6 August 2010

Mr. Jerry Wickham
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: Lucasey Manufacturing
2744 East 11th Street
Oakland, CA 94601
RO0002902

Dear Mr. Wickham:

As the legally authorized representative of the above-referenced project location, I have reviewed the *Site Investigation Report* (29 July 2010) prepared by my consultant of record, ERM. I declare, under penalty of perjury, that the information and/or recommendations contained in this report are true and correct to the best of my knowledge.

Sincerely,

Mr. Charles Lucasey

Environmental
Resources
Management

1277 Treat Boulevard
Suite 500
Walnut Creek, CA 94597
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29 July 2010

Mr. Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: Site Investigation Report
Lucasey Site – 2744 East 11th Street, Oakland
SLIC Case RO0002902

Dear Mr. Wickham:

ERM-West, Inc. (ERM) is pleased to present this report documenting the results of additional site investigation for the Lucasey site at 2744 East 11th Street in Oakland, California, on behalf of Lucasey Manufacturing Corporation.

BACKGROUND

The fieldwork documented in this report was conducted to respond to the Alameda County Environmental Health's (ACEH) letter of 1 September 2009 to Lucasey Manufacturing Corporation. ERM and ACEH met on 22 October 2009 to discuss matters raised in the letter and the required scope of work to address data gaps for the site. A Site Investigation Work Plan was submitted to ACEH on 20 November 2009. ACEH responded on 6 January 2010 with a letter approving the work plan. All technical comments provided by ACEH in the letter were addressed during the field investigation.

This report summarizes three activities that were requested by ACEH:

1. Evaluate free product mobility by installing monitoring wells with screen intervals placed to allow product to freely enter the wells;
2. Delineate the northern and southern extent of product; and
3. Evaluate potential vapor intrusion concerns at residences to the west of the Lucasey site.

FREE PRODUCT MONITORING WELLS

ACEH was concerned about the validity of data provided by the three existing product monitoring wells at the site for the following reasons:

- The existing on-site wells (RW-1, -2, -3) are screened from approximately 7 feet to 25 feet below ground surface (bgs) and may be screened across multiple lithologic layers.
- Ground water at the site may be under semiconfined conditions. Therefore, ACEH believes that when semiconfined ground water is encountered at the site, an upward hydraulic head brings the water level above the level of any free product in the formation and may preclude free product from entering the existing wells.

To determine whether the product at this site is mobile, additional wells were installed and screened within a single lithologic unit where product had been previously reported.

ON-SITE PRODUCT MONITORING WELLS

Two well pairs were installed near existing monitoring well RW-1 and former boring location SB-15. At each well pair location, a pilot boring was completed to determine stratigraphy and intervals of product occurrence. The pilot boring was then converted to a product monitoring well constructed and screened only in the deeper hydrocarbon-impacted unit. An additional well was completed in a shallower hydrocarbon impacted lithologic unit approximately 5 feet laterally away from the deeper well. The boring/well completion logs are included in Attachment A. After installation, the wells were located with a Trimble GPS unit to allow for uploading of data to GeoTracker. All soil cuttings and development water generated during the well installation were contained in 55-gallon drums and characterized for appropriate off-site disposal.

PMW-1B Pilot Boring and Deeper Zone Product Monitoring Well

Pilot boring PMW-1B was continuously cored using dual-tube direct-push methods to a total depth of 25 feet. At approximately 10 feet in depth, petroleum staining was encountered in the recovered cores. Difficulty in sample recovery from 11.5 to 20 feet bgs hampered complete

characterization of the borehole. Petroleum staining was encountered as deep as 21 feet. Based on these data, the pilot boring was reamed out using a hollow stem auger rig to a depth of approximately 25 feet bgs and a well was constructed. The well was constructed using 2-inch PVC casing and was screened from 17 to 25 feet bgs in a clayey gravel and gravelly sand unit.

PMW-1A Upper Zone Product Monitoring Well

PMW-1A was installed approximately 5 feet southwest of PMW-1B. Due to sample recovery difficulties in PMW-1B between 11.5 and 20 feet bgs, this boring was continuously cored and logged using the dual-tube direct-push rig. Similar to PMW-1B, petroleum staining was initially encountered at a depth of approximately 10 feet. Staining was observed to a depth of 14.5 feet. Samples could not be recovered between 15 and 17 feet. Based on these data, the pilot boring was reamed out using a hollow stem auger rig to a depth of approximately 17 feet bgs and a well was constructed. The well was constructed using 2-inch PVC casing and screened from 7 to 17 feet bgs in a clayey sand and gravelly sand unit.

PMW-2B Pilot Boring and Deeper Zone Product Monitoring Well

Pilot boring PMW-2B was completed using a dual-tube direct-push rig to a total depth of 25 feet. At approximately 12 feet bgs, petroleum staining was encountered in the recovered cores and was observed to continue to a depth of 17 feet bgs. Staining was also observed from 21 to 25 feet bgs. Based on these data, the pilot boring was reamed out using a hollow stem auger rig to a depth of approximately 25 feet bgs and a well was constructed. The well was constructed using 2-inch PVC casing and screened from 19 to 25 feet bgs in a gravelly sand and clayey sand unit.

PMW-2A Upper Zone Product Monitoring Well

Using the stratigraphic data obtained from the pilot boring for PMW-2B, PMW-2A was installed approximately 5 feet southwest of PMW-1B using a hollow stem auger rig to a depth of approximately 17.5 feet bgs. The well was constructed using 2-inch PVC casing and was screened from 7 to 17 feet in a clayey sand, silty sand and gravelly sand unit.

Well Development

The on-site wells were developed on 8 March. The development logs are included in Attachment B.

OFF-SITE PRODUCT MONITORING WELL

On 25 June 2010, a single product monitoring well was installed adjacent to SB-22, the location furthest downgradient from the Lucasey site where previous reports indicated that product was present. The installation of this well required an encroachment permit from the City of Oakland. The well was completed using a direct-push rig, continuously cored to a total depth of 14 feet. At approximately 10 feet, evidence of product was observed and continued to be observed to 14 feet. The boring was reamed out using a hollow stem auger rig to a depth of approximately 14 feet bgs and a well was constructed. The well was constructed using 2-inch PVC casing and was screened from 7 to 14 feet in a sand, sandy gravel, and clayey gravel unit. All soil cuttings and development water generated during the well installation were contained in 55-gallon drums and characterized for appropriate off-site disposal.

Well Development

Well PMW-3 was developed on 30 June. The development log is included in Attachment B.

A lithologic cross-section based on the 5 new product wells and existing well RW-1 is included as Figure 2.

PRODUCT RECHARGE TESTING AND MONITORING

Monitoring for the presence of product commenced following development of the product monitoring wells. Monitoring was conducted according to the following schedule:

- Immediately following well development;
- On a weekly basis for the following 4 weeks; and
- On a monthly basis for the following 2 months.

One additional monitoring event will be conducted near the end of the dry season (end of October).

The monitoring results and observations collected to date are presented in Table 1. The product monitoring field forms are in Attachment C. Some monitoring of the three previously existing wells (RW-1, -2, and -3) was also conducted. Monitoring to date indicates that no measurable product has been observed in any of the wells. Some observations of staining on the product probe were recorded as indicated on Table 1. Monitoring of all wells will continue according to the above schedule.

PRODUCT DELINEATION

To delineate the extent of free-phase product to the west and east (presumed side-gradient of product plume), ERM completed installation of soil borings on the northern side of East 11th Street (B-1) approximately 40 feet west of SB-24, and on Lisbon Street (B-2) approximately 45 feet south of SB-21, as shown on Figure 1. The borings were completed using direct-push methods and were continuously cored. As indicated on the drilling logs, no visual or olfactory evidence of product was documented in either of the borings. PID readings showed concentrations as either non-detect or at very low levels.

Soil samples were collected at 5-foot intervals for the entire depth of the borings. Results are documented in Table 2. Table 2 is a comprehensive compilation of total petroleum hydrocarbons (TPH); benzene, toluene, ethylbenzene, and xylenes (BTEX); methyl tertiary-butyl ether (MTBE); ethylene dibromide (EDB); and 1,2-dichloroethane (1,2-DCA) soil data collected at the site to date. None of the soil samples from B-1 or B-2 had any detections of TPH as gasoline, diesel, or motor oil. Water was encountered at approximately 15 feet in the borings. Temporary casings with approximately 10 feet of screen (15 to 25 feet) were placed in the center of the direct-push pipe and the pipe was lifted to expose the screen. No product was observed in either of the two borings.

Two well volumes of water were removed by bailer, and a water sample was then collected from each boring. The grab groundwater results are provided in Table 3. Table 3 is a comprehensive compilation of TPH, BTEX, MTBE, EDB, and 1,2-DCA groundwater data collected at the site to date. None of the water samples from B-1 or B-2 had any detections of

BTEX or TPH as gasoline, diesel, motor oil, mineral spirits, or kerosene. The boreholes were properly abandoned following groundwater sample collection.

SOIL VAPOR SAMPLING

To further evaluate the potential for indoor air impacts from soil and groundwater at and in the vicinity of the Lucasey site, soil vapor sampling was conducted at the four locations shown on Figure 1. The objectives of this sampling were:

- To collect additional samples between the Lucasey site and ASV-3 and ASV-4 to further evaluate whether the soil vapor impacts detected in ASV-3 and ASV-4 during the June 2009 sampling event could be further delineated.
    - Samples were collected from locations ASV-12 and ASV-13, downgradient of the area where product had previously been observed on the Lucasey site, and where no previous soil vapor sampling had been conducted.
- To collect additional samples closer to the residences fronting E. 11th Street to determine whether soil vapor exceeded indoor air screening levels.
    - Samples were collected from locations ASV-14 and ASV-15 in the front yard of 2743 E. 11th Street, directly across E. 11th Street from the Lucasey site, downgradient of the area where product had previously been observed at the Lucasey site, and near soil vapor sampling locations ASV-3 and ASV-4, where elevated levels of benzene and ethylbenzene were detected during the June 2009 investigation.

A direct-push rig was utilized to facilitate the collection of soil vapor samples from a depth of 5 feet bgs. Soil vapor samples were collected with 200-milliliter Summa canisters equipped with flow controllers with a pre-set sampling rate of 200 milliliters per minute. Samples were analyzed via Modified U.S. Environmental Protection Agency (USEPA) Method TO-15 for a full scan of volatile organic compounds (VOCs). Samples were also collected in Tenax sorbent tubes (200-milliliter volume) and analyzed for TPH as diesel. Detailed procedures that were

followed for collection of the vapor samples are included in the Standard Operating Procedure in Attachment D. The results of the soil vapor sampling are presented in Table 4. Table 4 is a comprehensive compilation of soil vapor data collected at the site to date. Based on the 2010 vapor sampling:

- **Benzene** and **ethylbenzene** were not detected in any of vapor samples.
- **Toluene** and **m,p-xylenes** were detected in ASV-12, with detections well below California Health Hazard Screening Levels (CHHSLs) and Environmental Screening Levels (ESLs).
- **Naphthalene** was not detected in any vapor samples.
- **TPH as gasoline** and **TPH as diesel** were not detected in any vapor samples.
- **Methylene chloride** was detected in ASV-15 below the residential ESL. No CHHSL is established for this compound.
- **Acetone** was detected in ASV-13 and ASV-14 below the residential ESL. No CHHSL is established.
- **2-Butanone** was detected in ASV-14 below the residential ESL. No CHHSL is established.
- **VOCs** detected with no CHHSL or ESL established were as follows:
    - **1,2,4-Trimethylbenzene** was detected in ASV-12 and ASV-14. It was also detected in the laboratory blank.
    - **Carbon disulfide** was detected in ASV-14.
    - **Ethanol** was detected in ASV-12, ASV-13 and ASV-15. It was also detected in the ambient air sample and the laboratory blank sample.
- **Other VOCs:**
    - No other VOCs were detected in any of the 2010 vapor samples.

Laboratory data packages for all soil, ground water and soil vapor samples are provided in Attachment E. Field notes are provided in Attachment F.

CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are provided based on the data collected during the fieldwork documented in this report and previous data collected at the site.

- **Product Mobility.** The recently installed wells indicate that, based on the data collected to date, the product present in the subsurface is not appreciably mobile. Minor amounts of product were initially observed in some of the wells. During subsequent monitoring, no measurable product has been observed. Some indications of product (staining of the monitor probe) have been recorded.

    - **Recommendation:** Complete the monitoring, scheduled to be completed at the end of October 2010 for the five new wells, to verify that measurable product is not mobilizing into the wells.

- **Product Delineation.** Borings B-1 and B-2 did not show any indication of product either in soil or grab groundwater samples; therefore, the occurrence of product has been constrained to the north and south of the Lucasey site. Further delineation to the east and west is prevented by existing structures. Furthermore, the maximum extent of practical product delineation has occurred.

    - **Recommendation:** No further activity to define the product limits is recommended.

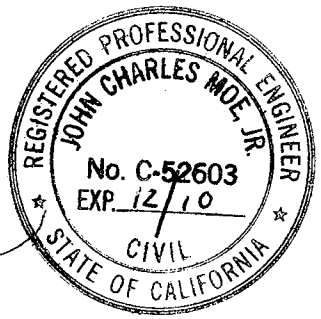
- **Soil Vapor Impacts**. Results from 2009 vapor sampling identified potential off-site sources (e.g., auto maintenance) due to a pattern of higher concentrations in off-site locations ASV-3 and ASV-4 than in on-site locations ASV-1 and ASV-2. Sampling conducted in 2010 between the Lucasey site and near the residences downgradient of the site did not show detectable levels of benzene, ethylbenzene, TPH as gasoline, TPH as diesel, or naphthalene. The 2010 data support the off-site source theory. The sampling conducted in the residential yard indicates that, regardless of the source, impacts do not appear to extend to the residences.

    - **Recommendation:** No further activity is recommended to characterize soil vapor impacts.

Once the product monitoring has been completed at the end of October, a Corrective Action Plan (CAP) report will be submitted to ACEH. The CAP will summarize data collected to date at the site, present exposure potential and pathways, and evaluate remedial action options. The CAP will be submitted by 15 November 2010.

Please direct any comments or questions to John Moe at (925) 482-3240. Thank you for your consideration.

Sincerely,



John Moe
Project Manager

Paul Hausmann
Partner-in-Charge

Attachments:

Figures 1 and 2
Tables 1 through 4
A Boring Logs
B Well Development Logs
C Product Monitoring Logs
D Soil Vapor Sampling SOP and Sampling Logs
E Laboratory Data Packages
F Field Notes

cc: Bruce Flushman
Scott Rickman
Chuck Lucasey

Figures 1 and 2
Tables 1 through 4

CAD File:	Drawn By:	Date:	Project No.
G:\\0097888\\02\009788802-03.dwg	R. Olson	07/29/30	0097888.02

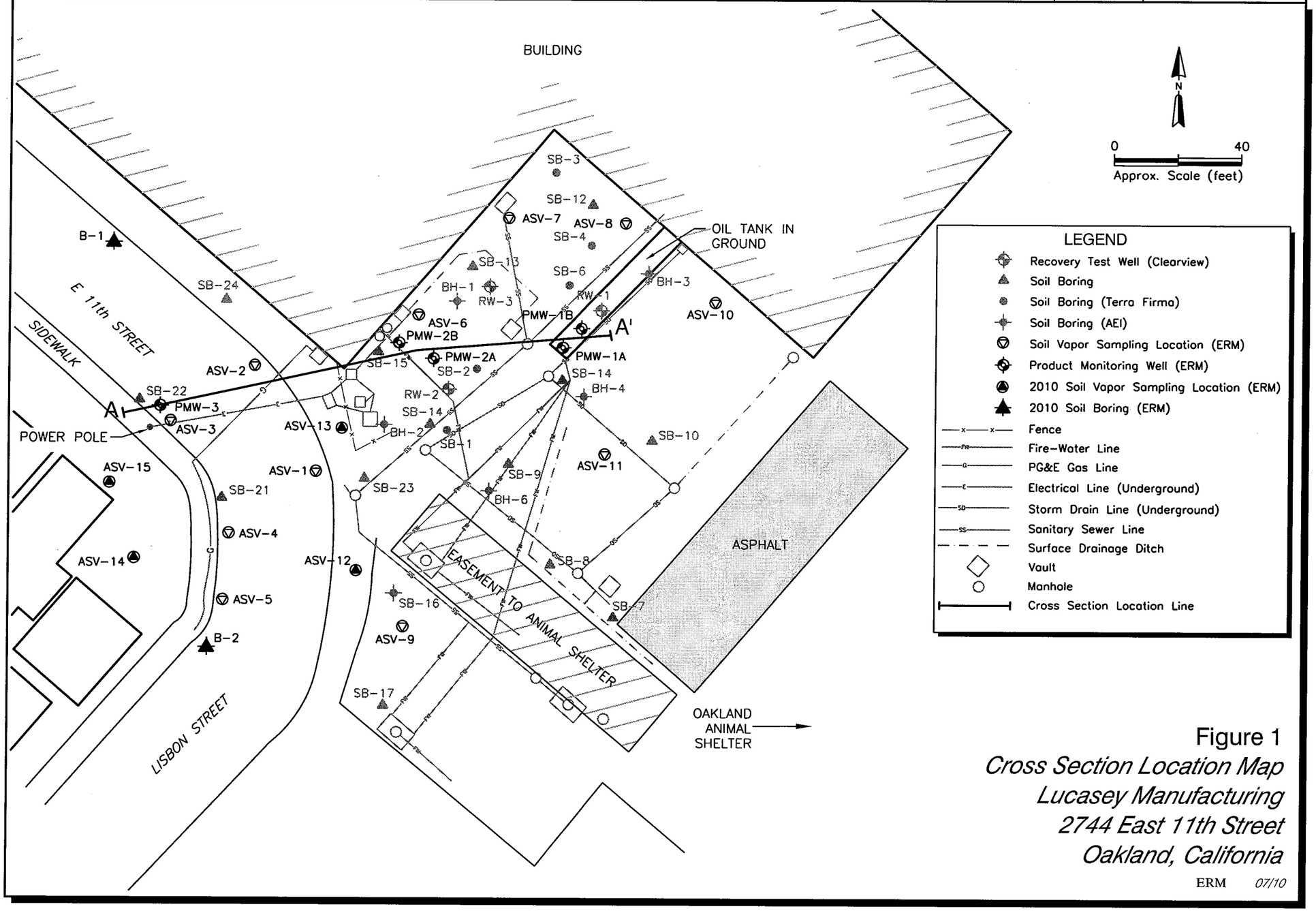


Figure 1

Cross Section Location Map
Lucasey Manufacturing
2744 East 11th Street
Oakland, California

ERM 07/10

Project No. 0097888.02

Date: 07/27/10

Drawn By: R. Olson

CAD File: G:\0097888\02\009788802-02.dwg

A

A'

PMW-3

PMW-2B

PMW-2A

PMW-1A

PMW-1B

FEET BELOW GROUND SURFACE

0

5

10

15

20

25

30

SILTY SAND

SILTY SAND

FINE SAND

SANDY GRAVEL

CLAY

CLAYEY GRAVEL

SILTY SAND

GRAVELLY CLAY

CLAY

SANDY GRAVEL

CLAYEY SAND

SANDY GRAVEL

CLAYEY GRAVEL

FILL

GRAVELLY SAND

CLAY

CLAYEY SAND

ASPHALT, CONCRETE, AND/OR ROADBASE

FILL AND BACKFILL

CLAY

GRAVELLY CLAY

SILT & GRAVELLY SILT

CLAYEY SAND

SILTY SAND

FINE SAND

GRAVELLY SAND

CLAYEY GRAVEL

SANDY GRAVEL

OCCURRENCE OF PRODUCT IN BORING SAMPLES

PMW-2B

WELL ID

WELL

WELL SCREEN

SILT TRAP

WATER LEVEL (AT TIME OF DRILLING)

(Vertical Exaggeration = 2X)

VERTICAL SCALE IN FEET 1" = 5'

HORIZONTAL SCALE IN FEET 1" = 10'

Figure 2

Cross Section A-A'

Lucasey Manufacturing

2744 East 11th Street

Oakland, California

ERM 07/10

Table 1
Product Monitoring - Recently Installed Wells
Lucasey Site - 2744 E.11th Street
Oakland, California

Well	Date	Depth to Water (feet)	Depth to Product (feet)	Product thickness (feet)	Notes
PMW-1A	03/03/10	7.12	-	-	day of well installation
"	03/04/10	6.82	6.81	0.01	day after well installation
"	03/08/10	7.46	-	-	prior to development
"	03/18/10	7.95	-	-	product staining on probe
"	03/24/10	8.50	-	-	no staining on probe
"	04/01/10	8.60	-	-	no staining on probe
"	04/08/10	8.01	-	-	no staining on probe
"	05/10/10	9.00	-	-	no staining on probe
"	06/15/10	9.59	-	-	no staining on probe
"	07/08/10	9.83	-	-	no staining on probe
"	07/15/10	9.89	-	-	product staining on probe
"	07/22/10	9.94	-	-	product staining on probe
PMW-1B	03/03/10	6.99	6.98	0.01	day of well installation
"	03/04/10	6.71	6.70	0.01	day after well installation
"	03/08/10	7.42	7.40	0.02	prior to development
"	03/18/10	7.91	-	-	no staining on probe
"	03/24/10	8.46	-	-	product staining on probe
"	04/01/10	8.58	-	-	no staining on probe
"	04/08/10	8.02	-	-	no staining on probe
"	05/10/10	8.89	-	-	no staining on probe
"	06/15/10	9.51	-	-	no staining on probe
"	07/08/10	9.76	-	-	no staining on probe
"	07/15/10	9.82	-	-	product staining on probe
"	07/22/10	9.90			product staining on probe
PMW-2A	03/04/10	8.44	-	-	day of well installation
"	03/08/10	8.05	-	-	prior to development
"	03/18/10	9.50	-	-	no staining on probe
"	03/24/10	10.02	-	-	no staining on probe
"	04/01/10	10.00	-	-	no staining on probe
"	04/08/10	9.40	-	-	no staining on probe
"	05/10/10	10.55	-	-	no staining on probe
"	06/15/10	11.20	-	-	no staining on probe
"	07/08/10	11.45	-	-	no staining on probe
"	07/15/10	11.51	-	-	product staining on probe
"	07/22/10	11.54	-	-	product staining on probe

Product Monitoring - Recently Installed Wells
Lucasey Site - 2744 E.11th Street
Oakland, California

Well	Date	Depth to Water (feet)	Depth to Product (feet)	Product thickness (feet)	Notes
PMW-2B	03/04/10	9.44	-	-	day of well installation
"	03/08/10	10.35	-	-	prior to development
"	03/18/10	10.95	-	-	no staining on probe
"	03/24/10	11.48	-	-	product staining on probe
"	04/01/10	11.56	-	-	no staining on probe
"	04/08/10	11.11	-	-	no staining on probe
"	05/10/10	12.00	-	-	no staining on probe
"	06/15/10	12.69	-	-	no staining on probe
"	07/08/10	13.11	-	-	no staining on probe
"	07/15/10	13.13	-	-	no staining on probe
"	07/22/10	13.20			no staining on probe
PMW-3	06/25/10	10.10	10.00	0.10	day of well installation
"	06/30/10	9.98	9.96	0.02	prior to development
"	07/08/10	10.06	-	-	no staining on probe
"	7/15/2010	10.08	-	-	no staining on probe
"	7/22/2010	10.13	-	-	no staining on probe

Table 1
Product Monitoring - Previously Installed Wells
Lucasey Site - 2744 E. 11th St.
Oakland, California

Well	Date	Depth to Water (feet)	Depth to Product (feet)	Product thickness	Notes
RW-1	06/05/09	9.50	-	-	no staining on probe
"	03/18/10	7.60	-	-	no staining on probe
"	03/24/10	8.15	-	-	no staining on probe
"	04/01/10	8.25	-	-	no staining on probe
"	04/08/10	7.70	-	-	no staining on probe
"	05/10/10	8.66	-	-	no staining on probe
"	06/15/10	9.20	-	-	no staining on probe
"	07/08/10	9.43	-	-	no staining on probe
"	07/15/10	9.50	-	-	staining on probe
"	07/22/10	9.54	-	-	no staining on probe
RW-2	06/05/09	11.90	-	-	no staining on probe
"	03/18/10	9.35	-	-	no staining on probe
"	03/24/10	9.89	-	-	no staining on probe
"	04/01/10	9.90	-	-	no staining on probe
"	04/08/10	9.42	-	-	no staining on probe
"	05/10/10	10.35	-	-	no staining on probe
"	06/15/10	10.95	-	-	no staining on probe
"	07/08/10	11.20	-	-	no staining on probe
"	07/15/10	11.26	-	-	no staining on probe
"	07/22/10	11.31	-	-	no staining on probe
RW-3	06/05/09	11.40	-	-	no staining on probe
"	04/01/10	10.62	-	-	no staining on probe
"	04/08/10	10.08	-	-	no staining on probe
"	05/10/10	11.06	-	-	no staining on probe
"	06/15/10	11.75	-	-	no staining on probe
"	07/08/10	11.97	-	-	no staining on probe
"	07/15/10	12.04	-	-	no staining on probe
"	07/22/10	12.15	-	-	no staining on probe

Table 2
Soil Sample Data
Lucasey Site - 2744 E. 11th Street
Oakland, California

Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds							Total Petroleum Hydrocarbons		
			Benzene	Toluene	Ethyl-benzene	Xylenes (Total)	MTBE	EDB	1,2-DCA	TPH (as Gasoline)	TPH (as Diesel)	TPH (as Motor Oil)
BH-1	16	07/09/05	-	-	-	-	-	-	-	4.8	48	46
BH-3	7.5	07/09/05	-	-	-	-	-	-	-	4.7	50	79
BH-6	16	07/09/05	-	-	-	-	-	-	-	73	1,800	1,700
SB7-5	5	01/10/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB7-17.5	17.5	01/11/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB7-23	23	01/11/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB8-5	5	01/10/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB8-15	15	01/10/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB8-23.5	23.5	01/10/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB8-26.5	26.5	01/10/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB9-5	5	01/09/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB9-10	10	01/09/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB9-11.5	11.5	01/09/07	VP	-	-	-	-	-	-	-	-	-
SB9-16	16	01/22/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	140	93
SB9-18	18	01/09/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	18	<50
SB9-22	22	01/09/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB10-5	5	01/10/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB10-12	12	01/10/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB10-23	23	01/10/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB11-5	5	01/09/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB11-12	12	01/10/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	11.0	3,300	2,500
SB11-22	22	01/09/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB11-23.5	23.5	01/09/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB12-5	5	01/08/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB12-11	11	01/08/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	370	85
SB12-14	14	01/19/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	470	270
SB12-26	26	01/08/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB12-34	34	01/08/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	1.4	170.0	<50
SB13-5	5	01/08/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB13-10	10	01/08/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB13-14	14	01/08/07	VP	-	-	-	-	-	-	-	-	-
SB13-18	18	01/08/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB13-26	26	01/22/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	170	110
SB13-30	30	01/08/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB14-10.5	10.5	01/12/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB14-11.5	11.5	01/12/07	VP	-	-	-	-	-	-	-	-	-
SB14-13.5	13.5	01/12/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB14-17	17	01/12/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	14.0	3,800	2,500
SB14-23	23	01/12/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB15-5	5	01/09/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB15-15	15	01/19/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	21.0	5,300	3,400
SB15-19.5	19.5	01/22/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	36	20

