Project No.
7828.000.001

July 24, 2012

Dilan Roe
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

Subject: Jordan Ranch Parcel H (Case # R00002918)
Dublin, California

SOIL GAS ASSESSMENT

References: ENGEO; Workplan for Soil Gas Assessment, Jordan Ranch Property (Case #R00002918), Dublin, California; June 13, 2012.

USEPA; Vapor Intrusion Database: Evaluation and Characterization of Attenuation Factors for Chlorinated Volatile Organic Compounds and Residential Buildings; March 16, 2012.

Dear Ms. Roe:

ENGEO conducted a soil gas assessment at the Jordan Ranch Parcel H (site) located in Dublin, California (Figure 1). The soil gas assessment was performed to evaluate potential vapor intrusion concerns for a proposed apartment complex to be constructed within the former UST area. A lot line adjustment has recently been recorded, creating a new Parcel H (4.6-acres), which encompasses the former UST location and the proposed apartment development (Figure 2).

BACKGROUND

There are currently no structures within the former UST area. Soil and groundwater remediation was implemented in 2011, which resulted in the complete removal of vadose zone soil impacts shallower than 14 feet below ground surface (bgs), and a significant reduction in concentrations of petroleum hydrocarbons in groundwater.

Based on the current conceptual site model, residual soil impacts remain in the saturated zone deeper than 14 feet bgs and groundwater concentrations still exceed the established cleanup goals. We are currently evaluating additional remedial alternatives to expedite the timeframe for achieving the groundwater cleanup goals. Development plans are currently being prepared which would include residential units within the impacted area (Figure 2). Since groundwater supply wells will not be utilized by the proposed development, and remaining soil impacts are deeper than 14 feet bgs, we have identified vapor intrusion as the only potential exposure pathway for residential receptors.

SOIL GAS SAMPLING

We installed a total of four soil gas monitoring wells at the site on June 28, 2012. The soil gas well locations were selected to be within the footprint of the proposed residential buildings that

will eventually occupy the area overlying the soil and groundwater impacts (Figure 2). A key area of study includes the backfilled UST excavation. The UST excavation was backfilled with class II drain rock from 11 to 25 feet bgs. From 0 to 11 feet bgs, the excavation was backfilled with soil with a relative compaction of 90%. Two of the proposed soil gas wells are located within the backfilled UST excavation, and the remaining two soil gas monitoring wells are located outside of the former UST excavation.

The installation and sampling of the soil gas monitoring wells was performed in accordance with the *Department of Toxic Substances Control (DTSC) Final Advisory Active Soil Gas Investigations (April 2012)*. The soil gas monitoring well casings were constructed with ¼-inch diameter Teflon tubing equipped with a filter at the base of the tubing. The well installation was performed with a direct push probe rig, which advanced an approximately 3-inch diameter boring to a depth of 7 feet bgs. For each well, the bottom of the well casing was equipped with a filter situated at a depth of 6 feet bgs, centered in the middle of a 2 foot layer of No. 3 sand. The two foot long sand pack, which is allowed by DTSC, is designed to provide adequate flow in the low permeability geology found at the site. Six inches of dry bentonite was installed on top of the sand, and the remaining annular space was filled with hydrated bentonite grout to six inches below grade. The wells were completed with an eight inch diameter flush mount well box set in concrete. The well casings extend an additional 2.5 feet beyond the ground surface so that it can be directly connected to the sample train. When not in use, the well casing are coiled and sealed with a threaded plug inside the well box. The well construction diagram is included as Figure 3.

Once the installation of the annular seal was completed, the well casings were equipped with a permanent Swagelok® ferrule and nut. Next, we connected the sample train to the well casing by threading the permanent Swagelok® fitting on the well casing onto the manifold. The sample train consisted of a stainless steel twin summa manifold with built in flow controller set to 100-200 ml/min. A purge vacuum pump was attached to the manifold connection closest to the well casing and the sample canister was connected to the manifold fitting furthest away from the well casing. Prior to connecting the sample train to the well casing, we performed a shut in test to assess for potential leaks. The shut in test consisted of capping the end of the manifold, then applying a vacuum with the vacuum pump, closing the purge valve, and observing the vacuum gauge for two minutes to determine if there is a drop in vacuum. Once the sample train was connected to the well casing, we closed all of the valves and the mandatory two hour equilibriation time could then commence. After the two hour equilibriation time elapsed, we purged an appropriate volume of soil gas from each well then collected soil gas samples in the summa cannisters provided by the laboratroy. Purge specifications are provided in the following Table:

Casing Length (ft)	Casing Volume Per Foot (ml)	Total Casing Volume (ml)	Sand Pack Pore Volume (ml) (50% Porosity)	Total Well Volume (ml)	Minutes (1x)	Minutes (3x)	Minutes (10x)
9.5	5	47.5	1,390	1437.5	9.6	28.7	95.8

Notes: Purge minutes are based on a flowrate of 150 ml/min
Sandpack is 3" diameter by 2 feet in length

To determine which purge volume yields the greatest soil gas concentrations, we performed a step purge for well SG-2. The step purge involved collecting three samples after purging one, three, and ten casing volumes. For the remaining wells, we purged the standard three casing

volumes prior to sample collection. After purging was completed, we closed the purge valve on the manifold, and removed the vacuum pump so that it could be connected to the next well. Representative samples were collected by opening the sample canister valve and allowing the sample canister to extract soil gas until the vacuum in the sample canister reached approximately 5 inches of mercury. The leak detection compound 1,1-Diflouroethane was applied by wrapping a doused rag around the manifold fittings during sample collection. The soil gas sample train diagram is shown on Figure 4. We labeled each sample canister with a unique identification number, sampling time, pre and post sample vacuum readings; and the six soil gas samples were submitted to a State certified laboratory for analysis of volatile organic compounds (VOCs), including total petroleum hydrocarbons as gasoline (TPH-g) and naphthalene, by EPA Test Method TO-15. During sample collection at well SG-3, we noted minimal air flow, likely due to low permeability geology, which resulted in the sample having 25 inches of mercury when it was disconnected from the sampling train.

LABORATORY ANALYTICAL RESULTS

Concentrations of TPH-g and benzene, toluene, ethyl benzene, and xylenes (BTEX) were detected in all four wells. Sixteen additional VOCs were detected in aggregate among the four wells. The leak check compound 1,1-DFA was not detected in any of the samples.

We compared the detected soil gas concentrations to the Department of Toxic Substances Control's residential California Human Health Screening Levels (CHHSLs) for shallow soil gas and the Regional Water Quality Control Board – Region 2 residential Environmental Screening Levels (ESLs) for shallow soil gas (RWQCB Table E-2). Well SG-3 was the only well that exhibited elevated concentrations that exceed the residential screening levels. The constituents that exceed the screening levels at SG-3 include TPH-g at a concentration of 30,000 ug/m3 and benzene at a concentration of 94 ug/m3. According to the laboratory, the smaller than normal sample volume in SG-3 should not have biased the results. Concentrations of TPH-g and benzene detected in the other three wells were well below the residential screening levels. The results of the step purge evaluation for SG-2 identified that the sample collected after purging one casing volume yielded the greatest VOC concentrations. The mean TPH-g and benzene concentrations for all four wells are 6,787 ug/m3 and 23 ug/m3, which are below the residential screening levels. The soil gas analytical results are tabulated in the attached Table 1.

CONCLUSION

Elevated concentrations of TPH-g and benzene were detected in one of four soil gas wells at levels that exceed the applicable residential screening levels. However, the mean concentrations for the site are less than the residential screening levels, indicating that statistically there is not a vapor intrusion risk for residential receptors.

It should be noted that RWQCB developed the shallow soil gas ESLs in Table E-2 by multiplying the indoor air screening levels by a conservative attenuation factor of 0.001. For comparison purposes, USEPA has published attenuation factor data obtained from a study of 106 residential buildings. Co-located indoor air and soil gas samples were collected at each site, and attenuation factors were calculated by dividing the indoor air concentration by the soil gas

concentration. Table 17 in the referenced USEPA document lists a 5th percentile attenuation factor of $7.6E^{-6}$. Using this less conservative attenuation factor, the TPHg and benzene concentrations detected in well SG3 would not exceed residential indoor air screening levels.

One additional factor that should be considered is that the area where the soil gas wells are located currently lies in a topographically low point and in order to make this area suitable for residential development, up to five vertical feet of engineered fill will be placed on top of the existing grade. This means that the existing soil gas sample depths are located approximately 10 feet beneath the future building slabs. We would expect increased attenuation of the soil gas concentrations with this additional vertical buffer of vadose zone soil, resulting in a reduced vapor intrusion risk. We used the software program RISC4, which utilizes the Johnson & Ettinger Model, to estimate the potential indoor air concentrations for TPH-g and benzene under a scenario where there is 10 vertical feet of separation between the source concentration and the building slab. In the model, we used default building parameters and the maximum concentration of TPH-g and benzene detected in SG-3 as the source concentration. The model output summary (attached) estimates indoor air concentrations of TPH-g and benzene at 0.55 ug/m^3 and 0.0018 ug/m^3. These concentrations are significantly less than the applicable indoor air residential screening levels.

Based on the results of the soil gas assessment, we request that the County provide authorization to construct the residential development, without a requirement for engineering controls. We understand that the groundwater case will remain active until it can be shown that conditions are supportive of a no further action determination.

If you have any questions regarding this report, please do not hesitate to contact us.

