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Alameda County Environmental Health

30 August 2006

Ms. Deborah Castles Vice President Aegis Equity Partners 130 Webster Street, Suite 200 Oakland, California 94607

Subject: Limited Soil Gas Investigation Report 1020 41st Street Emeryville, California

Dear Ms. Castles:

ERM-West, Inc. (ERM) is pleased to provide Aegis Equity Partners (Aegis) with this *Limited Soil Gas Investigation Report* for the property located at 1020 41st Street in Emeryville, California. This soil gas investigation was conducted following August 2006 phone conversation between Deborah Castles and ERM.

This report documents the activities conducted during the soil gas investigation and presents the findings. Figures, Tables, and attachments are included at the end of this report.

PROJECT BACKGROUND

The subject property, referred to as the Kozel Property, is located at 1001 42nd Street in Oakland, California (Figure 1). The soil gas sampling discussed herein was conducted at an adjacent residence located at 1020 41st Street in Emeryville, California (Figure 2). It is our understanding that McGrath is currently involved in the sale of the Kozel Property. The investigation summarized herein was completed in support of the sale of the aforementioned property.

Previous investigations indicated that historical landuse practices at the Kozel Property may have impacted site soil and groundwater. A free phase

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1777 Botelho Drive Suite 260 Walnut Creek, CA 94596 (925) 946-0455 (925) 946-9968 (fax)



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mineral spirits plume has been identified in groundwater proximate to the site and dissolved phase mineral spirits have been detected in nearby soil borings. In addition, ERM reported in the *Limited Soil and Groundwater Investigation Report* (ERM, June 2006), that there appeared to be impacts to soil and groundwater at off-site, down-gradient sampling locations on the 1020 41st Street property. The objectives of this investigation were to determine what, if any, impacts are present in down-gradient, off-site soil gas, and if they present a potential indoor air hazard to residence.

SOIL GAS FIELD INVESTIGATION

The soil gas investigation was conducted to evaluate the subsurface conditions at the 1020 41st Street property, and determine the potential for an indoor air hazard down-gradient of the Kozel Property. As part of the field investigation, one temporary soil gas probe was advanced to facilitate the collection of a soil gas sample. The sample location was based upon soil and groundwater data collected from two borings previously advanced at the 1020 41st Street property. The soil gas probe was advanced adjacent to the boring (B-1) with the highest detected concentrations of total petroleum hydrocarbons as mineral spirits (TPH-ms), as shown on Figure 2. The following paragraphs describe the field investigation activities and methodologies.

Prior to implementing the soil gas field investigation, the following activities were completed:

- Underground Services Alert, a notification service for marking underground utilities on public rights-of-way, was notified of the proposed work; and
- A private utility-locating service was contracted to mark underground utilities in the vicinity of the soil gas sampling location.

On 4 August 2006, ERM completed the soil gas field investigation activities. One soil gas probe, SVP-1, was advanced to facilitate the collection of a soil gas sample. Soil vapor sampling activities were implemented in accordance with the 28 January 2003 *Advisory – Active Soil Gas Investigation* document developed by the Department of Toxic Substances Control (DTSC) and the Los Angeles RWQCB (LARWQCB).

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As outlined in the DTSC/LARWQCB advisory, a 6-liter Summa canister was used for sample collection for VOC analysis. Prior to sample collection, the initial vacuum in the Summa canister was measured and recorded. The sampling rod was then driven to a depth of 6 feet bgs. The sampling depth recommended by the DTSC/LARWQCB advisory is at least 5 feet below ground surface (bgs). A sampling depth of 6 feet bgs was chosen based upon the known depth to water for the site of approximately 7 to 8 feet bgs.

Once the vapor sampling rod was advanced to total depth, it was pulled back approximately 6 inches, creating an annular space for vapor sampling. A clear, disposable, polyethylene tubing with an outer diameter of one-quarter inch was inserted through the rods and attached to the screened sampling tip with a threaded connection containing a rubber gasket. Following the installation of the sampling line, a seal of hydrated bentonite was emplaced around the probe rod at ground surface. Care was taken to ensure that the bentonite was not overhydrated to avoid introducing water down into the borehole. To allow for subsurface conditions to equilibrate, no further procedures were conducted for approximately 30 minutes.

During this time, the volume of the sample tubing and sampling tip was calculated to determine the purge volume. Following equilibration, an isopropyl alcohol wipe was held adjacent to the ground surface around the annulus of the soil vapor probe and near the sampling train to check for possible leaks in the tubing connections during the collection of the sample.

A low-flow vacuum pump and flow meter were then attached to the sampling line, following a T-valve. Using the vacuum pump, three purge volumes of air were purged from the sampling apparatus at a flow rate of 200 milliliters per minute (ml/min). Following purging, the vacuum pump and flow meter were removed and the Summa canister and flow controller were attached to the sampling line. The flow controller was preset such that the sample would be pulled at a rate of 200 ml/min for a sampling time of approximately 30 minutes. The valve on the Summa canister was opened, beginning sample collection. After 30 minutes, or when the vacuum gauge on the Summa canister read less than 5 inches of mercury (in Hg), the valve was closed and disconnected

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from the tubing. Sampling start and finish times, and the final vacuum reading, were recorded in a field notebook. The field sampling sheet is provided as Attachment A.