Soil Sample Data
Lucasey Site - 2744 E. 11th Street
Oakland, California

Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds							Total Petroleum Hydrocarbons		
			Benzene	Toluene	Ethyl-benzene	Xylenes (Total)	MTBE	EDB	1,2-DCA	TPH (as Gasoline)	TPH (as Diesel)	TPH (as Motor Oil)
SB15-23	23	01/19/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	18.0	1,800	1,100
SB15-27	27	01/09/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB21-5	5	01/11/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB21-10	10	01/11/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB21-11	11	01/19/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	1.0	770	800
SB21-13.5	13.5	01/19/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	520	630
SB21-22	22	01/11/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB22-10	10	01/12/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB22-11.5	11.5	01/24/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	4.3	2,600	3,800
SB22-15	15	01/12/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB23-5	5	01/11/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB23-15	15	01/11/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB23-23	23	01/11/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB23-29	29	01/11/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
SB24-5	5	01/12/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	23	<50
SB24-11.5	11.5	01/19/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	29.0	2,300	3,600
SB24-18	18	01/12/07	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<1	<10	<50
B-1 - 4.5- 5	4.5- 5	03/04/10	<0.005	<0.005	<0.005	<0.010	-	-	-	<0.1	<9.5	<19
B-1 - 9.5 - 10	9.5-10	03/04/10	<0.0049	<0.0049	<0.0049	<0.0098	-	-	-	<0.098	<9.9	<20
B-1 - 15.5 - 16	15.5-16	03/04/10	<0.005	<0.005	<0.005	<0.099	-	-	-	<0.099	<10	<20
B-1 - 19.5 - 20	19.5-20	03/04/10	<0.005	<0.005	<0.005	<0.010	-	-	-	<0.1	<19	<38
B-2 - 4.5- 5	4.5- 5	03/04/10	<0.005	<0.005	<0.005	<0.099	-	-	-	<0.099	<10	<20
B-2 - 9.5 - 10	9.5-10	03/04/10	<0.005	<0.005	<0.005	<0.099	-	-	-	<0.099	<9.9	<20
B-2 - 15.5 - 16	15.5-16	03/04/10	<0.0049	<0.0049	<0.0049	<0.0098	-	-	-	<0.098	<9.9	<20
B-2 -20 -20.5	20-20.5	03/04/10	<0.005	<0.005	<0.005	<0.099	-	-	-	<0.099	<10	<20

Key:
Concentrations reported in milligrams per kilogram (mg/kg).
- Not analyzed for this analyte
< = Less than; compound not detected at the laboratory reporting limit.
VP = Consultant reported sample contained visible product, therefore not run for analysis at laboratory

Table 3
Groundwater Sample Data
Lucasey Site - 2744 E. 11th Street
Oakland, California

Sample ID	Sample Date	Volatile Organic Compounds					Total Petroleum Hydrocarbons				
		Benzene	Toluene	Ethyl-benzene	Xylenes (Total)	MTBE	TPH (as Gasoline)	TPH (as Diesel)	TPH (as Motor Oil)	TPH (as mineral spirits)	TPH (as kerosene)
Grab Groundwater Samples											
SB-1W	08/31/04	<0.5	<0.5	<0.5	<0.5	<0.5	650	520,000	520,000	-	-
SB-2W	08/31/04	<0.5	<0.5	<0.5	<0.5	<0.5	2,200	110,000	89,000	-	-
SB-3W	08/31/04	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<50	<250	-	-
SB-4W	08/31/04	<0.5	<0.5	<0.5	<0.5	<0.5	3,800	560,000	410,000	-	-
SB-6W	08/31/04	<0.5	<0.5	<0.5	<0.5	<0.5	130	8,700	6,900	-	-
BH-2	07/09/06	<0.5	<0.5	<0.5	<0.5	<0.5	310	580,000	510,000	-	-
BH-4	07/09/06	<0.5	<0.5	<0.5	<0.5	<0.5	<50	160,000	150,000	-	-
BH-5	07/09/06	<0.5	<0.5	<0.5	<0.5	<0.5	<50	670	2,800	-	-
SB7-W	01/11/07	<0.5	<0.5	<0.5	<0.5	<0.5	<25	<50	<500	-	-
SB8-W	01/10/07	<0.5	<0.5	<0.5	<0.5	<0.5	<25	<50	<500	-	-
SB9-W	01/09/07	VP	-	-	-	-	-	-	-	-	-
SB8-W23.5	01/10/07	<0.5	<0.5	<0.5	<0.5	<0.5	<25	390	<500	-	-
SB10-W16	01/10/07	<0.5	<0.5	<0.5	<0.5	<0.5	<25	<50	<500	-	-
SB10-W23	01/10/07	<0.5	<0.5	<0.5	<0.5	<0.5	<25	340	<500	-	-
SB11-W	01/09/07	VP	-	-	-	-	-	-	-	-	-
SB12-W	01/09/07	VP	-	-	-	-	-	-	-	-	-
SB13W (18')	01/22/07	<0.5	<0.5	<0.5	0.84	<0.5	560	5,800,000	3,000,000	-	-
SB13W2 (26")	01/22/07	<0.5	<0.5	<0.5	<0.5	0.56	150	140,000	70,000	-	-
SB14-W	01/12/07	<0.5	<0.5	<0.5	<0.5	<0.5	<25	11,000	4,500	-	-
SB15W	01/09/07	VP	-	-	-	-	-	-	-	-	-
SB21-W17	01/11/07	<0.5	<0.5	<0.5	<0.5	<0.5	<25	730	<500	-	-
SB21-W26	01/11/07	<0.5	0.54	<0.5	1.7	1.2	<25	1,500	580	-	-
SB22-W12	01/12/07	VP	-	-	-	-	-	-	-	-	-
SB23-W	01/11/07	<0.5	<0.5	<0.5	<0.5	<0.5	<25	2,800	1,500	-	-
SB23-W23	01/11/07	<0.5	<0.5	<0.5	<0.5	<0.5	<25	630	<500	-	-
SB24-W	01/23/07	<0.5	<0.5	<0.5	<0.5	<0.5	1400	430,000	210,000	-	-
B-1-15-25	03/04/10	<1	<1	<1	<2	-	<50	<97	<190	<97	<97
B-2-15-25	03/04/10	<1	<1	<1	<2	-	<50	<98	<200	<98	<98
Monitoring Well Samples											
RW-1	06/08/09	-	-	-	-	-	-	58/<50[1]	-	-	-
RW-2	06/08/09	-	-	-	-	-	-	140/<50[1]	-	-	-
RW-3	06/08/09	-	-	-	-	-	-	210/88[1]	-	-	-

Key:
Concentrations reported in micrograms per liter (µg/L).
- Not analyzed for this analyte
< = Less than; compound not detected at the laboratory reporting limit.
[1] 1st value without silica gel cleanup, 2nd value with silica gel cleanup

Table 4
Soil Vapor Sampling Results
Lucasey Site - 2744 E. 11th Street
Oakland, California

Sample ID	Sample Date	Benzene	Toluene	Ethyl-benzene	m,p-Xylene	o-Xylene	Naphthalene	TPHg	TPHd	Methylene Chloride	Acetone	1,2,4-Trimethyl benzene	Carbon Disulfide	2-Butanone	Ethanol
CHHSL-residential		36.2	135,000	NA	319,000	315,000	31.9	-	-	-	-	-	-	-	-
CHHSL-commercial		122	378,000	NA	887,000	879,000	106	-	-	-	-	-	-	-	-
ESL-residential		84	63,000	980	21,000	21,000	72	10,000	10,000	5,200	660,000	-	-	1,000,000	-
ESL-commercial		280	180,000	3,300	58,000	58,000	240	29,000	29,000	17,000	1,800,000	-	-	2,900,000	-
ASV-1	06/17/09	**150**	2,100	130	280	47	<48	NA	NA	NA	NA	NA	NA	NA	NA
ASV-1 duplicate	06/17/09	**170**	2,200	140	310	52	<97	NA	NA	NA	NA	NA	NA	NA	NA
ASV-2	06/17/09	**110**	2,900	250	810	180	<46	NA	NA	NA	NA	NA	NA	NA	NA
ASV-3	06/17/09	**740**	20,000	**1,900**	7,000	1,800	<460	NA	NA	NA	NA	NA	NA	NA	NA
ASV-4	06/17/09	**570**	22,000	**2,600**	10,000	2,900	<470	NA	NA	NA	NA	NA	NA	NA	NA
ASV-5	06/17/09	33	690	62	230	69	<31	NA	NA	NA	NA	NA	NA	NA	NA
ASV-6	06/18/09	14	470	44	180	55	<24	NA	NA	NA	NA	NA	NA	NA	NA
ASV-7	06/18/09	21	700	70	290	90	<25	NA	NA	NA	NA	NA	NA	NA	NA
ASV-7 duplicate	06/18/09	22	720	71	290	88	<25	NA	NA	NA	NA	NA	NA	NA	NA
ASV-8	06/18/09	18	690	54	220	72	<25	NA	NA	NA	NA	NA	NA	NA	NA
ASV-9	06/18/09	12	500	55	230	70	<24	NA	NA	NA	NA	NA	NA	NA	NA
ASV-10	06/18/09	12	370	40	160	54	<23	NA	NA	NA	NA	NA	NA	NA	NA
ASV-11	06/18/09	15	480	49	200	65	<23	NA	NA	NA	NA	NA	NA	NA	NA
Ambient air	06/18/09	4	7	<4.7	<4.7	<4.7	<23	NA	NA	NA	NA	NA	NA	NA	NA
Ambient air	05/10/10	<36	<43	<50	<50	<50	<25	<940	<5,000	<40	50J	<56	<36	<34	12J
ASV-12	05/10/10	<36	39J	<49	37J	<49	<25	<920	<5,000	<39	72J	27J	<35	<33	290
ASV-12 duplicate	05/10/10	<36	38J	<49	39J	<49	<25	<920	<5,000	<39	79J	27J	<35	<33	230
ASV-13	05/10/10	<36	<42	<49	<49	<49	<25	<920	<5,000	<40	<110	<56	<36	<34	100
ASV-14	05/24/10	<42	<50	<58	<58	<58	<25	<1,100	<5,000	<46	510	77	71	71	<100
ASV-14 duplicate	05/24/10	<42	<49	<57	<57	<57	<270	<1,100	<5,000	<46	340	74	83	70	<99
ASV-15	05/24/10	<42	<50	<58	<58	<58	<25	<1,100	<5,000	1,800	<130	<65	<41	<39	150
Lab Blank	05/19/10	<16	<19	<22	<22	<22	35J	<410	<5,000	<17	<48	23J	<16	<15	6J

Key:
CHHSL = OEHHA California Human Health Screening Levels for Soil Gas
ESL = SF Bay Regional Water Quality Control Board Environmental Screening Levels
NA = not analyzed
- = no numerical value established
Concentrations reported in micrograms per cubic meter ($\mu g/m^3$)
Bold values exceed one or more of ESL or CHHSL criteria
< = Less than; compound not detected at the laboratory reporting limit.

Attachment A
Boring Logs

ERM
1277 Treat Blvd., Suite 500
Walnut Creek, CA 94597
Phone: (925) 946-0455
Fax: (925) 946-9968

LOG OF BOREHOLE: B-1

Project Number: 0097888.00
Project Name: Lucasey Manufacturing
Location: Oakland, California
Contractor: Gregg Drilling
Drilling Method: Direct Push
Logged By: C. McDonough

Date Started: 3/4/2010
Date Completed: 3/4/2010
Total Depth: 25 feet
Borehole Diameter: 2.0"
Initial Water Level: 6.6 feet bgs
Notes: Groundwater Sample taken from 15-25'.

Depth (ft)	Sample Interval	PID (ppm)	USCS Code	GRAPHIC LOG		MATERIAL DESCRIPTION
					0.2	2-3" Asphalt.
					1.0	8" Concrete.
		0.0	ML		2.0	(ML) SILT (ML): dark brown, soft, moist.
			CL		3.0	(CL) CLAY (CL): dark brown, moderate plasticity, soft, moist.
			ML			(ML) SILT (ML): medium brown, soft, moist.
5		0.0				B-1-4.5-5
		0.0			▽	
		0.0			10.0	B-1-9.5-10
10			SM			(SM) SILTY SAND (SM): medium brown, fine to coarse sand, soft, moist.
					12.5	
			CL		13.0	(CL) CLAY (CL): brown, trace angular gravel (0.5"), plastic, soft, moist.
						No recovery (13-15').
		0.0			15.0	
15			SM		16.0	(SM) SILTY SAND (SM): medium brown, fine to coarse sand, loose, wet. B-1-15-15.5
		1.0				(CL) CLAY (CL): brown, moderate plasticity, medium stiff, moist.
		0.9	CL			
		1.0				CLAY (CL): as above, some fine sand.
20					20.0	B-1-19.5-20
		1.0	ML			(ML) SILT (ML): medium brown, some orange mottling, soft, moist to wet.
					23.0	
		0.5	SM		24.0	(SM) SILTY SAND (SM): medium brown, fine sand, medium stiff, moist.
			SP		25.0	(SP) SAND (SP): medium brown, fine to medium grained, some silt, well sorted, wet.
25						Total Depth - 25 feet bgs

BOREHOLE TO 30 FEET WC - - 07/28/10 13:37 - G:\CADIGINT BORING LOGS\LUCASEY MANUFACTURING-0097888\LUCASEY MANUFACTURING-0097888.GPJ

ERM
1277 Treat Blvd., Suite 500
Walnut Creek, CA 94597
Phone: (925) 946-0455
Fax: (925) 946-9968

LOG OF BOREHOLE: B-2

Project Number: 0097888.00
Project Name: Lucasey Manufacturing
Location: Oakland, California
Contractor: Gregg Drilling
Drilling Method: Direct Push
Logged By: C. McDonough

Date Started: 3/4/2010
Date Completed: 3/4/2010
Total Depth: 25 feet
Borehole Diameter: 2.0"
Initial Water Level: 15 feet bgs
Notes: Groundwater Sample taken from 15-25'.

Depth (ft)	Sample Interval	PID (ppm)	USCS Code	GRAPHIC LOG	MATERIAL DESCRIPTION
				0.2	2-3" Asphalt.
				0.5	4" Concrete.
		0.0	ML		(ML) SILT (ML): medium brown, some clay, stiff, moist.
		0.0			SILT (ML): as above, trace rounded gravel (1.0").
5		0.0			B-2-4.5-5 SILT (ML): medium brown, trace coarse rounded sand, stiff, moist.
				7.5	
		0.0	CL		(CL) CLAY (CL): medium brown, plastic, stiff, moist.
10		0.0			CLAY.(CL): as above, soft. B-2-9.5-10
				14.5	
15		0.0	SC		▽ (SC) CLAYEY SAND (SC): medium brown, fine to coarse sand, soft, wet. B-2-14.5-15
				17.5	
		0.0			No recovery (17.5-20')
20				20.0	
		0.0	SM		(SM) SILTY SAND (SM): medium brown, fine sand, trace coarse sand, soft, moist. B-2-20-20.5
				22.5	
		5.3	GP		(GP) GRAVELLY SAND (GP): orange brown, fine to coarse sand, gravel (0.5-1.2"), medium dense, moist.
				24.0	
			CL		(CL) CLAY (CL): light brown, moderate plasticity, stiff, moist.
25		0.0		25.0	Total Depth - 25 feet bgs

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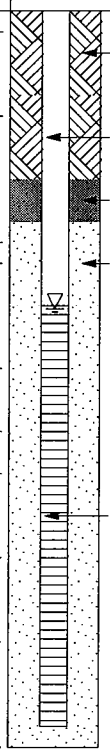
LOG OF MONITORING WELL: PMW-1A

Project Number: 0097888.00
Project Name: Lucasey Manufacturing
Location: Oakland, California
Contractor: Gregg Drilling
Drilling Method: Hollow Stem Auger/Direct Push
Sampling Method:
Logged By: C. McDonough

Date Started: 3/2/2010
Date Completed: 3/2/2010
Total Depth: 17.5 feet
Borehole Diameter: 8.0"
Initial Water Level: 7.08 feet bgs
Notes:

Depth (ft)	Sample Interval	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
					6-8" Concrete.
		0.5	GW		GRAVELLY SAND (GW): red brown, fine to coarse sand, angular gravel (0.5-1.5"), some silt, dense, moist.
		0.7			CLAYEY SILT (ML): gray, trace coarse sand, moderate plasticity, soft, moist.
			ML		
		1.0			SILT (ML): dark red brown, trace coarse sand, black nodules (0.1"), medium stiff, moist.
5			CL		CLAY (CL): orange brown, some coarse sand, stiff, moist.
		0.9	GW		GRAVELLY SAND (GW): multi-colored (beige, red, black, and brown), fine to coarse sand, subangular gravel (0.5-0.75"), dense, moist.
					GRAVELLY SAND (GW): as above.
		0.8	SC		CLAYEY SAND (SC): fine sand, trace rounded gravel (0.5"), soft, wet.
10			GW		GRAVELLY SAND (GW): gray, subangular gravel (0.5-1.5"), fine to coarse sand, poorly sorted, brown staining on gravel, petroleum-like odor, moist.
		13.7			No recovery (11-13').
		7.9	GW		GRAVELLY SAND (GW): brown and gray, fine to coarse sand, subangular gravel (0.5-1.5"), loose, brown staining, sheen, petroleum-like odor, wet.
15					No recovery (15-17.5').
					Total Depth - 17.5 feet bgs
20					
25					

WELL DIAGRAM



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Walnut Creek, CA 94597
Phone: (925) 946-0455
Fax: (925) 946-9968

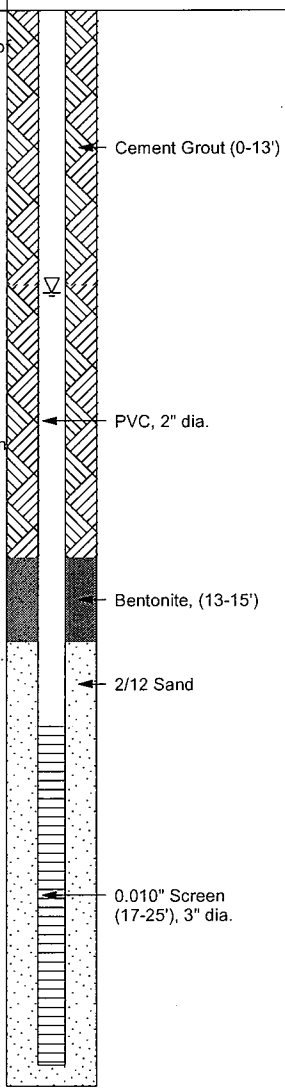
LOG OF MONITORING WELL: PMW-1B

Project Number: 0097888.00
Project Name: Lucasey Manufacturing
Location: Oakland, California
Contractor: Gregg Drilling
Drilling Method: Hollow Stem Auger/Direct Push
Sampling Method:
Logged By: C. McDonough

Date Started: 3/2/2010
Date Completed: 3/2/2010
Total Depth: 25.5 feet
Borehole Diameter: 8.0"
Initial Water Level: 6.71 feet bgs
Notes:

Depth (ft)	Sample Interval	PID (ppm)	USCS Code	Soil Descriptions and Observations
				6-8" Concrete.
		0.0	GW	GRAVELLY SAND (GW): red brown, subrounded gravel (0.5-0.75"), coarse to fine sand, pieces of concrete (~2.0"), loose, moist.
		0.9	ML	CLAYEY SILT (ML): gray, trace coarse sand, moderated plasticity, soft, moist.
			ML	CLAYEY SILT (ML): as above, red brown.
5		1.0		SILT (ML): dark red brown, trace coarse angular sand, black nodules (0.1"), medium stiff, moist.
		0.8	CL	CLAY (CL): orange brown, some coarse sand, stiff, moist.
			GW	GRAVELLY SAND (GW): multi-colored (beige, red, and brown), fine to coarse sand, subangular gravel (0.5-0.75"), dense, moist.
				No recovery (8-10').
10			GW	GRAVELLY SAND (GW): gray green, fine to coarse sand, angular gravel (0.5-1.5"), dense, brown petroleum-like staining, petroleum-like odor, moist.
				No recovery (11.5-15').
15			GC	CLAYEY GRAVEL (GC): gray, angular gravel (0.7-1.0"), loose, sheen, petroleum-like odor, moist.
		7.0		No recovery (15.5-20').
20		7.1	GW	GRAVELLY SAND (GW): gray green, medium to fine sand, gravel (0.5-1.5"), dense, petroleum-like odor, moist.
		1.0	CL	CLAY (CL): light beige, trace coarse sand, black nodules (0.1"), stiff, moist.
		1.0		No recovery (24-25').
25				Total Depth - 25.5 feet bgs

WELL DIAGRAM



MW TO 30FT WC - - 07/28/10 13:35 - G:\CAD\GINT BORING LOGS\LUCASEY MANUFACTURING-0097888\LUCASEY MANUFACTURING-0097888.GPJ

ERM
1277 Treat Blvd., Suite 500
Walnut Creek, CA 94597
Phone: (925) 946-0455
Fax: (925) 946-9968

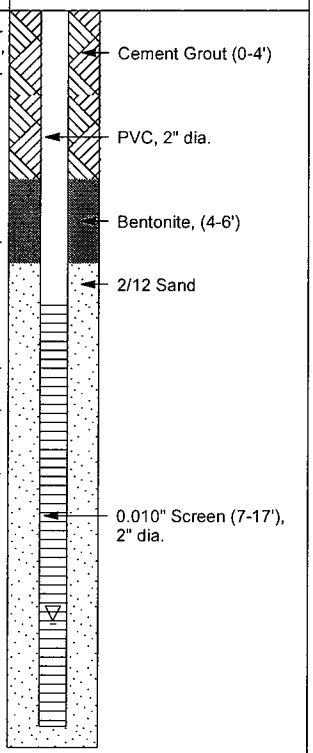
LOG OF MONITORING WELL: PMW-2A

Project Number: 0097888.00
Project Name: Lucasey Manufacturing
Location: Oakland, California
Contractor: Gregg Drilling
Drilling Method: Hollow Stem Auger
Sampling Method:
Logged By: C. McDonough

Date Started: 3/3/2010
Date Completed: 3/3/2010
Total Depth: 17.5 feet
Borehole Diameter: 8.0"
Initial Water Level: 14.5 feet bgs
Notes:

Depth (ft)	Sample Interval	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
					6-8" Concrete.
		0.0	GW		GRAVELLY SAND (GW): black, medium to fine sand, subangular gravel (0.5-1.5"), poorly sorted, loose, moist.
			ML		SILT (ML): black, trace coarse sand, soft, moist.
		0.7			SILT (ML): medium brown, trace rounded gravel (1.5"), some clay, medium soft, moist.
5		1.5			
			CL		GRAVELLY CLAY (CL): brown, orange, and black, angular gravel (0.5-0.8"), stiff, moist.
			SC		CLAYEY SAND (SC): medium brown, fine sand, moderately dense, moist.
10			ML		SILT (ML): light brown, moderately stiff, moist.
			SM		SILTY SAND (SM): brown to orange, coarse sand, dense, moist.
					SILTY SAND (SM): gray green, trace rounded gravel (0.5-1.5"), loose, shiny, some brown staining, strong petroleum-like odor, moist.
15					SILTY SAND (SM): as above, brown petroleum-like staining, wet.
			GW		GRAVELLY SAND (GW): gray to green, fine to coarse sand, angular gravel (0.5-1.25"), some silt and clay, medium dense, brown petroleum-like staining, petroleum-like odor, moist.
					Total Depth - 17.5 feet bgs
20					
25					

WELL DIAGRAM



ERM
1277 Treat Blvd., Suite 500
Walnut Creek, CA 94597
Phone: (925) 946-0455
Fax: (925) 946-9968

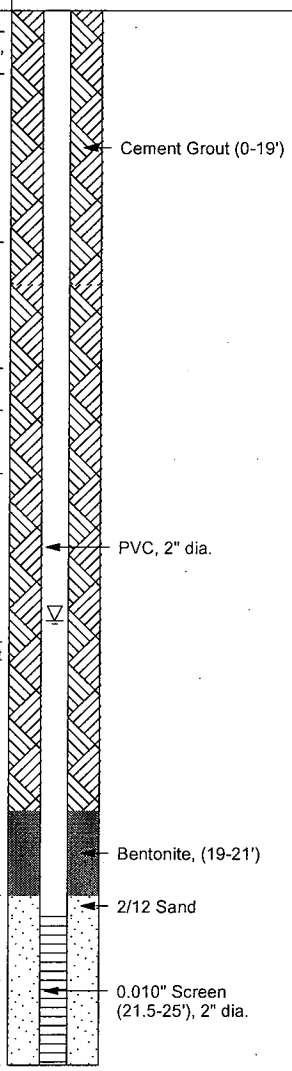
LOG OF MONITORING WELL: PMW-2B

Project Number: 0097888.00
Project Name: Lucasey Manufacturing
Location: Oakland, California
Contractor: Gregg Drilling
Drilling Method: Hollow Stem Auger/Direct Push
Sampling Method:
Logged By: C. McDonough

Date Started: 3/3/2010
Date Completed: 3/3/2010
Total Depth: 25 feet
Borehole Diameter: 8.0"
Initial Water Level: 14.5 feet bgs
Notes:

Depth (ft)	Sample Interval	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
					6-8" Concrete.
		0.0	GW		GRAVELLY SAND (GW): brown, fine to coarse sand, angular to subrounded gravel (1-3"), loose, moist.
					SILT (ML): medium brown, soft, moist.
		1.0	ML		SILT (ML): dark brown, trace angular gravel (0.5-0.7"), medium stiff, moist,
5		1.0			
		0.9	CL		GRAVELLY CLAY (CL): brown, orange, and black, angular gravel (0.5-0.8"), stiff, moist.
		0.9	SC		CLAYEY SAND (SC): medium brown, fine sand, moderately dense, moist.
10			ML		SILT (ML): light brown, moderately stiff, moist.
		3.0			SILTY SAND (SM): brown to orange, coarse sand, dense, moist.
		4.2	SM		SILTY SAND (SM): gray green, trace rounded gravel (0.5-1.5"), loose, shiny, some brown staining, strong petroleum-like odor, moist.
		14			
15		17.9			SILTY SAND (SM): as above, brown petroleum-like staining, wet.
					GRAVELLY SAND (GW): gray to green, fine to coarse sand, angular gravel (0.5-1.25"), some silt and clay, medium dense, brown petroleum-like staining, petroleum-like odor, moist.
		14.9	GW		
		4.0			GRAVELLY SAND (GW): light brown, fine to coarse sand, angular gravel (0.5-0.75"), medium dense, moist.
20					
			CL		CLAY (CL): light brown, cohesive, plastic, medium stiff, moist.
		4.6			CLAY (CL): as above, sheen, wet.
			SC		CLAYEY SAND (SC): light brown, fine sand, medium dense, moist.
25		4.0			
					Total Depth - 25 feet bgs

WELL DIAGRAM



ERM
1277 Treat Blvd., Suite 500
Walnut Creek, CA 94597
Phone: (925) 946-0455
Fax: (925) 946-9968