Sincerely,

ENGEO Incorporated

Morgan Johnson, REA, QSD
Environmental Scientist

Shawn Munger, CHG
Principal

CERTIFIED HYDROGEOLOGIST
SHAWN MUNGER
No. HG 413
CERTIFIED HYDROGEOLOGIST
Exp. 3/31/2013
STATE OF CALIFORNIA

Attachments: Table 1 – Soil Gas Analytical Data
Figures
ProUCL Output Summary
Eurofins Air Toxics, Inc., Certified Laboratory Report and Chain of Custody

cc: Mr. Ravi Nandwana, BJP-ROF Jordan Ranch, LLC
Mr. Kevin Fryer, BJP-ROF Jordan Ranch, LLC

Table 1

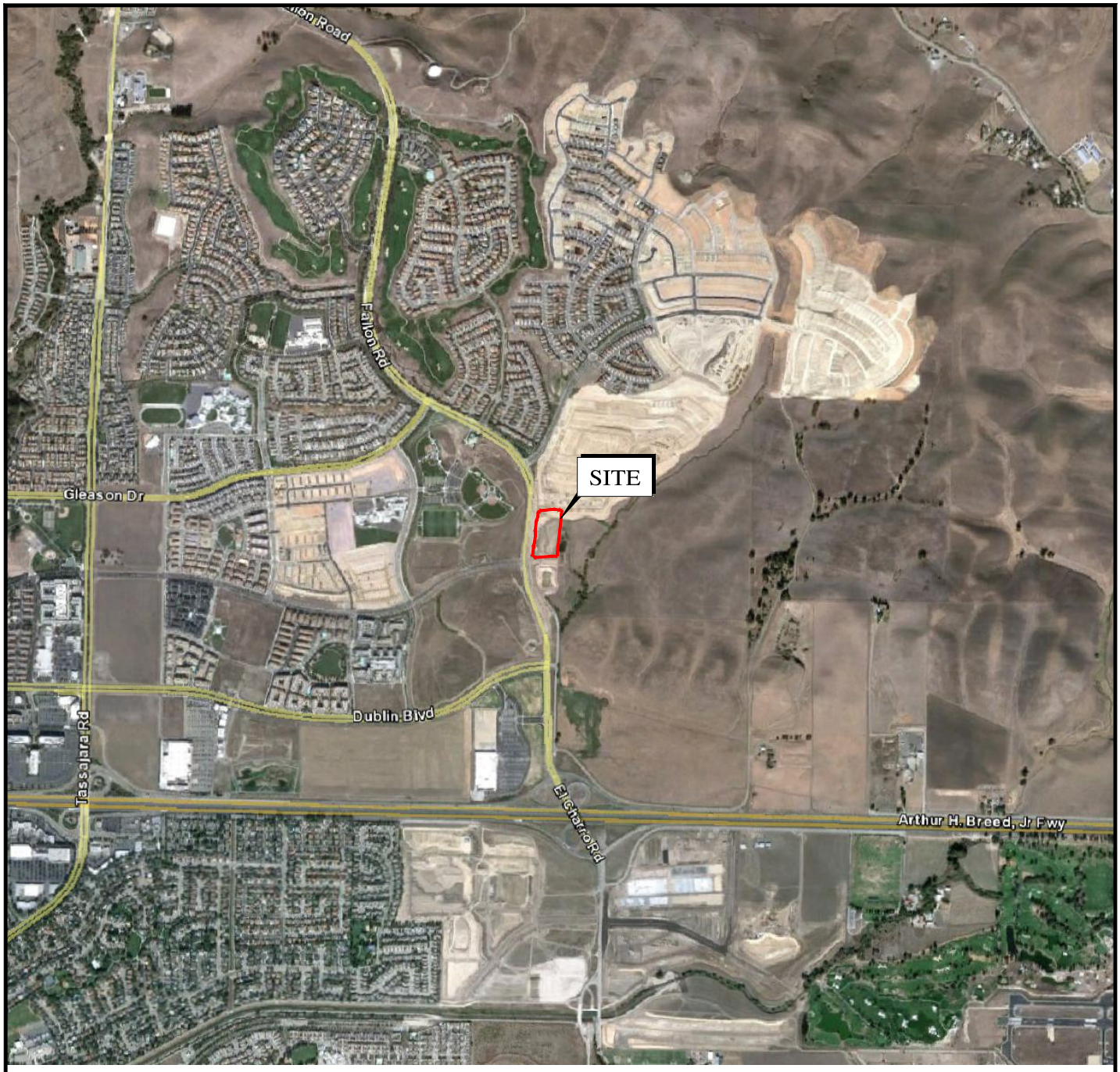
Soil Gas Analytical Data

Table 1
Soil Gas Analytical Data
Jordan Ranch Parcel H

Sample ID	Date	TPHg	Benzene	Toulene	EB	m,p-Xyl	o-Xyl	1,2,4-TMB	1,3,5-TMB	4-ET	Freon 11	Ethanol	Acetone	2-Prop	2,2,4-TMP	1,3-BTD	CDS	Hexane	2-BTN	CLF	CHX	HPT	4-MP
		µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
SG1	6/29/2012	**3,900**	**14**	**9.7**	<3.6	**7.1**	**<3.6**	6.2	<4.1	<4.1	**13**	<6.3	**64**	**22**	**28**	**4.2**	**12**	**10**	<9.9	<4.1	**7.9**	**5.6**	<3.4
SG2-1X	6/29/2012	**3,000**	**11**	**12**	**6**	**18**	**13**	**9.7**	**7.4**	**12 K**	**13**	**12**	<26	**79**	**5.5**	<2.4	<13	<3.8	<13	<5.2	<3.7	<4.4	<4.4
SG2-3X	6/29/2012	**1,900**	**6.6**	**11**	<3.5	**13**	**8**	**7.7**	**5.3**	**4**	**14**	**7.7**	**20**	<7.9	<3.8	<1.8	<10	<2.8	<9.5	<3.9	<2.8	<3.3	<3.3
SG2-10X	6/29/2012	**1,100**	**5.2**	**9.9**	<3.4	**6.4**	**3.9**	**4**	**3.8**	<3.8	**16**	**12**	**32**	<7.6	<3.6	<1.7	<9.6	<2.7	<9.1	<3.8	<2.7	<3.2	<3.2
SG3	6/29/2012	**30,000**	**94**	**220**	**41**	**140**	**41**	**22**	<16	**16 J**	<19	**100**	**2100**	<33	<16	**110**	**160**	**210**	**57**	**20**	**18**	**120**	<14
SG4	6/29/2012	**820**	**5.2**	**26**	**5.1**	**18**	**5.5**	**7.8**	<4.2	<4.2	<4.8	<6.4	**540**	<8.4	<4	<1.9	<11	<3	<10	<4.2	<2.9	<3.5	**3.7**
CHHSL (Residential - Soil Gas)		NR	36.2	135,000	NR	315,000	315,000	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
ESL (Table E-2 Residential -Soil Gas)		10,000	84	63,000	980	21,000	21,000	NR	NR	NR	NR	NR	660,000	NR	NR	NR	NR	NR	NR	460	NR	NR	NR

Notes:
ET-Ethyltoluene
TMB-Trimethylbenzene
Prop-Propanol
TMP-Trimethylpentane
PCE-Tetrachloroethylene
EB-Ethylbenzene
BTD-Butadiene
CDS-Carbon Disulfide
BTN-Butanone
CLF-Chloroform
CHX-Cyclohexane
HPT-Heptane
4-MP-4-Methyl-2-pentanone
ND-Not detected above laboratroy reporting limits
NR-Not reported
J-Estimated Value
K-Potential Interference

Figures



N

0 FEET 2000

0 METERS 1000

BASE MAP SOURCE: GOOGLE EARTH

ENGEO Expect Excellence

VICINITY MAP

JORDAN RANCH - PARCEL H

DUBLIN, CALIFORNIA

PROJECT NO.: 7828.000.001	FIGURE NO. 1
DATE: AS SHOWN	
DRAWN BY: SRP	CHECKED BY: SM

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ORIGINAL FIGURE PRINTED IN COLOR

JORDAN RANCH DR

FALLON ROAD

CENTRAL PARKWAY

Club Room (Proposed)

Pool (Proposed)

PARCEL "H"

MW-1

MW-2

MW-3 (MISSING)