The Summa canister was then disconnected from the sample tubing and a second sample was collected for analysis of total petroleum hydrocarbons as mineral spirits (TPH-ms). This sample was collected using a GilAir personal air-sampling pump, which drew the soil vapor through a 7-centimeter long glass tube containing activated charcoal. The GilAir pump was calibrated in advance to collect the necessary volume of air over a 30-minute period. The maximum volume of air that can be drawn across the activated carbon is 20 liters. The low-flow pump was calibrated such that it collected the sample at a flow rate of 0.20 liters per minute. At this rate, the total volume collected was approximately 15 liters, minimizing the chances of breakthrough during sample collection. The GilAir pump was attached to the sample tubing and turned on, beginning sample collection. After 30 minutes, the pump was turned off and the glass tube was capped with plastic endcaps.

Soil vapor samples were sent to Air Toxics Ltd., a California-certified laboratory in Folsom, California, for the following analyses:

- Volatile Organic Compounds (VOCs) analysis by United States Environmental Protection Agency (USEPA) Method TO-15; and
- TPH-ms by National Institute for Occupational Safety and Health (NIOSH) Method 1550.

After the soil gas sample was collected, the polyethylene tubing was removed and discarded. The borehole was then abandoned using granulated bentonite chips, hydrated with water.

SOIL GAS SAMPLING RESULTS

Analytical results for VOCs and TPH-ms in soil gas are summarized on Table 1 and the laboratory analytical report is provided as Attachment B. For comparison purposes the Environmental Screening Levels (ESLs) and California Human Health Screening Levels (CHHSLs) for soil gas are

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included on Table 1. The ESLs are screening levels that were developed by the San Francisco Regional Water Quality Control Board to accelerate the preparation of environmental risk assessments at sites where soil and ground water impacts are present. ESLs are not cleanup goals, do not establish policy or regulation, and are not intended to be used as a standalone tool for decision making. As stated in the ESL documentation, the presence of a chemical above an ESL does not necessarily indicate that adverse impacts to human health or the environment are occurring. The ESLs are included for comparison purposes only. The CHHSLs were developed by the Department of Toxic Substances Control (DTSC) for similar purposes.

As can be seen in Table 1, ten VOCs were detected in the soil gas sample collected at SVP-1, including acetone, ethanol, hexane, cyclohexane, heptane, methyl-ethyl-ketone (MEK), 2-propanol, toluene, m,p-xylenes, and trans-1,2-DCE. However none of these compound exceeded the respective ESLs and CHHSLs. The detections of toluene ($48 \ \mu G/m^3$) and m,p-xylene ($5.3 \ \mu G/m^3$) could be indicative of residual TPH in the soil and groundwater, however, both these compounds were detected well below their respective ESLs and CHHSLs.

TPH-ms was not detected above the method detection limit in the soil gas sample collected from SVP-1. In addition the leak test compound, isopropyl alcohol, was not detected in the soil vapor sample.

SUMMARY AND CONCLUSIONS

ERM conducted a limited soil gas investigation at the property located at 1020 41st Street in Emeryville, California. One soil gas probe was advanced to facilitate the collection of soil and ground water samples for laboratory analysis. The following conclusions are drawn from the findings of this Phase II ESA:

• Low concentrations of 10 VOCs were detected in the soil gas sample, however none of the detections exceeded the respective ESLs and CHHSLs; and

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• TPH-ms was non-detect in the soil gas sample, however, detections of toluene and m,p-xylenes may be indicative of TPH impacts.

ERM has appreciated the opportunity to support McGrath on this project. If you have any questions regarding this report, please feel free to contact John Cavanaugh at (925) 946-0455.