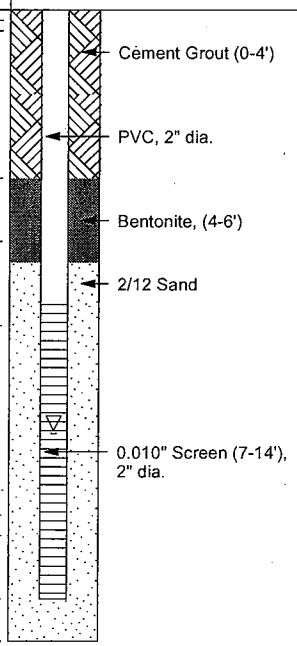
LOG OF MONITORING WELL: PMW-3

Project Number: 0097888.00
Project Name: Lucasey Manufacturing
Location: Oakland, California
Contractor: Gregg Drilling
Drilling Method: Hollow Stem Auger
Sampling Method:
Logged By: C. McDonough

Date Started: 6/25/2010
Date Completed: 6/25/2010
Total Depth: 15 feet
Borehole Diameter: 8.0"
Initial Water Level: 10 feet bgs
Notes:

Depth (ft)	Sample Interval	PID (ppm)	USCS Code	GRAPHIC LOG	Soil Descriptions and Observations
		0.0	GW		2-3" Asphalt.
		0.0			GRAVEL (GW): angular gravel, some medium sand and silt, dense, moist.
			SM		SILTY SAND (SM): mottled dark brown and red brown, dense, moist.
		0.0			
5		0.0	ML		SILT (ML): light brown, trace coarse sand, stiff, moist. PMW-3-4.5-5
			SM		SILTY SAND (SM): brown, mottled, dense, moist.
		0.0			
		0.2			SAND (SP): medium brown, fine grained, dense, moist. PMW-3-8.5-9
10		2.9	SP		SAND (SP): gray, fine grained, some gravel (0.75"), dense, sheen, moist. PMW-3-10-10.5
					SAND (SP): mottled gray and brown, fine sand, some silt, dense, strong petroleum-like odor, wet.
			GW		SANDY GRAVEL (GW): brown, gravel (0.75-1.0"), poorly sorted, wet.
		8.7	CL		CLAY (CL): mottled black to olive brown, moderate plasticity, very stiff, voids with free product, moist. PMW-3-13-13.5
			GC		CLAYEY GRAVEL (GC): light to dark brown, mottled, gravel (0.75-1.0"), dense, some staining, moist.
15					CLAYEY GRAVEL (GC): as above, no staining. PMW-3-14.5-15
					Total Depth - 15 feet bgs
20					
25					

WELL DIAGRAM



SOIL BORING AND WELL CONSTRUCTION LOG:

CLEARWATER GROUP

Project No. FB022

Sheet 1 of 1

FIELD LOCATION OF BORING:	CLIENT/LOCATION:	JOB NO#.	PROJ. MANAGER:	BORING/WELL NO.:
Loading Dock; ⊗ RW-1; Building	Lucasey Manufacturing	FB022G	Erik Lervaag	RW-1
	DRILLING CONTRACTOR: RSI	DRILL RIG TYPE: CME75	WELL DEPTH: NA	WELL BORHOLE DIAMETER: 10"
	DRILL RIG OPERATOR: Jorge Morales	WELL MATERIAL: NA	BORING DEPTH: 25.0'	FILTER PACK: #2/12 SAND
				DRILLING DATE: 3/12/2008

SAMPLING METHOD: 2" Cal Modified

MONITORING INSTRUMENT: Photoionization Detector

FIRST ENCOUNTERED WATER DEPTH: 17.0'

STATIC WATER DEPTH - 10.0'

FINISH:

DRILLING START:

LOGGED BY: Rob Nelson

APPROVED BY: Erik Lervaag

WELL CONSTRUCTION	BLOWS/6-INCHES	INCHES RECOVERED	SAMPLE CONDITION	PRODUCT	ODOR	PID	DEPTH (FEET)	GRAPHIC LOG	
WELL BOX							1		10" Concrete
LEAN GROUT		16	G				2		Clayey gravel with sand (GC), (fill) brown (10YR 4/3) to yellow brown (10YR 5/6), 60% fine to coarse subangular gravels, 20% fine to medium sand, 20% clay, moist, mottled.
							3		Poorly graded sand (SP) - (fill), light olive brown (2.5Y 5/4), loose, moist, 100% medium fine sand.
BENTONITE PELLETS							4		
4" DIA BLANK WELL CASING	5 6 7	16	G				5 6 7		Clayey gravel with sand (GC), brown (10YR 4/3) to yellow brown (10YR 5/6), 60% fine to coarse subangular gravels, 20% fine to medium sand, 20% clay, moist, mottled.
#2/12 SAND							8 9		Dry 8'-10'.
					FAINT	0	10		
4" DIA PVC 0.020" SLOTS	8 7 6	18	G		FAINT	0	11 12		Clayey gravel with sand (GC), very dark greenish gray (5GY 3/1), 40% fine subangular gravel, 30% fine to medium sand, 30% lean clay, free product visible, moist.
							13 14		Sandy lean clay (CL), dark yellowish brown (10YR 3/4), soft to medium stiff, wet, trace of free product, oil along fissures in clay, 70% lean clay, 30% fine sand, iron oxide stain.
	2 2 3	12	F-G		MEDIUM	OVER RANGE	15 16		
							17 18		Clayey gravel with sand (GC), very dark greenish gray (5GY 3/1), loose to medium dense, wet, free product coating gravel, 60% fine to coarse subangular to subrounded gravel, 25% fine to medium sand, 15% lean clay.
	9 18 16	14	G		STRONG	OVER RANGE	19 20 21		
					STRONG	OVER RANGE	22 23 24		
10" DIA BOREHOLE							25		Total depth 25.0'
							26 27 28 29 30		Driller stops at 22' when strong free product encountered, use shop vacuum to suck up oil into drum.

REGISTERED GEOLOGIST
ROBERT L. NELSON
No. 2087
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

H:\Department\Jobs\FB022C Lucasey\Boring logs\RW-1

Bentonite 20.5 22.5 clay 7-17 Shallow Sand 21 19-21 Bentonite 21-25

GREGG DRILLING & TESTING

950 Howe Rd. Martinez, CA 94553
Ph: (925)313-5800 Fax: (925)313-0302
www.greggdrilling.com

DATE: 3/2/10

TIME ARRIVE: 8:00 **TIME LEFT:** 4:30 95 + clay

Company Name:	ERM-West, Inc. - Walnut Creek	**GDT Job Number:**	D2090338
Site Name:	Lucasey Manufacturing	**Reference Number:**	GD2090378
Address Line 1:	2744 E 11th St	**Job Start Date:**	3/2/2010
Address Line 2:		**Job End Date:**	3/5/2010
Cross Street	Lisbon St	**Start Time:**	8:00
City:	Oakland	**Equipments:**	DP11 S24
State:	CA	**Driller/Staff Safety:**	Paul
Thomas Coordinate:		**Field Staff 2:**	German

Sand top of Screen section 1' bentonite

ITEM	UNITS	QUANTITY
RIG NO./TYPE: DP-11	HOUR	5
MOB-DEMOB-TRAVEL	HOUR	2
PER DIEM	MAN/NGT	
PREMIUM TIME	MAN/HR	21.5
ADDITIONAL TECHNICIAN	HOUR	
STANDBY/MOVE TIME/CONSTRUCTION TIME	HOUR	3.5
STEAM CLEANING AT YARD	DAY	1
GROUT PUMP/STEAM CLEANER	DAY	
MUD SYSTEM	DAY	
FRONT-END LOADER/BOBCAT	DAY	
WATER TRUCK TENDER	DAY	
SERVICE TRUCK	DAY	1
SERVICE RUNS	HOUR	
CONST./HAND AUGER CREW (2 men)	HOUR	
COCRETE CORING DIA.____	EACH	
P.P.D. TIME	HOUR	

BORING #	DEPTH	INTERVAL/TYPE OF SAMPLING	SIZE OF WELL
1	25.5	Cont Dual tube	2" x 25.5'
2"	17.5	1"	2" x 17.5'
		SB - Wait to Start	
		Wait to Set Wells	

ITEMS					UNITS	QUANTITY
SEISMIC CPT (Interval Test)					TEST	
UVIF RENTAL					DAY	
RESISTIVITY RENTAL					DAY	
BACKFILL TEST LOCATIONS					FOOT	
BENTONITE CHIPS					BAG	
BENTONITE PELLETS					PAIL	2
BENTONITE DRILL MUD					BAG	
BENTONITE GROUT					BAG	
FILTER SAND					BAG	17
ASPHALT PATCH					BAG	
READY-MIX CONCRETE					BAG	
PORTLAND CEMENT/QUICK SET					BAG	
WOOD PLUGS					EACH	8 1/6
DISPOSABLE BAILERS					EACH	2
PVC CASING	3/4"	(2")	4"	OTHER	FOOT	30'
PVC SCREEN	3/4"	(2")	4"	OTHER	FOOT	20'
THREADED FITTINGS	3/4"	(2")	4"	OTHER	EACH	5
SLIP FITTINGS	3/4"	2"	4"	OTHER	EACH	
LOCKING CAPS		2"	4"	OTHER	EACH	2
MONITORING WELL BOX (WATERTIGHT)					EACH	2
ANODIZED STAND PIPE					EACH	
GROUNDWATER SAMPLE CONSUMABLES					EACH	
1/4" TUBING					FOOT	
DISPOSABLE TIPS					EACH	
SAMPLE RINGS & CAPS/SHELBY TUBES					EACH	9
55-GALLON DRUM					EACH	3
CORE BOXES					EACH	

ADDITIONAL SAFETY/CONST. MATERIALS _____

SUBCONTRACTOR & ADDITIONAL EQUIPMENT _____

EQUIPMENT DAMAGE _____

WE CAN ASSUME NO RESPONSIBILITY FOR DAMAGE OF UNDERGROUND UTILITIES. In the event of adverse and/or hazardous dilling conditions, client will be informed if rate changes and/or responsibility for replacement of lost of damaged equipment. Minimum call out $500. Also applicable to cancellations within 24 hrs. of scheduled start.

Section 13751 through 13754 of the California Water Code requires that a report be filed for every groundwater well installation or abandonment. If the client does not elect to submit this report, Gregg Drilling & Testing, Inc. will complete the appropriate paperwork for a $20 fee per well.

Client to complete ☐ GDT to complete ☐

The named parties are hereby notified that if charges for above labor, services, equipment or materials furnished or to be furnished are not paid for in full, the improved property referred toabove may be subject to mechanics lien (per Section 1181, et. seq. to the California Code of Civil Procedure) and construction funds are subject to "Stop notice" action (per Section 1190.1, California Code of Civil Procedure).

TERMS: NET 30 days. A 3% Reduction of total price if paid within 10 days. 1.5% per month finance charge on accounts 30 days past due. The undersigned accepts the terms as stated above for services rendered.

Project Name: GD2090378 P.O./Task #_____

Signature of Field Representative _____

Printed Name Conor McGeough Date_____

GREGG DRILLING & TESTING

950 Howe Rd. Martinez, CA 94553
Ph: (925)313-5800 Fax: (925)313-0302
www.greggdrilling.com

DATE: 3/3/10

TIME ARRIVE: 8:00 TIME LEFT: 2:00

Company Name:	ERM-West, Inc. - Walnut Creek	**GDT Job Number:**	D2090338
Site Name:	Lucasey Manufacturing	**Reference Number:**	GD2090378
Address Line 1:	2744 E 11th St	**Job Start Date:**	3/2/2010
Address Line 2:		**Job End Date:**	3/5/2010
Cross Street	Lisbon St	**Start Time:**	8:00
City:	Oakland	**Equipments:**	DP11 S24
State:	CA	**Driller/Staff Safety:**	Paul
Thomas Coordinate:		**Field Staff 2:**	German

ITEM	UNITS	QUANTITY
RIG NO./TYPE: DP-11	HOUR	5
MOB-DEMOB-TRAVEL	HOUR	2
PER DIEM	MAN/NGT	
PREMIUM TIME	MAN/HR	
ADDITIONAL TECHNICIAN	HOUR	5
STANDBY/MOVE TIME/CONSTRUCTION TIME	HOUR	1
STEAM CLEANING AT YARD	DAY	1
GROUT PUMP/STEAM CLEANER	DAY	
MUD SYSTEM	DAY	
FRONT-END LOADER/BOBCAT	DAY	
WATER TRUCK TENDER	DAY	
SERVICE TRUCK	DAY	1
SERVICE RUNS	HOUR	
CONST./HAND AUGER CREW (2 men)	HOUR	
COCRETE CORING DIA.	EACH	
P.P.D. TIME	HOUR	

BORING #	DEPTH	INTERVAL/TYPE OF SAMPLING	SIZE OF WELL
3	25.5	Cont Dual Rod	2" x 25'
4	17.5	No Samples	2" x 17.5'
		SB - wait to	Set
		Wells	

ITEMS					UNITS	QUANTITY
SEISMIC CPT (Interval Test)					TEST	
UVIF RENTAL					DAY	
RESISTIVITY RENTAL					DAY	
BACKFILL TEST LOCATIONS					FOOT	
BENTONITE CHIPS					BAG	2
BENTONITE PELLETS					PAIL	
BENTONITE DRILL MUD					BAG	
BENTONITE GROUT					BAG	
FILTER SAND					BAG	+3
ASPHALT PATCH					BAG	
READY-MIX CONCRETE					BAG	11/10
PORTLAND CEMENT/QUICK SET					BAG	
WOOD PLUGS					EACH	2
DISPOSABLE BAILERS					EACH	30'
PVC CASING	3/4"	(2")	4"	OTHER	FOOT	15'
PVC SCREEN	3/4"	(2")	4"	OTHER	FOOT	
THREADED FITTINGS	3/4"	(2")	4"	OTHER	EACH	1
SLIP FITTINGS	3/4"	(2")	4"	OTHER	EACH	2
LOCKING CAPS		(2")	4"	OTHER	EACH	2
MONITORING WELL BOX (WATERTIGHT)					EACH	
ANODIZED STAND PIPE					EACH	
GROUNDWATER SAMPLE CONSUMABLES					EACH	
1/4" TUBING					FOOT	
DISPOSABLE TIPS					EACH	5
SAMPLE RINGS & CAPS/SHELBY TUBES					EACH	3
55-GALLON DRUM					EACH	
CORE BOXES					EACH	

Section 13751 through 13754 of the California Water Code requires that a report be filed for every groundwater well installation or abandonment. If the client does not elect to submit this report, Gregg Drilling & Testing, Inc. will complete the appropriate paperwork for a $20 fee per well.

Client to complete ☐ GDT to complete ☐

ADDITIONAL SAFETY/CONST. MATERIALS _____

SUBCONTRACTOR & ADDITIONAL EQUIPMENT _____

EQUIPMENT DAMAGE _____

WE CAN ASSUME NO RESPONSIBILITY FOR DAMAGE OF UNDERGROUND UTILITIES. In the event of adverse and/or hazardous dilling conditions, client will be informed if rate changes and/or responsibility for replacement of lost of damaged equipment. Minimum call out $500. Also applicable to cancellations within 24 hrs. of scheduled start.

The named parties are hereby notified that if charges for above labor, services, equipment or materials furnished or to be furnished are not paid for in full, the improved property referred toabove may be subject to mechanics lien (per Section 1181, et. seq. to the California Code of Civil Procedure) and construction funds are subject to "Stop notice" action (per Section 1190.1, California Code of Civil Procedure).

TERMS: NET 30 days. A 3% Reduction of total price if paid within 10 days. 1.5% per month finance charge on accounts 30 days past due. The undersigned accepts the terms as stated above for services rendered.

Project Name: _____ P.O./Task # _____

Signature of Field Representative _____

Printed Name Conor McDonough Date 3/3/10

Attachment B
Well Development Logs

GREGG

MONITORING WELL DEVELOPMENT LOG

All measurements taken from: ☒ Top of Casing ☐ Protective Casing ☐ Ground Level

Well Number PAIW-1A
Date 3-5-10
Time Start: 10:30 End: 11:05
Client
Project
Job Number
Installation Date
Well Diameter 2"

Borehole Diameter 8"
Screen Length 8'
Measured Depth (pre-development) 17.26
Measured Depth (post-development)
Static Water Level (ft.) ~~SWOG~~ 7.46
Standing Water Column (ft.) 9.8
One Well Volume (gal.) 1.6666
One Annulus Vol. (gal.)

Sample ID —
Qty. of Drilling Fluid Lost —
Minimum Gal. to be Purged 16.66
Development Method
Bail - Surge Bail
Purging Equipment SS Bailer
Water Level Equipment Solinst
pH/EC Meter —
Turbidity Meter —
Other —

Time	Amount Purged (gal.)	Field Parameters Measured							Comments	Field Tech.
		pH	EC	Turbidity	D.O.	D.O. Temp.	SAL.	GPM / W.L.		
		FREE Product in well								
		Purged By Bailer								
		Bail - 5 Gal								
		Surge - 10 min								
		Bail - 11 Gal								

FINAL FIELD PARAMETER MEASUREMENTS

GREGG

MONITORING WELL DEVELOPMENT LOG

All measurements taken from: ☒ Top of Casing ☐ Protective Casing ☐ Ground Level

Well Number PMW-1B
Date 3-5-16
Time Start: 11:10 End: 12:00
Client
Project
Job Number
Installation Date
Well Diameter 2"

Borehole Diameter 6"
Screen Length 10'
Measured Depth (pre-development) 25.01
Measured Depth (post-development) 25.01
Static Water Level (ft.) 7.42
Standing Water Column (ft.) 17.59
One Well Volume (gal.) 2.79ish
One Annulus Vol. (gal.)

Sample ID —
Qty. of Drilling Fluid Lost —
Minimum Gal. to be Purged 29.903
Development Method Bail - Surge - Bail - pm
Purging Equipment SS Bailer
Water Level Equipment Solinst
pH/EC Meter —
Turbidity Meter —
Other —

Time	Amount Purged (gal.)	Field Parameters Measured							Comments	Field Tech.
		pH	EC	Turbidity	D.O.	D.O. Temp.	SAL.	GPM / W.L.		
		Bail-	7 Gal							
		Surge	15 min							
		Bail-	25 Gal							

FINAL FIELD PARAMETER MEASUREMENTS

GREGG

MONITORING WELL DEVELOPMENT LOG

Page _____ of _____

All measurements taken from: ☒ Top of Casing ☐ Protective Casing ☐ Ground Level

Sample ID _____

Well Number PMW-2A
Date 3-8-10
Time Start: 9:30 End: 10:20
Client _____
Project _____
Job Number _____
Installation Date _____
Well Diameter 2"

Borehole Diameter 8"
Screen Length 10'
Measured Depth (pre-development) 17.25
Measured Depth (post-development) 17.25
Static Water Level (ft.) 8.05
Standing Water Column (ft.) 9.2
One Well Volume (gal.) 1.564
One Annulus Vol. (gal.) _____

Qty. of Drilling Fluid Lost _____
Minimum Gal. to be Purged 15.64
Development Method Bail - SURGE - Bail
Purging Equipment SS Bailer
Water Level Equipment Solinst
pH/EC Meter —
Turbidity Meter —
Other —

Time	Amount Purged (gal.)	Field Parameters Measured							Comments	Field Tech.
		pH	EC	Turbidity	D.O.	D.O. Temp.	SAL.	GPM / W.L.		
		FREE	Product in	well					Bail - 5 Gal	
		Bail	10 Well	Volumes					SURGE - 10 min	
									Bail - 13 Gal	

FINAL FIELD PARAMETER MEASUREMENTS

GREGG

MONITORING WELL DEVELOPMENT LOG

Page _____ of _____

All measurements taken from: ☒ Top of Casing ☐ Protective Casing ☐ Ground Level

Sample ID _____

Well Number PMW-2B
Date 3-8-10
Time Start: 8:15 End: 9:20
Client _____
Project _____
Job Number _____
Installation Date _____
Well Diameter 2"

Borehole Diameter 8"
Screen Length _____
Measured Depth (pre-development) 24.91
Measured Depth (post-development) 25.15
Static Water Level (ft.) 10.35
Standing Water Column (ft.) 14.8
One Well Volume (gal.) 2.516
One Annulus Vol. (gal.) _____

Qty. of Drilling Fluid Lost _____
Minimum Gal. to be Purged 25.16
Development Method Bail-Surge-Bail-pump
Purging Equipment SS Bailer, 2" pump
Water Level Equipment Solinst
pH/EC Meter Horiba U10
Turbidity Meter Horiba U10
Other _____

Time	Amount Purged (gal.)	Field Parameters Measured							Comments	Field Tech.
		pH	EC	Turbidity	D.O.	D.O. Temp.	SAL.	GPM / W.L.		
8:56	10	7.62	.565	618	-	18.8	0.02	1 / 12.2	Bail - 5 Gal	
8:59	13	7.64	.541	541	-	18.9	0.02	1 / 12.2	Surge 10 min	
9:02	16	7.61	.543	392	-	19.2	0.02	1 / 12.2	Bail - 4 Gal	
9:05	19	7.29	.545	194	-	19.4	0.02	1 / 12.2		
9:08	22	7.31	.542	103	-	19.4	0.02	1 / 12.2		
9:11	25	7.30	.541	74	-	19.5	0.02	1 / 12.2		
9:13	27	7.28	.539	72	-	19.6	0.02	1 / 12.2		
9:15	29	7.26	.538	73	-	19.3	0.02	1 / 12.2		
9:17	31	7.27	.539	74	-	19.4	0.02	1 / 12.2		

FINAL FIELD PARAMETER MEASUREMENTS

Environmental Resources Management

1277 Treat Boulevard, Suite 500 • Walnut Creek, CA 94597
(925) 946-0455 • Fax (925) 946-9968

Project Lucasey | Project No. 0097888 | Sheet 1 of ____
Subject well Development | By CM | Date 3/8/10
Chkd. by ____ | Date ____

41369

Personnel: Conor McDonough
PPE: Level D
TASKS Develope PMW-1A PMW-1B PMW-2A and PMW-2B

0755 on site
H+S tailgate
Set up on PMW-2B because there is no free product

0815 PMW-2B

0845 Finish Removing Fines, surge, and insert pump decon Bailers.

0930 Set up on PMW-2A
Surge, Remove Fines.
Used Bailer to develope because there was some product storing on interface probe.

well	DTW	TD DTP	DTP
PMW-2B	10.35	24.91	—
PMW-2A	8.05	17.25'	some product on interface probe
PMW-1B	7.42	25.01	7.40
PMW-1A	7.46	17.26	—

1010 GREGG did not collect Stabilization parameters @PMW-2A because there was some free product on interface probe. Called D.M. to make sure this was OK and D.M. said he was fine with it because the wells are product monitoring wells and not Groundwater Monitoring wells
- Decon Bailer

1015 mob to PMW-1A

Remove Fines Surge, bail. (No pump)
1100 PMW-1B Remove Fines, bail
DTW after Development 7.60 NO product (PMW-1B)

1230 off site mob to EQUIPCO to Return rental equiptment

GREGG DRILLING & TESTING

950 Howe Rd. Martinez, CA 94553
Ph: (925)313-5800 Fax: (925)313-0302
www.greggdrilling.com

DATE: 3-8-10

TIME ARRIVE: 8:00 TIME LEFT: 12:30

Company Name:	ERM-West, Inc. - Walnut Creek	**GDT Job Number:**	D2090338
Site Name:	Lucasey Manufacturing	**Reference Number:**	GD2090378
Address Line 1:	2744 E 11th St	**Job Start Date:**	6/5/2009
Address Line 2:		**Job End Date:**	6/5/2009
Cross Street	Lisbon St E 11th St	**Start Time:**	8:00
City:	Oakland	**Equipments:**	DV4
State:	CA	**Driller/Staff Safety:**	Anthony
Thomas Coordinate:		**Field Staff 2:**	

ITEM	UNITS	QUANTITY
RIG NO./TYPE: DV-4 / CME 55	HOUR	4.5
MOB-DEMOB-TRAVEL	HOUR	3
PER DIEM	MAN/NGT	
PREMIUM TIME	MAN/HR	
ADDITIONAL TECHNICIAN	HOUR	
STANDBY/MOVE TIME/CONSTRUCTION TIME	HOUR	
STEAM CLEANING AT YARD	DAY	1.5
GROUT PUMP/STEAM CLEANER	DAY	
MUD SYSTEM	DAY	
FRONT-END LOADER/BOBCAT	DAY	
WATER TRUCK TENDER	DAY	
SERVICE TRUCK	DAY	
SERVICE RUNS	HOUR	
CONST./HAND AUGER CREW (2 men)	HOUR	
COCRETE CORING DIA.	EACH	
P.P.D. TIME	HOUR	

BORING #	DEPTH	INTERVAL/TYPE OF SAMPLING	SIZE OF WELL
PMW-2A	17.25	DEV.	2"
PMW-2B	25.15	DEV.	2"
PMW-1A	17.26	DEV.	2"
PMW-1B	25.01	DEV.	2"

ITEMS	UNITS	QUANTITY
SEISMIC CPT (Interval Test)	TEST	
UVIF RENTAL	DAY	
RESISTIVITY RENTAL	DAY	
BACKFILL TEST LOCATIONS	FOOT	
BENTONITE CHIPS	BAG	
BENTONITE PELLETS	PAIL	
BENTONITE DRILL MUD	BAG	
BENTONITE GROUT	BAG	
FILTER SAND	BAG	
ASPHALT PATCH	BAG	
READY-MIX CONCRETE	BAG	
PORTLAND CEMENT/QUICK SET	BAG	
WOOD PLUGS	EACH	
DISPOSABLE BAILERS	EACH	
PVC CASING 3/4" 2" 4" OTHER	FOOT	
PVC SCREEN 3/4" 2" 4" OTHER	FOOT	
THREADED FITTINGS 3/4" 2" 4" OTHER	EACH	
SLIP FITTINGS 3/4" 2" 4" OTHER	EACH	
LOCKING CAPS 2" 4" OTHER	EACH	
MONITORING WELL BOX (WATERTIGHT)	EACH	
ANODIZED STAND PIPE	EACH	
GROUNDWATER SAMPLE CONSUMABLES	EACH	
1/4" TUBING	FOOT	
DISPOSABLE TIPS	EACH	
SAMPLE RINGS & CAPS/SHELBY TUBES	EACH	
55-GALLON DRUM	EACH	2
CORE BOXES	EACH	

ADDITIONAL SAFETY/CONST. MATERIALS

SUBCONTRACTOR & ADDITIONAL EQUIPMENT

EQUIPMENT DAMAGE

WE CAN ASSUME NO RESPONSIBILITY FOR DAMAGE OF UNDERGROUND UTILITIES. In the event of adverse and/or hazardous dilling conditions, client will be informed if rate changes and/or responsibility for replacement of lost of damaged equipment. Minimum call out $500. Also applicable to cancellations within 24 hrs. of scheduled start.

Section 13751 through 13754 of the California Water Code requires that a report be filed for every groundwater well installation or abandonment. If the client does not elect to submit this report, Gregg Drilling & Testing, Inc. will complete the appropriate paperwork for a $20 fee per well.