MW-4

MW-5

SG-1

SG-2

SG-3

SG-4

LATERAL LIMITS OF IMPACTED SOIL EXCAVATION

N

EXPLANATION

MW-5 APPROXIMATE LOCATION OF MONITORING WELL

SG-4 APPROXIMATE LOCATION OF SOIL GAS WELL

0 FEET 60

0 METERS 30

BASE MAP SOURCE: ST. ANTON

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DEVELOPMENT PLAN

JORDAN RANCH - PARCEL H

DUBLIN, CALIFORNIA

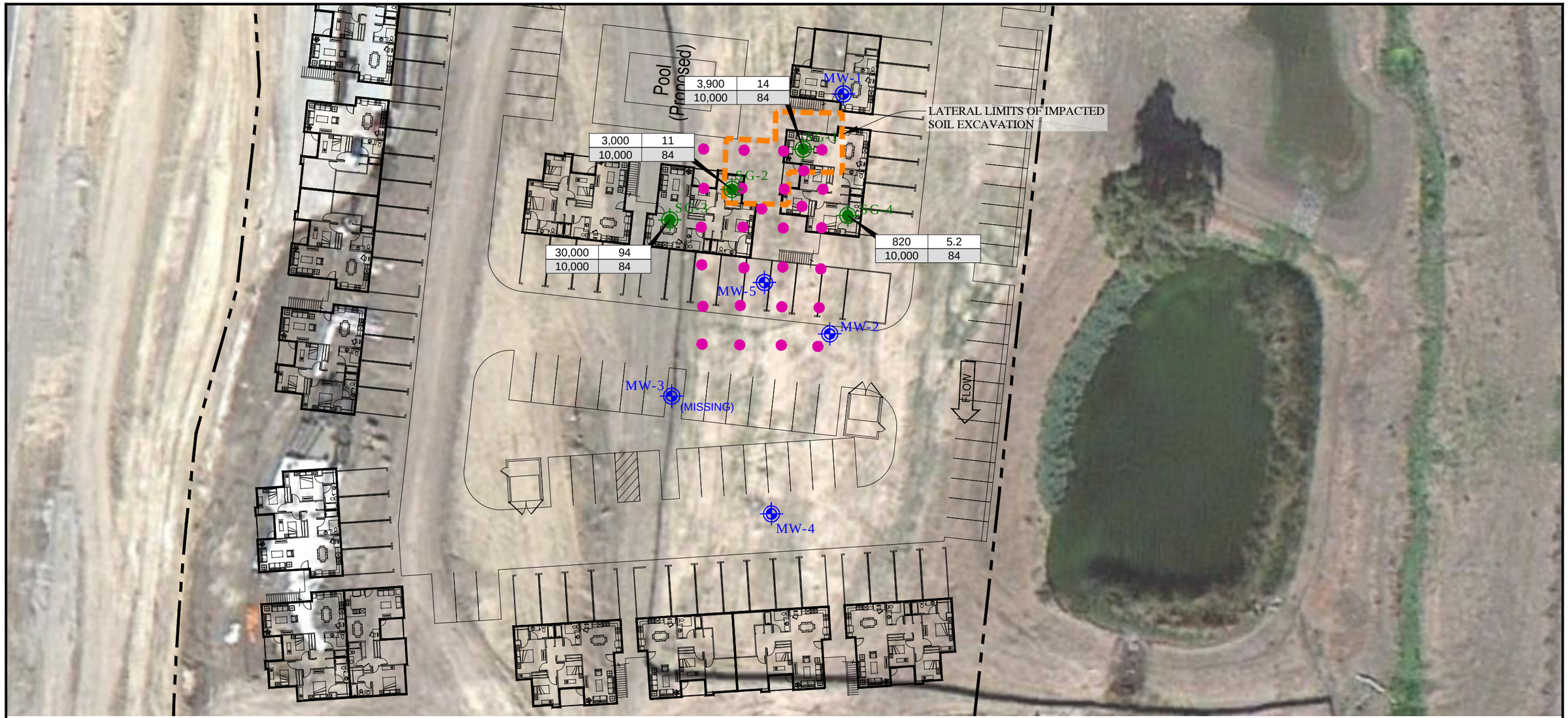
PROJECT NO.: 7828.000.001

SCALE: AS SHOWN

DRAWN BY: DLB CHECKED BY: SM

FIGURE NO. 2

ORIGINAL FIGURE PRINTED IN COLOR



EXPLANATION

MW-5 — APPROXIMATE LOCATION OF MONITORING WELL

SG-4 — APPROXIMATE LOCATION OF SOIL GAS WELL

APPROXIMATE LOCATION OF PREVIOUS INJECTION POINT

FLOW — GROUNDWATER FLOW DIRECTION

TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (TPHg) CONCENTRATION (μg/m3)

BENZENE CONCENTRATION (μg/m3)

3,000	11
10,000	84

ENVIRONMANTAL SCREENING LEVELS (ESLs)

N

0 FEET 40

0 METERS 20

BASE MAP SOURCE: GOOGLE EARTH, ST. ANTON

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CONCENTRATIONS OF VOCs IN SOIL GAS

JORDAN RANCH - PARCEL H

DUBLIN, CALIFORNIA

PROJECT NO.: 7828.000.001

SCALE: AS SHOWN

DRAWN BY: PC CHECKED BY: SM

FIGURE NO. 3

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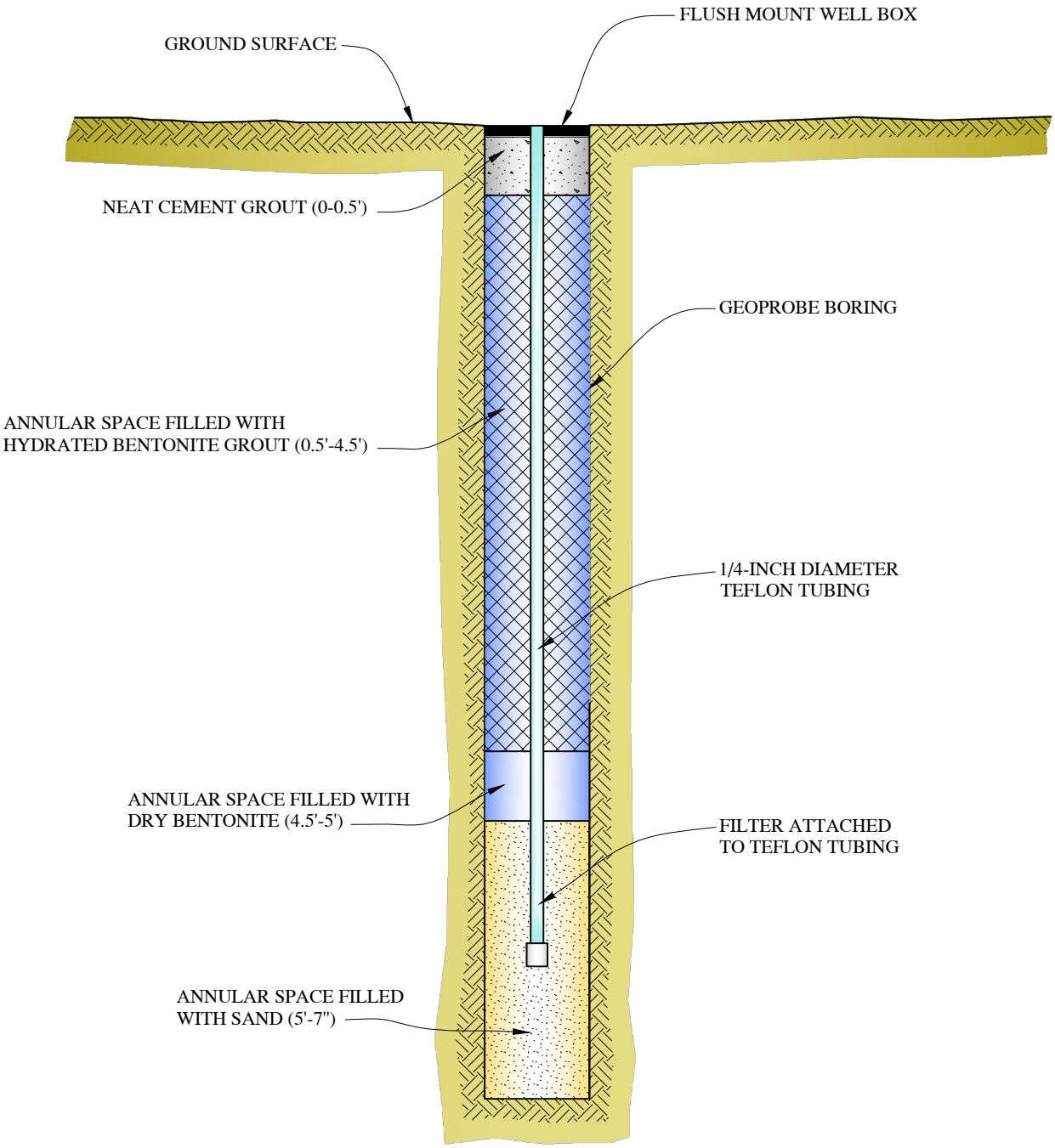
ORIGINAL FIGURE PRINTED IN COLOR



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SOIL GAS WELL CONSTRUCTION DIAGRAM

JORDAN RANCH - PARCEL H

DUBLIN, CALIFORNIA

PROJECT NO.: 7828.000.001	FIGURE NO. 4
SCALE: NO SCALE	
DRAWN BY: PC	CHECKED BY: SM

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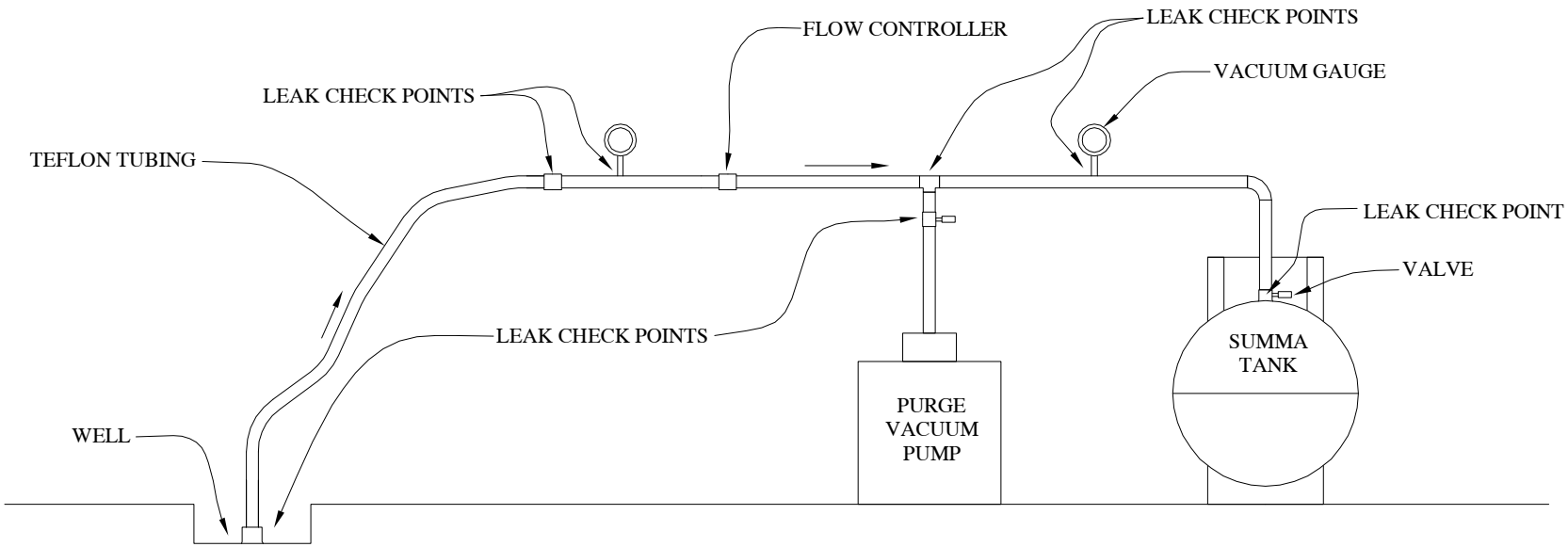
ORIGINAL FIGURE PRINTED IN COLOR



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SOIL GAS SAMPLE TRAIN

JORDAN RANCH - PARCEL H

DUBLIN, CALIFORNIA

PROJECT NO.: 7828.000.001	FIGURE NO. 5
SCALE: NO SCALE	
DRAWN BY: PC	CHECKED BY: SM

ORIGINAL FIGURE PRINTED IN COLOR

ProUCL Output Summary

7828.000.001
July 24, 2012

FATE AND TRANSPORT MODEL INPUT SUMMARY FILE

Model Description:
Johnson and Ettinger Indoor air model
with volatile emissions from soil gas

Title:
New Project

Simulation time (years). 50

Unsaturated Zone Properties for Vapor Model

Total porosity (cm3/cm3) 0.25
Water content(cm3/cm3) 0.15
Distance from source to building (m) 3.0

Building Parameters

Cross-sect. area of basement (m2). 1.50E+02
Volume of building (m3). 4.00E+02
Number of air changes per day. 12.
Foundation thickness (m) 0.15
Length of foundation perimeter (m) 50.
Depth of foundation (m). 2.0
Pressure difference (g/cm-s2). 10.
Fraction of cracks (cm3/cm3) 1.00E-03
Porosity in cracks (-) 0.25
Water content in cracks (-). 0.0
Permeability of soil to vapors (cm2) 1.00E-09
Viscosity of air is assumed to be [g/cm-s] 1.80E-04

***Volumetric flow rate of soil gas into building
***will be estimated from above input parameters.

Calculated crack width (cm). 0.30
Flow rate of soil gas into building (cm3/s) 0.24

CHEMICAL DATA FOR: Benzene

Diffusion coefficient in air (cm2/s) 8.80E-02
Diffusion coefficient in water (cm2/s) 9.80E-06
Solubility (mg/l) 1.75E+03
Vapor pressure (mmHg) 95.
KOC (L/kg). 59.
Henry's Law coefficient (-). 0.23
Molecular weight (g/mol). 78.