Sincerely,

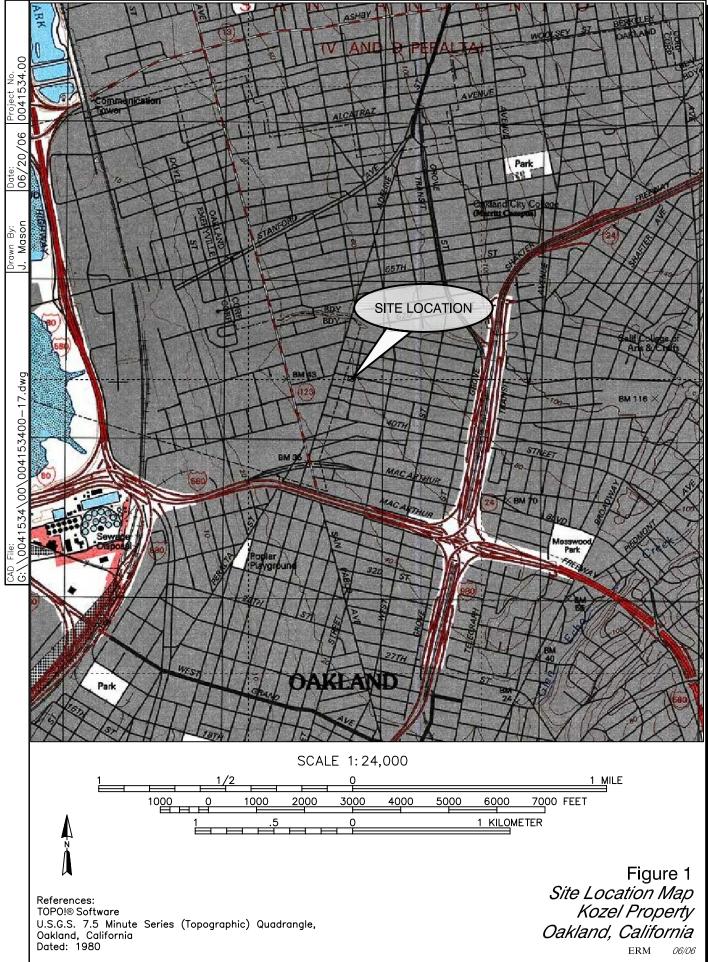
John Cavanaugh Partner-in-Charge

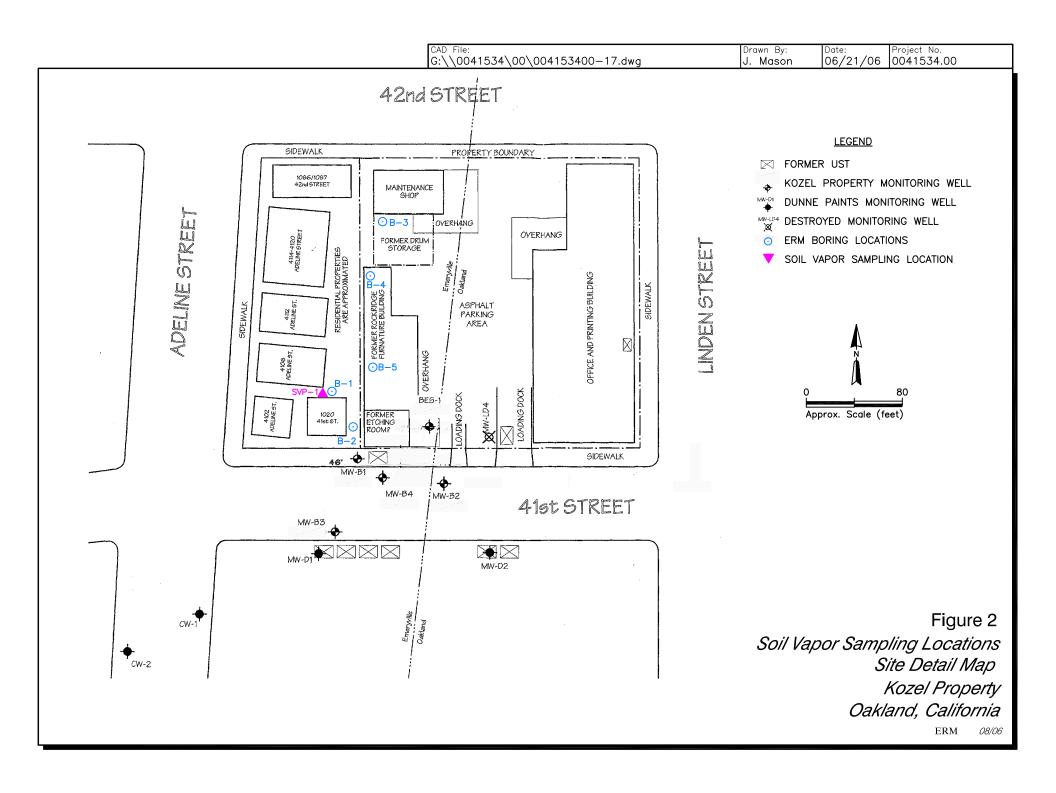
JC/rls/0051204

Rachel Sijgens

Rachel Sijgers Project Geologist

Enclosures: Figures 1 and 2 Table 1 Attachment A – Field Sampling Sheet Attachment B – Laboratory Analytical Report Figures





Tables

			TPH										
	Sample	Sample	Mineral Spirits	Acetone	Ethanol	Cyclohexane	Hexane	Heptane	MEK	2-Propanol	Toluene	Trans-1,2-DCE	m,p-Xylene
Sample ID	Heigth/Depth	Date	(Niosh 1550, µg)			-							
	ESL Shallow Soil Ga	s Screening Levels		660,000	1,900,000				210,000		63,000	15,000	150,000
CHHSL Shallo	ow Soil Gas Human Healti	h Screening Levels									135,000	31,900	317,000
Soil Vapor Sampl	le (41st Street)												
SVP-1	6.0 bgs	8/4/2006	<50	46	310	3	6.3	3.6	5	140	48	21	5.3

Notes:

 μ G/m3 = micrograms per cubic meter of air

bgs = below ground surface

ATL = Air Toxics, Ltd.