Client to complete ☐ GDT to complete ☐

The named parties are hereby notified that if charges for above labor, services, equipment or materials furnished or to be furnished are not paid for in full, the improved property referred toabove may be subject to mechanics lien (per Section 1181, et. seq. to the California Code of Civil Procedure) and construction funds are subject to "Stop notice" action (per Section 1190.1, California Code of Civil Procedure).

TERMS: NET 30 days. A 3% Reduction of total price if paid within 10 days. 1.5% per month finance charge on accounts 30 days past due. The undersigned accepts the terms as stated above for services rendered.

Project Name: Lucasey P.O./Task # 0097888

Signature of Field Representative

Printed Name Conar McDonough Date 3/8/10

Well Development Form

OAKLAND, CALIFORNIA

ERM-WEST 0097888.4

Date: 6-30-10
Set up time: 12:30
Weather: Sunny
Samplers: Rachel S.

WELL #: PMW-3

Depth to Product: 9.986 (9.96)

Screened Interval: 7-14 ft
Initial Depth to Water (ft): ~~9.76~~ 9.98 (9.98)
Well Inner Diameter (in): 2"
Measured Well Depth (ft): 13.76

Purge Equipment: 2" Bailer
Stabilization Test Equipment: YSI
Sampling Equipment:
Volume Purged Prior to Sample Collection:

Sample ID:
Sample Collection Date:
Sample Collection Time:

(3.80) Purge calculations
3.78 ft. x gals 0.163 ft. x 10 = 6.16 = ~7 gallons

Well Daimeter (inches)	0.5	0.75	1	2	3	4
Conversion (gal/ft)	0.010	0.023	0.041	0.163	0.367	0.653

Date	Time	Cummulative Purge Volume (gal)	Depth to Water (ft)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (C)	ORP (mV)
6-30-10	13:06	2 gal.	10.21	6.43	753	1484	3.12	20.58	111.3
6-30-10	13:11	3 gal	10.44	6.50	707	1480	4.35	20.49	110.6
6-30-10	13:18	4 gal	10.68	6.49	640	1475	5.43	19.95	101.0
6-30-10	13:25	5 gal	10.54	6.45	611	1473	3.82	19.80	92.7
6-30-10	13:30	6 gal	10.58	6.50	591	1469	5.18	19.54	91.1
6-30-10	13:38	7 gal	10.55	6.51	583	1472	3.81	19.91	80.8

Notes

~ small, 1 mm in diameter circles/drops of product on H_2O surface.

~ light sheen (clear) on H_2O surface

- No product on surface @ 7 gallons cumm. purge.

1 gallon purged ~ every 6 minutes
Rate = 0.17 gallons/minute

Attachment C
Product Monitoring Logs

Product Monitoring
Lucasy Manufacturing
2744 East 11th Street
Oakland, California

Personnel Conor McDonough

Date 3/18/10
Time 1533

Safety Checklist Review the HASP

- [x] Do you have a copy of the HASP
- [x] Did you notify anyone onsite/offsite
- [x] Do you know the potential Hazards
- [x] Do you have proper PPE

Well	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Notes
PMW-1A	7.95	—		Some product staining on probe PMW-1A
PMW-1B	7.91	—		no staining
PMW-2A	9.50	—		
PMW-2B	10.95	—		
RW-1	7.60	—		
RW-2	9.35	—		

Observations

Sent Railer down PMW-1B to confirm there was no free product. Water was clear and had no product or staining.

toni grover

Product Monitoring
Lucasy Manufacturing
2744 East 11th Street
Oakland, California

Personnel Conor McDonough

Date 3/24/10
Time 1445

Safety Checklist Review the HASP

- [x] Do you have a copy of the HASP
- [x] Did you notify anyone onsite/offsite
- [x] Do you know the potential Hazards
- [x] Do you have proper PPE

Well	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Notes
PMW-1A	8.50	—	—	—
PMW-1B	8.46	—	—	Some Staining on probe after tagging
PMW-2A	10.02	—	—	—
PMW-2B	11.48	—	—	Some Staining on Probe after tagging
RW-1	8.15	—	—	—
RW-2	9.89	—	—	—

Observations

Marked locations on Maria's property with white flags / marked street
Went to Assessors office and confirmed Maria is home owner
Went to County Recorders office and obtained made copy of the 2744 11th st deed

Product Monitoring
Lucasy Manufacturing
2744 East 11th Street
Oakland, California

Personnel Conor McDonough

Date 4/1/10
Time 0900

Safety Checklist Review the HASP

- [x] Do you have a copy of the HASP
- [x] Did you notify anyone onsite/offsite
- [x] Do you know the potential Hazards
- [x] Do you have proper PPE

Well	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Notes
PMW-1A	8.60	—	—	no Staining
PMW-1B	8.58	—	—	
PMW-2A	10.00	—	—	
PMW-2B	11.56	—	—	
RW-1	8.05	—	—	
RW-2	9.90	—	—	
RW-3	10.60	—	—	

Observations

Met with foresite to do utility clearence on two boring locations in front of Maria's house. Location Cleared

Product Monitoring
Lucasy Manufacturing
2744 East 11th Street
Oakland, California

Personnel A. Wong

Date 4/8/10
Time 1430

Safety Checklist Review the HASP

- [x] Do you have a copy of the HASP
- [x] Did you notify anyone onsite/offsite
- [x] Do you know the potential Hazards
- [x] Do you have proper PPE

Well	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Notes
PMW-1A	8.01	—		No Staining
PMW-1B	8.03	—		
PMW-2A	9.40	—		
PMW-2B	14.11	—		
RW-1	7.70	—		
RW-2	9.42	—		
RW-3	10.08	—		

Observations

Product Monitoring
Lucasy Manufacturing
2744 East 11th Street
Oakland, California

Personnel Conor McDonough

Date 5/10/10
Time 1500

Safety Checklist Review the HASP

- [x] Do you have a copy of the HASP
- [x] Did you notify anyone onsite/offsite
- [x] Do you know the potential Hazards
- [x] Do you have proper PPE

Well	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Notes
PMW-1A	9.00	—	—	No Staining on probe
PMW-1B	8.89	—	—	
PMW-2A	10.55	—	—	
PMW-2B	12.00	—	—	
RW-1	8.66	—	—	
RW-2	10.35	—	—	
RW-3	11.06	—	—	

Observations

Went over location PMW-3 with private utility locater, location Clear

Product Monitoring
Lucasy Manufacturing
2744 East 11th Street
Oakland, California

Personnel Conor McDonough

Date 6/15/10
Time 1600

Safety Checklist Review the HASP

- ☒ Do you have a copy of the HASP
- ☒ Did you notify anyone onsite/offsite
- ☒ Do you know the potential Hazards
- ☒ Do you have proper PPE

Well	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Notes
PMW-1A	9.59	—	—	No product or staining observed on probe
PMW-1B	9.51	—	—	
PMW-2A	11.20	—	—	
PMW-2B	12.69	—	—	
PMW-3	—	—	—	
RW-1	9.20	—	—	
RW-2	10.95	—	—	
RW-3	11.75	—	—	

Observations

Product Monitoring
Lucasy Manufacturing
2744 East 11th Street
Oakland, California

Personnel Rachel Sultan

Date 7-8-10
Time 8:00 AM

Safety Checklist Review the HASP

- [x] Do you have a copy of the HASP
- [x] Did you notify anyone onsite/offsite
- [x] Do you know the potential Hazards
- [x] Do you have proper PPE

Time	Well	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Notes
8:07	PMW-1A	9.83	Ø	Ø	some black droplets on probe
8:13	PMW-1B	9.76	Ø	Ø	no product measurable
8:44	PMW-2A	11:45	Ø	Ø	black & brown droplets on probe
8:54	PMW-2B	13:11	Ø	Ø	no product measurable
9:01	PMW-3	10.06	Ø	Ø	" "
8:19	RW-1	9:43	Ø	Ø	" "
8:37	RW-2	11:20	Ø	Ø	" "
8:25	RW-3	11.97	Ø	Ø	" "

Observations

- No wells had measurable product.

Product Monitoring
Lucasy Manufacturing
2744 East 11th Street
Oakland, California

Personnel Rachel Sultan

Date 7-15-10
Time 9:45

Safety Checklist Review the HASP

- [x] Do you have a copy of the HASP
- [x] Did you notify anyone onsite/offsite
- [x] Do you know the potential Hazards
- [x] Do you have proper PPE

Time	Well	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Notes
10:01	PMW-1A	9.89	Ø	Ø	Some staining on probe.
10:17	PMW-1B	9.82	Ø	Ø	Some staining on probe.
11:52	PMW-2A	~~9.50~~ 11.51	Ø	Ø	Some staining on probe
10:40	PMW-2B	13.13	Ø	Ø	probe clean.
11:26	PMW-3	10.08	Ø	Ø	Probe clean.
10:31	RW-1	9.50	Ø	Ø	Tiny black dots on probe.
10:52	RW-2	11.26	Ø	Ø	clean probe.
10:48	RW-3	12.04	Ø	Ø	probe clean.

Observations

PMW-1A. Bailer had 3 small brown oily smears on outside of watt plastic body. wiped off. Bailer put back in well. PMW-1B - Same as PMW-1A, with dark brown spots. ~~Wiped bailer clean, put in well~~ inside bailer. No bailer replacement in well. RW-1 bailer clean. Put back in well. RW-3: Thick, light brown sludge, not TPH, at top of bailer on outside of plastic body. Bailer wiped off, left in well. RW-2 and PMW-3 - bailers clean, no product. Bailers left in well. PMW-2B clean - bailer replaced in well. PMW-2A: dots of black product on outside of bailer - no product on inside. Wiped bailer clean - put back in well.

Product Monitoring
Lucasy Manufacturing
2744 East 11th Street
Oakland, California

Personnel Rachel Sultan

Date 7-22-10
Time 11:13 AM

Safety Checklist Review the HASP

- [x] Do you have a copy of the HASP
- [x] Did you notify anyone onsite/offsite
- [x] Do you know the potential Hazards
- [x] Do you have proper PPE

	Well	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Notes
11:15	PMW-1A	9.94	Ø	Ø	Some product staining on probe
11:24	PMW-1B	9.90	Ø	Ø	Some product staining on probe
12:13	PMW-2A	11.54	Ø	Ø	Some product staining on probe
12:22	PMW-2B	13.20	Ø	Ø	no product visible
12:04	PMW-3	10.13	Ø	Ø	no product visible
11:32	RW-1	9.54	Ø	Ø	no product visible.
11:49	RW-2	11.31	Ø	Ø	" "
11:41	RW-3	12.15	Ø	Ø	no product visible.

Observations

PMW-1A - bailer casing brown smears on outside - clear w/no product on inside & on water surface - brown dots floating in H_2O column. PMW-1B - brown smears on outside of bailer, clean water on inside. Bailer added. RW-3 - bailer & water in bailer clean. RW-1 - Bailer & water clean. RW-2 - bailer & water clean PMW-3: no product on bailer or in H_2O. PMW-2A - brown smears on bailer outside. Water inside cloudy/green

Attachment D
Field Notes

Environmental Resources Management

1277 Treat Boulevard, Suite 500 • Walnut Creek, CA 94597
(925) 946-0455 • Fax (925) 946-9968

Project Lucasey Manufacturing | Project No. 0097888 | Sheet 1 of 1
Subject Well installation | By CCM | Date 3/2/10
Chkd. by | Date

0800 on Site.

Personnel: Conor McDonough + Doug Moberg

Tasks: Hand Auger PMW-1A PMW-1B, PMW-2A, and PMW-2B

PPE: Level D

Calibrate PID — 100ppm Iso.

1000 John Cuio and John Roe on site
We looked at core and Decide how to set wells (see well logs)

1200 Vickey (Grout inspector) on Site. She will return @ 3

1500 Vickey on site She inspects the grouting of PMW-1A and PMW-1B

1630 DRILLERS off Site

Environmental Resources Management

1277 Treat Boulevard, Suite 500 • Walnut Creek, CA 94597
(925) 946-0455 • Fax (925) 946-9968

Project Lucasey Manufacturing | Project No. 0097888 | Sheet 1 of 1
Subject | By Ccm | Date 3/3/10
Chkd. by | Date

0745 on site
H+S tailgate
PPE Level D Calibrate PID - 101ppm
TASKS: Complete PMW-1A + 2B

measured DTW PMW-1A 8.26'
PMW-1B 7.16

Spoke with Julio (hulio?) asked about drum storage. When we are finished we should page david (Fork lift driver) and he will help us store drums.

1015 talked to J.M. and J.H.
well construction
PMW-2A 7-17' Screen interval
PMW-2B 21-25 Screen interval

Set up parking barricades

well	DTW	DTP
PMW-1A	7.19	—
PMW-1B	7.08 ~~7.05~~	~~7.05~~

1215 set up on PMW-1A

1307 Spoke with Maria (510) 534-8628 She gave permission to sample vapor in her front yard

	DTW	DTP
PMW-1A	7.12	—
PMW-1B	6.98	6.99

1400 Drillers OFF Site

Environmental Resources Management

1277 Treat Boulevard, Suite 500 • Walnut Creek, CA 94597
(925) 946-0455 • Fax (925) 946-9968

Project Lucasey Manufacturing | Project No. 0097888 | Sheet 1 of 1
Subject Boring B-1 and B-2 | By CM | Date 3/4/10
Chkd. by | Date

0800 on site
H+S tailgate
Tasks: hand Clear B-1 and B-2, Collect Soil and groundwater samples B-1 and B-2

Personnel: Conor McDonough
H+S Tailgate. Calibrate PID 99.8ppm

0900 D.M. on site he Bonfims hand augering was Completed to depth

1000 Complet B-2, grout, mob to B-1

1030 Complete B-1, grout. Clean up

1230 Drillers off site mob to EQUIPCO

Well	DTW	DTP	Notes
PMW-2A	8.44	—	Product on Probe
PMW-2D	9.44	—	1
PMW-1A	6.82	6.81	
PMW-1B	6.70	6.71	

Environmental Resources Management

1277 Treat Boulevard, Suite 500 • Walnut Creek, CA 94597
(925) 946-0455 • Fax (925) 946-9968

Project Lucasey | Project No. 0097888 | Sheet 1 of
Subject well Development | By CCM | Date 3/8/10
Chkd. by | Date

41369

Personnel: Conor McDonough
PPE: Level D
TASKS Develope PMW-1A PMW-1B PMW-2A and PMW-2B

0755 on site
H+S tailgate
Set up on PMW-2B because there is no free product

0815 PMW-2B

0845 Finish Removing Fines, Surge, and insert pump
decon Bailers.

0930 Set up on PMW-2A
Surge, Remove Fines.
Used Bailer to develope because there was some product Staning on interface probe.

Well	DTW	TD	DTP
PMW-2B	10.35	24.91	—
PMW-2A	8.05	17.25	some product on interface probe
PMW-1B	7.42	25.01	7.40
PMW-1A	7.46	17.26	—

1010 GREGG did not collect Stabelization parameters @PMW-2A because there was some free product on interface probe. Called D.M. to make sure this was OK and D.M. said he was fine with it because the wells are product monitoring wells and not Groundwater monitering wells
+ Decon Bailer

1015 mob to PMW-1A

Remove Fines Surge, bail. (No pump)

1100 PMW-1B Remove Fines, bail,
DTW after Development 7.60 NO product (PMW-1B)

1230 off site mob to EQUIPCO to Return rental equiptment

Environmental Resources Management

1277 Treat Boulevard, Suite 500 • Walnut Creek, CA 94597
(925) 946-0455 • Fax (925) 946-9968

Project Lucasey manufacturing | Project No. 0097888 | Sheet 1 of 1
Subject PMW-3 installation | By Conor McDonough | Date 6/25/10
Chkd. by _____ | Date _____

0845 on site

GREGG present, H+S tailgate

0900 Set up traffic control

Well location is hand Augerd to 7'. Doug Moberg approved location was Augerd sufficently

1000 Begin Core collection PMW-3

Log soils, Call John Moe and discuss where to set the well. We agree on screen 7-14'

1030 Begin building well

1100 well constructed County grout inspector watchos grouting of well:

drillers build well box. Sight Cleaned up.

1200 mob to EQUIPCO / office

Attachment E
Soil Vapor Sampling SOP,
Sampling Logs

ERM - Soil Gas Sampling Log

Project Name: Lucasey Manufacturing
Project Number: 0097888.4

Date: 5/10/10
Set-up time: 1100
Weather: Overcast
Field Staff: CCM

Sample Point ID: ASV-12/Dup

Location: 3744 E 11th St
Construction Material: 1/4" od tubing
Construction Depth: 5'

Well Diameter: 1"
Tubing Material: 1/4" od
Length of Tubing: 60"

Sample Apparatus Pressure Test

every 10 minutes until consistent within 1 in-Hg

Time	Pressure Reading	Units	Comments
1115	-20	"Hg	
1125	-20	"Hg	

Leak Test and Purge Volume

Temporary well:
1 Casing Volume = Casing height x Volume/ ft.
Permanent Well:
1 Casing Volume = (Casing height x Volume/ ft.)+(sand pack depth x diameter)

Height of casing or tubing

Well Diam. (in.)	Volume/ft (ml/ft)
0.25	10
0.75	87
1	154
2	617

Atmospheric Helium concentration prior to purge: 20 ppm

Take one reading per purge

Time	Purge Flow	Volume	Helium Detector Reading
1300	167 ml/min	600 ppm	0
1307	167 ml/min	100 ppm	200 ml

Sample Collection

6381 FC

Summa Canister Info:
Size (circle one): (250ml) 1L 6L
Canister ID:

Flow Controller ID: 6381

$\pi \times .09^2 \times 60" \times 16.39 = .25ml \times 3 = .75ml$
$\pi \times (.5)^2 \times 6" \times 16.39 \times .3 = .75 = .25ml$

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum
1300	-30	1307	-6

ANALYSES REQUIRED

TO-15 TO-17
BTEX, TPH-g and TPH-d
(Helium)

FIELD OBSERVATIONS

Decontamination Method:

Sampler Signature(s):

ASV-12 1dup
Start 50cc/m 25ml + 2.5ml x 3
1308
1312 82.5ml
TVB# MI151376 .47 min
Dup MI151373

ERM - Soil Gas Sampling Log

Project Name: Lucasey Manufacturing
Project Number:

Date: 5/24/10
Set-up time: 0915
Weather: cool / overcast
Field Staff: CM

Sample Point ID: ASV-14 / DUP

Location: Lucasey
Construction Material: 1/4" od tubing PVC
Construction Depth: 5'

Well Diameter: 1"
Tubing Material: 1/4" PVC
Length of Tubing: 60"

Sample Apparatus Pressure Test

every 10 minutes until consistent within 1 in-Hg

Time	Pressure Reading	Units	Comments
1045	-20	"Hg	
1055	-20	"Hg	

Leak Test and Purge Volume

Temporary well: Height of casing or tubing
1 Casing Volume = Casing height x Volume/ ft.
Permanent Well:
1 Casing Volume = (Casing height x Volume/ ft.)+(sand pack depth x diameter)

Well Diam. (in.)	Volume/ft (ml/ft)
0.25	10
0.75	87
1	154
2	617

Atmospheric Helium concentration prior to purge:

Take one reading per purge 475 ppm — 60% of time of sampling

Time	Purge Flow	Volume	Helium Detector Reading
0	167 ml/min	0	1800 ppm
1	167 ml/min	167ml	1025 ppm

Sample Collection

Summa Canister Info:
Size (circle one): 3616 1L 6L
Canister ID: 3160 / 250ml

$\pi \times (0.09)^2 \times 60 \times 16.39 \times 3 = 75ml$ 72.5ml / 167 ml/min = 27sec

$\pi \times (0.5)^2 \times 6 \times 16.39 \times 3 = 2.5$ ml

Flow Controller ID: 1010

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum
1111/1249	-30/-30 "Hg	7.5 / 8 "Hg	1249 / 1049

ANALYSES REQUIRED

TO-15, TO-17
BTEX, TPH-g and TPH-d
Helium

ID #151375
Start 1251
Finish 1255

Flow Rate 500cc/min

FIELD OBSERVATIONS

Decontamination Method:

Sampler Signature(s):

ERM - Soil Gas Sampling Log

Project Name: Lucasey manufacturing The Railyards
Project Number:

Date: 5/24/16
Set-up time: 0945
Weather: Overcast/ Cool
Field Staff: CM

Sample Point ID: ASV-15

Location: Lucasey
Construction Material: NA
Construction Depth: 5'

Well Diameter: 1"
Tubing Material: 1/4 od
Length of Tubing: 60"

Sample Apparatus Pressure Test

every 10 minutes until consistent within 1 in-Hg

Time	Pressure Reading	Units	Comments
~~1035~~ 0937	-18.5 ~~"Hg~~	"Hg	
0947	-18.5	"Hg	

Leak Test and Purge Volume

	Well Diam. (in.)	Volume/ft (ml/ft)
Temporary well: Height of casing or tubing	0.25	10
1 Casing Volume = Casing height x Volume/ ft.	0.75	87
Permanent Well:	1	154
1 Casing Volume = (Casing height x Volume/ ft.)+(sand pack depth x diameter)	2	617

Atmospheric Helium concentration prior to purge: 275 ppm

Take one reading per purge 60% He at time of sampling

Time	Purge Flow	Volume	Helium Detector Reading
1025	167 ml/min	0	700
1026	↓	167ml	550

Sample Collection

$\pi \times (0.09)^2 \times 60 \times 16.39 = 25ml \times 3 = 75ml$
$\pi \times (0.5)^2 \times 60 \times 16.39 \times 3 = 2.5ml$

Summa Canister Info:
Size (circle one): 1L (25ml) 6L
Canister ID: Flow Controller ID: 40707

77.5 ml / 167ml/min = 27 sec

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum
1030	-30	1033	-8

ANALYSES REQUIRED

TO-15 BTEX, TPH-g-TPH-d
TO-17
Helium

Tomi 151380
50 cc/min
Start 1034
Finish 1038

FIELD OBSERVATIONS

Decontamination Method:

Sampler Signature(s):

ERM - Soil Gas Sampling Log

Project Name: Lucasey Manufacturing
Project Number: 0097888.4

Date: 5/24/10
Set-up time: 0945
Weather: Overcast / cool
Field Staff: CC M

Sample Point ID: ASV-13 / ~~EXP~~

Location: Lucasey
Construction Material: 1/4" od PVC Tubing
Construction Depth: 5'

Well Diameter: 1"
Tubing Material: 1/4 od
Length of Tubing: 60"

Sample Apparatus Pressure Test

every 10 minutes until consistent within 1 in-Hg

Time	Pressure Reading	Units	Comments
0922	-20	"Hg	
0932	-20	"Hg	

Leak Test and Purge Volume

		Well Diam. (in.)	Volume/ft (ml/ft)
Temporary well:	Height of casing or tubing	0.25	10
1 Casing Volume = Casing height x Volume/ ft.		0.75	87
Permanent Well:		1	154
1 Casing Volume = (Casing height x Volume/ ft.)+(sand pack depth x diameter)		2	617

Atmospheric Helium concentration prior to purge: 275 ppm

Take one reading per purge 60% He at time of sampling

Time	Purge Flow	Volume	Helium Detector Reading
1009	167 ml/m	550 ppm	0
1010	167 ml/m	605 ppm	200ml

Sample Collection

$\pi \times (.09)^2 \times 60 \times 16.39 = 25ml \times 3 = 75ml$
$\pi \times (.5)^2 \times 6 \times 16.39 \times 3 = 2.5ml$

$\frac{77.5}{167 ml/min} = 27 sec$

Summa Canister Info:
Size (circle one): (250ml) 1L 6L
Canister ID: 2829 / GI 01025
Flow Controller ID: 01025

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum
1010	-30	1012	-5

ANALYSES REQUIRED

TO-15 BTEX, TPH-g and TPH-d
TO-17
(Helium)

MI tube # 15378 50 cc/min

Start 10/4
Finish 10/8

FIELD OBSERVATIONS

leak test Time	Vacuum
0922	-20
0932	-20

Decontamination Method:

Sampler Signature(s):

Memorandum

Environmental Resources Management

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

ERM®

Active Soil Vapor Sampling - Method TO-15

Soil vapor sampling activities will be implemented in accordance with the 15 December (revised 7 February 2005) 2005 *Interim Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air* and the *Advisory - Active Soil Gas Investigations* (28 January 2003) documents developed by the Department of Toxic Substances Control (DTSC) and the California Environmental Protection Agency.

A direct-push rig will be utilized to facilitate the collection of soil vapor samples from at least 5 feet below ground surface (bgs), as recommended in the DTSC advisory. Soil vapor samples will be collected with 200 milliliter Summa canisters equipped with flow controllers with a pre-set sampling rate of 200 milliliters per minute (mL/min) (1 minute sample time). The following procedures should be followed during sample collection:

- A direct-push rig will be utilized to advance drilling rods to a total depth of 5 feet bgs. Once the sampling rods are advanced to total depth, they will be pulled back approximately 6 inches, creating an annular space for vapor sampling. Clear, disposable, Teflon tubing (0.25-inch outer diameter) will then be inserted through the rods and attached to a screened sampling tip with a threaded connection containing a rubber gasket.

- Following the installation of the sampling line, a seal of hydrated bentonite should be emplaced around the drilling rod at ground surface to isolate the subsurface conditions from conditions above-ground. Care should be taken to ensure that the bentonite is not over-hydrated to avoid introducing water down into the borehole. To allow for subsurface conditions to equilibrate, soil vapor sampling should not be initiated for **at least 30 minutes**. Note the equilibration start and end time in the field notes.

- During this time, calculate the volume of the sample tubing and the annular space around the sampling tip to determine the purge volume. Also, measure the initial vacuum in the Summa canister with a separate vacuum gauge (other than the one on the flow controller) and record the result in the field notes.

- Following equilibration, attach a low-flow vacuum pump and flow meter to the sampling line, following a T-valve. Using the vacuum pump, purge three purge volumes of air from the sampling line at a flow rate of 200 ml/min. Note the purge volume and time in the field notes.

- Following purging, remove the vacuum pump and flow meter from the sampling line and attach the Summa canister and flow controller. While connecting the flow controller to the Summa canister, wrap Teflon tape around in the inside and outside of the Swagelok fittings. When connecting the sample line to the flow controller, be sure you are using pink rubber ferrels and not stainless steel ferrels. Wrap the outside of each of the connections with uncooked biscuit dough.

- Open the valve on the Summa canister and begin sample collection. Note the sample start time in the field notes.

- During the course of the 1 minute sample time, conduct a leak test by holding a cleaning wipe containing isopropyl alcohol near each connection in the sampling train. Double bag the wipes to be used during the leak test and store them away from any of the sampling equipment. Change gloves before and after conducting the leak test to minimize cross-contamination. Seal all used wipes and gloves in two ziplock baggies and store away from all sampling equipment.

- After 1 minute, or when the vacuum gauge on the Summa canister reads approximately 5 inches of mercury (in Hg), close the valve and disconnect the tubing. Measure the final vacuum in the Summa canister with a separate vacuum gauge and record the result in the field notes. Make note of the sample end time.

- Be sure to completely fill out the sample tags on all of the Summa canisters.

After each soil gas sample is collected, the sample tubing should be removed and discarded. Soil vapor probes will be decontaminated between each sample using a water and Liquinox solution and triple-rinsed with potable water. Following sample collection, each borehole will be abandoned using granulated bentonite chips, hydrated with water. Borings should be topped at ground surface with concrete dyed black to match the surrounding ground cover.

