibromide         ND         4.9           Dibromomethane         ND         9.9           Dichlorodifluoromethane         ND         4.9           1,1-Dichloroethane         ND         4.9           1,2-Dichloroethane         ND         4.9           1,2-Dichloroethene         ND         4.9           cis-1,2-Dichloropropane         ND         4.9           cis-1,2-Dichloropropane         ND         4.9           cis-	Chlorobenzene				
Chloroform         ND         4.9           Chloromethane         ND         9.9           2-Chlorotoluene         ND         4.9           4-Chlorotoluene         ND         4.9           Chlorodibromomethane         ND         4.9           1,2-Dichlorobenzene         ND         4.9           1,3-Dichlorobenzene         ND         4.9           1,4-Dichlorobenzene         ND         4.9           1,4-Dichloropropane         ND         4.9           1,3-Dichloropropane         ND         4.9           1,1-Dichloropropane         ND         4.9           1,1-Dichloropropane         ND         4.9           Ethylene Dibromide         ND         4.9           Dibromomethane         ND         4.9           Dichlorodifluoromethane         ND         4.9           1,1-Dichloroethane         ND         4.9           1,2-Dichloroethane         ND         4.9           1,2-Dichloroethene         ND         4.9           cis-1,2-Dichloroethene         ND         4.9           cis-1,3-Dichloropropane         ND         4.9           cis-1,3-Dichloropropene         ND         4.9           ct	Chloroethane		ND		
Chloromethane         ND         9.9           2-Chlorotoluene         ND         4.9           4-Chlorotoluene         ND         4.9           Chlorodibromomethane         ND         4.9           1,2-Dichlorobenzene         ND         4.9           1,3-Dichlorobenzene         ND         4.9           1,4-Dichloropropane         ND         4.9           1,3-Dichloropropane         ND         4.9           1,1-Dichloropropane         ND         4.9           1,1-Dichloropropane         ND         4.9           Ethylene Dibromide         ND         4.9           Dibromoethane         ND         9.9           Dichlorodifluoromethane         ND         9.9           1,1-Dichloroethane         ND         4.9           1,2-Dichloroethane         ND         4.9           1,2-Dichloroethene         ND         4.9           cis-1,2-Dichloroethene         ND         4.9           cis-1,2-Dichloropropane         ND         4.9           cis-1,3-Dichloropropene         ND         4.9           trans-1,3-Dichloropropene         ND         4.9           trans-1,3-Dichloropropene         ND         4.9	Chloroform				
2-Chlorotoluene       ND       4.9         4-Chlorotoluene       ND       4.9         Chlorodibromomethane       ND       4.9         1,2-Dichlorobenzene       ND       4.9         1,3-Dichlorobenzene       ND       4.9         1,4-Dichloropropane       ND       4.9         1,3-Dichloropropane       ND       4.9         1,1-Dichloropropene       ND       4.9         1,2-Dibromo-3-Chloropropane       ND       4.9         Ethylene Dibromide       ND       4.9         Dibromomethane       ND       9.9         Dichlorodifluoromethane       ND       9.9         1,1-Dichlorodethane       ND       4.9         1,2-Dichlorotehane       ND       4.9         1,2-Dichlorotehene       ND       4.9         1,2-Dichlorotehene       ND       4.9         trans-1,2-Dichlorotehene       ND       4.9         1,2-Dichloropropane       ND       4.9         cis-1,3-Dichloropropene       ND       4.9         trans-1,3-Dichloropropene       ND       4.9         thylbenzene       ND       4.9         Hexachlorobutadiene       ND       4.9         2-Hexanone					
4-Chlorotoluene       ND       4.9         Chlorodibromomethane       ND       4.9         1,2-Dichlorobenzene       ND       4.9         1,3-Dichlorobenzene       ND       4.9         1,4-Dichlorobenzene       ND       4.9         1,3-Dichloropropane       ND       4.9         1,1-Dichloropropene       ND       4.9         1,1-Dichloropropane       ND       4.9         Ethylene Dibromide       ND       4.9         Dibromomethane       ND       9.9         Dichlorodifluoromethane       ND       9.9         1,1-Dichloroethane       ND       4.9         1,2-Dichloroethane       ND       4.9         1,2-Dichloroethene       ND       4.9         trans-1,2-Dichloroethene       ND       4.9         trans-1,2-Dichloroethene       ND       4.9         trans-1,2-Dichloropropane       ND       4.9         cis-1,3-Dichloropropene       ND       4.9         trans-1,3-Dichloropropene       ND       4.9         trans-1,3-Dichloropropene       ND       4.9         Ethylenezene       ND       4.9         Hexachlorobutadiene       ND       4.9					
Chlorodibromomethane         ND         4.9           1,2-Dichlorobenzene         ND         4.9           1,3-Dichlorobenzene         ND         4.9           1,4-Dichlorobenzene         ND         4.9           1,3-Dichloropropane         ND         4.9           1,1-Dichloropropene         ND         4.9           1,2-Dibromo-3-Chloropropane         ND         4.9           Ethylene Dibromide         ND         4.9           Ethylene Dibromide         ND         4.9           Dibromomethane         ND         9.9           Dichlorodifluoromethane         ND         9.9           1,1-Dichloroethane         ND         4.9           1,2-Dichloroethane         ND         4.9           1,2-Dichloroethene         ND         4.9           cis-1,2-Dichloroethene         ND         4.9           trans-1,2-Dichloroethene         ND         4.9           1,2-Dichloropropane         ND         4.9           cis-1,3-Dichloropropene         ND         4.9           Ethylbenzene         ND         4.9           Hexachlorobutadiene         ND         4.9           2-Hexanone         ND         4.9					
1,2-Dichlorobenzene       ND       4.9         1,3-Dichlorobenzene       ND       4.9         1,4-Dichloropenzene       ND       4.9         1,3-Dichloropropane       ND       4.9         1,1-Dichloropropene       ND       4.9         1,2-Dibromo-3-Chloropropane       ND       4.9         Ethylene Dibromide       ND       4.9         Dibromomethane       ND       9.9         Dichlorodifluoromethane       ND       9.9         1,1-Dichloroethane       ND       4.9         1,2-Dichloroethane       ND       4.9         1,2-Dichloroethene       ND       4.9         cis-1,2-Dichloroethene       ND       4.9         cis-1,2-Dichloroethene       ND       4.9         trans-1,2-Dichloropropane       ND       4.9         trans-1,3-Dichloropropene       ND       4.9         trans-1,3-Dichloropropene       ND       4.9         Ethylbenzene       ND       4.9         Hexachlorobutadiene       ND       4.9         2-Hexanone       ND       4.9         Sopropylbenzene       ND       4.9	Chlorodibromomethane				