ESL = Environmental Screening Level for evaluation of potential indoor air impacts (RWQCB, February 2005). C denotes applicable ESL for carcinogenic effects, NC denotes applicable ESL for non-carcinogenic effects. CHHSL = California Human Health Screening Levels (Department of Toxic Substances Control, January 2005).

(-) denotes no established ESL

Only detected compounds are included in this table.

Isopropyl alcohol was used for detecting leaks within the sampling system.

Abbreviations:

PCE = Tetrachloroethene

1,2,4-Trimethylbenzene 1,2,4-TMB =

MEK = Methyl ethyl ketone

Trans-1,2-DCE = Trans-1,2-Dichloroethene

Table 1 VOCs and TPH Detected in Soil Gas Sample Kozel Property Emeryville, California

Attachment A Field Sampling Sheets

ERM	rant	1	Date: 8/4/04			
Site: 1020 4154 St	CD CD	9	Set up Time: 0900			
Emeryville,			Neather: clear, sunny			
			Samplers: RLS			
Sample Probe #: ≲V	P-1					
Location: Backyar		Construction Depth: (1			
Sample Probe Depth.	bas	Screened Interva				
Φ		Screencu miler vu5.6	v bys			
Purge Calculations						
Sample tubing length:						
	of 0.25 inch outer dian	neter tubing equals 4.46 n	nL) =			
35.68 = Purge Volu						
Purge Time = 0.17 m/	urge Rate (flow contro	oller) / Purge Volume = _	10-15 seconds			
Purge Start Time:	-					
Purge End Time:						
······						
Leak Test	in al pla					
Leak Test Compound : I	sopropyl HI	conol				
Notes:		· · · · · · · · · · · · · · · · · · ·				
T						
Initial Vacuum	Sample	Sample	Final Vacuum			
<u>(inches Hg)</u>	<u>Start Time</u>	<u>End Time</u>	<u>(inches Hg)</u>			
-30	1007	1040	-4			
	1001	1010	1			
Temperature at Time of Sa	TO°F					
Humidity at Time of Samp						
Trumbury at Time of Samp	mig					
Analysis Required	Sample Time	Summa Canister	ID Flow Controller ID			
		<u>oumina campter</u>				
10-15 FWI SC	TO-15 Full scan 1007					
Niash 1550						
1110017 1000	1047					
Field Observations:			·			
Borebule back	filled with	hentonite 1	iyolrated with			
Locator Duck	time mille		I WOIL OF COME THE PARTY			
water.			5			

Sampler Signature(s):

Rachel Syps

Attachment B Laboratory Analytical Report



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- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

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WORK ORDER #: 0608177

Work Order Summary

CLIENT:	Ms. Rachel Sijgers ERM-West 1777 Botelho Drive Suite 260 Walnut Creek, CA 94596-5042	BILL TO:	Ms. Rachel Sijgers ERM-West 1777 Botelho Drive Suite 260 Walnut Creek, CA 94596-5042
PHONE:	925-279-3277	P.O. #	0041534.00
FAX:	925-946-9968	PROJECT #	Aegis Emeryville
DATE RECEIVED: DATE COMPLETED:	08/07/2006 08/18/2006	CONTACT:	Nicole Danbacher

FRACTION #	NAME	<u>TEST</u>
01A	SVP-1	Modified NIOSH 1550
02A	Lab Blank	Modified NIOSH 1550
03A	LCS	Modified NIOSH 1550

CERTIFIED BY:

Sinda d. Fruman

DATE: <u>08/18/06</u>

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004 NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE Modified NIOSH 1550 ERM-West Workorder# 0608177

One NIOSH Charcoal Tube sample was received on August 07, 2006. One NIOSH Charcoal Tube sample was received on August 07, 2006. The laboratory performed the analysis via Modified NIOSH Method 1550. The method involves solvent desorption of the sample tubes using carbon disulfide, followed by separation and analysis using GC/FID.

Requirement	NIOSH 1550	ATL Modifications
Correct sample results for background contamination found in Method Blank	(Steps 14 and 15) Calculate target analyte mass in front and back end media by subtracting background contamination reported front and back sections of the Method Blank.	Background subtraction of target analyte found in Method Blank is not performed.
Initial Calibration	Calibrate daily with at least six working standards over the working range.	Validate linearity of Initial Calibration by bracketing analyses with Continuing Calibration Verification .standards +/- 25% D
Verification of calibration and desorption efficiency	Analyze three quality control blind spikes and three analyst spikes to insure that the calibration graph and DE graph are in control	Analyze bracketing CCV standards and extracted batch independent source Laboratory Control Sample to insure that the calibration graph and DE graph are in control
Calculations	Determine the mass, mg (corrected for Desorption Efficiency) of analyte	Desorption efficiency study is performed for each lot of sorbent tube media. Results are not corrected for desorption efficiency unless requested by the client.
Target Compounds	Includes C5-C16 petroleum products.	Expanded to also include diesel range organics (C7-C24).