The following samples will also be collected for QA/QC purposes:

- One ambient air sample – collect from one of the sample locations. Document the location in the field notes.
- One trip blank sample – complete the sample label/tag and keep with the other Summa cannisters.
- One duplicate sample – collect with a duplicate sampling "T" from any location.

Soil vapor samples will be sent to Air Toxics Ltd., a California-certified laboratory in Folsom, California, for analysis by United States Environmental Protection Agency (USEPA) Method TO-15.

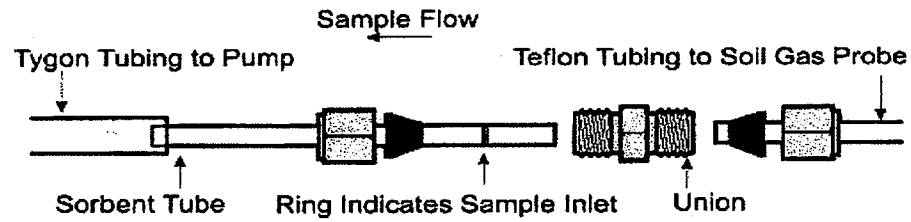
2.2 Method Specific Sampling Instructions

TO-17 Sampling Instructions

Application: Soil Gas

Media: TO-17 tube, 1/4"Teflon tubing, 1/4"Tygon tubing, 1/4" to 1/4"Union, 1/4"fittings with ferrules, a sample pump and a low flow holder maybe required if using a higher flow pump

Typical Sampling Parameters: Sample Flow Rate = 50mL/min **Total Vol.** = 200 mL **Duration** = 4 min. These parameters may change depending on project objectives.



Instructions:

1) In order to calibrate the pump use a "set-up" tube. Using the Tygon tubing connect the sampling pump to the outlet of the sorbent tube, if using a higher flow pump a low flow holder may be necessary to lower the flow rate, then connect the inlet (the ringed side) to the calibrator. Adjust setting to desired flow rate and record.
2) Replace the "set-up" tube with a sample tube. Again using the Tygon tubing connect the sampling pump to the outlet of the sample tube. Attach the inlet to the union fitting using a Swagelok nut. Using a 9/16" wrench on the nut and a 7/16" wrench on the union, tighten the nut. In the same manner, attach the union to the Swagelok nut on the soil gas probe tubing. DO NOT OVERTIGHTEN.
3) Start the sample pump and record the start time. After the desired duration, stop the pump and record the end time.
4) Replace the end plugs on both ends of the sample tube. Record the sample ID, tube ID and the collection date/time on the COC.
5) When completed with a set of samples, re-attach the "set-up" tube to the calibrator and measure the post-sampling flow. Record post-sampling flow rate. This should match within 10% of the pre-sample flow rate.
6) Record sample volume on the COC using the average of the pre- and post- flow rates.
7) Send tubes to the lab in the cooler with ice.

Attachment F
Lab Data Packages

Northern California
ACCUTEST. Laboratories

IT'S ALL IN THE CHEMISTRY

03/18/10

Technical Report for

ERM-West, Inc.

Lucasey - Oakland, CA

0097888

Accutest Job Number: C10114

Sampling Date: 03/04/10

Report to:

ERM-West, Inc.
1277 Treat Blvd. Suite 500
Walnut Creek, CA 94597
john.moe@erm.com

ATTN: John Moe

Total number of pages in report: **54**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Laurie Glantz-Murphy
Laboratory Director

Client Service contact: Anne Kathain 408-588-0200

Certifications: CA (08258CA)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6

Table of Contents

Sample Summary

ERM-West, Inc.

Job No: C10114

Lucasey - Oakland, CA
Project No: 0097888

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
C10114-1	03/04/10	08:30	CM	03/05/10	SO	Soil	B-1-4.5-5
C10114-2	03/04/10	08:50	CM	03/05/10	SO	Soil	B-2-4.5-5
C10114-3	03/04/10	09:15	CM	03/05/10	SO	Soil	B-2-9.5-10
C10114-4	03/04/10	09:18	CM	03/05/10	SO	Soil	B-2-14.5-15
C10114-5	03/04/10	09:31	CM	03/05/10	SO	Soil	B-2-20-20.5
C10114-6	03/04/10	09:50	CM	03/05/10	AQ	Ground Water	B-2-15-25'
C10114-7	03/04/10	10:36	CM	03/05/10	SO	Soil	B-1-9.5-10
C10114-8	03/04/10	10:40	CM	03/05/10	SO	Soil	B-1-15.5-16
C10114-9	03/04/10	10:46	CM	03/05/10	SO	Soil	B-1-19.5-20
C10114-10	03/04/10	10:55	CM	03/05/10	AQ	Ground Water	B-1-15-25
C10114-11	03/04/10	12:10	CM	03/05/10	SO	Soil	DRUM-1
C10114-12	03/04/10	12:10	CM	03/05/10	SO	Soil	DRUM-2
C10114-13	03/04/10	12:10	CM	03/05/10	SO	Soil	DRUM-3

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Sample Summary
(continued)

ERM-West, Inc.

Job No: C10114

Lucasey - Oakland, CA
Project No: 0097888

Sample Number	Collected Date	Time By	Received	Matrix Code	Matrix Type	Client Sample ID
C10114-14	03/04/10	12:10 CM	03/05/10	SO	Soil	DRUM-4
C10114-15	03/04/10	12:10 CM	03/05/10	SO	Soil	DRUM(1-4)COMP
C10114-16	03/04/10	12:10 CM	03/05/10	SO	Soil	DRUM-5
C10114-17	03/04/10	12:10 CM	03/05/10	SO	Soil	DRUM-6
C10114-18	03/04/10	12:10 CM	03/05/10	SO	Soil	DRUM-7
C10114-19	03/04/10	12:10 CM	03/05/10	SO	Soil	DRUM-8
C10114-20	03/04/10	12:10 CM	03/05/10	SO	Soil	DRUM(5-8)COMP
C10114-21	03/04/10	12:30 CM	03/05/10	AQ	Trip Blank Water	TB-001

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

ACCUTEST Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: ERM-West, Inc. **Job No** C10114

Site: Lucasey - Oakland, CA **Report Date** 3/18/2010 12:18:06 PM

12 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 03/04/2010 and were received at Accutest on 03/05/2010 properly preserved, at 3.8 Deg. C and intact. These Samples received an Accutest job number of C10114. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** VW420

- Sample(s) C10095-8MS, C10095-8MSD were used as the QC samples indicated.
- C10114-6, -10: Samples were prepared following Gravity Separation Protocol prior to analysis as per client request.

Matrix SO **Batch ID:** VM423

- Sample(s) C10165-5MS, C10165-5MSD were used as the QC samples indicated.

Matrix SO **Batch ID:** VM424

- Sample(s) C10114-2MS, C10114-2MSD were used as the QC samples indicated.

Extractables by GC By Method SW846 8015B M

Matrix AQ **Batch ID:** OP1877

- C10114-6, -10: Samples were prepared following Gravity Separation Protocol prior to extraction and analysis as per client request.

Matrix SO **Batch ID:** OP1867

- Sample(s) C10114-5MS, C10114-5MSD were used as the QC samples indicated.

Accutest Laboratories Northern California (ALNCA) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALNCA and as stated on the COC. ALNCA certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the ALNCA Quality Manual except as noted above. This report is to be used in its entirety. ALNCA is not responsible for any assumptions of data quality if partial data packages are used

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	B-1-4.5-5		
Lab Sample ID:	C10114-1	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8260B	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M12987.D	1	03/10/10	XB	n/a	n/a	VM424
Run #2							

	Initial Weight
Run #1	5.00 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
108-88-3	Toluene	ND	5.0	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	10	4.0	ug/kg	
	TPH-GRO (C6-C10)	ND	100	50	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		60-130%
2037-26-5	Toluene-D8	102%		60-130%
460-00-4	4-Bromofluorobenzene	97%		60-130%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-1-4.5-5		
Lab Sample ID:	C10114-1	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8015B M SW846 3545A	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG11849.D	1	03/10/10	JH	03/09/10	OP1867	GGG389
Run #2							

	Initial Weight	Final Volume
Run #1	10.5 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	9.5	4.8	mg/kg	
	TPH (Motor Oil)	ND	19	9.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	61%		45-140%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-2-4.5-5		
Lab Sample ID:	C10114-2	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8260B	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M12988.D	1	03/10/10	XB	n/a	n/a	VM424
Run #2							

	Initial Weight
Run #1	5.04 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
108-88-3	Toluene	ND	5.0	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	9.9	4.0	ug/kg	
	TPH-GRO (C6-C10)	ND	99	50	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		60-130%
2037-26-5	Toluene-D8	101%		60-130%
460-00-4	4-Bromofluorobenzene	98%		60-130%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	B-2-4.5-5		
Lab Sample ID:	C10114-2	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8015B M SW846 3545A	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG11850.D	1	03/10/10	JH	03/09/10	OP1867	GGG389
Run #2							

	Initial Weight	Final Volume
Run #1	10.0 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	10	5.0	mg/kg	
	TPH (Motor Oil)	ND	20	10	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	72%		45-140%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	B-2-9.5-10		
Lab Sample ID:	C10114-3	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8260B	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M12989.D	1	03/10/10	XB	n/a	n/a	VM424
Run #2							

	Initial Weight
Run #1	5.05 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
108-88-3	Toluene	ND	5.0	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	9.9	4.0	ug/kg	
	TPH-GRO (C6-C10)	ND	99	50	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		60-130%
2037-26-5	Toluene-D8	104%		60-130%
460-00-4	4-Bromofluorobenzene	101%		60-130%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	B-2-9.5-10		
Lab Sample ID:	C10114-3	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8015B M SW846 3545A	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG11851.D	1	03/10/10	JH	03/09/10	OP1867	GGG389
Run #2							

	Initial Weight	Final Volume
Run #1	10.1 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	9.9	5.0	mg/kg	
	TPH (Motor Oil)	ND	20	9.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	67%		45-140%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-2-14.5-15		
Lab Sample ID:	C10114-4	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8260B	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M12990.D	1	03/10/10	XB	n/a	n/a	VM424
Run #2							

	Initial Weight
Run #1	5.11 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	4.9	1.5	ug/kg	
108-88-3	Toluene	ND	4.9	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	4.9	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	9.8	3.9	ug/kg	
	TPH-GRO (C6-C10)	ND	98	49	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		60-130%
2037-26-5	Toluene-D8	102%		60-130%
460-00-4	4-Bromofluorobenzene	98%		60-130%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-2-14.5-15		
Lab Sample ID:	C10114-4	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8015B M SW846 3545A	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG11869.D	1	03/10/10	JH	03/09/10	OP1867	GGG390
Run #2							

	Initial Weight	Final Volume
Run #1	10.1 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	9.9	5.0	mg/kg	
	TPH (Motor Oil)	ND	20	9.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	49%		45-140%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-2-20-20.5		
Lab Sample ID:	C10114-5	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8260B	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M12991.D	1	03/10/10	XB	n/a	n/a	VM424
Run #2							

	Initial Weight
Run #1	5.05 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
108-88-3	Toluene	ND	5.0	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	9.9	4.0	ug/kg	
	TPH-GRO (C6-C10)	ND	99	50	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		60-130%
2037-26-5	Toluene-D8	103%		60-130%
460-00-4	4-Bromofluorobenzene	98%		60-130%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-2-20-20.5		
Lab Sample ID:	C10114-5	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8015B M SW846 3545A	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG11870.D	1	03/10/10	JH	03/09/10	OP1867	GGG390
Run #2							

	Initial Weight	Final Volume
Run #1	10.0 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	10	5.0	mg/kg	
	TPH (Motor Oil)	ND	20	10	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	52%		45-140%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-2-15-25'		
Lab Sample ID:	C10114-6	**Date Sampled:**	03/04/10
Matrix:	AQ - Ground Water	**Date Received:**	03/05/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	W12068.D	1	03/13/10	BD	n/a	n/a	VW420
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		60-130%
2037-26-5	Toluene-D8	100%		60-130%
460-00-4	4-Bromofluorobenzene	103%		60-130%

(a) Sample was prepared following Gravity Separation Protocol prior to analysis as per client request.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	B-2-15-25'		
Lab Sample ID:	C10114-6	**Date Sampled:**	03/04/10
Matrix:	AQ - Ground Water	**Date Received:**	03/05/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GG11892.D	1	03/11/10	JH	03/10/10	OP1877	GGG391
Run #2							

	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.098	0.049	mg/l	
	TPH (Motor Oil)	ND	0.20	0.098	mg/l	
	TPH (Mineral Spirits)	ND	0.098	0.049	mg/l	
	TPH (Kerosene)	ND	0.098	0.049	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	57%		45-140%

(a) Sample was prepared following Gravity Separation Protocol prior to extraction and analysis as per client request.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-1-9.5-10		
Lab Sample ID:	C10114-7	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8260B	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M12971.D	1	03/09/10	XB	n/a	n/a	VM423
Run #2							

	Initial Weight
Run #1	5.09 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	4.9	1.5	ug/kg	
108-88-3	Toluene	ND	4.9	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	4.9	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	9.8	3.9	ug/kg	
	TPH-GRO (C6-C10)	ND	98	49	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		60-130%
2037-26-5	Toluene-D8	102%		60-130%
460-00-4	4-Bromofluorobenzene	98%		60-130%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	B-1-9.5-10		
Lab Sample ID:	C10114-7	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8015B M SW846 3545A	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG11871.D	1	03/10/10	JH	03/09/10	OP1867	GGG390
Run #2							

	Initial Weight	Final Volume
Run #1	10.1 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	9.9	5.0	mg/kg	
	TPH (Motor Oil)	ND	20	9.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	55%		45-140%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-1-15.5-16		
Lab Sample ID:	C10114-8	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8260B	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M12972.D	1	03/09/10	XB	n/a	n/a	VM423
Run #2							

	Initial Weight
Run #1	5.05 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
108-88-3	Toluene	ND	5.0	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	9.9	4.0	ug/kg	
	TPH-GRO (C6-C10)	ND	99	50	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		60-130%
2037-26-5	Toluene-D8	102%		60-130%
460-00-4	4-Bromofluorobenzene	98%		60-130%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	B-1-15.5-16		
Lab Sample ID:	C10114-8	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8015B M SW846 3545A	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG11872.D	1	03/10/10	JH	03/09/10	OP1867	GGG390
Run #2							

	Initial Weight	Final Volume
Run #1	10.0 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	10	5.0	mg/kg	
	TPH (Motor Oil)	ND	20	10	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	48%		45-140%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	B-1-19.5-20		
Lab Sample ID:	C10114-9	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8260B	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M12973.D	1	03/09/10	XB	n/a	n/a	VM423
Run #2							

	Initial Weight
Run #1	5.00 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
108-88-3	Toluene	ND	5.0	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	10	4.0	ug/kg	
	TPH-GRO (C6-C10)	ND	100	50	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		60-130%
2037-26-5	Toluene-D8	103%		60-130%
460-00-4	4-Bromofluorobenzene	98%		60-130%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-1-19.5-20		
Lab Sample ID:	C10114-9	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8015B M SW846 3545A	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [b]	GG11873.D	1	03/10/10	JH	03/09/10	OP1867	GGG390
Run #2							

	Initial Weight	Final Volume
Run #1	5.30 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	19	9.4	mg/kg	
	TPH (Motor Oil)	ND	38	19	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	54%		45-140%

(a) All results reported on wet weight basis.
(b) Reporting limit increased due to high moisture in the sample. 5grams prepared instead of the standard 10 grams.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-1-15-25		
Lab Sample ID:	C10114-10	**Date Sampled:**	03/04/10
Matrix:	AQ - Ground Water	**Date Received:**	03/05/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	W12069.D	1	03/13/10	BD	n/a	n/a	VW420
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		60-130%
2037-26-5	Toluene-D8	100%		60-130%
460-00-4	4-Bromofluorobenzene	102%		60-130%

(a) Sample was prepared following Gravity Separation Protocol prior to analysis as per client request.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	B-1-15-25		
Lab Sample ID:	C10114-10	**Date Sampled:**	03/04/10
Matrix:	AQ - Ground Water	**Date Received:**	03/05/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GG11893.D	1	03/11/10	JH	03/10/10	OP1877	GGG391
Run #2							

	Initial Volume	Final Volume
Run #1	1030 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.097	0.049	mg/l	
	TPH (Motor Oil)	ND	0.19	0.097	mg/l	
	TPH (Mineral Spirits)	ND	0.097	0.049	mg/l	
	TPH (Kerosene)	ND	0.097	0.049	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	57%		45-140%

(a) Sample was prepared following Gravity Separation Protocol prior to extraction and analysis as per client request.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DRUM(1-4)COMP		
Lab Sample ID:	C10114-15	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8260B	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [b]	M12994.D	1	03/10/10	XB	n/a	n/a	VM424
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	25.0 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1000	300	ug/kg	
108-88-3	Toluene	ND	1000	300	ug/kg	
100-41-4	Ethylbenzene	ND	1000	300	ug/kg	
1330-20-7	Xylene (total)	ND	2000	800	ug/kg	
	TPH-GRO (C6-C10)	ND	20000	10000	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		60-130%
2037-26-5	Toluene-D8	102%		60-130%
460-00-4	4-Bromofluorobenzene	101%		60-130%

(a) All results reported on wet weight basis.
(b) 4:1 composite. Dilution required due to high concentration of heavy hydrocarbons.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	DRUM(1-4)COMP		
Lab Sample ID:	C10114-15	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8015B M SW846 3545A	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG11876.D	10	03/10/10	JH	03/09/10	OP1867	GGG390
Run #2							

	Initial Weight	Final Volume
Run #1	10.3 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	756	97	49	mg/kg	
	TPH (Motor Oil)	751	190	97	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	58%		45-140%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DRUM(5-8)COMP		
Lab Sample ID:	C10114-20	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8260B	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [b]	M12992.D	1	03/10/10	XB	n/a	n/a	VM424
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	250	75	ug/kg	
108-88-3	Toluene	ND	250	75	ug/kg	
100-41-4	Ethylbenzene	ND	250	75	ug/kg	
1330-20-7	Xylene (total)	ND	500	200	ug/kg	
	TPH-GRO (C6-C10)	ND	5000	2500	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		60-130%
2037-26-5	Toluene-D8	101%		60-130%
460-00-4	4-Bromofluorobenzene	102%		60-130%

(a) All results reported on wet weight basis.
(b) 4:1 composite.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DRUM(5-8)COMP		
Lab Sample ID:	C10114-20	**Date Sampled:**	03/04/10
Matrix:	SO - Soil	**Date Received:**	03/05/10
Method:	SW846 8015B M SW846 3545A	**Percent Solids:**	n/a [a]
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG11877.D	5	03/10/10	JH	03/09/10	OP1867	GGG390
Run #2							

	Initial Weight	Final Volume
Run #1	10.2 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	272	49	25	mg/kg	
	TPH (Motor Oil)	272	98	49	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	68%		45-140%

(a) All results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	TB-001		
Lab Sample ID:	C10114-21	**Date Sampled:**	03/04/10
Matrix:	AQ - Trip Blank Water	**Date Received:**	03/05/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Lucasey - Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W12054.D	1	03/13/10	BD	n/a	n/a	VW420
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		60-130%
2037-26-5	Toluene-D8	99%		60-130%
460-00-4	4-Bromofluorobenzene	103%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Environmental Resources Management

CHAIN OF CUSTODY RECORD

ERMCAWC2125'

NO: 5930

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C10114 Page 1 of 2

PROJECT #	PROJECT NAME
0097888 ~~0098777~~	Legacy manufacturing ~~Mannington~~

SAMPLER: (PRINT NAME) Conor McDonough (SIGNATURE) [signature]

RECEIVING LABORATORY: Accutest

REQUESTED PARAMETERS

SAMPLE I.D.	DATE	TIME	COMP.	GRAB	SAMPLING METHOD	PRESERVATIVE	ICE (Y/N)	SAMPLING VOLUME	# OF CONTAINERS	SOIL	WATER	GAS	TPH d/mo ~~8015~~ 8015 ccm	TPH-g ~~8015~~ 8260	BTEX 8260B		Zemo gravity Separation Semi volatiles + volatiles	
B-1-4.5-5	3/4/10	0830		X	HAND AUGER	none	Y	8oz	1	X			X	X	X	8x8oz GJ		-1
B-2-4.5-5	3/4/10	0850		X	↓				1	X			X	X	X	8x4oz GJ		-2
B-2-9.5-10		0915		X	DIRECT PUSH				1	X			X	X	X	4 vials (w/HCl) (x2)		-3
B-2-14.5-15		0918		X					1	X			X	X	X	4x1Lit Amber n/p (x2)		-4
B-2-20-20.5		0931		X	↓	↓		↓	1	X			X	X	X	3 vials w/HCl (x1)		-5
B-2-15-25'	↓	0950		X	Peri pump	HCl/None		4.16L	8		X		X	X	X	~~with Silica gel Clean up~~ ccn 3/4/10	X	-6
B-1-9.5-10		1036		X	DIRECT PUSH	NONE		8oz	1	X			X	X	X			-7
B-1-15.5-DG		1040		X					1	X			X	X	X			-8
B-1-19.5-20		1046		X	↓	↓		↓	1	X			X	X	X			-9
B-1-15-25	↓	1055		X	Peri pump	HCl/None		4.16L	8		X		X	X	X	~~with Silica gel Clean up~~ ccn 3/4/10	X	-10

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
[signature]	3/4/10	1604	ERM west inc Walnut creek lab		
[signature]	3/5/10	0900	[signature]	3/5/10	0900
[signature]	3/5/10	1150	[signature]	3/5/10	11:54

FIELD REMARKS

STANDARD TAT

Silica gel Clean up for all extractables

Request EDFs for all samples

Temp 3.5 +0.3 = 3.8°C

REMARKS ON SAMPLE RECEIPT

☐ BOTTLE INTACT ☐ CUSTODY SEALS ☐ CHILLED

☐ PRESERVED ☐ SEALS INTACT ☐ SEE REMARKS

ERM REMARKS

SEND REPORT TO: John.moe@erm.com

WHITE – LABORATORY COPY CANARY – FIELD COPY PINK – DATABASE GOLD – PROJECT FILE

4.1

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C10114: Chain of Custody

Page 1 of 3

Environmental Resources Management

CHAIN OF CUSTODY RECORD

NO: 5931

1777 Botelho Drive, Suite 260 • Walnut Creek, CA • 94596 • (925) 946-0455 • FAX (925) 946-9968 C10114 Page 2 of 3

PROJECT #	PROJECT NAME
0097888	Lucasey

SAMPLER: (PRINT NAME)	(SIGNATURE)
Conor McDonough	

RECEIVING LABORATORY: Accutest

SAMPLE I.D.	DATE	TIME	COMP	GRAB	SAMPLING METHOD	PRESERVATIVE	ICE (Y/N)	SAMPLING VOLUME	# OF CONTAINERS	MATRIX: SOIL	MATRIX: WATER	MATRIX: GAS	REQUESTED PARAMETERS: TPH-d/mo 8015	TPH-g 8015 cm 8260	BTEX 8260	Composite Drum-1, Drum-3 and Drum-4 and run as one Sample	Composite Drum-5, Drum-6, Drum-7 and Drum-8 and run as one Sample	Drum-Comp
Drum-1	3/4/10	1210		X	GRAB	None	Y	40z	1		X		X	X	X	X		-11
Drum-2									1		X		X	X	X	X		-12
Drum-3									1		X		X	X	X	X		-13
Drum-4									1		X		X	X	X	X		-14
Drum-5									1		X		X	X	X		X	-16
Drum-6									1		X		X	X	X		X	-17
Drum-7									1		X		X	X	X		X	-18
Drum-8									1		X		X	X	X		X	-19
TB-001		1230			LAB	HCl		120ml	3		X			X	X			-21

Drum Comp 1 -15 -20

Drum Comp 2

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
	3/4/10	1604	ERM West Inc Walnut Creek Lab		
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
	3/5/10	0900		3/5/10	0900
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY	DATE	TIME
	3/5/10	1150		3/5/10	11:54

FIELD REMARKS:
STANDARD TAT
Silica gel Clean up for extractables
Request EDFs all samples

REMARKS ON SAMPLE RECEIPT
☐ BOTTLE INTACT ☐ CUSTODY SEALS ☐ CHILLED
☐ PRESERVED ☐ SEALS INTACT ☐ SEE REMARKS

ERM REMARKS

SEND REPORT TO:
John.Moe@erm.com

WHITE – LABORATORY COPY CANARY – FIELD COPY PINK – DATABASE GOLD – PROJECT FILE

4.1 4

C10114: Chain of Custody
Page 2 of 3

Accutest Laboratories Northern California
Sample Receiving Check List

Job#: C10114
Sample Control Rep. Initial: EK
EKMCAWC2125

Review Chain of Custody **Chain of Custody is to be complete and legible.**

- ☑ Are these regulatory (~~NPDES~~) samples? ~~CWA~~ (Yes) / No
- ☑ Is pH requested? Yes / (No)
- N/A ☒ Was Client informed that hold time is 15 min? Yes / No Continue Yes / No
  - ☒ Was ortho-Phosphate filtered with in 15 min? Yes / No Continue Yes / No
- ☑ Are sample within hold time? (Yes) / No
  - Are sample in danger of exceeding hold-time Yes / (No)
- ☑ Existing Client? (Yes) / No Existing Project? (Yes) / No
  - If No: Is Report to info complete and legible, including;
    - ☐ deliverable ☐ Name ☐ Address ☐ phone ☐ e-mail
    - Is Bill to info complete and legible, including;
    - ☐ PO# ☐ Credit card ☐ Contact ☐address ☐ phone ☐ e-mail
    - Is Contact and/or Project Manager identified, including;
    - ☐ phone ☐ e-mail
- ☑ Project name / number ☐ Special requirements? (Yes) / No
- ☑ Sample IDs / date & time of collection provided? (Yes) / No
- ☑ Is Matrix listed and correct? (Yes) / No
- ☑ Analyses listed we do or client has authorized a subcontract? (Yes) / No
- ☑ Chain is signed and dated by both client and sample custodian? (Yes) / No
- ☑ TAT requested available? (Yes) / No Approved by PM

Review Coolers:

- ☑ Were Coolers temperatures measured at ≤6°C? Cooler # 1 Temp 3.8 °C
  - If cooler is outside the ≤6°C; note down below the affected bottles in that cooler
  - Note that ANC does NOT accept evidentiary samples. (We do not lock refrigerators)
- ☑ Shipment Received Method AC
- ☑ Custody Seals: Present: Yes / (No) If Yes; Unbroken: Yes / No

Review of Sample Bottles: If you answer no, explain to the side

- ☑ Chain matches bottle labels? (Yes) / No ☑ Sample bottle intact? (Yes) / No
- ☑ Is there enough sample volume in proper bottle for requested analyses? (Yes) / No
- ☑ Proper Preservatives? (Yes) / No Check pH on preserved samples except 1664, 625, 8270 and VOAs.
- ☑ Headspace-VOAs? **Greater than 6mm in diameter** Yes / (No)
  List sample ID and affected container