1,3-Dichlorobenzene       ND       4.9         1,4-Dichloropropane       ND       4.9         1,3-Dichloropropane       ND       4.9         1,1-Dichloropropene       ND       4.9         1,2-Dibromo-3-Chloropropane       ND       49         Ethylene Dibromide       ND       4.9         Dibromomethane       ND       9.9         Dichlorodifluoromethane       ND       9.9         1,1-Dichloroethane       ND       4.9         1,2-Dichloroethane       ND       4.9         1,2-Dichloroethene       ND       4.9         1,1-Dichloroethene       ND       4.9         1,2-Dichloroethene       ND       4.9         1,2-Dichloroethene       ND       4.9         trans-1,2-Dichloroethene       ND       4.9         1,2-Dichloropropane       ND       4.9         cis-1,3-Dichloropropene       ND       4.9         trans-1,3-Dichloropropene       ND       4.9         Ethylbenzene       ND       4.9         Hexachlorobutadiene       ND       4.9         2-Hexanone       ND       4.9         Isopropylbenzene       ND       4.9			ND		4.9
1,4-Dichlorobenzene       ND       4.9         1,3-Dichloropropane       ND       4.9         1,1-Dichloropropene       ND       4.9         1,2-Dibromo-3-Chloropropane       ND       49         Ethylene Dibromide       ND       4.9         Dibromomethane       ND       9.9         Dichlorodifluoromethane       ND       9.9         1,1-Dichloroethane       ND       4.9         1,2-Dichloroethane       ND       4.9         1,1-Dichloroethene       ND       4.9         1,2-Dichloroethene       ND       4.9         1,2-Dichloroethene       ND       4.9         1,2-Dichloropropane       ND       4.9         cis-1,2-Dichloropropane       ND       4.9         cis-1,3-Dichloropropene       ND       4.9         trans-1,3-Dichloropropene       ND       4.9         Ethylbenzene       ND       4.9         Hexachlorobutadiene       ND       4.9         2-Hexanone       ND       4.9         Isopropylbenzene       ND       4.9	1,3-Dichlorobenzene		ND		
1,3-Dichloropropane       ND       4.9         1,1-Dichloropropene       ND       4.9         1,2-Dibromo-3-Chloropropane       ND       49         Ethylene Dibromide       ND       4.9         Dibromomethane       ND       9.9         Dichlorodifluoromethane       ND       9.9         1,1-Dichloroethane       ND       4.9         1,2-Dichloroethane       ND       4.9         1,1-Dichloroethene       ND       4.9         1,2-Dichloroethene       ND       4.9         trans-1,2-Dichloroethene       ND       4.9         1,2-Dichloropropane       ND       4.9         cis-1,3-Dichloropropene       ND       4.9         trans-1,3-Dichloropropene       ND       4.9         Ethylbenzene       ND       4.9         Hexachlorobutadiene       ND       4.9         2-Hexanone       ND       4.9         Isopropylbenzene       ND       4.9					
1,1-Dichloropropene       ND       4.9         1,2-Dibromo-3-Chloropropane       ND       4.9         Ethylene Dibromide       ND       4.9         Dibromomethane       ND       9.9         Dichlorodifluoromethane       ND       9.9         1,1-Dichloroethane       ND       4.9         1,2-Dichloroethane       ND       4.9         1,1-Dichloroethene       ND       4.9         cis-1,2-Dichloroethene       ND       4.9         trans-1,2-Dichloroethene       ND       4.9         trans-1,2-Dichloropropane       ND       4.9         cis-1,3-Dichloropropene       ND       4.9         trans-1,3-Dichloropropene       ND       4.9         Ethylbenzene       ND       4.9         Hexachlorobutadiene       ND       4.9         2-Hexanone       ND       4.9         Isopropylbenzene       ND       4.9	1,3-Dichloropropane		ND		
1,2-Dibromo-3-ChloropropaneND49Ethylene DibromideND4.9DibromomethaneND9.9DichlorodifluoromethaneND9.91,1-DichloroethaneND4.91,2-DichloroethaneND4.91,1-DichloroetheneND4.9cis-1,2-DichloroetheneND4.9trans-1,2-DichloroetheneND4.91,2-DichloropropaneND4.9cis-1,3-DichloropropaneND4.9cis-1,3-DichloropropeneND4.9trans-1,3-DichloropropeneND4.9EthylbenzeneND4.9HexachlorobutadieneND4.92-HexanoneND4.9IsopropylbenzeneND4.9					
Ethylene DibromideND4.9DibromomethaneND9.9DichlorodifluoromethaneND9.91,1-DichloroethaneND4.91,2-DichloroethaneND4.91,1-DichloroetheneND4.9cis-1,2-DichloroetheneND4.9trans-1,2-DichloroetheneND4.91,2-DichloropropaneND4.9cis-1,3-DichloropropeneND4.9trans-1,3-DichloropropeneND4.9trans-1,3-DichloropropeneND4.9EthylbenzeneND4.9HexachlorobutadieneND4.92-HexanoneND4.9IsopropylbenzeneND4.9					
DibromomethaneND9.9DichlorodifluoromethaneND9.91,1-DichloroethaneND4.91,2-DichloroethaneND4.91,1-DichloroetheneND4.9cis-1,2-DichloroetheneND4.9trans-1,2-DichloroetheneND4.91,2-DichloropropaneND4.9cis-1,3-DichloropropeneND4.9trans-1,3-DichloropropeneND4.9EthylbenzeneND4.9HexachlorobutadieneND4.92-HexanoneND4.9IsopropylbenzeneND4.9					
DichlorodifluoromethaneND9.91,1-DichloroethaneND4.91,2-DichloroethaneND4.91,1-DichloroetheneND4.9cis-1,2-DichloroetheneND4.9trans-1,2-DichloroetheneND4.91,2-DichloropropaneND4.9cis-1,3-DichloropropeneND4.9trans-1,3-DichloropropeneND4.9EthylbenzeneND4.9HexachlorobutadieneND4.92-HexanoneND4.9IsopropylbenzeneND4.9	-				
1,1-Dichloroethane       ND       4.9         1,2-Dichloroethane       ND       4.9         1,1-Dichloroethene       ND       4.9         cis-1,2-Dichloroethene       ND       4.9         trans-1,2-Dichloroethene       ND       4.9         1,2-Dichloropropane       ND       4.9         cis-1,3-Dichloropropene       ND       4.9         trans-1,3-Dichloropropene       ND       4.9         Ethylbenzene       ND       4.9         Hexachlorobutadiene       ND       4.9         2-Hexanone       ND       4.9         Isopropylbenzene       ND       4.9	Dichlorodifluoromethane		ND		
1,2-Dichloroethane       ND       4.9         1,1-Dichloroethene       ND       4.9         cis-1,2-Dichloroethene       ND       4.9         trans-1,2-Dichloroethene       ND       4.9         1,2-Dichloropropane       ND       4.9         cis-1,3-Dichloropropene       ND       4.9         trans-1,3-Dichloropropene       ND       4.9         Ethylbenzene       ND       4.9         Hexachlorobutadiene       ND       4.9         2-Hexanone       ND       49         Isopropylbenzene       ND       4.9	1.1-Dichloroethane				
1,1-DichloroetheneND4.9cis-1,2-DichloroetheneND4.9trans-1,2-DichloroetheneND4.91,2-DichloropropaneND4.9cis-1,3-DichloropropeneND4.9trans-1,3-DichloropropeneND4.9EthylbenzeneND4.9HexachlorobutadieneND4.92-HexanoneND4.9IsopropylbenzeneND4.9					
cis-1,2-DichloroetheneND4.9trans-1,2-DichloroetheneND4.91,2-DichloropropaneND4.9cis-1,3-DichloropropeneND4.9trans-1,3-DichloropropeneND4.9EthylbenzeneND4.9HexachlorobutadieneND4.92-HexanoneND4.9IsopropylbenzeneND4.9			ND		
trans-1,2-Dichloroethene ND 4.9 1,2-Dichloropropane ND 4.9 cis-1,3-Dichloropropene ND 4.9 trans-1,3-Dichloropropene ND 4.9 Ethylbenzene ND 4.9 Hexachlorobutadiene ND 4.9 2-Hexanone ND 4.9 Isopropylbenzene ND 4.9					
1,2-DichloropropaneND4.9cis-1,3-DichloropropeneND4.9trans-1,3-DichloropropeneND4.9EthylbenzeneND4.9HexachlorobutadieneND4.92-HexanoneND49IsopropylbenzeneND4.9					
cis-1,3-DichloropropeneND4.9trans-1,3-DichloropropeneND4.9EthylbenzeneND4.9HexachlorobutadieneND4.92-HexanoneND49IsopropylbenzeneND4.9					
trans-1,3-Dichloropropene ND 4.9 Ethylbenzene ND 4.9 Hexachlorobutadiene ND 4.9 2-Hexanone ND 4.9 Isopropylbenzene ND 4.9					
EthylbenzeneND4.9HexachlorobutadieneND4.92-HexanoneND49IsopropylbenzeneND4.9					
HexachlorobutadieneND4.92-HexanoneND49IsopropylbenzeneND4.9					
2-HexanoneND49IsopropylbenzeneND4.9					
Isopropylbenzene ND 4.9					
, ,,					
	4-Isopropyltoluene		ND		4.9