Source Concentrations:

Source conc. for vapor model (mg/m3) 9.40E-02

CHEMICAL DATA FOR: TPH Aliphatic C5-6

Diffusion coefficient in air (cm2/s) 0.10
Diffusion coefficient in water (cm2/s) 1.00E-05
Solubility (mg/l) 36.

Vapor pressure (mmHg) 2.70E+02
KOC (L/kg). 7.90E+02
Henry's Law coefficient (-). 34.
Molecular weight (g/mol). 81.

Source Concentrations:

Source conc. for vapor model (mg/m3) 0.79

CHEMICAL DATA FOR: TPH Aliphatic C6-8

Diffusion coefficient in air (cm2/s) 0.10
Diffusion coefficient in water (cm2/s) 1.00E-05
Solubility (mg/l) 5.4
Vapor pressure (mmHg) 48.
KOC (L/kg). 4.00E+03
Henry's Law coefficient (-). 51.
Molecular weight (g/mol). 1.00E+02

Source Concentrations:

Source conc. for vapor model (mg/m3) 4.2

CHEMICAL DATA FOR: TPH Aliphatic C8-10

Diffusion coefficient in air (cm2/s) 0.10
Diffusion coefficient in water (cm2/s) 1.00E-05
Solubility (mg/l) 0.43
Vapor pressure (mmHg) 4.8
KOC (L/kg). 3.20E+04
Henry's Law coefficient (-). 82.
Molecular weight (g/mol). 1.30E+02

Source Concentrations:

Source conc. for vapor model (mg/m3) 3.0

CHEMICAL DATA FOR: TPH Aliphatic C10-12

Diffusion coefficient in air (cm2/s) 0.10
Diffusion coefficient in water (cm2/s) 1.00E-05
Solubility (mg/l) 3.40E-02
Vapor pressure (mmHg) 0.49
KOC (L/kg). 2.50E+05
Henry's Law coefficient (-). 1.30E+02
Molecular weight (g/mol). 1.60E+02

Source Concentrations:

Source conc. for vapor model (mg/m3) 4.1

CHEMICAL DATA FOR: TPH Aromatic C8-10

Diffusion coefficient in air (cm2/s) 0.10
Diffusion coefficient in water (cm2/s) 1.00E-05
Solubility (mg/l) 65.

Vapor pressure (mmHg)	4.8
KOC (L/kg).	1.60E+03
Henry's Law coefficient (-).	0.49
Molecular weight (g/mol).	1.20E+02

Source Concentrations:

Source conc. for vapor model (mg/m3) 3.1

CHEMICAL DATA FOR: TPH Aromatic C10-12

Diffusion coefficient in air (cm2/s)	0.10
Diffusion coefficient in water (cm2/s)	1.00E-05
Solubility (mg/l)	25.
Vapor pressure (mmHg)	0.48
KOC (L/kg).	2.50E+03
Henry's Law coefficient (-).	0.14
Molecular weight (g/mol).	1.30E+02

Source Concentrations:

Source conc. for vapor model (mg/m3) 6.1

CHEMICAL DATA FOR: TPH Aromatic C12-16

Diffusion coefficient in air (cm2/s)	0.10
Diffusion coefficient in water (cm2/s)	1.00E-05
Solubility (mg/l)	5.8
Vapor pressure (mmHg)	3.60E-02
KOC (L/kg).	5.00E+03
Henry's Law coefficient (-).	5.40E-02
Molecular weight (g/mol).	1.50E+02

Source Concentrations:

Source conc. for vapor model (mg/m3) 4.8

CONCENTRATION IN BUILDING (annual average)
TPH Aromatic C12-16

Time (yr)	Flux into Building (mg/m^2/day)	Concentration in Building (mg/m^3)	Soil Gas Conc. at Building (mg/m^3)
1.0	3.25E-03	1.02E-04	3.32E+00

The concentration is constant (steady-state model)

CONCENTRATION IN BUILDING (annual average)
TPH Aromatic C10-12

Time (yr)	Flux into Building (mg/m^2/day)	Concentration in Building (mg/m^3)	Soil Gas Conc. at Building (mg/m^3)
1.0	4.08E-03	1.28E-04	4.17E+00

The concentration is constant (steady-state model)

CONCENTRATION IN BUILDING (annual average)
TPH Aromatic C8-10

Time (yr)	Flux into Building (mg/m^2/day)	Concentration in Building (mg/m^3)	Soil Gas Conc. at Building (mg/m^3)
1.0	2.07E-03	6.45E-05	2.11E+00

The concentration is constant (steady-state model)

CONCENTRATION IN BUILDING (annual average)
TPH Aliphatic C10-12

Time (yr)	Flux into Building (mg/m^2/day)	Concentration in Building (mg/m^3)	Soil Gas Conc. at Building (mg/m^3)
1.0	2.78E-03	8.69E-05	2.84E+00

The concentration is constant (steady-state model)

CONCENTRATION IN BUILDING (annual average)
TPH Aliphatic C8-10

Time (yr)	Flux into Building (mg/m^2/day)	Concentration in Building (mg/m^3)	Soil Gas Conc. at Building (mg/m^3)
1.0	2.00E-03	6.26E-05	2.05E+00

The concentration is constant (steady-state model)

CONCENTRATION IN BUILDING (annual average)
TPH Aliphatic C6-8

Time (yr)	Flux into Building (mg/m^2/day)	Concentration in Building (mg/m^3)	Soil Gas Conc. at Building (mg/m^3)
1.0	2.85E-03	8.90E-05	2.91E+00

The concentration is constant (steady-state model)

CONCENTRATION IN BUILDING (annual average)
TPH Aliphatic C5-6

Time (yr)	Flux into Building (mg/m^2/day)	Concentration in Building (mg/m^3)	Soil Gas Conc. at Building (mg/m^3)
1.0	5.32E-04	1.66E-05	5.43E-01

The concentration is constant (steady-state model)

CONCENTRATION IN BUILDING (annual average)
Benzene

Time (yr)	Flux into Building (mg/m^2/day)	Concentration in Building (mg/m^3)	Soil Gas Conc. at Building (mg/m^3)
1.0	5.60E-05	1.75E-06	6.43E-02

The concentration is constant (steady-state model)

Eurofins Air Toxics, Inc.

Certified Laboratory Report and Chain of Custody

7828.000.001
July 24, 2012

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7/6/2012

Mr. Morgan Johnson
Engeo Inc.
2213 Plaza Dr.

Rocklin CA 95765

Project Name: Jordan Ranch
Project #: 7828000001
Workorder #: 1206682

Dear Mr. Morgan Johnson

The following report includes the data for the above referenced project for sample(s) received on 6/29/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1206682

Work Order Summary

CLIENT:	Mr. Morgan Johnson Engeo Inc. 2213 Plaza Dr. Rocklin, CA 95765	**BILL TO:**	Mr. Morgan Johnson Engeo Inc. 2213 Plaza Dr. Rocklin, CA 95765
PHONE:	916-786-8883	**P.O. #**	7828000001
FAX:	916-786-7891	**PROJECT #**	7828000001 Jordan Ranch
DATE RECEIVED:	06/29/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	07/06/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SG1	Modified TO-15	6.0 "Hg	5 psi
02A	SG2-1X	Modified TO-15	4.5 "Hg	5 psi
03A	SG2-3X	Modified TO-15	5.0 "Hg	5 psi
04A	SG2-10X	Modified TO-15	4.0 "Hg	5 psi
05A	SG3	Modified TO-15	24.0 "Hg	5 psi
06A	SG4	Modified TO-15	6.5 "Hg	5 psi
07A	Lab Blank	Modified TO-15	NA	NA
08A	CCV	Modified TO-15	NA	NA
09A	LCS	Modified TO-15	NA	NA
09AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 07/06/12

Technical Director

Certfication numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089,
NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP -CA009332011-1, WA NELAP - C935
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/11 , Expiration date: 06/30/12.
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
Engeo Inc.
Workorder# 1206682

Six 1 Liter Summa Canister samples were received on June 29, 2012. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There was a significant difference (greater than 5.0" Hg) between the measured canister receipt vacuum and that which was reported on the Chain of Custody (COC) OR the canister tag for sample SG4. A leak test indicated that the valve was functioning properly.

Sample SG3 was received with significant vacuum remaining in the canister. The residual canister vacuum resulted in elevated reporting limits.

Analytical Notes

A single point calibration for TPH referenced to Gasoline was performed for each daily analytical batch. Recovery is reported as 100% in the associated results for each CCV.

The reported CCV for each daily batch may be derived from more than one analytical file due to the client's request for non-standard compounds.

Non-standard compounds may have different acceptance criteria than the standard TO-14A/TO-15 compound list as per contract or verbal agreement.