Method modifications taken to run these samples include:

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The front and back portions of each tube were analyzed separately to monitor for possible breakthrough. No breakthrough was observed.

Sample results were not corrected for desorption efficiency.



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Definition of Data Qualifying Flags

Seven 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

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



Summary of Detected Compounds MODIFIED NIOSH 1550 GC/FID

Client Sample ID: SVP-1

Lab ID#: 0608177-01A No Detections Were Found.



П

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Client Sample ID: SVP-1

Lab ID#: 0608177-01A

MODIFIED NIOSH 1550 GC/FID

File Name: Dil. Factor:	x081121 1.00	Date of Collection: 8/3/06 Date of Analysis: 8/11/06 Date of Extraction: 8/11/0	
Compound		Rpt. Limit (ug)	Amount (ug)
Mineral Spirits		50	Not Detected

Container Type: NIOSH Charcoal Tube



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Client Sample ID: Lab Blank

Lab ID#: 0608177-02A

MODIFIED NIOSH 1550 GC/FID

File Name: Dil. Factor:	x081120 1.00	Date of A	Collection: NA Analysis: 8/11/06 12:54 PM Extraction: 8/11/06
Compound		Rpt. Limit (ug)	Amount (ug)
Mineral Spirits		50	Not Detected

Container Type: NA - Not Applicable



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Client Sample ID: LCS

Lab ID#: 0608177-03A

MODIFIED NIOSH 1550 GC/FID

File Name:	x081119	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/11/06 12:37 PM
		Date of Extraction: 8/11/06

%Recovery

97

Compound

Mineral Spirits

Container Type: NA - Not Applicable



CHAIN-OF-CUSTODY RECORD

e.,

Sample Transportation Notice

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WORK ORDER #: 0608178

Work Order Summary

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FAX:	925-946-9968	PROJECT #	Aegis Emeryville
DATE RECEIVED: DATE COMPLETED:	08/07/2006 08/18/2006	CONTACT:	Nicole Danbacher

			KECEH I
FRACTION #	NAME	<u>TEST</u>	VAC./PRES.
01A	SVP-1	Modified TO-15	2.0 "Hg
01AA	SVP-1 Duplicate	Modified TO-15	2.0 "Hg
02A	Lab Blank	Modified TO-15	NA
03A	CCV	Modified TO-15	NA
04A	LCS	Modified TO-15	NA

Sinda d. Fruman

DATE: <u>08/18/06</u>

DECEIDT

Laboratory Director

CERTIFIED BY:

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004 NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07

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LABORATORY NARRATIVE Modified TO-15 ERM-West Workorder# 0608178

One 6 Liter Summa Canister sample was received on August 07, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
Daily CCV	+- 30% Difference	= 30% Difference with two allowed out up to </=40%.;<br flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The reported LCS for each daily batch has been derived from more than one analytical file.

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 no 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
- N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:



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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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AN ENVIRONMENTAL ANALYTICAL LABORATORY

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

Client Sample ID: SVP-1

Lab ID#: 0608178-01A

Compound	Rɒt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Ethanol	2.9	160	5.4	310
Acetone	2.9	20	6.8	46
2-Propanol	2.9	59	7.1	140
trans-1,2-Dichloroethene	0.72	5.3	2.8	21
Hexane	0.72	1.8	2.5	6.3
2-Butanone (Methyl Ethyl Ketone)	0.72	1.7	2.1	5.0
Cyclohexane	0.72	0.86	2.5	3.0
Heptane	0.72	0.89	3.0	3.6
Toluene	0.72	13	2.7	48
m,p-Xylene	0.72	1.2	3.1	5.3

Client Sample ID: SVP-1 Duplicate

Lab ID#: 0608178-01AA

Compound	Rɒt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.72	0.81	3.6	4.0
Ethanol	2.9	140	5.4	260
Acetone	2.9	17	6.8	40
2-Propanol	2.9	53	7.1	130
trans-1,2-Dichloroethene	0.72	4.5	2.8	18
Hexane	0.72	1.6	2.5	5.7
2-Butanone (Methyl Ethyl Ketone)	0.72	1.6	2.1	4.6
Cyclohexane	0.72	0.81	2.5	2.8
Heptane	0.72	0.72	3.0	2.9 J
Toluene	0.72	13	2.7	48
m,p-Xylene	0.72	1.3	3.1	5.5