Client: Engeo, Inc. Job Number: 720-7405-1

Client Sample ID: P-1@5'

 Lab Sample ID:
 720-7405-3
 Date Sampled:
 01/22/2007
 0948

 Client Matrix:
 Solid
 Date Received:
 01/22/2007
 1640

### 8260B Volatile Organic Compounds by GC/MS (Low Level)

Method:8260BAnalysis Batch: 720-17560Instrument ID:Agilent 75MSDPreparation:5030BLab File ID:012407010.DDilution:1.0Initial Weight/Volume:5.07 g

Dilution: 1.0 Initial Weight/Volume: 5.07 g

Date Analyzed: 01/24/2007 1543 Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Methylene Chloride		ND		9.9
methyl isobutyl ketone		ND		49
Naphthalene		ND		9.9
N-Propylbenzene		ND		4.9
Styrene		ND		4.9
1,1,1,2-Tetrachloroethane		ND		4.9
1,1,2,2-Tetrachloroethane		ND		4.9
Tetrachloroethene		5.5		4.9
Toluene		ND		4.9
1,2,3-Trichlorobenzene		ND		4.9
1,2,4-Trichlorobenzene		ND		4.9
1,1,1-Trichloroethane		ND		4.9
1,1,2-Trichloroethane		ND		4.9
Trichloroethene		ND		4.9
Trichlorofluoromethane		ND		4.9
1,2,3-Trichloropropane		ND		4.9
1,1,2-Trichloro-1,2,2-trifluoroethar	ne	ND		4.9
1,2,4-Trimethylbenzene		ND		4.9
1,3,5-Trimethylbenzene		ND		4.9
Vinyl acetate		ND		49
Vinyl chloride		ND		4.9
Xylenes, Total		ND		9.9
2,2-Dichloropropane		ND		4.9
Surrogate		%Rec		Acceptance Limits
4-Bromofluorobenzene		98		60 - 140
1,2-Dichloroethane-d4 (Surr)		101		60 - 140
Toluene-d8 (Surr)		94		70 - 130

Client: Engeo, Inc. Job Number: 720-7405-1

Client Sample ID: P-2@1'

 Lab Sample ID:
 720-7405-4
 Date Sampled:
 01/22/2007
 1004

 Client Matrix:
 Solid
 Date Received:
 01/22/2007
 1640

8260B Volatile Organic Compounds by GC/MS

Method: 8260B Analysis Batch: 720-17583 Instrument ID: Varian 3900E

Preparation: 5030B Lab File ID: c:\varianws\data\200701\01

Dilution: 1.0 Initial Weight/Volume: 5.18 g

Date Analyzed: 01/25/2007 1806 Final Weight/Volume: 10 mL Date Prepared: 01/25/2007 1806

DryWt Corrected: N Result (mg/Kg) Qualifier RLAnalyte 0.24 Gasoline Range Organics (GRO)-C5-C12 ND Surrogate %Rec Acceptance Limits Toluene-d8 (Surr) 96 70 - 130 1,2-Dichloroethane-d4 (Surr) 114 60 - 140

Client: Engeo, Inc. Job Number: 720-7405-1

Client Sample ID: P-2@1'