The reported result for 4-Ethyltoluene in sample SG2-1X may be biased high due to co-elution with a non target compound with similar characteristic ions. Both the primary and secondary ion for 4-Ethyltoluene exhibited potential interference.

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SG1

Lab ID#: 1206682-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.84	1.9	1.8	4.2
Freon 11	0.84	2.4	4.7	13
Acetone	8.4	27	20	64
2-Propanol	3.4	8.8	8.2	22
Carbon Disulfide	3.4	4.0	10	12
Hexane	0.84	2.9	3.0	10
Cyclohexane	0.84	2.3	2.9	7.9
2,2,4-Trimethylpentane	0.84	6.1	3.9	28
Benzene	0.84	4.2	2.7	14
Heptane	0.84	1.4	3.4	5.6
Toluene	0.84	2.6	3.2	9.7
Tetrachloroethene	0.84	0.89	5.7	6.1
m,p-Xylene	0.84	1.6	3.6	7.1
1,2,4-Trimethylbenzene	0.84	1.3	4.1	6.2
TPH ref. to Gasoline (MW=100)	42	960	170	3900

Client Sample ID: SG2-1X

Lab ID#: 1206682-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.1	2.2	6.0	13
Ethanol	4.3	6.5	8.1	12
2-Propanol	4.3	32	10	79
2,2,4-Trimethylpentane	1.1	1.2	5.0	5.5
Benzene	1.1	3.4	3.4	11
Toluene	1.1	3.3	4.0	12
Ethyl Benzene	1.1	1.4	4.7	6.0
m,p-Xylene	1.1	4.1	4.7	18
o-Xylene	1.1	2.9	4.7	13
4-Ethyltoluene	1.1	2.4	5.3	12
1,3,5-Trimethylbenzene	1.1	1.5	5.3	7.4
1,2,4-Trimethylbenzene	1.1	2.0	5.3	9.7
TPH ref. to Gasoline (MW=100)	54	730	220	3000

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SG2-3X

Lab ID#: 1206682-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.80	2.5	4.5	14
Ethanol	3.2	4.1	6.1	7.7
Acetone	8.0	8.6	19	20
Benzene	0.80	2.0	2.6	6.6
Toluene	0.80	2.8	3.0	11
m,p-Xylene	0.80	2.9	3.5	13
o-Xylene	0.80	1.8	3.5	8.0
4-Ethyltoluene	0.80	0.81	4.0	4.0
1,3,5-Trimethylbenzene	0.80	1.1	4.0	5.3
1,2,4-Trimethylbenzene	0.80	1.6	4.0	7.7
TPH ref. to Gasoline (MW=100)	40	460	160	1900

Client Sample ID: SG2-10X

Lab ID#: 1206682-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.78	2.8	4.4	16
Ethanol	3.1	6.6	5.8	12
Acetone	7.8	14	18	32
Benzene	0.78	1.6	2.5	5.2
Toluene	0.78	2.6	2.9	9.9
m,p-Xylene	0.78	1.5	3.4	6.4
o-Xylene	0.78	0.91	3.4	3.9
1,2,4-Trimethylbenzene	0.78	0.82	3.8	4.0
TPH ref. to Gasoline (MW=100)	39	280	160	1100

Client Sample ID: SG3

Lab ID#: 1206682-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	3.4	49	7.4	110
Ethanol	13	53	25	100
Acetone	34	890	80	2100

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SG3

Lab ID#: 1206682-05A

Carbon Disulfide	13	53	42	160
Hexane	3.4	59	12	210
2-Butanone (Methyl Ethyl Ketone)	13	19	40	57
Chloroform	3.4	4.0	16	20
Cyclohexane	3.4	5.2	12	18
Benzene	3.4	29	11	94
Heptane	3.4	30	14	120
Toluene	3.4	59	13	220
Ethyl Benzene	3.4	9.4	14	41
m,p-Xylene	3.4	32	14	140
o-Xylene	3.4	9.5	14	41
4-Ethyltoluene	3.4	3.3 J	16	16 J
1,2,4-Trimethylbenzene	3.4	4.6	16	22
TPH ref. to Gasoline (MW=100)	170	7300	680	30000

Client Sample ID: SG4

Lab ID#: 1206682-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	8.6	230	20	540
Benzene	0.86	1.6	2.7	5.2
4-Methyl-2-pentanone	0.86	0.90	3.5	3.7
Toluene	0.86	7.0	3.2	26
Ethyl Benzene	0.86	1.2	3.7	5.1
m,p-Xylene	0.86	4.2	3.7	18
o-Xylene	0.86	1.3	3.7	5.5
1,2,4-Trimethylbenzene	0.86	1.6	4.2	7.8
TPH ref. to Gasoline (MW=100)	43	200	170	820

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Client Sample ID: SG1

Lab ID#: 1206682-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070213**	**Date of Collection:**	**6/29/12 12:00:00 PM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**7/2/12 02:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.84	Not Detected	4.2	Not Detected
Freon 114	0.84	Not Detected	5.9	Not Detected
Chloromethane	8.4	Not Detected	17	Not Detected
Vinyl Chloride	0.84	Not Detected	2.1	Not Detected
1,3-Butadiene	0.84	1.9	1.8	4.2
Bromomethane	8.4	Not Detected	33	Not Detected
Chloroethane	3.4	Not Detected	8.9	Not Detected
Freon 11	0.84	2.4	4.7	13
Ethanol	3.4	Not Detected	6.3	Not Detected
Freon 113	0.84	Not Detected	6.4	Not Detected
1,1-Dichloroethene	0.84	Not Detected	3.3	Not Detected
Acetone	8.4	27	20	64
2-Propanol	3.4	8.8	8.2	22
Carbon Disulfide	3.4	4.0	10	12
3-Chloropropene	3.4	Not Detected	10	Not Detected
Methylene Chloride	8.4	Not Detected	29	Not Detected
Methyl tert-butyl ether	0.84	Not Detected	3.0	Not Detected
trans-1,2-Dichloroethene	0.84	Not Detected	3.3	Not Detected
Hexane	0.84	2.9	3.0	10
1,1-Dichloroethane	0.84	Not Detected	3.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.4	Not Detected	9.9	Not Detected
cis-1,2-Dichloroethene	0.84	Not Detected	3.3	Not Detected
Tetrahydrofuran	0.84	Not Detected	2.5	Not Detected
Chloroform	0.84	Not Detected	4.1	Not Detected
1,1,1-Trichloroethane	0.84	Not Detected	4.6	Not Detected
Cyclohexane	0.84	2.3	2.9	7.9
Carbon Tetrachloride	0.84	Not Detected	5.3	Not Detected
2,2,4-Trimethylpentane	0.84	6.1	3.9	28
Benzene	0.84	4.2	2.7	14
1,2-Dichloroethane	0.84	Not Detected	3.4	Not Detected
Heptane	0.84	1.4	3.4	5.6
Trichloroethene	0.84	Not Detected	4.5	Not Detected
1,2-Dichloropropane	0.84	Not Detected	3.9	Not Detected
1,4-Dioxane	3.4	Not Detected	12	Not Detected
Bromodichloromethane	0.84	Not Detected	5.6	Not Detected
cis-1,3-Dichloropropene	0.84	Not Detected	3.8	Not Detected
4-Methyl-2-pentanone	0.84	Not Detected	3.4	Not Detected
Toluene	0.84	2.6	3.2	9.7
trans-1,3-Dichloropropene	0.84	Not Detected	3.8	Not Detected
1,1,2-Trichloroethane	0.84	Not Detected	4.6	Not Detected
Tetrachloroethene	0.84	0.89	5.7	6.1
2-Hexanone	3.4	Not Detected	14	Not Detected

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Client Sample ID: SG1

Lab ID#: 1206682-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070213**	**Date of Collection:**	**6/29/12 12:00:00 PM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**7/2/12 02:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.84	Not Detected	7.2	Not Detected
1,2-Dibromoethane (EDB)	0.84	Not Detected	6.4	Not Detected
Chlorobenzene	0.84	Not Detected	3.9	Not Detected
Ethyl Benzene	0.84	Not Detected	3.6	Not Detected
m,p-Xylene	0.84	1.6	3.6	7.1
o-Xylene	0.84	Not Detected	3.6	Not Detected
Styrene	0.84	Not Detected	3.6	Not Detected
Bromoform	0.84	Not Detected	8.7	Not Detected
Cumene	0.84	Not Detected	4.1	Not Detected
1,1,2,2-Tetrachloroethane	0.84	Not Detected	5.8	Not Detected
Propylbenzene	0.84	Not Detected	4.1	Not Detected
4-Ethyltoluene	0.84	Not Detected	4.1	Not Detected
1,3,5-Trimethylbenzene	0.84	Not Detected	4.1	Not Detected
1,2,4-Trimethylbenzene	0.84	1.3	4.1	6.2
1,3-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
1,4-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
alpha-Chlorotoluene	0.84	Not Detected	4.3	Not Detected
1,2-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
1,2,4-Trichlorobenzene	3.4	Not Detected	25	Not Detected
Hexachlorobutadiene	3.4	Not Detected	36	Not Detected
Naphthalene	3.4	Not Detected	18	Not Detected
TPH ref. to Gasoline (MW=100)	42	960	170	3900
1,1-Difluoroethane	3.4	Not Detected	9.1	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: SG2-1X