(a) AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVP-1

Lab ID#: 0608178-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	f081320 1.44		Date of Collection: 8 Date of Analysis: 8/	
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Freon 12	0.72	Not Detected	3.6	Not Detected
Freon 114	0.72	Not Detected	5.0	Not Detected
Chloromethane	2.9	Not Detected	5.9	Not Detected
Vinyl Chloride	0.72	Not Detected	1.8	Not Detected
1,3-Butadiene	0.72	Not Detected	1.6	Not Detected
Bromomethane	0.72	Not Detected	2.8	Not Detected
Chloroethane	0.72	Not Detected	1.9	Not Detected
Freon 11	0.72	Not Detected	4.0	Not Detected
Ethanol	2.9	160	5.4	310
Freon 113	0.72	Not Detected	5.5	Not Detected
1,1-Dichloroethene	0.72	Not Detected	2.8	Not Detected
Acetone	2.9	20	6.8	46
2-Propanol	2.9	59	7.1	140
Carbon Disulfide	0.72	Not Detected	2.2	Not Detected
3-Chloropropene	2.9	Not Detected	9.0	Not Detected
Methylene Chloride	0.72	Not Detected	2.5	Not Detected
Methyl tert-butyl ether	0.72	Not Detected	2.6	Not Detected
trans-1,2-Dichloroethene	0.72	5.3	2.8	21
Hexane	0.72	1.8	2.5	6.3
1,1-Dichloroethane	0.72	Not Detected	2.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.72	1.7	2.1	5.0
cis-1,2-Dichloroethene	0.72	Not Detected	2.8	Not Detected
Tetrahydrofuran	0.72	Not Detected	2.1	Not Detected
Chloroform	0.72	Not Detected	3.5	Not Detected
1,1,1-Trichloroethane	0.72	Not Detected	3.9	Not Detected
Cyclohexane	0.72	0.86	2.5	3.0
Carbon Tetrachloride	0.72	Not Detected	4.5	Not Detected
2,2,4-Trimethylpentane	0.72	Not Detected	3.4	Not Detected
Benzene	0.72	Not Detected	2.3	Not Detected
1,2-Dichloroethane	0.72	Not Detected	2.9	Not Detected
Heptane	0.72	0.89	3.0	3.6
Trichloroethene	0.72	Not Detected	3.9	Not Detected
1,2-Dichloropropane	0.72	Not Detected	3.3	Not Detected
1,4-Dioxane	2.9	Not Detected	10	Not Detected
Bromodichloromethane	0.72	Not Detected	4.8	Not Detected
cis-1,3-Dichloropropene	0.72	Not Detected	3.3	Not Detected
4-Methyl-2-pentanone	0.72	Not Detected	2.9	Not Detected
Toluene	0.72	13	2.7	48
trans-1,3-Dichloropropene	0.72	Not Detected	3.3	Not Detected
1,1,2-Trichloroethane	0.72	Not Detected	3.9	Not Detected



(*i*) AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVP-1

Lab ID#: 0608178-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	f081320 1.44		Date of Collection: Date of Analysis: 8	
Compound	Rɒt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.72	Not Detected	4.9	Not Detected
2-Hexanone	2.9	Not Detected	12	Not Detected
Dibromochloromethane	0.72	Not Detected	6.1	Not Detected
1,2-Dibromoethane (EDB)	0.72	Not Detected	5.5	Not Detected
Chlorobenzene	0.72	Not Detected	3.3	Not Detected
Ethyl Benzene	0.72	Not Detected	3.1	Not Detected
m,p-Xylene	0.72	1.2	3.1	5.3
o-Xylene	0.72	Not Detected	3.1	Not Detected
Styrene	0.72	Not Detected	3.1	Not Detected
Bromoform	0.72	Not Detected	7.4	Not Detected
Cumene	0.72	Not Detected	3.5	Not Detected
1,1,2,2-Tetrachloroethane	0.72	Not Detected	4.9	Not Detected
Propylbenzene	0.72	Not Detected	3.5	Not Detected
4-Ethyltoluene	0.72	Not Detected	3.5	Not Detected
1,3,5-Trimethylbenzene	0.72	Not Detected	3.5	Not Detected
1,2,4-Trimethylbenzene	0.72	Not Detected	3.5	Not Detected
1,3-Dichlorobenzene	0.72	Not Detected	4.3	Not Detected
1,4-Dichlorobenzene	0.72	Not Detected	4.3	Not Detected
alpha-Chlorotoluene	0.72	Not Detected	3.7	Not Detected
1,2-Dichlorobenzene	0.72	Not Detected	4.3	Not Detected
1,2,4-Trichlorobenzene	2.9	Not Detected	21	Not Detected
Hexachlorobutadiene	2.9	Not Detected	31	Not Detected

Container Type: 6 Liter Summa Canister

		Method
Surrogates	%Recovery	Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	100	70-130