 Lab Sample ID:
 720-7405-4
 Date Sampled:
 01/22/2007
 1004

 Client Matrix:
 Solid
 Date Received:
 01/22/2007
 1640

### 8260B Volatile Organic Compounds by GC/MS (Low Level)

Analysis Batch: 720-17560 Instrument ID: Method: 8260B Agilent 75MSD Preparation: 5030B Lab File ID: 012407011.D Dilution: 1.0 Initial Weight/Volume: 5.03 g Date Analyzed: Final Weight/Volume: 10 mL 01/24/2007 1608

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Methyl tert-butyl ether		ND		5.0
Acetone		ND		50
Benzene		ND		5.0
Dichlorobromomethane		ND		5.0
Bromobenzene		ND		5.0
Chlorobromomethane		ND		20
Bromoform		ND		5.0
Bromomethane		ND		9.9
Methyl Ethyl Ketone		ND		50
n-Butylbenzene		ND		5.0
sec-Butylbenzene		ND		5.0
tert-Butylbenzene		ND		5.0
Carbon disulfide		ND		5.0
Carbon tetrachloride		ND		5.0
Chlorobenzene		ND		5.0
Chloroethane		ND		9.9
Chloroform		ND		5.0
Chloromethane		ND		9.9
2-Chlorotoluene		ND		5.0
4-Chlorotoluene		ND		5.0
Chlorodibromomethane		ND		5.0
1,2-Dichlorobenzene		ND		5.0
1,3-Dichlorobenzene		ND		5.0
1,4-Dichlorobenzene		ND		5.0
1,3-Dichloropropane		ND		5.0
1,1-Dichloropropene		ND		5.0
1,2-Dibromo-3-Chloropropane		ND		50
Ethylene Dibromide		ND		5.0
Dibromomethane		ND		9.9
Dichlorodifluoromethane		ND		9.9
1,1-Dichloroethane		ND		5.0
1,2-Dichloroethane		ND		5.0
1,1-Dichloroethene		ND		5.0
cis-1,2-Dichloroethene		ND		5.0
trans-1,2-Dichloroethene		ND		5.0
1,2-Dichloropropane		ND		5.0
cis-1,3-Dichloropropene		ND		5.0
trans-1,3-Dichloropropene		ND		5.0
Ethylbenzene		ND		5.0
Hexachlorobutadiene		ND		5.0
2-Hexanone		ND		50
Isopropylbenzene		ND		5.0
4-Isopropyltoluene		ND		5.0
		· ·-		<b></b>

Client: Engeo, Inc. Job Number: 720-7405-1

Client Sample ID: P-2@1'

 Lab Sample ID:
 720-7405-4
 Date Sampled:
 01/22/2007
 1004

 Client Matrix:
 Solid
 Date Received:
 01/22/2007
 1640

### 8260B Volatile Organic Compounds by GC/MS (Low Level)

Method:8260BAnalysis Batch: 720-17560Instrument ID:Agilent 75MSDPreparation:5030BLab File ID:012407011.DDilution:1.0Initial Weight/Volume:5.03 g

Dilution: 1.0 Initial Weight/Volume: 5.03 g
Date Analyzed: 01/24/2007 1608 Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Methylene Chloride		ND		9.9
methyl isobutyl ketone		ND		50
Naphthalene		ND		9.9
N-Propylbenzene		ND		5.0
Styrene		ND		5.0
1,1,1,2-Tetrachloroethane		ND		5.0
1,1,2,2-Tetrachloroethane		ND		5.0
Tetrachloroethene		ND		5.0
Toluene		ND		5.0
1,2,3-Trichlorobenzene		ND		5.0
1,2,4-Trichlorobenzene		ND		5.0
1,1,1-Trichloroethane		ND		5.0
1,1,2-Trichloroethane		ND		5.0
Trichloroethene		ND		5.0
Trichlorofluoromethane		ND		5.0
1,2,3-Trichloropropane		ND		5.0
1,1,2-Trichloro-1,2,2-trifluoroethar	ie	ND		5.0
1,2,4-Trimethylbenzene		ND		5.0
1,3,5-Trimethylbenzene		ND		5.0
Vinyl acetate		ND		50
Vinyl chloride		ND		5.0
Xylenes, Total		ND		9.9
2,2-Dichloropropane		ND		5.0
Surrogate		%Rec		Acceptance Limits
4-Bromofluorobenzene		103		60 - 140
1,2-Dichloroethane-d4 (Surr)		110		60 - 140
Toluene-d8 (Surr)		102		70 - 130

Client: Engeo, Inc. Job Number: 720-7405-1

Client Sample ID: P-2@5'

 Lab Sample ID:
 720-7405-6
 Date Sampled:
 01/22/2007 1020

 Client Matrix:
 Solid
 Date Received:
 01/22/2007 1640

8260B Volatile Organic Compounds by GC/MS

Method: 8260B Analysis Batch: 720-17583 Instrument ID: Varian 3900E

Preparation: 5030B Lab File ID: c:\varianws\data\200701\01

Dilution: 1.0 Initial Weight/Volume: 5.07 g

Date Analyzed: 01/25/2007 1828 Final Weight/Volume: 10 mL Date Prepared: 01/25/2007 1828

DryWt Corrected: N Result (mg/Kg) Qualifier RLAnalyte 0.25 Gasoline Range Organics (GRO)-C5-C12 ND Surrogate %Rec Acceptance Limits Toluene-d8 (Surr) 98 70 - 130 1,2-Dichloroethane-d4 (Surr) 116 60 - 140

Client: Engeo, Inc. Job Number: 720-7405-1

Client Sample ID: P-2@5'

 Lab Sample ID:
 720-7405-6
 Date Sampled:
 01/22/2007
 1020

 Client Matrix:
 Solid
 Date Received:
 01/22/2007
 1640

### 8260B Volatile Organic Compounds by GC/MS (Low Level)

Analysis Batch: 720-17560 Instrument ID: Method: 8260B Agilent 75MSD Preparation: 5030B Lab File ID: 012407012.D Dilution: 1.0 Initial Weight/Volume: 5.33 g Date Analyzed: Final Weight/Volume: 10 mL 01/24/2007 1633