Lab ID#: 1206682-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070218**	**Date of Collection:**	**6/29/12 9:30:00 AM**
Dil. Factor:	**2.15**	**Date of Analysis:**	**7/2/12 07:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.1	Not Detected	5.3	Not Detected
Freon 114	1.1	Not Detected	7.5	Not Detected
Chloromethane	11	Not Detected	22	Not Detected
Vinyl Chloride	1.1	Not Detected	2.7	Not Detected
1,3-Butadiene	1.1	Not Detected	2.4	Not Detected
Bromomethane	11	Not Detected	42	Not Detected
Chloroethane	4.3	Not Detected	11	Not Detected
Freon 11	1.1	2.2	6.0	13
Ethanol	4.3	6.5	8.1	12
Freon 113	1.1	Not Detected	8.2	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Acetone	11	Not Detected	26	Not Detected
2-Propanol	4.3	32	10	79
Carbon Disulfide	4.3	Not Detected	13	Not Detected
3-Chloropropene	4.3	Not Detected	13	Not Detected
Methylene Chloride	11	Not Detected	37	Not Detected
Methyl tert-butyl ether	1.1	Not Detected	3.9	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Hexane	1.1	Not Detected	3.8	Not Detected
1,1-Dichloroethane	1.1	Not Detected	4.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.3	Not Detected	13	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.2	Not Detected
Chloroform	1.1	Not Detected	5.2	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	5.9	Not Detected
Cyclohexane	1.1	Not Detected	3.7	Not Detected
Carbon Tetrachloride	1.1	Not Detected	6.8	Not Detected
2,2,4-Trimethylpentane	1.1	1.2	5.0	5.5
Benzene	1.1	3.4	3.4	11
1,2-Dichloroethane	1.1	Not Detected	4.4	Not Detected
Heptane	1.1	Not Detected	4.4	Not Detected
Trichloroethene	1.1	Not Detected	5.8	Not Detected
1,2-Dichloropropane	1.1	Not Detected	5.0	Not Detected
1,4-Dioxane	4.3	Not Detected	15	Not Detected
Bromodichloromethane	1.1	Not Detected	7.2	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	4.9	Not Detected
4-Methyl-2-pentanone	1.1	Not Detected	4.4	Not Detected
Toluene	1.1	3.3	4.0	12
trans-1,3-Dichloropropene	1.1	Not Detected	4.9	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	5.9	Not Detected
Tetrachloroethene	1.1	Not Detected	7.3	Not Detected
2-Hexanone	4.3	Not Detected	18	Not Detected

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Client Sample ID: SG2-1X

Lab ID#: 1206682-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070218**	**Date of Collection:**	**6/29/12 9:30:00 AM**
Dil. Factor:	**2.15**	**Date of Analysis:**	**7/2/12 07:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.1	Not Detected	9.2	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.3	Not Detected
Chlorobenzene	1.1	Not Detected	4.9	Not Detected
Ethyl Benzene	1.1	1.4	4.7	6.0
m,p-Xylene	1.1	4.1	4.7	18
o-Xylene	1.1	2.9	4.7	13
Styrene	1.1	Not Detected	4.6	Not Detected
Bromoform	1.1	Not Detected	11	Not Detected
Cumene	1.1	Not Detected	5.3	Not Detected
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.4	Not Detected
Propylbenzene	1.1	Not Detected	5.3	Not Detected
4-Ethyltoluene	1.1	2.4	5.3	12
1,3,5-Trimethylbenzene	1.1	1.5	5.3	7.4
1,2,4-Trimethylbenzene	1.1	2.0	5.3	9.7
1,3-Dichlorobenzene	1.1	Not Detected	6.5	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.5	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.6	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.5	Not Detected
1,2,4-Trichlorobenzene	4.3	Not Detected	32	Not Detected
Hexachlorobutadiene	4.3	Not Detected	46	Not Detected
Naphthalene	4.3	Not Detected	22	Not Detected
TPH ref. to Gasoline (MW=100)	54	730	220	3000
1,1-Difluoroethane	4.3	Not Detected	12	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: SG2-3X

Lab ID#: 1206682-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070215**	**Date of Collection:**	**6/29/12 10:15:00 AM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**7/2/12 05:01 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.80	Not Detected	4.0	Not Detected
Freon 114	0.80	Not Detected	5.6	Not Detected
Chloromethane	8.0	Not Detected	17	Not Detected
Vinyl Chloride	0.80	Not Detected	2.0	Not Detected
1,3-Butadiene	0.80	Not Detected	1.8	Not Detected
Bromomethane	8.0	Not Detected	31	Not Detected
Chloroethane	3.2	Not Detected	8.5	Not Detected
Freon 11	0.80	2.5	4.5	14
Ethanol	3.2	4.1	6.1	7.7
Freon 113	0.80	Not Detected	6.2	Not Detected
1,1-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Acetone	8.0	8.6	19	20
2-Propanol	3.2	Not Detected	7.9	Not Detected
Carbon Disulfide	3.2	Not Detected	10	Not Detected
3-Chloropropene	3.2	Not Detected	10	Not Detected
Methylene Chloride	8.0	Not Detected	28	Not Detected
Methyl tert-butyl ether	0.80	Not Detected	2.9	Not Detected
trans-1,2-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Hexane	0.80	Not Detected	2.8	Not Detected
1,1-Dichloroethane	0.80	Not Detected	3.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.2	Not Detected	9.5	Not Detected
cis-1,2-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Tetrahydrofuran	0.80	Not Detected	2.4	Not Detected
Chloroform	0.80	Not Detected	3.9	Not Detected
1,1,1-Trichloroethane	0.80	Not Detected	4.4	Not Detected
Cyclohexane	0.80	Not Detected	2.8	Not Detected
Carbon Tetrachloride	0.80	Not Detected	5.1	Not Detected
2,2,4-Trimethylpentane	0.80	Not Detected	3.8	Not Detected
Benzene	0.80	2.0	2.6	6.6
1,2-Dichloroethane	0.80	Not Detected	3.2	Not Detected
Heptane	0.80	Not Detected	3.3	Not Detected
Trichloroethene	0.80	Not Detected	4.3	Not Detected
1,2-Dichloropropane	0.80	Not Detected	3.7	Not Detected
1,4-Dioxane	3.2	Not Detected	12	Not Detected
Bromodichloromethane	0.80	Not Detected	5.4	Not Detected
cis-1,3-Dichloropropene	0.80	Not Detected	3.6	Not Detected
4-Methyl-2-pentanone	0.80	Not Detected	3.3	Not Detected
Toluene	0.80	2.8	3.0	11
trans-1,3-Dichloropropene	0.80	Not Detected	3.6	Not Detected
1,1,2-Trichloroethane	0.80	Not Detected	4.4	Not Detected
Tetrachloroethene	0.80	Not Detected	5.5	Not Detected
2-Hexanone	3.2	Not Detected	13	Not Detected

eurofins | Air Toxics

Client Sample ID: SG2-3X

Lab ID#: 1206682-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070215**	**Date of Collection:**	**6/29/12 10:15:00 AM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**7/2/12 05:01 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.80	Not Detected	6.8	Not Detected
1,2-Dibromoethane (EDB)	0.80	Not Detected	6.2	Not Detected
Chlorobenzene	0.80	Not Detected	3.7	Not Detected
Ethyl Benzene	0.80	Not Detected	3.5	Not Detected
m,p-Xylene	0.80	2.9	3.5	13
o-Xylene	0.80	1.8	3.5	8.0
Styrene	0.80	Not Detected	3.4	Not Detected
Bromoform	0.80	Not Detected	8.3	Not Detected
Cumene	0.80	Not Detected	4.0	Not Detected
1,1,2,2-Tetrachloroethane	0.80	Not Detected	5.5	Not Detected
Propylbenzene	0.80	Not Detected	4.0	Not Detected
4-Ethyltoluene	0.80	0.81	4.0	4.0
1,3,5-Trimethylbenzene	0.80	1.1	4.0	5.3
1,2,4-Trimethylbenzene	0.80	1.6	4.0	7.7
1,3-Dichlorobenzene	0.80	Not Detected	4.8	Not Detected
1,4-Dichlorobenzene	0.80	Not Detected	4.8	Not Detected
alpha-Chlorotoluene	0.80	Not Detected	4.2	Not Detected
1,2-Dichlorobenzene	0.80	Not Detected	4.8	Not Detected
1,2,4-Trichlorobenzene	3.2	Not Detected	24	Not Detected
Hexachlorobutadiene	3.2	Not Detected	34	Not Detected
Naphthalene	3.2	Not Detected	17	Not Detected
TPH ref. to Gasoline (MW=100)	40	460	160	1900
1,1-Difluoroethane	3.2	Not Detected	8.7	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: SG2-10X

Lab ID#: 1206682-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070214**	**Date of Collection:**	**6/29/12 11:40:00 AM**
Dil. Factor:	**1.55**	**Date of Analysis:**	**7/2/12 04:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.78	Not Detected	3.8	Not Detected
Freon 114	0.78	Not Detected	5.4	Not Detected
Chloromethane	7.8	Not Detected	16	Not Detected
Vinyl Chloride	0.78	Not Detected	2.0	Not Detected
1,3-Butadiene	0.78	Not Detected	1.7	Not Detected
Bromomethane	7.8	Not Detected	30	Not Detected
Chloroethane	3.1	Not Detected	8.2	Not Detected
Freon 11	0.78	2.8	4.4	16
Ethanol	3.1	6.6	5.8	12
Freon 113	0.78	Not Detected	5.9	Not Detected
1,1-Dichloroethene	0.78	Not Detected	3.1	Not Detected
Acetone	7.8	14	18	32
2-Propanol	3.1	Not Detected	7.6	Not Detected
Carbon Disulfide	3.1	Not Detected	9.6	Not Detected
3-Chloropropene	3.1	Not Detected	9.7	Not Detected
Methylene Chloride	7.8	Not Detected	27	Not Detected
Methyl tert-butyl ether	0.78	Not Detected	2.8	Not Detected
trans-1,2-Dichloroethene	0.78	Not Detected	3.1	Not Detected
Hexane	0.78	Not Detected	2.7	Not Detected
1,1-Dichloroethane	0.78	Not Detected	3.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.1	Not Detected	9.1	Not Detected
cis-1,2-Dichloroethene	0.78	Not Detected	3.1	Not Detected
Tetrahydrofuran	0.78	Not Detected	2.3	Not Detected
Chloroform	0.78	Not Detected	3.8	Not Detected
1,1,1-Trichloroethane	0.78	Not Detected	4.2	Not Detected
Cyclohexane	0.78	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.78	Not Detected	4.9	Not Detected
2,2,4-Trimethylpentane	0.78	Not Detected	3.6	Not Detected
Benzene	0.78	1.6	2.5	5.2
1,2-Dichloroethane	0.78	Not Detected	3.1	Not Detected
Heptane	0.78	Not Detected	3.2	Not Detected
Trichloroethene	0.78	Not Detected	4.2	Not Detected
1,2-Dichloropropane	0.78	Not Detected	3.6	Not Detected
1,4-Dioxane	3.1	Not Detected	11	Not Detected
Bromodichloromethane	0.78	Not Detected	5.2	Not Detected
cis-1,3-Dichloropropene	0.78	Not Detected	3.5	Not Detected
4-Methyl-2-pentanone	0.78	Not Detected	3.2	Not Detected
Toluene	0.78	2.6	2.9	9.9
trans-1,3-Dichloropropene	0.78	Not Detected	3.5	Not Detected
1,1,2-Trichloroethane	0.78	Not Detected	4.2	Not Detected
Tetrachloroethene	0.78	Not Detected	5.2	Not Detected
2-Hexanone	3.1	Not Detected	13	Not Detected