(a) AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVP-1 Duplicate

Lab ID#: 0608178-01AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	f081321 1.44		Date of Collection: Date of Analysis: 8/	
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Freon 12	0.72	0.81	3.6	4.0
Freon 114	0.72	Not Detected	5.0	Not Detected
Chloromethane	2.9	Not Detected	5.9	Not Detected
Vinyl Chloride	0.72	Not Detected	1.8	Not Detected
1,3-Butadiene	0.72	Not Detected	1.6	Not Detected
Bromomethane	0.72	Not Detected	2.8	Not Detected
Chloroethane	0.72	Not Detected	1.9	Not Detected
Freon 11	0.72	Not Detected	4.0	Not Detected
Ethanol	2.9	140	5.4	260
Freon 113	0.72	Not Detected	5.5	Not Detected
1,1-Dichloroethene	0.72	Not Detected	2.8	Not Detected
Acetone	2.9	17	6.8	40
2-Propanol	2.9	53	7.1	130
Carbon Disulfide	0.72	Not Detected	2.2	Not Detected
3-Chloropropene	2.9	Not Detected	9.0	Not Detected
Methylene Chloride	0.72	Not Detected	2.5	Not Detected
Methyl tert-butyl ether	0.72	Not Detected	2.6	Not Detected
trans-1,2-Dichloroethene	0.72	4.5	2.8	18
Hexane	0.72	1.6	2.5	5.7
1,1-Dichloroethane	0.72	Not Detected	2.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.72	1.6	2.1	4.6
cis-1,2-Dichloroethene	0.72	Not Detected	2.8	Not Detected
Tetrahydrofuran	0.72	Not Detected	2.1	Not Detected
Chloroform	0.72	Not Detected	3.5	Not Detected
1,1,1-Trichloroethane	0.72	Not Detected	3.9	Not Detected
Cyclohexane	0.72	0.81	2.5	2.8
Carbon Tetrachloride	0.72	Not Detected	4.5	Not Detected
2,2,4-Trimethylpentane	0.72	Not Detected	3.4	Not Detected
Benzene	0.72	Not Detected	2.3	Not Detected
1,2-Dichloroethane	0.72	Not Detected	2.9	Not Detected
Heptane	0.72	0.72	3.0	2.9 J
Trichloroethene	0.72	Not Detected	3.9	Not Detected
1,2-Dichloropropane	0.72	Not Detected	3.3	Not Detected
1,4-Dioxane	2.9	Not Detected	10	Not Detected
Bromodichloromethane	0.72	Not Detected	4.8	Not Detected
cis-1,3-Dichloropropene	0.72	Not Detected	3.3	Not Detected
4-Methyl-2-pentanone	0.72	Not Detected	2.9	Not Detected
Toluene	0.72	13	2.7	48
trans-1,3-Dichloropropene	0.72	Not Detected	3.3	Not Detected
1,1,2-Trichloroethane	0.72	Not Detected	3.9	Not Detected



(*i*) AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVP-1 Duplicate

Lab ID#: 0608178-01AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	f081321 1.44		Date of Collection: Date of Analysis: 8	
Compound	Rɒt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.72	Not Detected	4.9	Not Detected
2-Hexanone	2.9	Not Detected	12	Not Detected
Dibromochloromethane	0.72	Not Detected	6.1	Not Detected
1,2-Dibromoethane (EDB)	0.72	Not Detected	5.5	Not Detected
Chlorobenzene	0.72	Not Detected	3.3	Not Detected
Ethyl Benzene	0.72	Not Detected	3.1	Not Detected
m,p-Xylene	0.72	1.3	3.1	5.5
o-Xylene	0.72	Not Detected	3.1	Not Detected
Styrene	0.72	Not Detected	3.1	Not Detected
Bromoform	0.72	Not Detected	7.4	Not Detected
Cumene	0.72	Not Detected	3.5	Not Detected
1,1,2,2-Tetrachloroethane	0.72	Not Detected	4.9	Not Detected
Propylbenzene	0.72	Not Detected	3.5	Not Detected
4-Ethyltoluene	0.72	Not Detected	3.5	Not Detected
1,3,5-Trimethylbenzene	0.72	Not Detected	3.5	Not Detected
1,2,4-Trimethylbenzene	0.72	Not Detected	3.5	Not Detected
1,3-Dichlorobenzene	0.72	Not Detected	4.3	Not Detected
1,4-Dichlorobenzene	0.72	Not Detected	4.3	Not Detected
alpha-Chlorotoluene	0.72	Not Detected	3.7	Not Detected
1,2-Dichlorobenzene	0.72	Not Detected	4.3	Not Detected
1,2,4-Trichlorobenzene	2.9	Not Detected	21	Not Detected
Hexachlorobutadiene	2.9	Not Detected	31	Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

		Method
Surrogates	%Recovery	Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	101	70-130



(a) AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0608178-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	f081307		Date of Collection: N	
Dil. Factor:	1.00		Date of Analysis: 8	
Compound	Rɒt. 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	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
	0.50	Not Detected	1.1	Not Detected
1,3-Butadiene Bromomethane	0.50	Not Detected	1.1	Not Detected
Chloroethane	0.50	Not Detected	1.9	Not Detected
Freon 11		Not Detected	2.8	Not Detected
	0.50			
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	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	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)	0.50	Not Detected	1.5	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	2.3	Not Detected



AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0608178-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	f081307 1.00		Date of Collection: I Date of Analysis: 8	
Compound	Rɒt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected
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

Container Type: NA - Not Applicable

		Method
Surrogates	%Recovery	Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	102	70-130