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Methyl tert-butyl ether		ND		4.7
Acetone		ND		47
Benzene		ND		4.7
Dichlorobromomethane		ND		4.7
Bromobenzene		ND		4.7
Chlorobromomethane		ND		19
Bromoform		ND		4.7
Bromomethane		ND		9.4
Methyl Ethyl Ketone		ND		47
n-Butylbenzene		ND		4.7
sec-Butylbenzene		ND		4.7
tert-Butylbenzene		ND		4.7
Carbon disulfide		ND		4.7
Carbon tetrachloride		ND		4.7
Chlorobenzene		ND		4.7
Chloroethane		ND		9.4
Chloroform		ND		4.7
Chloromethane		ND		9.4
2-Chlorotoluene		ND		4.7
4-Chlorotoluene		ND		4.7
Chlorodibromomethane		ND		4.7
1,2-Dichlorobenzene		ND		4.7
1,3-Dichlorobenzene		ND		4.7
1,4-Dichlorobenzene		ND		4.7
1,3-Dichloropropane		ND		4.7
1,1-Dichloropropene		ND		4.7
1,2-Dibromo-3-Chloropropane		ND		47
Ethylene Dibromide		ND		4.7
Dibromomethane		ND		9.4
Dichlorodifluoromethane		ND		9.4
1,1-Dichloroethane		ND		4.7
1,2-Dichloroethane		ND		4.7
1,1-Dichloroethene		ND		4.7
cis-1,2-Dichloroethene		ND		4.7
trans-1,2-Dichloroethene		ND		4.7
1,2-Dichloropropane		ND		4.7
cis-1,3-Dichloropropene		ND		4.7
trans-1,3-Dichloropropene		ND		4.7
Ethylbenzene		ND		4.7
Hexachlorobutadiene		ND ND		4.7
2-Hexanone		ND		47
Isopropylbenzene		ND ND		4.7
4-Isopropyltoluene		ND		4.7

Client: Engeo, Inc. Job Number: 720-7405-1

Client Sample ID: P-2@5'

 Lab Sample ID:
 720-7405-6
 Date Sampled:
 01/22/2007 1020

 Client Matrix:
 Solid
 Date Received:
 01/22/2007 1640

### 8260B Volatile Organic Compounds by GC/MS (Low Level)

Method: 8260B Analysis Batch: 720-17560 Instrument ID: Agilent 75MSD Preparation: 5030B Lab File ID: 012407012.D

Dilution: 1.0 Initial Weight/Volume: 5.33 g
Date Analyzed: 01/24/2007 1633 Final Weight/Volume: 10 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Methylene Chloride		ND		9.4
methyl isobutyl ketone		ND		47
Naphthalene		ND		9.4
N-Propylbenzene		ND		4.7
Styrene		ND		4.7
1,1,1,2-Tetrachloroethane		ND		4.7
1,1,2,2-Tetrachloroethane		ND		4.7
Tetrachloroethene		ND		4.7
Toluene		ND		4.7
1,2,3-Trichlorobenzene		ND		4.7
1,2,4-Trichlorobenzene		ND		4.7
1,1,1-Trichloroethane		ND		4.7
1,1,2-Trichloroethane		ND		4.7
Trichloroethene		ND		4.7
Trichlorofluoromethane		ND		4.7
1,2,3-Trichloropropane		ND		4.7
1,1,2-Trichloro-1,2,2-trifluoroethar	ne	ND		4.7
1,2,4-Trimethylbenzene		ND		4.7
1,3,5-Trimethylbenzene		ND		4.7
Vinyl acetate		ND		47
Vinyl chloride		ND		4.7
Xylenes, Total		ND		9.4
2,2-Dichloropropane		ND		4.7
Surrogate		%Rec		Acceptance Limits
4-Bromofluorobenzene		88		60 - 140
1,2-Dichloroethane-d4 (Surr)		99		60 - 140
Toluene-d8 (Surr)		89		70 - 130

50 - 130

Client: Engeo, Inc. Job Number: 720-7405-1

Client Sample ID: P-1@1'

p-Terphenyl

 Lab Sample ID:
 720-7405-1
 Date Sampled:
 01/22/2007 0937

 Client Matrix:
 Solid
 Date Received:
 01/22/2007 1640

8015B Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Method: 8015B Analysis Batch: 720-17689 Instrument ID: Varian DRO2

Preparation: 3570 Prep Batch: 720-17532 Lab File ID: N/A

Dilution: 1.0 Initial Weight/Volume: 5.18 g
Date Analyzed: 01/25/2007 0126 Final Weight/Volume: 5 mL

105

Date Prepared: 01/24/2007 1222 Injection Volume:

Column ID: PRIMARY

Analyte DryWt Corrected: N Result (mg/Kg) Qualifier RL

Diesel Range Organics [C10-C28] 2.6 0.97

Motor Oil Range Organics [C24-C36] ND 48

Surrogate %Rec Acceptance Limits

STL San Francisco Page 17 of 33

Client: Engeo, Inc. Job Number: 720-7405-1

Client Sample ID: P-1@5'

 Lab Sample ID:
 720-7405-3
 Date Sampled:
 01/22/2007 0948

 Client Matrix:
 Solid
 Date Received:
 01/22/2007 1640

8015B Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Method: 8015B Analysis Batch: 720-17689 Instrument ID: Varian DRO2

Preparation: 3570 Prep Batch: 720-17532 Lab File ID: N/A

Dilution: 20 Initial Weight/Volume: 5.08 g
Date Analyzed: 01/25/2007 0024 Final Weight/Volume: 5 mL

Date Prepared: 01/24/2007 1222 Injection Volume:

Column ID: PRIMARY

DryWt Corrected: N Qualifier RLAnalyte Result (mg/Kg) Diesel Range Organics [C10-C28] 190 20 Motor Oil Range Organics [C24-C36] 1000 980 Surrogate %Rec Acceptance Limits D p-Terphenyl 0 50 - 130

50 - 130

Client: Engeo, Inc. Job Number: 720-7405-1

Client Sample ID: P-2@1'

p-Terphenyl

 Lab Sample ID:
 720-7405-4
 Date Sampled:
 01/22/2007
 1004

 Client Matrix:
 Solid
 Date Received:
 01/22/2007
 1640

8015B Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Method: 8015B Analysis Batch: 720-17689 Instrument ID: Varian DRO2

Preparation: 3570 Prep Batch: 720-17532 Lab File ID: N/A

Dilution: 1.0 Initial Weight/Volume: 5.10 g
Date Analyzed: 01/25/2007 0157 Final Weight/Volume: 5 mL

Date Prepared: 01/24/2007 1222 Injection Volume:

Column ID: PRIMARY

105

Analyte DryWt Corrected: N Result (mg/Kg) Qualifier RL

Diesel Range Organics [C10-C28] 2.9 0.98

Motor Oil Range Organics [C24-C36] ND 49

Surrogate %Rec Acceptance Limits

50 - 130

Client: Engeo, Inc. Job Number: 720-7405-1

Client Sample ID: P-2@5'

p-Terphenyl

 Lab Sample ID:
 720-7405-6
 Date Sampled:
 01/22/2007
 1020

 Client Matrix:
 Solid
 Date Received:
 01/22/2007
 1640

8015B Nonhalogenated Organics using GC/FID -Modified (Diesel Range Organics)

Method: 8015B Analysis Batch: 720-17689 Instrument ID: Varian DRO2

Preparation: 3570 Prep Batch: 720-17532 Lab File ID: N/A

Dilution: 1.0 Initial Weight/Volume: 5.04 g
Date Analyzed: 01/25/2007 0228 Final Weight/Volume: 5 mL

Date Prepared: 01/24/2007 1222 Injection Volume:

Column ID: PRIMARY

107

Analyte DryWt Corrected: N Result (mg/Kg) Qualifier RL

Diesel Range Organics [C10-C28] ND 0.99

Motor Oil Range Organics [C24-C36] ND 50

Surrogate %Rec Acceptance Limits

# **DATA REPORTING QUALIFIERS**

Client: Engeo, Inc. Job Number: 720-7405-1

Lab Section	Qualifier	Description
GC Semi VOA		
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.

Client: Engeo, Inc. Job Number: 720-7405-1

# **QC Association Summary**

		Report			
Lab Sample ID	Client Sample ID	Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:720-1	7560				
LCS 720-17560/1	Lab Control Spike	T	Solid	8260B	
MB 720-17560/2	Method Blank	Т	Solid	8260B	
720-7405-1	P-1@1'	Т	Solid	8260B	
720-7405-1MS	Matrix Spike	Т	Solid	8260B	
720-7405-1MSD	Matrix Spike Duplicate	Т	Solid	8260B	
720-7405-3	P-1@5'	Т	Solid	8260B	
720-7405-4	P-2@1'	Т	Solid	8260B	
720-7405-6	P-2@5'	Т	Solid	8260B	
Analysis Batch:720-1	7583				
LCS 720-17583/2	Lab Control Spike	Т	Solid	8260B	
LCSD 720-17583/1	Lab Control Spike Duplicate	T	Solid	8260B	
MB 720-17583/3	Method Blank	Т	Solid	8260B	
720-7397-A-1 MS	Matrix Spike	T	Solid	8260B	
720-7397-A-1 MSD	Matrix Spike Duplicate	T	Solid	8260B	
720-7405-1	P-1@1'	Т	Solid	8260B	
720-7405-3	P-1@5'	Т	Solid	8260B	
720-7405-4	P-2@1'	Т	Solid	8260B	
720-7405-6	P-2@5'	Т	Solid	8260B	

# Report Basis T = Total

Client: Engeo, Inc. Job Number: 720-7405-1

# **QC Association Summary**

		Report			
Lab Sample ID	Client Sample ID	Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 720-17532					
LCS 720-17532/2-AA	Lab Control Spike	T	Solid	3570	
LCSD 720-17532/3-AA	Lab Control Spike Duplicate	Т	Solid	3570	
MB 720-17532/1-AA	Method Blank	Т	Solid	3570	
720-7405-1	P-1@1'	Т	Solid	3570	
720-7405-3	P-1@5'	Т	Solid	3570	
720-7405-4	P-2@1'	T	Solid	3570	
720-7405-6	P-2@5'	Т	Solid	3570	
720-7417-A-3-B MS	Matrix Spike	T	Solid	3570	
720-7417-A-3-C MSD	Matrix Spike Duplicate	Т	Solid	3570	
Analysis Batch:720-1768	9				
LCS 720-17532/2-AA	Lab Control Spike	Т	Solid	8015B	720-17532
LCSD 720-17532/3-AA	Lab Control Spike Duplicate	Т	Solid	8015B	720-17532
MB 720-17532/1-AA	Method Blank	Т	Solid	8015B	720-17532
720-7405-1	P-1@1'	Т	Solid	8015B	720-17532
720-7405-3	P-1@5'	T	Solid	8015B	720-17532
720-7405-4	P-2@1'	T	Solid	8015B	720-17532
720-7405-6	P-2@5'	T	Solid	8015B	720-17532
720-7417-A-3-B MS	Matrix Spike	T	Solid	8015B	720-17532
720-7417-A-3-C MSD	Matrix Spike Duplicate	T	Solid	8015B	720-17532

#### Report Basis

T = Total

Client: Engeo, Inc. Job Number: 720-7405-1

Method Blank - Batch: 720-17560 Method: 8260B Preparation: 5030B

Lab Sample ID: MB 720-17560/2 Analysis Batch: 720-17560 Instrument ID: Agilent 75MSD

Client Matrix: Solid Prep Batch: N/A Lab File ID: 012407005.D Dilution: 1.0 Units: ug/Kg Initial Weight/Volume: 5.00 g

Date Analyzed: 01/24/2007 1337 Final Weight/Volume: 10 mL Date Prepared: 01/24/2007 1337

Analyte	Result	Qual	RL
Methyl tert-butyl ether	ND		5.0
Acetone	ND		50
Benzene	ND		5.0
Dichlorobromomethane	ND		5.0
Bromobenzene	ND		5.0
Chlorobromomethane	ND		20
Bromoform	ND		5.0
Bromomethane	ND		10
Methyl Ethyl Ketone	ND		50
n-Butylbenzene	ND		5.0
sec-Butylbenzene	ND		5.0
tert-Butylbenzene	ND		5.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		5.0
Chlorobenzene	ND		5.0
Chloroethane	ND		10
Chloroform	ND		5.0
Chloromethane	ND		10
2-Chlorotoluene	ND		5.0
4-Chlorotoluene	ND		5.0
Chlorodibromomethane	ND		5.0
1,2-Dichlorobenzene	ND		5.0
1,3-Dichlorobenzene	ND		5.0
1,4-Dichlorobenzene	ND		5.0
1,3-Dichloropropane	ND		5.0
1,1-Dichloropropene	ND		5.0
1,2-Dibromo-3-Chloropropane	ND		50
Ethylene Dibromide	ND		5.0
Dibromomethane	ND		10
Dichlorodifluoromethane	ND		10
1,1-Dichloroethane	ND		5.0
1,2-Dichloroethane	ND		5.0
1,1-Dichloroethene	ND		5.0
cis-1,2-Dichloroethene	ND		5.0
trans-1,2-Dichloroethene	ND		5.0
1,2-Dichloropropane	ND		5.0
cis-1,3-Dichloropropene	ND		5.0
trans-1,3-Dichloropropene	ND		5.0
Ethylbenzene	ND		5.0
Hexachlorobutadiene	ND		5.0
2-Hexanone	ND		50