Client Sample ID	pH Check	Other Comments/~~Issues~~
		8x 8oz glass jars
		8x 4oz glass jars
		4 vials (unpres) (x2)
		3 vials (HCl) (x1)
		4x 1Lit Ambers each (x2)
		-15 (4:1 - Composite)
		-20 (4:1 - Composite)

Non-Compliance issues and discrepancies on the COC are forwarded to Project Management

C10114: Chain of Custody
Page 3 of 3

GC/MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM423-MB	M12957.D	1	03/09/10	XB	n/a	n/a	VM423

The QC reported here applies to the following samples: Method: SW846 8260B

C10114-7, C10114-8, C10114-9

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/kg	
108-88-3	Toluene	ND	5.0	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	10	4.0	ug/kg	
	TPH-GRO (C6-C10)	ND	100	50	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	60-130%
2037-26-5	Toluene-D8	103%	60-130%
460-00-4	4-Bromofluorobenzene	99%	60-130%

Method Blank Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM424-MB	M12986.D	1	03/10/10	XB	n/a	n/a	VM424

The QC reported here applies to the following samples: Method: SW846 8260B

C10114-1, C10114-2, C10114-3, C10114-4, C10114-5, C10114-15, C10114-20

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/kg	
108-88-3	Toluene	ND	5.0	1.5	ug/kg	
1330-20-7	Xylene (total)	ND	10	4.0	ug/kg	
	TPH-GRO (C6-C10)	ND	100	50	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	96%	60-130%
2037-26-5	Toluene-D8	104%	60-130%
460-00-4	4-Bromofluorobenzene	98%	60-130%

Method Blank Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW420-MB	W12053.D	1	03/13/10	BD	n/a	n/a	VW420

The QC reported here applies to the following samples: Method: SW846 8260B

C10114-6, C10114-10, C10114-21

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	115%	60-130%
2037-26-5	Toluene-D8	100%	60-130%
460-00-4	4-Bromofluorobenzene	102%	60-130%

Blank Spike Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM423-BS	M12955.D	1	03/09/10	XB	n/a	n/a	VM423

The QC reported here applies to the following samples: Method: SW846 8260B

C10114-7, C10114-8, C10114-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	40	40.3	101	60-130
100-41-4	Ethylbenzene	40	41.4	104	60-130
108-88-3	Toluene	40	41.3	103	60-130
1330-20-7	Xylene (total)	120	124	103	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	60-130%
2037-26-5	Toluene-D8	102%	60-130%
460-00-4	4-Bromofluorobenzene	98%	60-130%

Blank Spike Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM423-BS	M12956.D	1	03/09/10	XB	n/a	n/a	VM423

The QC reported here applies to the following samples: Method: SW846 8260B

C10114-7, C10114-8, C10114-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
	TPH-GRO (C6-C10)	250	260	104	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	60-130%
2037-26-5	Toluene-D8	103%	60-130%
460-00-4	4-Bromofluorobenzene	99%	60-130%

Blank Spike Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM424-BS	M12984.D	1	03/10/10	XB	n/a	n/a	VM424

The QC reported here applies to the following samples: Method: SW846 8260B

C10114-1, C10114-2, C10114-3, C10114-4, C10114-5, C10114-15, C10114-20

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	40	39.6	99	60-130
100-41-4	Ethylbenzene	40	39.9	100	60-130
108-88-3	Toluene	40	39.8	100	60-130
1330-20-7	Xylene (total)	120	119	99	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	60-130%
2037-26-5	Toluene-D8	100%	60-130%
460-00-4	4-Bromofluorobenzene	96%	60-130%

Blank Spike Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM424-BS	M12985.D	1	03/10/10	XB	n/a	n/a	VM424

The QC reported here applies to the following samples: Method: SW846 8260B

C10114-1, C10114-2, C10114-3, C10114-4, C10114-5, C10114-15, C10114-20

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
	TPH-GRO (C6-C10)	250	268	107	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	60-130%
2037-26-5	Toluene-D8	102%	60-130%
460-00-4	4-Bromofluorobenzene	99%	60-130%

Blank Spike Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW420-BS	W12050.D	1	03/13/10	BD	n/a	n/a	VW420

The QC reported here applies to the following samples: Method: SW846 8260B

C10114-6, C10114-10, C10114-21

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	20.7	104	60-130
100-41-4	Ethylbenzene	20	20.3	102	60-130
108-88-3	Toluene	20	19.4	97	60-130
1330-20-7	Xylene (total)	60	59.1	99	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	121%	60-130%
2037-26-5	Toluene-D8	97%	60-130%
460-00-4	4-Bromofluorobenzene	103%	60-130%

Blank Spike Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW420-BS	W12052.D	1	03/13/10	BD	n/a	n/a	VW420

The QC reported here applies to the following samples: Method: SW846 8260B

C10114-6, C10114-10, C10114-21

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
	TPH-GRO (C6-C10)	125	142	114	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	114%	60-130%
2037-26-5	Toluene-D8	99%	60-130%
460-00-4	4-Bromofluorobenzene	103%	60-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10165-5MS	M12974.D	1	03/09/10	XB	n/a	n/a	VM423
C10165-5MSD	M12975.D	1	03/09/10	XB	n/a	n/a	VM423
C10165-5	M12970.D	1	03/09/10	XB	n/a	n/a	VM423

The QC reported here applies to the following samples: Method: SW846 8260B

C10114-7, C10114-8, C10114-9

CAS No.	Compound	C10165-5 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		39.3	37.9	96	38.5	96	2	60-130/30
100-41-4	Ethylbenzene	ND		39.3	38.3	97	38.8	97	1	60-130/30
108-88-3	Toluene	ND		39.3	38.4	98	39.5	99	3	60-130/30
1330-20-7	Xylene (total)	ND		118	115	98	117	98	2	60-130/30

CAS No.	Surrogate Recoveries	MS	MSD	C10165-5	Limits
1868-53-7	Dibromofluoromethane	103%	102%	101%	60-130%
2037-26-5	Toluene-D8	102%	102%	103%	60-130%
460-00-4	4-Bromofluorobenzene	98%	102%	99%	60-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10114-2MS	M13002.D	1	03/10/10	XB	n/a	n/a	VM424
C10114-2MSD	M13003.D	1	03/10/10	XB	n/a	n/a	VM424
C10114-2	M12988.D	1	03/10/10	XB	n/a	n/a	VM424

The QC reported here applies to the following samples: Method: SW846 8260B

C10114-1, C10114-2, C10114-3, C10114-4, C10114-5, C10114-15, C10114-20

CAS No.	Compound	C10114-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		39.6	38.6	97	39.4	99	2	60-130/30
100-41-4	Ethylbenzene	ND		39.6	38.9	98	40.5	102	4	60-130/30
108-88-3	Toluene	ND		39.6	38.2	96	40.0	101	5	60-130/30
1330-20-7	Xylene (total)	ND		119	115	97	121	101	5	60-130/30

CAS No.	Surrogate Recoveries	MS	MSD	C10114-2	Limits
1868-53-7	Dibromofluoromethane	104%	103%	100%	60-130%
2037-26-5	Toluene-D8	97%	103%	101%	60-130%
460-00-4	4-Bromofluorobenzene	97%	101%	98%	60-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10095-8MS	W12070.D	1	03/13/10	BD	n/a	n/a	VW420
C10095-8MSD	W12071.D	1	03/13/10	BD	n/a	n/a	VW420
C10095-8	W12067.D	1	03/13/10	BD	n/a	n/a	VW420

The QC reported here applies to the following samples: Method: SW846 8260B

C10114-6, C10114-10, C10114-21

CAS No.	Compound	C10095-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		20	20.2	101	21.1	106	4	60-130/25
100-41-4	Ethylbenzene	ND		20	19.7	99	20.8	104	5	60-130/25
108-88-3	Toluene	ND		20	19.1	96	19.8	99	4	60-130/25
1330-20-7	Xylene (total)	ND		60	57.0	95	60.0	100	5	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C10095-8	Limits
1868-53-7	Dibromofluoromethane	118%	119%	115%	60-130%
2037-26-5	Toluene-D8	98%	98%	100%	60-130%
460-00-4	4-Bromofluorobenzene	103%	104%	104%	60-130%

GC Semi-volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1867-MB	GG11846.D	1	03/10/10	JH	03/09/10	OP1867	GGG389

The QC reported here applies to the following samples: Method: SW846 8015B M

C10114-1, C10114-2, C10114-3, C10114-4, C10114-5, C10114-7, C10114-8, C10114-9, C10114-15, C10114-20

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	10	5.0	mg/kg	
	TPH (Motor Oil)	ND	20	10	mg/kg	

CAS No.	Surrogate Recoveries		Limits
630-01-3	Hexacosane	63%	45-140%

Method Blank Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1877-MB	GG11889.D	1	03/11/10	JH	03/10/10	OP1877	GGG391

The QC reported here applies to the following samples: Method: SW846 8015B M

C10114-6, C10114-10

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	
	TPH (Mineral Spirits)	ND	0.10	0.050	mg/l	
	TPH (Kerosene)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries		Limits
630-01-3	Hexacosane	56%	45-140%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1867-BS	GG11847.D	1	03/10/10	JH	03/09/10	OP1867	GGG389
OP1867-BSD	GG11848.D	1	03/10/10	JH	03/09/10	OP1867	GGG389

The QC reported here applies to the following samples: Method: SW846 8015B M

C10114-1, C10114-2, C10114-3, C10114-4, C10114-5, C10114-7, C10114-8, C10114-9, C10114-15, C10114-20

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH (Diesel)	100	72.6	73	79.6	80	9	45-140/30
	TPH (Motor Oil)	100	75.7	76	77.5	78	2	45-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	72%	75%	45-140%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1877-BS	GG11890.D	1	03/11/10	JH	03/10/10	OP1877	GGG391
OP1877-BSD	GG11891.D	1	03/11/10	JH	03/10/10	OP1877	GGG391

The QC reported here applies to the following samples: Method: SW846 8015B M

C10114-6, C10114-10

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Diesel)	1	0.800	80	0.795	80	1	45-140/30
	TPH (Motor Oil)	1	0.734	73	0.726	73	1	45-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	61%	57%	45-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C10114
Account: ERMCAWC ERM-West, Inc.
Project: Lucasey - Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1867-MS	GG11881.D	1	03/10/10	JH	03/09/10	OP1867	GGG390
OP1867-MSD	GG11882.D	1	03/10/10	JH	03/09/10	OP1867	GGG390
C10114-5	GG11870.D	1	03/10/10	JH	03/09/10	OP1867	GGG390

The QC reported here applies to the following samples: Method: SW846 8015B M

C10114-1, C10114-2, C10114-3, C10114-4, C10114-5, C10114-7, C10114-8, C10114-9, C10114-15, C10114-20

CAS No.	Compound	C10114-5 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (Diesel)	ND		98	59.5	61	53.1	54	11	45-140/30
	TPH (Motor Oil)	ND		98	56.9	58	59.2	60	4	45-140/30

CAS No.	Surrogate Recoveries	MS	MSD	C10114-5	Limits
630-01-3	Hexacosane	56%	57%	52%	45-140%

Air Toxics LTD.
Laboratory Services Since 1989

5/26/2010
Mr. John Moe
ERM-West
1277 Treat Blvd
Suite 500
Walnut Creek CA 94597

Project Name: Lucasey Manufacturing
Project #:
Workorder #: 1005274A

Dear Mr. John Moe

The following report includes the data for the above referenced project for sample(s) received on 5/13/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 (5&20 ppbv) 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: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori
Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1005274A

Work Order Summary

CLIENT:	Mr. John Moe ERM-West 1277 Treat Blvd Suite 500 Walnut Creek, CA 94597	**BILL TO:**	Mr. John Moe ERM-West 1277 Treat Blvd Suite 500 Walnut Creek, CA 94597
PHONE:	925-946-0455	**P.O. #**	0097888
FAX:	925-946-9968	**PROJECT #**	Lucasey Manufacturing
DATE RECEIVED:	05/13/2010	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	05/26/2010		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	Ambient Air 5-10-10	Modified TO-15 (5&20 ppbv	3.5 "Hg	15 psi
02A	ASV-12	Modified TO-15 (5&20 ppbv	3.0 "Hg	15 psi
02AA	ASV-12 Lab Duplicate	Modified TO-15 (5&20 ppbv	3.0 "Hg	15 psi
03A(cancelled)	ASV-12/dup	Modified TO-15 (5&20 ppbv	0.0 "Hg	15 psi
04A	Lab Blank	Modified TO-15 (5&20 ppbv	NA	NA
05A	CCV	Modified TO-15 (5&20 ppbv	NA	NA
06A	LCS	Modified TO-15 (5&20 ppbv	NA	NA

CERTIFIED BY: Linda J. Truman DATE: 05/26/10

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10
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
Modified TO-15 Soil Gas
ERM-West
Workorder# 1005274A

Three PAC250 Canister samples were received on May 13, 2010. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 50 mLs 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.

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.

Method modifications taken to run these samples are summarized in the table below. 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%.; 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 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) for sample ASV-12/dup. A leak test indicated that the valve was functioning properly.

Despite the use of flow controller for sample collection, the final canister vacuum for sample ASV-12/dup was measured at ambient pressure in the field. Per client instructions, the analysis was cancelled.

Analytical Notes

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 results for TPH gasoline were reported as not-detected in samples Ambient Air 5-10-10 and

ASV-12 since the chromatographic profiles were not consistent with a gasoline pattern.

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

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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Laboratory Services Since 1989

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

Client Sample ID: Ambient Air 5-10-10

Lab ID#: 1005274A-01A
No Detections Were Found.

Client Sample ID: ASV-12

Lab ID#: 1005274A-02A
No Detections Were Found.

Client Sample ID: ASV-12 Lab Duplicate

Lab ID#: 1005274A-02AA
No Detections Were Found.

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Client Sample ID: Ambient Air 5-10-10

Lab ID#: 1005274A-01A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051906**	**Date of Collection:**	**5/10/10 10:25:00 AM**
Dil. Factor:	**2.29**	**Date of Analysis:**	**5/19/10 12:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	11	Not Detected	36	Not Detected
Toluene	11	Not Detected	43	Not Detected
Ethyl Benzene	11	Not Detected	50	Not Detected
m,p-Xylene	11	Not Detected	50	Not Detected
o-Xylene	11	Not Detected	50	Not Detected
Naphthalene	46	Not Detected	240	Not Detected
TPH ref. to Gasoline (MW=100)	230	Not Detected	940	Not Detected

Container Type: PAC250 Canister

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

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Client Sample ID: ASV-12

Lab ID#: 1005274A-02A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051907**	**Date of Collection: 5/10/10 1:12:00 PM**	
Dil. Factor:	**2.24**	**Date of Analysis: 5/19/10 12:47 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	11	Not Detected	36	Not Detected
Toluene	11	Not Detected	42	Not Detected
Ethyl Benzene	11	Not Detected	49	Not Detected
m,p-Xylene	11	Not Detected	49	Not Detected
o-Xylene	11	Not Detected	49	Not Detected
Naphthalene	45	Not Detected	230	Not Detected
TPH ref. to Gasoline (MW=100)	220	Not Detected	920	Not Detected

Container Type: PAC250 Canister

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

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Client Sample ID: ASV-12 Lab Duplicate

Lab ID#: 1005274A-02AA

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051908**	**Date of Collection: 5/10/10 1:12:00 PM**	
Dil. Factor:	**2.24**	**Date of Analysis: 5/19/10 02:05 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	11	Not Detected	36	Not Detected
Toluene	11	Not Detected	42	Not Detected
Ethyl Benzene	11	Not Detected	49	Not Detected
m,p-Xylene	11	Not Detected	49	Not Detected
o-Xylene	11	Not Detected	49	Not Detected
Naphthalene	45	Not Detected	230	Not Detected
TPH ref. to Gasoline (MW=100)	220	Not Detected	920	Not Detected

Container Type: PAC250 Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	97	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1005274A-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051905**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/19/10 10:24 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	5.0	Not Detected	16	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
Ethyl Benzene	5.0	Not Detected	22	Not Detected
m,p-Xylene	5.0	Not Detected	22	Not Detected
o-Xylene	5.0	Not Detected	22	Not Detected
Naphthalene	20	Not Detected	100	Not Detected
TPH ref. to Gasoline (MW=100)	100	Not Detected	410	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: CCV

Lab ID#: 1005274A-05A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/19/10 08:22 AM**	

Compound	%Recovery
Benzene	102
Toluene	103
Ethyl Benzene	102
m,p-Xylene	101
o-Xylene	101
Naphthalene	128
TPH ref. to Gasoline (MW=100)	70

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1005274A-06A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/19/10 09:38 AM**	

Compound	%Recovery
Benzene	102
Toluene	99
Ethyl Benzene	104
m,p-Xylene	104
o-Xylene	102
Naphthalene	127
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	104	70-130

Air Toxics LTD.

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 John Moe

Collected by: (Print and Sign) _____

Company ERM West Inc. Email John.moe@erm.com

Address 1277 Treat Blvd Ste 500 City Walnut Creek State CA Zip 94597

Phone 925-946-0455 Fax 925-946-9968

Project Info:
P.O. # 0097888
Project # _____
Project Name Lucasey Manufacturing

Turn Around Time:
☑ Normal
☐ Rush
_____ specify

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

Lab I.D.	Field Sample I.D. (Location)	Flow Ctl	Can #	Date of Collection	Time of Collection START/ANISH	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	Ambient Air S-10+10	167	can 3319 tube	5/10/10	0951 / 0953 1021 / 1025	TO-15 including Napthalene, Btex and TPH-g + TPH-d TO-17	-30	-5.0		
02A	ASV-12	6381	can 3388 tube MI151376	↓	1300 / 1307 1308 / 1312	↓	-30	-6.0		
03A	ASV-12 / dup	6381	can 2589 tube MI151373	↓	1300 / 1307 1308 / 1312	↓	-30	-6.0		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	5/10/10 2000	Monica Gregson ATL	
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time 5/12/10 850
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
STANDARD TAT
Request EDFs all Samples

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		5.5°C	Good	Yes No (None)	100527 4

Form 1293 rev.11

Air Toxics LTD.
Laboratory Services Since 1989

6/10/2010
Mr. John Moe
ERM-West
1277 Treat Blvd
Suite 500
Walnut Creek CA 94597

Project Name: Lucasey Manufacturing
Project #: 0097888.4
Workorder #: 1005612A

Dear Mr. John Moe

The following report includes the data for the above referenced project for sample(s) received on 5/26/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 (5&20 ppbv) 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: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1005612A

Work Order Summary

CLIENT:	Mr. John Moe ERM-West 1277 Treat Blvd Suite 500 Walnut Creek, CA 94597	**BILL TO:**	Mr. John Moe ERM-West 1277 Treat Blvd Suite 500 Walnut Creek, CA 94597
PHONE:	925-946-0455	**P.O. #**	0097888.4
FAX:	925-946-9968	**PROJECT #**	0097888.4 Lucasey Manufacturing
DATE RECEIVED:	05/26/2010	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	06/10/2010		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	ASV-13	Modified TO-15 (5&20 ppbv	3.5 "Hg	15 psi
02A	ASV-15	Modified TO-15 (5&20 ppbv	7.2 "Hg	15 psi
03A	ASV-14	Modified TO-15 (5&20 ppbv	7.2 "Hg	15 psi
04A	ASV-14 dup	Modified TO-15 (5&20 ppbv	6.9 "Hg	15 psi
05A	Lab Blank	Modified TO-15 (5&20 ppbv	NA	NA
06A	CCV	Modified TO-15 (5&20 ppbv	NA	NA
07A	LCS	Modified TO-15 (5&20 ppbv	NA	NA

CERTIFIED BY: Linda D. Truman DATE: 06/10/10

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10
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
Modified TO-15
ERM-West
Workorder# 1005612A

Four PAC250 Canister samples were received on May 26, 2010. The laboratory performed analysis via modified 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.

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

Requirement	*TO-15*	*ATL Modifications*
Daily CCV	</= 30% Difference	</= 30% Difference; Compounds exceeding this criterion and associated data are flagged and narrated.
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 results for TPH gasoline were reported as not-detected in samples ASV-13, ASV-15, ASV-14 and ASV-14 dup since the chromatographic profile were not consistent with a gasoline pattern.

All Quality Control Limit exceedences 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.

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.

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
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

Air Toxics LTD.
Laboratory Services Since 1989

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

Client Sample ID: ASV-13

Lab ID#: 1005612A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	46	56	86	100

Client Sample ID: ASV-15

Lab ID#: 1005612A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	53	79	100	150
Methylene Chloride	13	530	46	1800

Client Sample ID: ASV-14

Lab ID#: 1005612A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	53	220	130	510
Carbon Disulfide	13	23	41	71
2-Butanone (Methyl Ethyl Ketone)	13	24	39	71
1,2,4-Trimethylbenzene	13	16	65	77

Client Sample ID: ASV-14 dup

Lab ID#: 1005612A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	52	140	120	340
Carbon Disulfide	13	27	41	83
2-Butanone (Methyl Ethyl Ketone)	13	24	39	70
1,2,4-Trimethylbenzene	13	15	64	74

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-13

Lab ID#: 1005612A-01A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w060209**	**Date of Collection:**	**5/24/10 10:18:00 AM**
Dil. Factor:	**2.29**	**Date of Analysis:**	**6/2/10 12:17 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	11	Not Detected	57	Not Detected
Freon 114	11	Not Detected	80	Not Detected
Chloromethane	46	Not Detected	94	Not Detected
Vinyl Chloride	11	Not Detected	29	Not Detected
1,3-Butadiene	11	Not Detected	25	Not Detected
Bromomethane	11	Not Detected	44	Not Detected
Chloroethane	11	Not Detected	30	Not Detected
Freon 11	11	Not Detected	64	Not Detected
Ethanol	46	56	86	100
Freon 113	11	Not Detected	88	Not Detected
1,1-Dichloroethene	11	Not Detected	45	Not Detected
Acetone	46	Not Detected	110	Not Detected
2-Propanol	46	Not Detected	110	Not Detected
Carbon Disulfide	11	Not Detected	36	Not Detected
3-Chloropropene	46	Not Detected	140	Not Detected
Methylene Chloride	11	Not Detected	40	Not Detected
Methyl tert-butyl ether	11	Not Detected	41	Not Detected
trans-1,2-Dichloroethene	11	Not Detected	45	Not Detected
Hexane	11	Not Detected	40	Not Detected
1,1-Dichloroethane	11	Not Detected	46	Not Detected
2-Butanone (Methyl Ethyl Ketone)	11	Not Detected	34	Not Detected
cis-1,2-Dichloroethene	11	Not Detected	45	Not Detected
Tetrahydrofuran	11	Not Detected	34	Not Detected
Chloroform	11	Not Detected	56	Not Detected
1,1,1-Trichloroethane	11	Not Detected	62	Not Detected
Cyclohexane	11	Not Detected	39	Not Detected
Carbon Tetrachloride	11	Not Detected	72	Not Detected
2,2,4-Trimethylpentane	11	Not Detected	53	Not Detected
Benzene	11	Not Detected	36	Not Detected
1,2-Dichloroethane	11	Not Detected	46	Not Detected
Heptane	11	Not Detected	47	Not Detected
Trichloroethene	11	Not Detected	62	Not Detected
1,2-Dichloropropane	11	Not Detected	53	Not Detected
1,4-Dioxane	46	Not Detected	160	Not Detected
Bromodichloromethane	11	Not Detected	77	Not Detected
cis-1,3-Dichloropropene	11	Not Detected	52	Not Detected
4-Methyl-2-pentanone	11	Not Detected	47	Not Detected
Toluene	11	Not Detected	43	Not Detected
trans-1,3-Dichloropropene	11	Not Detected	52	Not Detected

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-13

Lab ID#: 1005612A-01A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w060209**	**Date of Collection: 5/24/10 10:18:00 AM**	
Dil. Factor:	**2.29**	**Date of Analysis: 6/2/10 12:17 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	11	Not Detected	62	Not Detected
Tetrachloroethene	11	Not Detected	78	Not Detected
2-Hexanone	46	Not Detected	190	Not Detected
Dibromochloromethane	11	Not Detected	98	Not Detected
1,2-Dibromoethane (EDB)	11	Not Detected	88	Not Detected
Chlorobenzene	11	Not Detected	53	Not Detected
Ethyl Benzene	11	Not Detected	50	Not Detected
m,p-Xylene	11	Not Detected	50	Not Detected
o-Xylene	11	Not Detected	50	Not Detected
Styrene	11	Not Detected	49	Not Detected
Bromoform	11	Not Detected	120	Not Detected
Cumene	11	Not Detected	56	Not Detected
1,1,2,2-Tetrachloroethane	11	Not Detected	79	Not Detected
Propylbenzene	11	Not Detected	56	Not Detected
4-Ethyltoluene	11	Not Detected	56	Not Detected
1,3,5-Trimethylbenzene	11	Not Detected	56	Not Detected
1,2,4-Trimethylbenzene	11	Not Detected	56	Not Detected
1,3-Dichlorobenzene	11	Not Detected	69	Not Detected
1,4-Dichlorobenzene	11	Not Detected	69	Not Detected
alpha-Chlorotoluene	11	Not Detected	59	Not Detected
1,2-Dichlorobenzene	11	Not Detected	69	Not Detected
1,2,4-Trichlorobenzene	46	Not Detected	340	Not Detected
Hexachlorobutadiene	46	Not Detected	490	Not Detected
Naphthalene	46	Not Detected	240	Not Detected
TPH ref. to Gasoline (MW=100)	230	Not Detected	940	Not Detected

Container Type: PAC250 Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-15

Lab ID#: 1005612A-02A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w060210**	**Date of Collection:**	**5/24/10 10:38:00 AM**
Dil. Factor:	**2.66**	**Date of Analysis:**	**6/2/10 12:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	13	Not Detected	66	Not Detected
Freon 114	13	Not Detected	93	Not Detected
Chloromethane	53	Not Detected	110	Not Detected
Vinyl Chloride	13	Not Detected	34	Not Detected
1,3-Butadiene	13	Not Detected	29	Not Detected
Bromomethane	13	Not Detected	52	Not Detected
Chloroethane	13	Not Detected	35	Not Detected
Freon 11	13	Not Detected	75	Not Detected
Ethanol	53	79	100	150
Freon 113	13	Not Detected	100	Not Detected
1,1-Dichloroethene	13	Not Detected	53	Not Detected
Acetone	53	Not Detected	130	Not Detected
2-Propanol	53	Not Detected	130	Not Detected
Carbon Disulfide	13	Not Detected	41	Not Detected
3-Chloropropene	53	Not Detected	170	Not Detected
Methylene Chloride	13	530	46	1800
Methyl tert-butyl ether	13	Not Detected	48	Not Detected
trans-1,2-Dichloroethene	13	Not Detected	53	Not Detected
Hexane	13	Not Detected	47	Not Detected
1,1-Dichloroethane	13	Not Detected	54	Not Detected
2-Butanone (Methyl Ethyl Ketone)	13	Not Detected	39	Not Detected
cis-1,2-Dichloroethene	13	Not Detected	53	Not Detected
Tetrahydrofuran	13	Not Detected	39	Not Detected
Chloroform	13	Not Detected	65	Not Detected
1,1,1-Trichloroethane	13	Not Detected	72	Not Detected
Cyclohexane	13	Not Detected	46	Not Detected
Carbon Tetrachloride	13	Not Detected	84	Not Detected
2,2,4-Trimethylpentane	13	Not Detected	62	Not Detected
Benzene	13	Not Detected	42	Not Detected
1,2-Dichloroethane	13	Not Detected	54	Not Detected
Heptane	13	Not Detected	54	Not Detected
Trichloroethene	13	Not Detected	71	Not Detected
1,2-Dichloropropane	13	Not Detected	61	Not Detected
1,4-Dioxane	53	Not Detected	190	Not Detected
Bromodichloromethane	13	Not Detected	89	Not Detected
cis-1,3-Dichloropropene	13	Not Detected	60	Not Detected
4-Methyl-2-pentanone	13	Not Detected	54	Not Detected
Toluene	13	Not Detected	50	Not Detected
trans-1,3-Dichloropropene	13	Not Detected	60	Not Detected