(a) AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0608178-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	f081302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/13/06 04:29 PM
Compound		%Recovery
Freon 12		99
Freon 114		92
Chloromethane		91
Vinyl Chloride		86
1,3-Butadiene		93
Bromomethane		77
Chloroethane		82
Freon 11		97
Ethanol		90
Freon 113		86
1,1-Dichloroethene		91
Acetone		86
2-Propanol		92
Carbon Disulfide		77
3-Chloropropene		79
Methylene Chloride		87
Methyl tert-butyl ether		88
trans-1,2-Dichloroethene		86
Hexane		93
1,1-Dichloroethane		93
2-Butanone (Methyl Ethyl Ketone)		83
cis-1,2-Dichloroethene		98
Tetrahydrofuran		103
Chloroform		108
1,1,1-Trichloroethane		103
Cyclohexane		100
Carbon Tetrachloride		105
2,2,4-Trimethylpentane		104
Benzene		99
1,2-Dichloroethane		110
Heptane		106
Trichloroethene		105
1,2-Dichloropropane		100
1,4-Dioxane		102
Bromodichloromethane		111
cis-1,3-Dichloropropene		108
4-Methyl-2-pentanone		108
Toluene		104
trans-1,3-Dichloropropene		108
1,1,2-Trichloroethane		105



AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0608178-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	f081302Date of Collection: NA1.00Date of Analysis: 8/13/06 04:		
Compound		%Recovery	
Tetrachloroethene		108	
2-Hexanone		98	
Dibromochloromethane		111	
1,2-Dibromoethane (EDB)		103	
Chlorobenzene		103	
Ethyl Benzene		107	
m,p-Xylene		114	
o-Xylene		109	
Styrene		106	
Bromoform		107	
Cumene		119	
1,1,2,2-Tetrachloroethane		105	
Propylbenzene		107	
4-Ethyltoluene		108	
1,3,5-Trimethylbenzene		111	
1,2,4-Trimethylbenzene		109	
1,3-Dichlorobenzene		101	
1,4-Dichlorobenzene		101	
alpha-Chlorotoluene		100	
1,2-Dichlorobenzene		102	
1,2,4-Trichlorobenzene		95	
Hexachlorobutadiene		98	

Container Type: NA - Not Applicable

······································		Method Limits		
Surrogates	%Recovery			
Toluene-d8	103	70-130		
1,2-Dichloroethane-d4	107	70-130		
4-Bromofluorobenzene	100	70-130		



(a) AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0608178-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	f081304 1.00	Date of Collection: NA Date of Analysis: 8/13/06 05:55 PM
Compound		%Recovery
Freon 12		96
Freon 114		93
Chloromethane		86
Vinyl Chloride		71
1,3-Butadiene		89
Bromomethane		68 Q
Chloroethane		70
Freon 11		79
Ethanol		89
Freon 113		76
1,1-Dichloroethene		77
Acetone		83
2-Propanol		88
Carbon Disulfide		80
3-Chloropropene		72
Methylene Chloride		72
Methyl tert-butyl ether		87
trans-1,2-Dichloroethene		88
Hexane		95
1,1-Dichloroethane		85
2-Butanone (Methyl Ethyl Ketone)		102
cis-1,2-Dichloroethene		101
Tetrahydrofuran		118
Chloroform		107
1,1,1-Trichloroethane		100
Cyclohexane		120
Carbon Tetrachloride		100
2,2,4-Trimethylpentane		106
Benzene		101
1,2-Dichloroethane		103
Heptane		120
Trichloroethene		105
1,2-Dichloropropane		103
1,4-Dioxane		116
Bromodichloromethane		117
cis-1,3-Dichloropropene		78
4-Methyl-2-pentanone		123
Toluene		103
trans-1,3-Dichloropropene		101
1,1,2-Trichloroethane		99



(a) AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0608178-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:			
Compound		%Recovery	
Tetrachloroethene		104	
2-Hexanone		112	
Dibromochloromethane		124	
1,2-Dibromoethane (EDB)		101	
Chlorobenzene		102	
Ethyl Benzene		110	
m,p-Xylene		106	
o-Xylene		90	
Styrene		100	
Bromoform		126	
Cumene		106	
1,1,2,2-Tetrachloroethane		91	
Propylbenzene		92	
4-Ethyltoluene		101	
1,3,5-Trimethylbenzene		84	
1,2,4-Trimethylbenzene		67 Q	
1,3-Dichlorobenzene		92	
1,4-Dichlorobenzene		93	
alpha-Chlorotoluene		95	
1,2-Dichlorobenzene		89	
1,2,4-Trichlorobenzene		68 Q	
Hexachlorobutadiene		71	

Q = Exceeds Quality Control limits. Container Type: NA - Not Applicable

		Method		
Surrogates	%Recovery	Limits		
Toluene-d8	102	70-130		
1,2-Dichloroethane-d4	101	70-130		
4-Bromofluorobenzene	102	70-130		



CHAIN-OF-CUSTODY RECORD

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Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance 180 BLUE RAVINE ROAD, SUITE B with all applicable local, State, Federal, national, and international laws, regulations and ordinances o' any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or (916) 985-1000 FAX (916) 985-1020 shipping of these samples. Relinquishing signature also indicates agrooment to hold harmless,

FOLSOM, CA 95630-4719

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defend, and indemnity 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.

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