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Client Sample ID: SG2-10X

Lab ID#: 1206682-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070214**	**Date of Collection:**	**6/29/12 11:40:00 AM**
Dil. Factor:	**1.55**	**Date of Analysis:**	**7/2/12 04:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.78	Not Detected	6.6	Not Detected
1,2-Dibromoethane (EDB)	0.78	Not Detected	6.0	Not Detected
Chlorobenzene	0.78	Not Detected	3.6	Not Detected
Ethyl Benzene	0.78	Not Detected	3.4	Not Detected
m,p-Xylene	0.78	1.5	3.4	6.4
o-Xylene	0.78	0.91	3.4	3.9
Styrene	0.78	Not Detected	3.3	Not Detected
Bromoform	0.78	Not Detected	8.0	Not Detected
Cumene	0.78	Not Detected	3.8	Not Detected
1,1,2,2-Tetrachloroethane	0.78	Not Detected	5.3	Not Detected
Propylbenzene	0.78	Not Detected	3.8	Not Detected
4-Ethyltoluene	0.78	Not Detected	3.8	Not Detected
1,3,5-Trimethylbenzene	0.78	Not Detected	3.8	Not Detected
1,2,4-Trimethylbenzene	0.78	0.82	3.8	4.0
1,3-Dichlorobenzene	0.78	Not Detected	4.6	Not Detected
1,4-Dichlorobenzene	0.78	Not Detected	4.6	Not Detected
alpha-Chlorotoluene	0.78	Not Detected	4.0	Not Detected
1,2-Dichlorobenzene	0.78	Not Detected	4.6	Not Detected
1,2,4-Trichlorobenzene	3.1	Not Detected	23	Not Detected
Hexachlorobutadiene	3.1	Not Detected	33	Not Detected
Naphthalene	3.1	Not Detected	16	Not Detected
TPH ref. to Gasoline (MW=100)	39	280	160	1100
1,1-Difluoroethane	3.1	Not Detected	8.4	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: SG3

Lab ID#: 1206682-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070216**	**Date of Collection:**	**6/29/12 1:15:00 PM**
Dil. Factor:	**6.70**	**Date of Analysis:**	**7/2/12 05:47 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	3.4	Not Detected	16	Not Detected
Freon 114	3.4	Not Detected	23	Not Detected
Chloromethane	34	Not Detected	69	Not Detected
Vinyl Chloride	3.4	Not Detected	8.6	Not Detected
1,3-Butadiene	3.4	49	7.4	110
Bromomethane	34	Not Detected	130	Not Detected
Chloroethane	13	Not Detected	35	Not Detected
Freon 11	3.4	Not Detected	19	Not Detected
Ethanol	13	53	25	100
Freon 113	3.4	Not Detected	26	Not Detected
1,1-Dichloroethene	3.4	Not Detected	13	Not Detected
Acetone	34	890	80	2100
2-Propanol	13	Not Detected	33	Not Detected
Carbon Disulfide	13	53	42	160
3-Chloropropene	13	Not Detected	42	Not Detected
Methylene Chloride	34	Not Detected	120	Not Detected
Methyl tert-butyl ether	3.4	Not Detected	12	Not Detected
trans-1,2-Dichloroethene	3.4	Not Detected	13	Not Detected
Hexane	3.4	59	12	210
1,1-Dichloroethane	3.4	Not Detected	14	Not Detected
2-Butanone (Methyl Ethyl Ketone)	13	19	40	57
cis-1,2-Dichloroethene	3.4	Not Detected	13	Not Detected
Tetrahydrofuran	3.4	Not Detected	9.9	Not Detected
Chloroform	3.4	4.0	16	20
1,1,1-Trichloroethane	3.4	Not Detected	18	Not Detected
Cyclohexane	3.4	5.2	12	18
Carbon Tetrachloride	3.4	Not Detected	21	Not Detected
2,2,4-Trimethylpentane	3.4	Not Detected	16	Not Detected
Benzene	3.4	29	11	94
1,2-Dichloroethane	3.4	Not Detected	14	Not Detected
Heptane	3.4	30	14	120
Trichloroethene	3.4	Not Detected	18	Not Detected
1,2-Dichloropropane	3.4	Not Detected	15	Not Detected
1,4-Dioxane	13	Not Detected	48	Not Detected
Bromodichloromethane	3.4	Not Detected	22	Not Detected
cis-1,3-Dichloropropene	3.4	Not Detected	15	Not Detected
4-Methyl-2-pentanone	3.4	Not Detected	14	Not Detected
Toluene	3.4	59	13	220
trans-1,3-Dichloropropene	3.4	Not Detected	15	Not Detected
1,1,2-Trichloroethane	3.4	Not Detected	18	Not Detected
Tetrachloroethene	3.4	Not Detected	23	Not Detected
2-Hexanone	13	Not Detected	55	Not Detected

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Client Sample ID: SG3

Lab ID#: 1206682-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070216**	**Date of Collection:**	**6/29/12 1:15:00 PM**
Dil. Factor:	**6.70**	**Date of Analysis:**	**7/2/12 05:47 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	3.4	Not Detected	28	Not Detected
1,2-Dibromoethane (EDB)	3.4	Not Detected	26	Not Detected
Chlorobenzene	3.4	Not Detected	15	Not Detected
Ethyl Benzene	3.4	9.4	14	41
m,p-Xylene	3.4	32	14	140
o-Xylene	3.4	9.5	14	41
Styrene	3.4	Not Detected	14	Not Detected
Bromoform	3.4	Not Detected	35	Not Detected
Cumene	3.4	Not Detected	16	Not Detected
1,1,2,2-Tetrachloroethane	3.4	Not Detected	23	Not Detected
Propylbenzene	3.4	Not Detected	16	Not Detected
4-Ethyltoluene	3.4	3.3 J	16	16 J
1,3,5-Trimethylbenzene	3.4	Not Detected	16	Not Detected
1,2,4-Trimethylbenzene	3.4	4.6	16	22
1,3-Dichlorobenzene	3.4	Not Detected	20	Not Detected
1,4-Dichlorobenzene	3.4	Not Detected	20	Not Detected
alpha-Chlorotoluene	3.4	Not Detected	17	Not Detected
1,2-Dichlorobenzene	3.4	Not Detected	20	Not Detected
1,2,4-Trichlorobenzene	13	Not Detected	99	Not Detected
Hexachlorobutadiene	13	Not Detected	140	Not Detected
Naphthalene	13	Not Detected	70	Not Detected
TPH ref. to Gasoline (MW=100)	170	7300	680	30000
1,1-Difluoroethane	13	Not Detected	36	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: SG4

Lab ID#: 1206682-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070217**	**Date of Collection:**	**6/29/12 12:40:00 PM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**7/2/12 06:40 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.86	Not Detected	4.2	Not Detected
Freon 114	0.86	Not Detected	6.0	Not Detected
Chloromethane	8.6	Not Detected	18	Not Detected
Vinyl Chloride	0.86	Not Detected	2.2	Not Detected
1,3-Butadiene	0.86	Not Detected	1.9	Not Detected
Bromomethane	8.6	Not Detected	33	Not Detected
Chloroethane	3.4	Not Detected	9.0	Not Detected
Freon 11	0.86	Not Detected	4.8	Not Detected
Ethanol	3.4	Not Detected	6.4	Not Detected
Freon 113	0.86	Not Detected	6.6	Not Detected
1,1-Dichloroethene	0.86	Not Detected	3.4	Not Detected
Acetone	8.6	230	20	540
2-Propanol	3.4	Not Detected	8.4	Not Detected
Carbon Disulfide	3.4	Not Detected	11	Not Detected
3-Chloropropene	3.4	Not Detected	11	Not Detected
Methylene Chloride	8.6	Not Detected	30	Not Detected
Methyl tert-butyl ether	0.86	Not Detected	3.1	Not Detected
trans-1,2-Dichloroethene	0.86	Not Detected	3.4	Not Detected
Hexane	0.86	Not Detected	3.0	Not Detected
1,1-Dichloroethane	0.86	Not Detected	3.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.4	Not Detected	10	Not Detected
cis-1,2-Dichloroethene	0.86	Not Detected	3.4	Not Detected
Tetrahydrofuran	0.86	Not Detected	2.5	Not Detected
Chloroform	0.86	Not Detected	4.2	Not Detected
1,1,1-Trichloroethane	0.86	Not Detected	4.7	Not Detected
Cyclohexane	0.86	Not Detected	2.9	Not Detected
Carbon Tetrachloride	0.86	Not Detected	5.4	Not Detected
2,2,4-Trimethylpentane	0.86	Not Detected	4.0	Not Detected
Benzene	0.86	1.6	2.7	5.2
1,2-Dichloroethane	0.86	Not Detected	3.5	Not Detected
Heptane	0.86	Not Detected	3.5	Not Detected
Trichloroethene	0.86	Not Detected	4.6	Not Detected
1,2-Dichloropropane	0.86	Not Detected	4.0	Not Detected
1,4-Dioxane	3.4	Not Detected	12	Not Detected
Bromodichloromethane	0.86	Not Detected	5.7	Not Detected
cis-1,3-Dichloropropene	0.86	Not Detected	3.9	Not Detected
4-Methyl-2-pentanone	0.86	0.90	3.5	3.7
Toluene	0.86	7.0	3.2	26
trans-1,3-Dichloropropene	0.86	Not Detected	3.9	Not Detected
1,1,2-Trichloroethane	0.86	Not Detected	4.7	Not Detected
Tetrachloroethene	0.86	Not Detected	5.8	Not Detected
2-Hexanone	3.4	Not Detected	14	Not Detected