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-15

Lab ID#: 1005612A-02A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w060210**	**Date of Collection:**	**5/24/10 10:38:00 AM**
Dil. Factor:	**2.66**	**Date of Analysis:**	**6/2/10 12:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	13	Not Detected	72	Not Detected
Tetrachloroethene	13	Not Detected	90	Not Detected
2-Hexanone	53	Not Detected	220	Not Detected
Dibromochloromethane	13	Not Detected	110	Not Detected
1,2-Dibromoethane (EDB)	13	Not Detected	100	Not Detected
Chlorobenzene	13	Not Detected	61	Not Detected
Ethyl Benzene	13	Not Detected	58	Not Detected
m,p-Xylene	13	Not Detected	58	Not Detected
o-Xylene	13	Not Detected	58	Not Detected
Styrene	13	Not Detected	57	Not Detected
Bromoform	13	Not Detected	140	Not Detected
Cumene	13	Not Detected	65	Not Detected
1,1,2,2-Tetrachloroethane	13	Not Detected	91	Not Detected
Propylbenzene	13	Not Detected	65	Not Detected
4-Ethyltoluene	13	Not Detected	65	Not Detected
1,3,5-Trimethylbenzene	13	Not Detected	65	Not Detected
1,2,4-Trimethylbenzene	13	Not Detected	65	Not Detected
1,3-Dichlorobenzene	13	Not Detected	80	Not Detected
1,4-Dichlorobenzene	13	Not Detected	80	Not Detected
alpha-Chlorotoluene	13	Not Detected	69	Not Detected
1,2-Dichlorobenzene	13	Not Detected	80	Not Detected
1,2,4-Trichlorobenzene	53	Not Detected	390	Not Detected
Hexachlorobutadiene	53	Not Detected	570	Not Detected
Naphthalene	53	Not Detected	280	Not Detected
TPH ref. to Gasoline (MW=100)	270	Not Detected	1100	Not Detected

Container Type: PAC250 Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-14

Lab ID#: 1005612A-03A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w060211**	**Date of Collection:**	**5/24/10 12:55:00 PM**
Dil. Factor:	**2.66**	**Date of Analysis:**	**6/2/10 01:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	13	Not Detected	66	Not Detected
Freon 114	13	Not Detected	93	Not Detected
Chloromethane	53	Not Detected	110	Not Detected
Vinyl Chloride	13	Not Detected	34	Not Detected
1,3-Butadiene	13	Not Detected	29	Not Detected
Bromomethane	13	Not Detected	52	Not Detected
Chloroethane	13	Not Detected	35	Not Detected
Freon 11	13	Not Detected	75	Not Detected
Ethanol	53	Not Detected	100	Not Detected
Freon 113	13	Not Detected	100	Not Detected
1,1-Dichloroethene	13	Not Detected	53	Not Detected
Acetone	53	220	130	510
2-Propanol	53	Not Detected	130	Not Detected
Carbon Disulfide	13	23	41	71
3-Chloropropene	53	Not Detected	170	Not Detected
Methylene Chloride	13	Not Detected	46	Not Detected
Methyl tert-butyl ether	13	Not Detected	48	Not Detected
trans-1,2-Dichloroethene	13	Not Detected	53	Not Detected
Hexane	13	Not Detected	47	Not Detected
1,1-Dichloroethane	13	Not Detected	54	Not Detected
2-Butanone (Methyl Ethyl Ketone)	13	24	39	71
cis-1,2-Dichloroethene	13	Not Detected	53	Not Detected
Tetrahydrofuran	13	Not Detected	39	Not Detected
Chloroform	13	Not Detected	65	Not Detected
1,1,1-Trichloroethane	13	Not Detected	72	Not Detected
Cyclohexane	13	Not Detected	46	Not Detected
Carbon Tetrachloride	13	Not Detected	84	Not Detected
2,2,4-Trimethylpentane	13	Not Detected	62	Not Detected
Benzene	13	Not Detected	42	Not Detected
1,2-Dichloroethane	13	Not Detected	54	Not Detected
Heptane	13	Not Detected	54	Not Detected
Trichloroethene	13	Not Detected	71	Not Detected
1,2-Dichloropropane	13	Not Detected	61	Not Detected
1,4-Dioxane	53	Not Detected	190	Not Detected
Bromodichloromethane	13	Not Detected	89	Not Detected
cis-1,3-Dichloropropene	13	Not Detected	60	Not Detected
4-Methyl-2-pentanone	13	Not Detected	54	Not Detected
Toluene	13	Not Detected	50	Not Detected
trans-1,3-Dichloropropene	13	Not Detected	60	Not Detected

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-14

Lab ID#: 1005612A-03A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w060211**	**Date of Collection: 5/24/10 12:55:00 PM**	
Dil. Factor:	**2.66**	**Date of Analysis: 6/2/10 01:23 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	13	Not Detected	72	Not Detected
Tetrachloroethene	13	Not Detected	90	Not Detected
2-Hexanone	53	Not Detected	220	Not Detected
Dibromochloromethane	13	Not Detected	110	Not Detected
1,2-Dibromoethane (EDB)	13	Not Detected	100	Not Detected
Chlorobenzene	13	Not Detected	61	Not Detected
Ethyl Benzene	13	Not Detected	58	Not Detected
m,p-Xylene	13	Not Detected	58	Not Detected
o-Xylene	13	Not Detected	58	Not Detected
Styrene	13	Not Detected	57	Not Detected
Bromoform	13	Not Detected	140	Not Detected
Cumene	13	Not Detected	65	Not Detected
1,1,2,2-Tetrachloroethane	13	Not Detected	91	Not Detected
Propylbenzene	13	Not Detected	65	Not Detected
4-Ethyltoluene	13	Not Detected	65	Not Detected
1,3,5-Trimethylbenzene	13	Not Detected	65	Not Detected
1,2,4-Trimethylbenzene	13	16	65	77
1,3-Dichlorobenzene	13	Not Detected	80	Not Detected
1,4-Dichlorobenzene	13	Not Detected	80	Not Detected
alpha-Chlorotoluene	13	Not Detected	69	Not Detected
1,2-Dichlorobenzene	13	Not Detected	80	Not Detected
1,2,4-Trichlorobenzene	53	Not Detected	390	Not Detected
Hexachlorobutadiene	53	Not Detected	570	Not Detected
Naphthalene	53	Not Detected	280	Not Detected
TPH ref. to Gasoline (MW=100)	270	Not Detected	1100	Not Detected

Container Type: PAC250 Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	99	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-14 dup

Lab ID#: 1005612A-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w060208**	**Date of Collection: 5/24/10**	
Dil. Factor:	**2.62**	**Date of Analysis: 6/2/10 11:53 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	13	Not Detected	65	Not Detected
Freon 114	13	Not Detected	92	Not Detected
Chloromethane	52	Not Detected	110	Not Detected
Vinyl Chloride	13	Not Detected	33	Not Detected
1,3-Butadiene	13	Not Detected	29	Not Detected
Bromomethane	13	Not Detected	51	Not Detected
Chloroethane	13	Not Detected	34	Not Detected
Freon 11	13	Not Detected	74	Not Detected
Ethanol	52	Not Detected	99	Not Detected
Freon 113	13	Not Detected	100	Not Detected
1,1-Dichloroethene	13	Not Detected	52	Not Detected
Acetone	52	140	120	340
2-Propanol	52	Not Detected	130	Not Detected
Carbon Disulfide	13	27	41	83
3-Chloropropene	52	Not Detected	160	Not Detected
Methylene Chloride	13	Not Detected	46	Not Detected
Methyl tert-butyl ether	13	Not Detected	47	Not Detected
trans-1,2-Dichloroethene	13	Not Detected	52	Not Detected
Hexane	13	Not Detected	46	Not Detected
1,1-Dichloroethane	13	Not Detected	53	Not Detected
2-Butanone (Methyl Ethyl Ketone)	13	24	39	70
cis-1,2-Dichloroethene	13	Not Detected	52	Not Detected
Tetrahydrofuran	13	Not Detected	39	Not Detected
Chloroform	13	Not Detected	64	Not Detected
1,1,1-Trichloroethane	13	Not Detected	71	Not Detected
Cyclohexane	13	Not Detected	45	Not Detected
Carbon Tetrachloride	13	Not Detected	82	Not Detected
2,2,4-Trimethylpentane	13	Not Detected	61	Not Detected
Benzene	13	Not Detected	42	Not Detected
1,2-Dichloroethane	13	Not Detected	53	Not Detected
Heptane	13	Not Detected	54	Not Detected
Trichloroethene	13	Not Detected	70	Not Detected
1,2-Dichloropropane	13	Not Detected	60	Not Detected
1,4-Dioxane	52	Not Detected	190	Not Detected
Bromodichloromethane	13	Not Detected	88	Not Detected
cis-1,3-Dichloropropene	13	Not Detected	59	Not Detected
4-Methyl-2-pentanone	13	Not Detected	54	Not Detected
Toluene	13	Not Detected	49	Not Detected
trans-1,3-Dichloropropene	13	Not Detected	59	Not Detected

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-14 dup

Lab ID#: 1005612A-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w060208**	**Date of Collection: 5/24/10**	
Dil. Factor:	**2.62**	**Date of Analysis: 6/2/10 11:53 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	13	Not Detected	71	Not Detected
Tetrachloroethene	13	Not Detected	89	Not Detected
2-Hexanone	52	Not Detected	210	Not Detected
Dibromochloromethane	13	Not Detected	110	Not Detected
1,2-Dibromoethane (EDB)	13	Not Detected	100	Not Detected
Chlorobenzene	13	Not Detected	60	Not Detected
Ethyl Benzene	13	Not Detected	57	Not Detected
m,p-Xylene	13	Not Detected	57	Not Detected
o-Xylene	13	Not Detected	57	Not Detected
Styrene	13	Not Detected	56	Not Detected
Bromoform	13	Not Detected	140	Not Detected
Cumene	13	Not Detected	64	Not Detected
1,1,2,2-Tetrachloroethane	13	Not Detected	90	Not Detected
Propylbenzene	13	Not Detected	64	Not Detected
4-Ethyltoluene	13	Not Detected	64	Not Detected
1,3,5-Trimethylbenzene	13	Not Detected	64	Not Detected
1,2,4-Trimethylbenzene	13	15	64	74
1,3-Dichlorobenzene	13	Not Detected	79	Not Detected
1,4-Dichlorobenzene	13	Not Detected	79	Not Detected
alpha-Chlorotoluene	13	Not Detected	68	Not Detected
1,2-Dichlorobenzene	13	Not Detected	79	Not Detected
1,2,4-Trichlorobenzene	52	Not Detected	390	Not Detected
Hexachlorobutadiene	52	Not Detected	560	Not Detected
Naphthalene	52	Not Detected	270	Not Detected
TPH ref. to Gasoline (MW=100)	260	Not Detected	1100	Not Detected

Container Type: PAC250 Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1005612A-05A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w060207**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/10 11:33 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.0	Not Detected	25	Not Detected
Freon 114	5.0	Not Detected	35	Not Detected
Chloromethane	20	Not Detected	41	Not Detected
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	5.0	Not Detected	28	Not Detected
Ethanol	20	Not Detected	38	Not Detected
Freon 113	5.0	Not Detected	38	Not Detected
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	Not Detected	48	Not Detected
2-Propanol	20	Not Detected	49	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	5.0	Not Detected	18	Not Detected
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Hexane	5.0	Not Detected	18	Not Detected
1,1-Dichloroethane	5.0	Not Detected	20	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	Not Detected	15	Not Detected
Chloroform	5.0	Not Detected	24	Not Detected
1,1,1-Trichloroethane	5.0	Not Detected	27	Not Detected
Cyclohexane	5.0	Not Detected	17	Not Detected
Carbon Tetrachloride	5.0	Not Detected	31	Not Detected
2,2,4-Trimethylpentane	5.0	Not Detected	23	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
1,2-Dichloroethane	5.0	Not Detected	20	Not Detected
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	Not Detected	34	Not Detected
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	5.0	Not Detected	20	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1005612A-05A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w060207**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/10 11:33 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	5.0	Not Detected	27	Not Detected
Tetrachloroethene	5.0	Not Detected	34	Not Detected
2-Hexanone	20	Not Detected	82	Not Detected
Dibromochloromethane	5.0	Not Detected	42	Not Detected
1,2-Dibromoethane (EDB)	5.0	Not Detected	38	Not Detected
Chlorobenzene	5.0	Not Detected	23	Not Detected
Ethyl Benzene	5.0	Not Detected	22	Not Detected
m,p-Xylene	5.0	Not Detected	22	Not Detected
o-Xylene	5.0	Not Detected	22	Not Detected
Styrene	5.0	Not Detected	21	Not Detected
Bromoform	5.0	Not Detected	52	Not Detected
Cumene	5.0	Not Detected	24	Not Detected
1,1,2,2-Tetrachloroethane	5.0	Not Detected	34	Not Detected
Propylbenzene	5.0	Not Detected	24	Not Detected
4-Ethyltoluene	5.0	Not Detected	24	Not Detected
1,3,5-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,2,4-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,3-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,4-Dichlorobenzene	5.0	Not Detected	30	Not Detected
alpha-Chlorotoluene	5.0	Not Detected	26	Not Detected
1,2-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,2,4-Trichlorobenzene	20	Not Detected	150	Not Detected
Hexachlorobutadiene	20	Not Detected	210	Not Detected
Naphthalene	20	Not Detected	100	Not Detected
TPH ref. to Gasoline (MW=100)	100	Not Detected	410	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1005612A-06A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w060204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/10 10:12 AM**	

Compound	%Recovery
Freon 12	101
Freon 114	103
Chloromethane	96
Vinyl Chloride	95
1,3-Butadiene	86
Bromomethane	105
Chloroethane	99
Freon 11	102
Ethanol	86
Freon 113	103
1,1-Dichloroethene	97
Acetone	99
2-Propanol	86
Carbon Disulfide	101
3-Chloropropene	99
Methylene Chloride	95
Methyl tert-butyl ether	101
trans-1,2-Dichloroethene	100
Hexane	95
1,1-Dichloroethane	100
2-Butanone (Methyl Ethyl Ketone)	98
cis-1,2-Dichloroethene	97
Tetrahydrofuran	95
Chloroform	102
1,1,1-Trichloroethane	100
Cyclohexane	99
Carbon Tetrachloride	102
2,2,4-Trimethylpentane	96
Benzene	98
1,2-Dichloroethane	100
Heptane	99
Trichloroethene	86
1,2-Dichloropropane	97
1,4-Dioxane	100
Bromodichloromethane	99
cis-1,3-Dichloropropene	97
4-Methyl-2-pentanone	98
Toluene	101
trans-1,3-Dichloropropene	98

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1005612A-06A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w060204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/10 10:12 AM**	

Compound	%Recovery
1,1,2-Trichloroethane	99
Tetrachloroethene	104
2-Hexanone	93
Dibromochloromethane	103
1,2-Dibromoethane (EDB)	103
Chlorobenzene	104
Ethyl Benzene	101
m,p-Xylene	101
o-Xylene	99
Styrene	99
Bromoform	104
Cumene	107
1,1,2,2-Tetrachloroethane	103
Propylbenzene	106
4-Ethyltoluene	112
1,3,5-Trimethylbenzene	107
1,2,4-Trimethylbenzene	111
1,3-Dichlorobenzene	111
1,4-Dichlorobenzene	111
alpha-Chlorotoluene	111
1,2-Dichlorobenzene	114
1,2,4-Trichlorobenzene	115
Hexachlorobutadiene	117
Naphthalene	95
TPH ref. to Gasoline (MW=100)	105

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1005612A-07A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w060205**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/10 10:36 AM**	

Compound	%Recovery
Freon 12	96
Freon 114	98
Chloromethane	94
Vinyl Chloride	97
1,3-Butadiene	94
Bromomethane	102
Chloroethane	94
Freon 11	98
Ethanol	78
Freon 113	88
1,1-Dichloroethene	82
Acetone	90
2-Propanol	80
Carbon Disulfide	95
3-Chloropropene	91
Methylene Chloride	82
Methyl tert-butyl ether	90
trans-1,2-Dichloroethene	97
Hexane	88
1,1-Dichloroethane	90
2-Butanone (Methyl Ethyl Ketone)	92
cis-1,2-Dichloroethene	90
Tetrahydrofuran	88
Chloroform	95
1,1,1-Trichloroethane	93
Cyclohexane	93
Carbon Tetrachloride	95
2,2,4-Trimethylpentane	90
Benzene	93
1,2-Dichloroethane	92
Heptane	92
Trichloroethene	81
1,2-Dichloropropane	93
1,4-Dioxane	95
Bromodichloromethane	93
cis-1,3-Dichloropropene	93
4-Methyl-2-pentanone	90
Toluene	90
trans-1,3-Dichloropropene	93

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1005612A-07A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w060205**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/10 10:36 AM**	

Compound	%Recovery
1,1,2-Trichloroethane	96
Tetrachloroethene	98
2-Hexanone	88
Dibromochloromethane	99
1,2-Dibromoethane (EDB)	102
Chlorobenzene	99
Ethyl Benzene	98
m,p-Xylene	97
o-Xylene	96
Styrene	96
Bromoform	99
Cumene	98
1,1,2,2-Tetrachloroethane	100
Propylbenzene	98
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	104
1,2,4-Trimethylbenzene	106
1,3-Dichlorobenzene	108
1,4-Dichlorobenzene	110
alpha-Chlorotoluene	104
1,2-Dichlorobenzene	112
1,2,4-Trichlorobenzene	129
Hexachlorobutadiene	136 Q
Naphthalene	105
TPH ref. to Gasoline (MW=100)	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

Air Toxics LTD.

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: John Moe
Collected by: (Print and Sign) Conor McDonough [signature]
Company: ERM West Inc Email: Conor.McDonough@erm...
Address: 1277 Treat Blvd Ste 500 City: Walnut Creek State: CA Zip: 94597
Phone: 925-946-0455 Fax: 925-946-9968

Project Info:
P.O. #: 0097888.4
Project #: 0097888.4
Project Name: Lucasey Manufacturing

Turn Around Time: ☒ Normal ☐ Rush ____ specify

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

Lab I.D.	Field Sample I.D. (Location)	Flow ctl	Can #	Date of Collection	Time of Collection (START / FINISH)	Flow #	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	ASU-~~13~~ 13	01025	2829	5/24/10	1010 / 1012 1014 / 1018	Mi151 378	TO-15 inc Naphthalene, Btex, and TPH-g, TO-17	-30	-5		
02A	ASU-15	40707	3180	↓	1030 / 1033 1034 / 1038	Mi151 380	He tracer	-30	-8		
03A	~~ASU-18~~ ASU-14	1010	3160	↓	1111 / 1249 1251 / 1255	Mi151 375	↓	-30	-7.5		
04A	ASU-14 dup	1010	3616	↓	1111 / 1249	/	TO-15	-30	-8		
	No Sample	—	2823					-30	-30		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
[signature] 5/24/10 1648	Fed Ex
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
	Monica Grozen AT
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time 5/26/10 1030

Notes: STANDARD TAT
Request EDFs all Samples
TO-17 volum = 200 cc
He TRACER Gas All Sam

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex G		NA	Good	Yes No (None)	1005612

Air Toxics LTD.
Laboratory Services Since 1989

6/21/2010
Mr. John Moe
ERM-West
1277 Treat Blvd
Suite 500
Walnut Creek CA 94597

Project Name: Lucasey Manufacturing
Project #:
Workorder #: 1005274AR1

Dear Mr. John Moe

The following report includes the data for the above referenced project for sample(s) received on 5/13/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 (5&20 ppbv) 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: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori
Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1005274AR1

Work Order Summary

CLIENT:	Mr. John Moe ERM-West 1277 Treat Blvd Suite 500 Walnut Creek, CA 94597	**BILL TO:**	Mr. John Moe ERM-West 1277 Treat Blvd Suite 500 Walnut Creek, CA 94597
PHONE:	925-946-0455	**P.O. #**	0097888
FAX:	925-946-9968	**PROJECT #**	Lucasey Manufacturing
DATE RECEIVED:	05/13/2010	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	05/26/2010		
DATE REISSUED:	06/21/2010		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	Ambient Air 5-10-10	Modified TO-15 (5&20 ppbv	3.5 "Hg	15 psi
02A	ASV-12	Modified TO-15 (5&20 ppbv	3.0 "Hg	15 psi
02AA	ASV-12 Lab Duplicate	Modified TO-15 (5&20 ppbv	3.0 "Hg	15 psi
03A(cancelled)	ASV-12/dup	Modified TO-15 (5&20 ppbv	0.0 "Hg	15 psi
04A	Lab Blank	Modified TO-15 (5&20 ppbv	NA	NA
05A	CCV	Modified TO-15 (5&20 ppbv	NA	NA
06A	LCS	Modified TO-15 (5&20 ppbv	NA	NA

CERTIFIED BY: Linda D. Frumarc DATE: 06/21/10

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10
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
Modified TO-15 Soil Gas
ERM-West
Workorder# 1005274AR1

Three PAC250 Canister samples were received on May 13, 2010. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 50 mLs 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.

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.

Method modifications taken to run these samples are summarized in the table below. 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%.; 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 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) for sample ASV-12/dup. A leak test indicated that the valve was functioning properly.

Despite the use of flow controller for sample collection, the final canister vacuum for sample ASV-12/dup was measured at ambient pressure in the field. Per client instructions, the analysis was cancelled.

Analytical Notes

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 results for TPH gasoline were reported as not-detected in samples Ambient Air 5-10-10 and

ASV-12 since the chromatographic profiles were not consistent with a gasoline pattern.

THE WORK ORDER WAS RE-ISSUED ON JUNE 21, 2010 TO ADD RESULTS FOR THE STANDARD TO-15 ANALYTE LIST TO THE ORIGINALLY REPORTED CONSTITUENTS.

ADDITIONALLY, THE LABORATORY HAS REPORTED ESTIMATED VALUES FOR TARGET COMPOUND HITS THAT ARE BELOW THE REPORTING LIMIT BUT GREATER THAN THE METHOD DETECTION LIMIT.

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

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

Air Toxics LTD.
Laboratory Services Since 1989

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

Client Sample ID: Ambient Air 5-10-10

Lab ID#: 1005274AR1-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	46	6.1 J	86	12 J
Acetone	46	21 J	110	50 J

Client Sample ID: ASV-12

Lab ID#: 1005274AR1-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	45	160	84	290
Acetone	45	30 J	110	72 J
2-Propanol	45	6.2 J	110	15 J
Toluene	11	10 J	42	39 J
m,p-Xylene	11	8.6 J	49	37 J
4-Ethyltoluene	11	3.9 J	55	19 J
1,2,4-Trimethylbenzene	11	5.5 J	55	27 J

Client Sample ID: ASV-12 Lab Duplicate

Lab ID#: 1005274AR1-02AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	45	120	84	230
Acetone	45	33 J	110	79 J
2-Propanol	45	5.7 J	110	14 J
Toluene	11	10 J	42	38 J
m,p-Xylene	11	9.0 J	49	39 J
4-Ethyltoluene	11	3.9 J	55	19 J
1,2,4-Trimethylbenzene	11	5.4 J	55	27 J

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Ambient Air 5-10-10

Lab ID#: 1005274AR1-01A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051906r1**	**Date of Collection:**	**5/10/10 10:25:00 AM**
Dil. Factor:	**2.29**	**Date of Analysis:**	**5/19/10 12:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	11	Not Detected	57	Not Detected
Freon 114	11	Not Detected	80	Not Detected
Chloromethane	46	Not Detected	94	Not Detected
Vinyl Chloride	11	Not Detected	29	Not Detected
1,3-Butadiene	11	Not Detected	25	Not Detected
Bromomethane	11	Not Detected	44	Not Detected
Chloroethane	11	Not Detected	30	Not Detected
Freon 11	11	Not Detected	64	Not Detected
Ethanol	46	6.1 J	86	12 J
Freon 113	11	Not Detected	88	Not Detected
1,1-Dichloroethene	11	Not Detected	45	Not Detected
Acetone	46	21 J	110	50 J
2-Propanol	46	Not Detected	110	Not Detected
Carbon Disulfide	11	Not Detected	36	Not Detected
3-Chloropropene	46	Not Detected	140	Not Detected
Methylene Chloride	11	Not Detected	40	Not Detected
Methyl tert-butyl ether	11	Not Detected	41	Not Detected
trans-1,2-Dichloroethene	11	Not Detected	45	Not Detected
Hexane	11	Not Detected	40	Not Detected
1,1-Dichloroethane	11	Not Detected	46	Not Detected
2-Butanone (Methyl Ethyl Ketone)	11	Not Detected	34	Not Detected
cis-1,2-Dichloroethene	11	Not Detected	45	Not Detected
Tetrahydrofuran	11	Not Detected	34	Not Detected
Chloroform	11	Not Detected	56	Not Detected
1,1,1-Trichloroethane	11	Not Detected	62	Not Detected
Cyclohexane	11	Not Detected	39	Not Detected
Carbon Tetrachloride	11	Not Detected	72	Not Detected
2,2,4-Trimethylpentane	11	Not Detected	53	Not Detected
Benzene	11	Not Detected	36	Not Detected
1,2-Dichloroethane	11	Not Detected	46	Not Detected
Heptane	11	Not Detected	47	Not Detected
Trichloroethene	11	Not Detected	62	Not Detected
1,2-Dichloropropane	11	Not Detected	53	Not Detected
1,4-Dioxane	46	Not Detected	160	Not Detected
Bromodichloromethane	11	Not Detected	77	Not Detected
cis-1,3-Dichloropropene	11	Not Detected	52	Not Detected
4-Methyl-2-pentanone	11	Not Detected	47	Not Detected
Toluene	11	Not Detected	43	Not Detected
trans-1,3-Dichloropropene	11	Not Detected	52	Not Detected

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Ambient Air 5-10-10

Lab ID#: 1005274AR1-01A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051906r1**	**Date of Collection:**	**5/10/10 10:25:00 AM**
Dil. Factor:	**2.29**	**Date of Analysis:**	**5/19/10 12:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	11	Not Detected	62	Not Detected
Tetrachloroethene	11	Not Detected	78	Not Detected
2-Hexanone	46	Not Detected	190	Not Detected
Dibromochloromethane	11	Not Detected	98	Not Detected
1,2-Dibromoethane (EDB)	11	Not Detected	88	Not Detected
Chlorobenzene	11	Not Detected	53	Not Detected
Ethyl Benzene	11	Not Detected	50	Not Detected
m,p-Xylene	11	Not Detected	50	Not Detected
o-Xylene	11	Not Detected	50	Not Detected
Styrene	11	Not Detected	49	Not Detected
Bromoform	11	Not Detected	120	Not Detected
Cumene	11	Not Detected	56	Not Detected
1,1,2,2-Tetrachloroethane	11	Not Detected	79	Not Detected
Propylbenzene	11	Not Detected	56	Not Detected
4-Ethyltoluene	11	Not Detected	56	Not Detected
1,3,5-Trimethylbenzene	11	Not Detected	56	Not Detected
1,2,4-Trimethylbenzene	11	Not Detected	56	Not Detected
1,3-Dichlorobenzene	11	Not Detected	69	Not Detected
1,4-Dichlorobenzene	11	Not Detected	69	Not Detected
alpha-Chlorotoluene	11	Not Detected	59	Not Detected
1,2-Dichlorobenzene	11	Not Detected	69	Not Detected
1,2,4-Trichlorobenzene	46	Not Detected	340	Not Detected
Hexachlorobutadiene	46	Not Detected	490	Not Detected
Naphthalene	46	Not Detected	240	Not Detected
TPH ref. to Gasoline (MW=100)	230	Not Detected	940	Not Detected

J = Estimated value.