Client: Engeo, Inc. Job Number: 720-7405-1

Method Blank - Batch: 720-17560 Method: 8260B Preparation: 5030B

Lab Sample ID: MB 720-17560/2 Analysis Batch: 720-17560

Client Matrix: Solid Prep Batch: N/A
Dilution: 1.0 Units: ug/Kg

Date Analyzed: 01/24/2007 1337 Date Prepared: 01/24/2007 1337 Instrument ID: Agilent 75MSD Lab File ID: 012407005.D Initial Weight/Volume: 5.00 g Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Isopropylbenzene	ND		5.0
4-Isopropyltoluene	ND		5.0
Methylene Chloride	ND		10
methyl isobutyl ketone	ND		50
Naphthalene	ND		10
N-Propylbenzene	ND		5.0
Styrene	ND		5.0
1,1,1,2-Tetrachloroethane	ND		5.0
1,1,2,2-Tetrachloroethane	ND		5.0
Tetrachloroethene	ND		5.0
Toluene	ND		5.0
1,2,3-Trichlorobenzene	ND		5.0
1,2,4-Trichlorobenzene	ND		5.0
1,1,1-Trichloroethane	ND		5.0
1,1,2-Trichloroethane	ND		5.0
Trichloroethene	ND		5.0
Trichlorofluoromethane	ND		5.0
1,2,3-Trichloropropane	ND		5.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0
1,2,4-Trimethylbenzene	ND		5.0
1,3,5-Trimethylbenzene	ND		5.0
Vinyl acetate	ND		50
Vinyl chloride	ND		5.0
Xylenes, Total	ND		10
2,2-Dichloropropane	ND		5.0
Surrogate	% Rec	Acceptance Limit	s
4-Bromofluorobenzene	103	60 - 140	
1,2-Dichloroethane-d4 (Surr)	104	60 - 140	
Toluene-d8 (Surr)	98	70 - 130	

Client: Engeo, Inc. Job Number: 720-7405-1

Lab Control Spike - Batch: 720-17560

Method: 8260B Preparation: 5030B

Lab Sample ID: LCS 720-17560/1

Client Matrix: Solid Dilution: 1.0

Date Analyzed: 01/24/2007 1312 Date Prepared: 01/24/2007 1312 Analysis Batch: 720-17560

Prep Batch: N/A

Units: ug/Kg

Instrument ID: Agilent 75MSD Lab File ID: 012407004.D Initial Weight/Volume: 5.00 g Final Weight/Volume: 10 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	100	95.2	95	69 - 129	
Chlorobenzene	100	96.9	97	61 - 121	
1,1-Dichloroethene	100	101	101	65 - 125	
Toluene	100	97.8	98	70 - 130	
Trichloroethene	100	96.8	97	74 - 134	
Surrogate	% R	ec	Acc	ceptance Limits	
4-Bromofluorobenzene	99		60 - 140		
1,2-Dichloroethane-d4 (Surr)	99		60 - 140		
Toluene-d8 (Surr)	94		70 - 130		

Client: Engeo, Inc. Job Number: 720-7405-1

Matrix Spike/ Method: 8260B
Matrix Spike Duplicate Recovery Report - Batch: 720-17560 Preparation: 5030B

MS Lab Sample ID: 720-7405-1 Analysis Batch: 720-17560 Instrument ID: Agilent 75MSD

Client Matrix: Solid Prep Batch: N/A Lab File ID: 012407008.D Dilution: 1.0 Initial Weight/Volume: 5.04 g

Dilution: 1.0 Initial Weight/Volume: 5.04 g

Date Analyzed: 01/24/2007 1453 Final Weight/Volume: 10 mL

Date Prepared: 01/24/2007 1453

MSD Lab Sample ID: 720-7405-1 Analysis Batch: 720-17560 Instrument ID: Agilent 75MSD

Client Matrix: Solid Prep Batch: N/A Lab File ID: 012407009.D Dilution: 1.0 Initial Weight/Volume: 5.09 g

Date Analyzed: 01/24/2007 1518 Final Weight/Volume: 10 mL
Date Prepared: 01/24/2007 1518

% Rec. RPD MS Qual MSD Qual Analyte MS **MSD** Limit **RPD Limit** Benzene 96 97 69 - 129 0 20 Chlorobenzene 94 95 61 - 121 1 20 1,1-Dichloroethene 105 106 65 - 125 0 20 Toluene 97 97 70 - 130 1 20 74 - 134 Trichloroethene 97 96 20 MS % Rec MSD % Rec Surrogate Acceptance Limits 97 98 4-Bromofluorobenzene 60 - 140 60 - 140 101 1,2-Dichloroethane-d4 (Surr) 101 70 - 130 Toluene-d8 (Surr) 94 93

60 - 140

Job Number: 720-7405-1 Client: Engeo, Inc.

Method Blank - Batch: 720-17583 Method: 8260B Preparation: 5030B

Lab Sample ID: MB 720-17583/3 Analysis Batch: 720-17583 Instrument ID: Varian 3900E

Prep Batch: N/A Client Matrix: Solid Lab File ID: c:\varianws\data\200701\01

Units: mg/Kg Initial Weight/Volume: 5.0 g Dilution: 1.0

Date Analyzed: 01/25/2007 1019 Final Weight/Volume: 10 mL Date Prepared: 01/25/2007 1019

Analyte	Result	Qual	RL
Benzene	ND		0.0050
Toluene	ND		0.0050
Gasoline Range Organics (GRO)-C5-C12	ND		0.25
Surrogate	% Rec	Acceptance Limits	
Toluene-d8 (Surr)	98	70 - 130	
1.2-Dichloroethane-d4 (Surr)	120	60 - 140	

Lab Control Spike/ Method: 8260B Lab Control Spike Duplicate Recovery Report - Batch: 720-17583 Preparation: 5030B

LCS Lab Sample ID: LCS 720-17583/2 Analysis Batch: 720-17583 Instrument ID: Varian 3900E

Client Matrix: Solid Prep Batch: N/A Lab File ID: c:\varianws\data\200701\01

Dilution: 1.0 Units: mg/Kg Initial Weight/Volume: 5.03 g

Date Analyzed: 01/25/2007 1041 Final Weight/Volume: 10 mL

Date Prepared: 01/25/2007 1041

Varian 3900E LCSD Lab Sample ID: LCSD 720-17583/1 Analysis Batch: 720-17583 Instrument ID:

Prep Batch: N/A Client Matrix: Solid c:\varianws\data\200701\012 Lab File ID:

Dilution: 1.0 Units: mg/Kg Initial Weight/Volume: 5.0 g

Date Analyzed: 01/25/2007 0957 Final Weight/Volume: 10 mL

106

% Rec. Analyte LCS **LCSD** Limit **RPD** RPD Limit LCS Qual LCSD Qual Benzene 97 111 69 - 129 13 20 Toluene 110 122 70 - 130 12 20 LCS % Rec LCSD % Rec Surrogate Acceptance Limits 103 Toluene-d8 (Surr) 99 70 - 130

104

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

1,2-Dichloroethane-d4 (Surr)

Date Prepared:

01/25/2007 0957

Client: Engeo, Inc. Job Number: 720-7405-1

Matrix Spike/ Method: 8260B
Matrix Spike Duplicate Recovery Report - Batch: 720-17583 Preparation: 5030B

MS Lab Sample ID: 720-7397-A-1 MS Analysis Batch: 720-17583 Instrument ID: Varian 3900E

Client Matrix: Solid Prep Batch: N/A Lab File ID: c:\varianws\data\200701\(

Dilution: 1.0 Initial Weight/Volume: 5.09 g
Date Analyzed: 01/25/2007 1615 Final Weight/Volume: 10 mL

Date Prepared: 01/25/2007 1615

MSD Lab Sample ID: 720-7397-A-1 MSD Analysis Batch: 720-17583 Instrument ID: Varian 3900E

Client Matrix: Solid Prep Batch: N/A Lab File ID: c:\varianws\data\200701\01

Dilution: 1.0 Initial Weight/Volume: 5.17 g
Date Analyzed: 01/25/2007 1637 Final Weight/Volume: 10 mL

% Rec. MS MSD RPD MS Qual MSD Qual Analyte Limit **RPD Limit** Benzene 99 89 69 - 129 12 20 Toluene 86 79 70 - 130 8 20 Surrogate MS % Rec MSD % Rec Acceptance Limits Toluene-d8 (Surr) 96 94 70 - 130 1,2-Dichloroethane-d4 (Surr) 121 128 60 - 140

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

Date Prepared:

01/25/2007 1637

Job Number: 720-7405-1 Client: Engeo, Inc.

Method Blank - Batch: 720-17532 Method: 8015B Preparation: 3570

Lab Sample ID: MB 720-17532/1-AA Analysis Batch: 720-17689 Instrument ID: Varian DRO2

Client Matrix: Solid Prep Batch: 720-17532 Lab File ID: N/A Units: mg/Kg Dilution: 1.0 Initial Weight/Volume: 5.01 g

Date Analyzed: 01/24/2007 2219 Final Weight/Volume: 5 mL Date Prepared: 01/24/2007 1222 Injection Volume:

Column ID: **PRIMARY** 

RL Analyte Result Qual Diesel Range Organics [C10-C28] ND 1.0 Motor Oil Range Organics [C24-C36] ND 50 Surrogate % Rec Acceptance Limits

104 50 - 130 p-Terphenyl

Lab Control Spike/ Method: 8015B Lab Control Spike Duplicate Recovery Report - Batch: 720-17532 Preparation: 3570

LCS Lab Sample ID: LCS 720-17532/2-AA Analysis Batch: 720-17689 Instrument ID: Varian DRO2

Client Matrix: Prep Batch: 720-17532 Solid Lab File ID: N/A

Dilution: 1.0 Units: mg/Kg Initial Weight/Volume: 5.13 g

01/24/2007 2117 Final Weight/Volume: 5 mL Date Analyzed: Date Prepared: 01/24/2007 1222 Injection Volume:

Column ID:

**PRIMARY** 

LCSD Lab Sample ID: LCSD 720-17532/3-AA Analysis Batch: 720-17689 Varian DRO2 Instrument ID:

Client Matrix: Solid Prep Batch: 720-17532 Lab File ID: N/A Dilution: 1.0 Units: mg/Kg Initial Weight/Volume: 5.07 g

Date Analyzed: 01/24/2007 2148 Final Weight/Volume: 5 mL

Date Prepared: 01/24/2007 1222 Injection Volume:

Column ID: **PRIMARY** 

111

% Rec. LCS **RPD** Analyte LCSD Limit RPD Limit LCS Qual LCSD Qual Diesel Range Organics [C10-C28] 96 94 50 - 130 0 30 LCS % Rec Surrogate LCSD % Rec Acceptance Limits

110

50 - 130

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

p-Terphenyl

**PRIMARY** 

50 - 130

Column ID:

Client: Engeo, Inc. Job Number: 720-7405-1

Matrix Spike/ Method: 8015B
Matrix Spike Duplicate Recovery Report - Batch: 720-17532 Preparation: 3570

MS Lab Sample ID: 720-7417-A-3-B MS Analysis Batch: 720-17689 Instrument ID: Varian DRO2

Client Matrix: Solid Prep Batch: 720-17532 Lab File ID: N/A

Dilution: 1.0 Initial Weight/Volume: 5.23 g

Date Analyzed: 01/25/2007 0330 Final Weight/Volume: 5 mL

Date Prepared: 01/24/2007 1222 Injection Volume:

MSD Lab Sample ID: 720-7417-A-3-C MSD Analysis Batch: 720-17689 Instrument ID: Varian DRO2

Client Matrix: Solid Prep Batch: 720-17532 Lab File ID: N/A

Dilution: 1.0 Initial Weight/Volume: 5.02 g
Date Analyzed: 01/25/2007 0400 Final Weight/Volume: 5 mL

Date Prepared: 01/24/2007 1222 Injection Volume:

Column ID: PRIMARY

113

% Rec. MS Qual MSD Qual MS MSD RPD Analyte Limit **RPD Limit** Diesel Range Organics [C10-C28] 50 - 130 98 95 1 30 Surrogate MS % Rec MSD % Rec Acceptance Limits

110

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

p-Terphenyl

CHAIN OF CUSTODY RECORD 7405

103713

EMARKS DETECTION LIMITS
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T FIELD FILES

## LOGIN SAMPLE RECEIPT CHECK LIST

Client: Engeo, Inc. Job Number: 720-7405-1

Login Number: 7405

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