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Client Sample ID: SG4

Lab ID#: 1206682-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070217**	**Date of Collection:**	**6/29/12 12:40:00 PM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**7/2/12 06:40 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.86	Not Detected	7.3	Not Detected
1,2-Dibromoethane (EDB)	0.86	Not Detected	6.6	Not Detected
Chlorobenzene	0.86	Not Detected	3.9	Not Detected
Ethyl Benzene	0.86	1.2	3.7	5.1
m,p-Xylene	0.86	4.2	3.7	18
o-Xylene	0.86	1.3	3.7	5.5
Styrene	0.86	Not Detected	3.6	Not Detected
Bromoform	0.86	Not Detected	8.8	Not Detected
Cumene	0.86	Not Detected	4.2	Not Detected
1,1,2,2-Tetrachloroethane	0.86	Not Detected	5.9	Not Detected
Propylbenzene	0.86	Not Detected	4.2	Not Detected
4-Ethyltoluene	0.86	Not Detected	4.2	Not Detected
1,3,5-Trimethylbenzene	0.86	Not Detected	4.2	Not Detected
1,2,4-Trimethylbenzene	0.86	1.6	4.2	7.8
1,3-Dichlorobenzene	0.86	Not Detected	5.1	Not Detected
1,4-Dichlorobenzene	0.86	Not Detected	5.1	Not Detected
alpha-Chlorotoluene	0.86	Not Detected	4.4	Not Detected
1,2-Dichlorobenzene	0.86	Not Detected	5.1	Not Detected
1,2,4-Trichlorobenzene	3.4	Not Detected	25	Not Detected
Hexachlorobutadiene	3.4	Not Detected	36	Not Detected
Naphthalene	3.4	Not Detected	18	Not Detected
TPH ref. to Gasoline (MW=100)	43	200	170	820
1,1-Difluoroethane	3.4	Not Detected	9.2	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1206682-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070209a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/2/12 11:16 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

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Client Sample ID: Lab Blank

Lab ID#: 1206682-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070209a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/2/12 11:16 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Naphthalene	2.0	Not Detected	10	Not Detected
TPH ref. to Gasoline (MW=100)	25	Not Detected	100	Not Detected
1,1-Difluoroethane	2.0	Not Detected	5.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: CCV

Lab ID#: 1206682-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/2/12 08:26 AM**	

Compound	%Recovery
Freon 12	104
Freon 114	100
Chloromethane	83
Vinyl Chloride	101
1,3-Butadiene	105
Bromomethane	116
Chloroethane	99
Freon 11	104
Ethanol	116
Freon 113	105
1,1-Dichloroethene	108
Acetone	102
2-Propanol	106
Carbon Disulfide	103
3-Chloropropene	102
Methylene Chloride	104
Methyl tert-butyl ether	84
trans-1,2-Dichloroethene	105
Hexane	105
1,1-Dichloroethane	100
2-Butanone (Methyl Ethyl Ketone)	104
cis-1,2-Dichloroethene	93
Tetrahydrofuran	102
Chloroform	100
1,1,1-Trichloroethane	99
Cyclohexane	104
Carbon Tetrachloride	102
2,2,4-Trimethylpentane	104
Benzene	94
1,2-Dichloroethane	101
Heptane	106
Trichloroethene	94
1,2-Dichloropropane	92
1,4-Dioxane	97
Bromodichloromethane	99
cis-1,3-Dichloropropene	100
4-Methyl-2-pentanone	106
Toluene	98
trans-1,3-Dichloropropene	108
1,1,2-Trichloroethane	103
Tetrachloroethene	103
2-Hexanone	109

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Client Sample ID: CCV

Lab ID#: 1206682-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/2/12 08:26 AM**	

Compound	%Recovery
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	104
Chlorobenzene	100
Ethyl Benzene	108
m,p-Xylene	112
o-Xylene	110
Styrene	107
Bromoform	105
Cumene	113
1,1,2,2-Tetrachloroethane	98
Propylbenzene	109
4-Ethyltoluene	111
1,3,5-Trimethylbenzene	117
1,2,4-Trimethylbenzene	119
1,3-Dichlorobenzene	105
1,4-Dichlorobenzene	106
alpha-Chlorotoluene	97
1,2-Dichlorobenzene	105
1,2,4-Trichlorobenzene	111
Hexachlorobutadiene	111
Naphthalene	94
TPH ref. to Gasoline (MW=100)	100
1,1-Difluoroethane	102

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1206682-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/2/12 09:00 AM**	

Compound	%Recovery
Freon 12	101
Freon 114	98
Chloromethane	104
Vinyl Chloride	104
1,3-Butadiene	104
Bromomethane	116
Chloroethane	102
Freon 11	102
Ethanol	66 Q
Freon 113	101
1,1-Dichloroethene	110
Acetone	99
2-Propanol	103
Carbon Disulfide	123
3-Chloropropene	113
Methylene Chloride	100
Methyl tert-butyl ether	92
trans-1,2-Dichloroethene	121
Hexane	105
1,1-Dichloroethane	98
2-Butanone (Methyl Ethyl Ketone)	104
cis-1,2-Dichloroethene	94
Tetrahydrofuran	101
Chloroform	98
1,1,1-Trichloroethane	99
Cyclohexane	106
Carbon Tetrachloride	98
2,2,4-Trimethylpentane	100
Benzene	99
1,2-Dichloroethane	101
Heptane	105
Trichloroethene	95
1,2-Dichloropropane	93
1,4-Dioxane	98
Bromodichloromethane	99
cis-1,3-Dichloropropene	103
4-Methyl-2-pentanone	101
Toluene	96
trans-1,3-Dichloropropene	112
1,1,2-Trichloroethane	103
Tetrachloroethene	102
2-Hexanone	108

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Client Sample ID: LCS

Lab ID#: 1206682-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/2/12 09:00 AM**	

Compound	%Recovery
Dibromochloromethane	108
1,2-Dibromoethane (EDB)	106
Chlorobenzene	100
Ethyl Benzene	106
m,p-Xylene	110
o-Xylene	112
Styrene	114
Bromoform	105
Cumene	115
1,1,2,2-Tetrachloroethane	99
Propylbenzene	109
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	116
1,2,4-Trimethylbenzene	115
1,3-Dichlorobenzene	105
1,4-Dichlorobenzene	103
alpha-Chlorotoluene	106
1,2-Dichlorobenzene	103
1,2,4-Trichlorobenzene	102
Hexachlorobutadiene	103
Naphthalene	80
TPH ref. to Gasoline (MW=100)	Not Spiked
1,1-Difluoroethane	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: LCSD

Lab ID#: 1206682-09AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070205**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/2/12 09:19 AM**	

Compound	%Recovery
Freon 12	98
Freon 114	97
Chloromethane	91
Vinyl Chloride	102
1,3-Butadiene	99
Bromomethane	112
Chloroethane	99
Freon 11	97
Ethanol	65 Q
Freon 113	99
1,1-Dichloroethene	108
Acetone	96
2-Propanol	99
Carbon Disulfide	120
3-Chloropropene	116
Methylene Chloride	99
Methyl tert-butyl ether	91
trans-1,2-Dichloroethene	117
Hexane	103
1,1-Dichloroethane	97
2-Butanone (Methyl Ethyl Ketone)	102
cis-1,2-Dichloroethene	92
Tetrahydrofuran	96
Chloroform	97
1,1,1-Trichloroethane	95
Cyclohexane	105
Carbon Tetrachloride	96
2,2,4-Trimethylpentane	103
Benzene	97
1,2-Dichloroethane	98
Heptane	105
Trichloroethene	93
1,2-Dichloropropane	96
1,4-Dioxane	97
Bromodichloromethane	95
cis-1,3-Dichloropropene	100
4-Methyl-2-pentanone	99
Toluene	95
trans-1,3-Dichloropropene	107
1,1,2-Trichloroethane	100
Tetrachloroethene	100
2-Hexanone	103

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Client Sample ID: LCSD

Lab ID#: 1206682-09AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**p070205**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/2/12 09:19 AM**	

Compound	%Recovery
Dibromochloromethane	104
1,2-Dibromoethane (EDB)	102
Chlorobenzene	101
Ethyl Benzene	105
m,p-Xylene	108
o-Xylene	108
Styrene	112
Bromoform	100
Cumene	113
1,1,2,2-Tetrachloroethane	98
Propylbenzene	107
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	114
1,2,4-Trimethylbenzene	112
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	102
alpha-Chlorotoluene	100
1,2-Dichlorobenzene	102
1,2,4-Trichlorobenzene	106
Hexachlorobutadiene	102
Naphthalene	84
TPH ref. to Gasoline (MW=100)	Not Spiked
1,1-Difluoroethane	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	101	70-130

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Morgan Johnson
Collected by: (Print and Sign) [signature]
Company ENGEO Email mjohnson@engeo.com
Address 2213 Plaza Dr. City Rocklin State CA Zip 95765
Phone 916 580 6518 Fax

Project Info:
P.O. # 782800001
Project # 782800001
Project Name Jordan Ranch

Turn Around Time:
☐ Normal
☒ Rush
3 Day (specify)

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	SG1	36566	6/29/12	12:00	Mod TO-15	28	5		
02A	SG2-1X	37396		9:30			5		
03A	SG2-3X	2643		10:15			5		
04A	SG2-10X	3394		11:40			4		
05A	SG3	2521		1:15			5		
06A	SG4	37395		12:40			25		

Relinquished by: (signature) Date/Time 6/29/12 1626
Received by: (signature) Date/Time 6/29/12 1626

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes:
Include napthalene
Leak check: 1,1 DFA
Results due 7/6

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Atc dropoff		4	Good	Yes No (None)	1206682

Form 1293 rev.11

July 24, 2012

Subject: Jordan Ranch Property – Former Leaking Underground Storage Tank
Dublin, California

PERJURY STATEMENT

"I declare, that to the best of my knowledge at the present time, the information and/or recommendations contained in the attached document are true and correct."

Submitted by Responsible Party:

ROBERT RADANOVICH
BJP-ROF Jordan Ranch, LLC
5000 Hopyard Road, #170
Pleasanton, CA 94588