Container Type: PAC250 Canister

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

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-12

Lab ID#: 1005274AR1-02A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051907r1**	**Date of Collection: 5/10/10 1:12:00 PM**	
Dil. Factor:	**2.24**	**Date of Analysis: 5/19/10 12:47 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	11	Not Detected	55	Not Detected
Freon 114	11	Not Detected	78	Not Detected
Chloromethane	45	Not Detected	92	Not Detected
Vinyl Chloride	11	Not Detected	29	Not Detected
1,3-Butadiene	11	Not Detected	25	Not Detected
Bromomethane	11	Not Detected	43	Not Detected
Chloroethane	11	Not Detected	30	Not Detected
Freon 11	11	Not Detected	63	Not Detected
Ethanol	45	160	84	290
Freon 113	11	Not Detected	86	Not Detected
1,1-Dichloroethene	11	Not Detected	44	Not Detected
Acetone	45	30 J	110	72 J
2-Propanol	45	6.2 J	110	15 J
Carbon Disulfide	11	Not Detected	35	Not Detected
3-Chloropropene	45	Not Detected	140	Not Detected
Methylene Chloride	11	Not Detected	39	Not Detected
Methyl tert-butyl ether	11	Not Detected	40	Not Detected
trans-1,2-Dichloroethene	11	Not Detected	44	Not Detected
Hexane	11	Not Detected	39	Not Detected
1,1-Dichloroethane	11	Not Detected	45	Not Detected
2-Butanone (Methyl Ethyl Ketone)	11	Not Detected	33	Not Detected
cis-1,2-Dichloroethene	11	Not Detected	44	Not Detected
Tetrahydrofuran	11	Not Detected	33	Not Detected
Chloroform	11	Not Detected	55	Not Detected
1,1,1-Trichloroethane	11	Not Detected	61	Not Detected
Cyclohexane	11	Not Detected	38	Not Detected
Carbon Tetrachloride	11	Not Detected	70	Not Detected
2,2,4-Trimethylpentane	11	Not Detected	52	Not Detected
Benzene	11	Not Detected	36	Not Detected
1,2-Dichloroethane	11	Not Detected	45	Not Detected
Heptane	11	Not Detected	46	Not Detected
Trichloroethene	11	Not Detected	60	Not Detected
1,2-Dichloropropane	11	Not Detected	52	Not Detected
1,4-Dioxane	45	Not Detected	160	Not Detected
Bromodichloromethane	11	Not Detected	75	Not Detected
cis-1,3-Dichloropropene	11	Not Detected	51	Not Detected
4-Methyl-2-pentanone	11	Not Detected	46	Not Detected
Toluene	11	10 J	42	39 J
trans-1,3-Dichloropropene	11	Not Detected	51	Not Detected

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-12

Lab ID#: 1005274AR1-02A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051907r1**	**Date of Collection: 5/10/10 1:12:00 PM**	
Dil. Factor:	**2.24**	**Date of Analysis: 5/19/10 12:47 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	11	Not Detected	61	Not Detected
Tetrachloroethene	11	Not Detected	76	Not Detected
2-Hexanone	45	Not Detected	180	Not Detected
Dibromochloromethane	11	Not Detected	95	Not Detected
1,2-Dibromoethane (EDB)	11	Not Detected	86	Not Detected
Chlorobenzene	11	Not Detected	52	Not Detected
Ethyl Benzene	11	Not Detected	49	Not Detected
m,p-Xylene	11	8.6 J	49	37 J
o-Xylene	11	Not Detected	49	Not Detected
Styrene	11	Not Detected	48	Not Detected
Bromoform	11	Not Detected	120	Not Detected
Cumene	11	Not Detected	55	Not Detected
1,1,2,2-Tetrachloroethane	11	Not Detected	77	Not Detected
Propylbenzene	11	Not Detected	55	Not Detected
4-Ethyltoluene	11	3.9 J	55	19 J
1,3,5-Trimethylbenzene	11	Not Detected	55	Not Detected
1,2,4-Trimethylbenzene	11	5.5 J	55	27 J
1,3-Dichlorobenzene	11	Not Detected	67	Not Detected
1,4-Dichlorobenzene	11	Not Detected	67	Not Detected
alpha-Chlorotoluene	11	Not Detected	58	Not Detected
1,2-Dichlorobenzene	11	Not Detected	67	Not Detected
1,2,4-Trichlorobenzene	45	Not Detected	330	Not Detected
Hexachlorobutadiene	45	Not Detected	480	Not Detected
Naphthalene	45	Not Detected	230	Not Detected
TPH ref. to Gasoline (MW=100)	220	Not Detected	920	Not Detected

J = Estimated value.

Container Type: PAC250 Canister

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

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-12 Lab Duplicate

Lab ID#: 1005274AR1-02AA

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051908r1**	**Date of Collection:**	**5/10/10 1:12:00 PM**
Dil. Factor:	**2.24**	**Date of Analysis:**	**5/19/10 02:05 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	11	Not Detected	55	Not Detected
Freon 114	11	Not Detected	78	Not Detected
Chloromethane	45	Not Detected	92	Not Detected
Vinyl Chloride	11	Not Detected	29	Not Detected
1,3-Butadiene	11	Not Detected	25	Not Detected
Bromomethane	11	Not Detected	43	Not Detected
Chloroethane	11	Not Detected	30	Not Detected
Freon 11	11	Not Detected	63	Not Detected
Ethanol	45	120	84	230
Freon 113	11	Not Detected	86	Not Detected
1,1-Dichloroethene	11	Not Detected	44	Not Detected
Acetone	45	33 J	110	79 J
2-Propanol	45	5.7 J	110	14 J
Carbon Disulfide	11	Not Detected	35	Not Detected
3-Chloropropene	45	Not Detected	140	Not Detected
Methylene Chloride	11	Not Detected	39	Not Detected
Methyl tert-butyl ether	11	Not Detected	40	Not Detected
trans-1,2-Dichloroethene	11	Not Detected	44	Not Detected
Hexane	11	Not Detected	39	Not Detected
1,1-Dichloroethane	11	Not Detected	45	Not Detected
2-Butanone (Methyl Ethyl Ketone)	11	Not Detected	33	Not Detected
cis-1,2-Dichloroethene	11	Not Detected	44	Not Detected
Tetrahydrofuran	11	Not Detected	33	Not Detected
Chloroform	11	Not Detected	55	Not Detected
1,1,1-Trichloroethane	11	Not Detected	61	Not Detected
Cyclohexane	11	Not Detected	38	Not Detected
Carbon Tetrachloride	11	Not Detected	70	Not Detected
2,2,4-Trimethylpentane	11	Not Detected	52	Not Detected
Benzene	11	Not Detected	36	Not Detected
1,2-Dichloroethane	11	Not Detected	45	Not Detected
Heptane	11	Not Detected	46	Not Detected
Trichloroethene	11	Not Detected	60	Not Detected
1,2-Dichloropropane	11	Not Detected	52	Not Detected
1,4-Dioxane	45	Not Detected	160	Not Detected
Bromodichloromethane	11	Not Detected	75	Not Detected
cis-1,3-Dichloropropene	11	Not Detected	51	Not Detected
4-Methyl-2-pentanone	11	Not Detected	46	Not Detected
Toluene	11	10 J	42	38 J
trans-1,3-Dichloropropene	11	Not Detected	51	Not Detected

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-12 Lab Duplicate

Lab ID#: 1005274AR1-02AA

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051908r1**	**Date of Collection:**	**5/10/10 1:12:00 PM**
Dil. Factor:	**2.24**	**Date of Analysis:**	**5/19/10 02:05 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	11	Not Detected	61	Not Detected
Tetrachloroethene	11	Not Detected	76	Not Detected
2-Hexanone	45	Not Detected	180	Not Detected
Dibromochloromethane	11	Not Detected	95	Not Detected
1,2-Dibromoethane (EDB)	11	Not Detected	86	Not Detected
Chlorobenzene	11	Not Detected	52	Not Detected
Ethyl Benzene	11	Not Detected	49	Not Detected
m,p-Xylene	11	9.0 J	49	39 J
o-Xylene	11	Not Detected	49	Not Detected
Styrene	11	Not Detected	48	Not Detected
Bromoform	11	Not Detected	120	Not Detected
Cumene	11	Not Detected	55	Not Detected
1,1,2,2-Tetrachloroethane	11	Not Detected	77	Not Detected
Propylbenzene	11	Not Detected	55	Not Detected
4-Ethyltoluene	11	3.9 J	55	19 J
1,3,5-Trimethylbenzene	11	Not Detected	55	Not Detected
1,2,4-Trimethylbenzene	11	5.4 J	55	27 J
1,3-Dichlorobenzene	11	Not Detected	67	Not Detected
1,4-Dichlorobenzene	11	Not Detected	67	Not Detected
alpha-Chlorotoluene	11	Not Detected	58	Not Detected
1,2-Dichlorobenzene	11	Not Detected	67	Not Detected
1,2,4-Trichlorobenzene	45	Not Detected	330	Not Detected
Hexachlorobutadiene	45	Not Detected	480	Not Detected
Naphthalene	45	Not Detected	230	Not Detected
TPH ref. to Gasoline (MW=100)	220	Not Detected	920	Not Detected

J = Estimated value.

Container Type: PAC250 Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	97	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1005274AR1-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051905a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/19/10 10:24 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.0	Not Detected	25	Not Detected
Freon 114	5.0	Not Detected	35	Not Detected
Chloromethane	20	Not Detected	41	Not Detected
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	5.0	Not Detected	28	Not Detected
Ethanol	20	3.2 J	38	6.0 J
Freon 113	5.0	Not Detected	38	Not Detected
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	Not Detected	48	Not Detected
2-Propanol	20	Not Detected	49	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	5.0	Not Detected	18	Not Detected
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Hexane	5.0	Not Detected	18	Not Detected
1,1-Dichloroethane	5.0	Not Detected	20	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	Not Detected	15	Not Detected
Chloroform	5.0	Not Detected	24	Not Detected
1,1,1-Trichloroethane	5.0	Not Detected	27	Not Detected
Cyclohexane	5.0	Not Detected	17	Not Detected
Carbon Tetrachloride	5.0	Not Detected	31	Not Detected
2,2,4-Trimethylpentane	5.0	Not Detected	23	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
1,2-Dichloroethane	5.0	Not Detected	20	Not Detected
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	Not Detected	34	Not Detected
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	5.0	Not Detected	20	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1005274AR1-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051905a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/19/10 10:24 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	5.0	Not Detected	27	Not Detected
Tetrachloroethene	5.0	Not Detected	34	Not Detected
2-Hexanone	20	Not Detected	82	Not Detected
Dibromochloromethane	5.0	Not Detected	42	Not Detected
1,2-Dibromoethane (EDB)	5.0	Not Detected	38	Not Detected
Chlorobenzene	5.0	Not Detected	23	Not Detected
Ethyl Benzene	5.0	Not Detected	22	Not Detected
m,p-Xylene	5.0	Not Detected	22	Not Detected
o-Xylene	5.0	Not Detected	22	Not Detected
Styrene	5.0	Not Detected	21	Not Detected
Bromoform	5.0	Not Detected	52	Not Detected
Cumene	5.0	Not Detected	24	Not Detected
1,1,2,2-Tetrachloroethane	5.0	Not Detected	34	Not Detected
Propylbenzene	5.0	Not Detected	24	Not Detected
4-Ethyltoluene	5.0	Not Detected	24	Not Detected
1,3,5-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,2,4-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,3-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,4-Dichlorobenzene	5.0	Not Detected	30	Not Detected
alpha-Chlorotoluene	5.0	Not Detected	26	Not Detected
1,2-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,2,4-Trichlorobenzene	20	3.1 J	150	23 J
Hexachlorobutadiene	20	Not Detected	210	Not Detected
Naphthalene	20	6.8 J	100	35 J
TPH ref. to Gasoline (MW=100)	100	Not Detected	410	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1005274AR1-05A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/19/10 08:22 AM**	

Compound	%Recovery
Freon 12	98
Freon 114	100
Chloromethane	101
Vinyl Chloride	109
1,3-Butadiene	103
Bromomethane	104
Chloroethane	96
Freon 11	99
Ethanol	114
Freon 113	102
1,1-Dichloroethene	103
Acetone	104
2-Propanol	104
Carbon Disulfide	104
3-Chloropropene	107
Methylene Chloride	92
Methyl tert-butyl ether	104
trans-1,2-Dichloroethene	100
Hexane	102
1,1-Dichloroethane	102
2-Butanone (Methyl Ethyl Ketone)	103
cis-1,2-Dichloroethene	104
Tetrahydrofuran	106
Chloroform	101
1,1,1-Trichloroethane	102
Cyclohexane	100
Carbon Tetrachloride	102
2,2,4-Trimethylpentane	102
Benzene	102
1,2-Dichloroethane	102
Heptane	104
Trichloroethene	101
1,2-Dichloropropane	101
1,4-Dioxane	104
Bromodichloromethane	102
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	109
Toluene	103
trans-1,3-Dichloropropene	106

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1005274AR1-05A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/19/10 08:22 AM**	

Compound	%Recovery
1,1,2-Trichloroethane	100
Tetrachloroethene	100
2-Hexanone	105
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	103
Chlorobenzene	101
Ethyl Benzene	102
m,p-Xylene	101
o-Xylene	101
Styrene	110
Bromoform	106
Cumene	104
1,1,2,2-Tetrachloroethane	100
Propylbenzene	102
4-Ethyltoluene	102
1,3,5-Trimethylbenzene	103
1,2,4-Trimethylbenzene	99
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	120
1,2-Dichlorobenzene	102
1,2,4-Trichlorobenzene	94
Hexachlorobutadiene	97
Naphthalene	128
TPH ref. to Gasoline (MW=100)	70

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1005274AR1-06A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/19/10 09:38 AM**	

Compound	%Recovery
Freon 12	97
Freon 114	102
Chloromethane	103
Vinyl Chloride	109
1,3-Butadiene	108
Bromomethane	105
Chloroethane	96
Freon 11	100
Ethanol	114
Freon 113	93
1,1-Dichloroethene	92
Acetone	99
2-Propanol	102
Carbon Disulfide	103
3-Chloropropene	104
Methylene Chloride	85
Methyl tert-butyl ether	104
trans-1,2-Dichloroethene	103
Hexane	102
1,1-Dichloroethane	98
2-Butanone (Methyl Ethyl Ketone)	107
cis-1,2-Dichloroethene	99
Tetrahydrofuran	105
Chloroform	97
1,1,1-Trichloroethane	101
Cyclohexane	99
Carbon Tetrachloride	102
2,2,4-Trimethylpentane	102
Benzene	102
1,2-Dichloroethane	101
Heptane	105
Trichloroethene	104
1,2-Dichloropropane	104
1,4-Dioxane	105
Bromodichloromethane	104
cis-1,3-Dichloropropene	108
4-Methyl-2-pentanone	108
Toluene	99
trans-1,3-Dichloropropene	109

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1005274AR1-06A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**b051904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/19/10 09:38 AM**	

Compound	%Recovery
1,1,2-Trichloroethane	103
Tetrachloroethene	102
2-Hexanone	109
Dibromochloromethane	109
1,2-Dibromoethane (EDB)	109
Chlorobenzene	103
Ethyl Benzene	104
m,p-Xylene	104
o-Xylene	102
Styrene	114
Bromoform	108
Cumene	103
1,1,2,2-Tetrachloroethane	104
Propylbenzene	102
4-Ethyltoluene	105
1,3,5-Trimethylbenzene	107
1,2,4-Trimethylbenzene	103
1,3-Dichlorobenzene	103
1,4-Dichlorobenzene	106
alpha-Chlorotoluene	121
1,2-Dichlorobenzene	106
1,2,4-Trichlorobenzene	98
Hexachlorobutadiene	106
Naphthalene	127
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	104	70-130

Air Toxics LTD.

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 John Moe

Collected by: (Print and Sign) _____

Company ERM West Inc Email John.moe@erm.com

Address 1277 Treat Blvd ste500 City Walnut Creek State CA Zip 94597

Phone 925-946-0455 Fax 925-946-9968

Project Info:
P.O. # 0097888
Project # _____
Project Name Lucasey Manufacturing

Turn Around Time:
☒ Normal
☐ Rush
_____ specify

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

Lab I.D.	Field Sample I.D. (Location)	Flow Ctl	Can #	Date of Collection	Time of Collection START / ANALYSIS	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	Ambient Air S-10+10	167	can 3319 tube	5/10/10	0951 / 0955 1021 / 1025	TO-15 including Naphthalene, Btex and TPH-g + TPH-d TO-17	-30	-5.0		
02A	ASV-12	0381	can 3388 tube mi151376		1300 / 1307 1308 / 1312		-30	-6.0		
03A	ASV-12 / dup	0381	can 2589 tube mi151333		1300 / 1307 1308 / 1312		-30	-6.0		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	5/10/10 2000	Monica Gregson ATL	
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
			5/12/10 850
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
STANDARD TAT
Request EDFs all Samples

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		5.5°C	Good	Yes No (None)	1005274

Form 1293 rev.11

Air Toxics LTD.
Laboratory Services Since 1989

6/4/2010
Mr. John Moe
ERM-West
1277 Treat Blvd
Suite 500
Walnut Creek CA 94597

Project Name: Lucasey Manufacturing
Project #: 0097888.4
Workorder #: 1005612C

Dear Mr. John Moe

The following report includes the data for the above referenced project for sample(s) received on 5/26/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-17 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: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori
Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1005612C

Work Order Summary

CLIENT:	Mr. John Moe ERM-West 1277 Treat Blvd Suite 500 Walnut Creek, CA 94597	**BILL TO:**	Mr. John Moe ERM-West 1277 Treat Blvd Suite 500 Walnut Creek, CA 94597
PHONE:	925-946-0455	**P.O. #**	0097888.4
FAX:	925-946-9968	**PROJECT #**	0097888.4 Lucasey Manufacturing
DATE RECEIVED:	05/26/2010	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	05/31/2010		

FRACTION #	NAME	TEST
05A	ASV-13	Modified TO-17
06A	ASV-15	Modified TO-17
07A	ASV-14	Modified TO-17
08A	Lab Blank	Modified TO-17
09A	CCV	Modified TO-17
10A	LCS	Modified TO-17

CERTIFIED BY: Linda J. Fruman DATE: 06/04/10

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10
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
TO-17 - Markes ATD
ERM-West
Workorder# 1005612C

Three TO-17 Tube samples were received on May 26, 2010. The laboratory performed the analysis via modified EPA Method TO-17 using GC/MS in the full scan mode. TO-17 sorbent tubes are thermally desorbed onto a secondary trap. The trap is thermally desorbed to elute the components into the GC/MS system for further separation.

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

Requirement	*TO-17*	*ATL Modifications*
Laboratory Blank	At least 2 tubes from the same cleaning batch as the samples are analyzed at the beginning and end of the analytical sequence. Do not dry purge Lab Blanks.	Tubes used for daily lab blank may or may not be from the same batch or sampling media. Only 1 lab blank is analyzed prior to sample analysis. Lab blanks are dry purged to eliminate the possibility of sample anomaly attributed to dry purge process.
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-17 (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

A sampling volume of 0.200 L was used to convert ng to ug/m3 for the associated Lab Blank.

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

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

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED METHOD TO-17

Client Sample ID: ASV-13

Lab ID#: 1005612C-05A
No Detections Were Found.

Client Sample ID: ASV-15

Lab ID#: 1005612C-06A
No Detections Were Found.

Client Sample ID: ASV-14

Lab ID#: 1005612C-07A
No Detections Were Found.

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-13

Lab ID#: 1005612C-05A

MODIFIED METHOD TO-17

File Name:	j052629	Date of Extraction: NA	Date of Collection: 5/24/10 10:18:00 AM
Dil. Factor:	1.00		Date of Analysis: 5/27/10 05:48 AM

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
TPH (Diesel Range)	1000	5000	Not Detected	Not Detected

10 000

Air Sample Volume(L): 0.200
Container Type: TO-17 Tube (Tenax-TA)

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-15

Lab ID#: 1005612C-06A

MODIFIED METHOD TO-17

File Name:	**j052630**	**Date of Extraction: NA**	**Date of Collection: 5/24/10 10:38:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 5/27/10 06:30 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
TPH (Diesel Range)	1000	5000	Not Detected	Not Detected

Air Sample Volume(L): 0.200
Container Type: TO-17 Tube (Tenax-TA)

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-14

Lab ID#: 1005612C-07A

MODIFIED METHOD TO-17

File Name:	j052631	Date of Extraction: NA	Date of Collection: 5/24/10 12:55:00 PM
Dil. Factor:	1.00		Date of Analysis: 5/27/10 07:12 AM

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
TPH (Diesel Range)	1000	5000	Not Detected	Not Detected

Air Sample Volume(L): 0.200
Container Type: TO-17 Tube (Tenax-TA)

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1005612C-08A

MODIFIED METHOD TO-17

File Name:	j052625b	Date of Extraction: NA	Date of Collection: NA
Dil. Factor:	1.00		Date of Analysis: 5/27/10 02:26 AM

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
TPH (Diesel Range)	1000	5000	Not Detected	Not Detected

Air Sample Volume(L): 0.200
Container Type: NA - Not Applicable

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1005612C-09A

MODIFIED METHOD TO-17

File Name:	j052616a	Date of Extraction: NA	Date of Collection: NA
Dil. Factor:	1.00		Date of Analysis: 5/26/10 07:47 PM

Compound	%Recovery
TPH (Diesel Range)	85

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1005612C-10A

MODIFIED METHOD TO-17

File Name:	j052624	Date of Extraction: NA	Date of Collection: NA
Dil. Factor:	1.00		Date of Analysis: 5/27/10 01:44 AM

Compound	%Recovery
TPH (Diesel Range)	97

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Air Toxics LTD.

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: John Moe
Collected by: (Print and Sign) Conor McDonough [signature]
Company: ERM West Inc Email: Conor.McDonough@erm...
Address: 1277 Treat blvd Ste 500 City: Walnut Creek State: CA Zip: 94597
Phone: 925-946-0455 Fax: 925-946-9968

Project Info:
P.O. # 0097888.4
Project # 0097888.4
Project Name: Lucasey Manufacturing

Turn Around Time: ☒ Normal ☐ Rush ______ specify

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

Lab I.D.	Field Sample I.D. (Location)	Flow ctrl	Can #	Date of Collection	Time of Collection START / FINISH	Tube #	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	~~ASU-13~~ 13	01025	2829	5/24/10	1010 / 1012 1014 / 1018	MI151 372	TO-15 inc Naphthalene TO-17, and TPH-g (TO-15)	-30	-5		
02A	ASU-15	40707	3180	↓	1030 / 1033 1034 / 1038	MI151 380	He tracer	-30	-8		
03A	~~ASU-18~~ ASU-14	1010	3160	↓	1111 / 1249 1251 / 1255	MI151 375	↓	-30	-7.5		
04A	ASU-14 dup	1010	3616	↓	1111 / 1049	/	TO-15	-30	-8		
	No Sample	—	2823	—	—	—	—	-30	-30		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
[signature] 5/24/10 1648	Fed Ex
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time Monica Grazen ATL
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time 5/26/10 0930

Notes: STANDARD TAT
Request EDFs all Samples
TO-17 volume = 200 cc
He TRACER Gas All Sam

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex G		NA	Good	Yes No (None)	1005612

Air Toxics LTD.
Laboratory Services Since 1989

6/23/2010
Mr. John Moe
ERM-West
1277 Treat Blvd
Suite 500
Walnut Creek CA 94597

Project Name: Lucasey Manufacturing
Project #: 0097888.4
Workorder #: 1005612CR1

Dear Mr. John Moe

The following report includes the data for the above referenced project for sample(s) received on 5/26/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-17 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: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori
Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1005612CR1

Work Order Summary

CLIENT:	Mr. John Moe ERM-West 1277 Treat Blvd Suite 500 Walnut Creek, CA 94597	**BILL TO:**	Mr. John Moe ERM-West 1277 Treat Blvd Suite 500 Walnut Creek, CA 94597
PHONE:	925-946-0455	**P.O. #**	0097888.4
FAX:	925-946-9968	**PROJECT #**	0097888.4 Lucasey Manufacturing
DATE RECEIVED:	05/26/2010	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	05/31/2010		
DATE REISSUED:	06/23/2010		

FRACTION #	NAME	TEST
05A	ASV-13	Modified TO-17
06A	ASV-15	Modified TO-17
07A	ASV-14	Modified TO-17
08A	Lab Blank	Modified TO-17
09A	CCV	Modified TO-17
10A	LCS	Modified TO-17

CERTIFIED BY: Linda D. Truman DATE: 06/23/10

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10
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
TO-17 - Markes ATD
ERM-West
Workorder# 1005612CR1

Three TO-17 Tube samples were received on May 26, 2010. The laboratory performed the analysis via modified EPA Method TO-17 using GC/MS in the full scan mode. TO-17 sorbent tubes are thermally desorbed onto a secondary trap. The trap is thermally desorbed to elute the components into the GC/MS system for further separation.

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

Requirement	*TO-17*	*ATL Modifications*
Laboratory Blank	At least 2 tubes from the same cleaning batch as the samples are analyzed at the beginning and end of the analytical sequence. Do not dry purge Lab Blanks.	Tubes used for daily lab blank may or may not be from the same batch or sampling media. Only 1 lab blank is analyzed prior to sample analysis. Lab blanks are dry purged to eliminate the possibility of sample anomaly attributed to dry purge process.
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-17 (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

A sampling volume of 0.200 L was used to convert ng to ug/m3 for the associated Lab Blank.

PER CLIENT REQUEST THE WORKORDER WAS REISSUED ON 6/23/10 TO REPORT ADDITIONAL TARGET COMPOUNDS.

THE REPORTED CCV AND LCS FOR EACH DAILY BATCH WERE 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 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
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

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED METHOD TO-17

Client Sample ID: ASV-13

Lab ID#: 1005612CR1-05A

No Detections Were Found.

Client Sample ID: ASV-15

Lab ID#: 1005612CR1-06A

No Detections Were Found.

Client Sample ID: ASV-14

Lab ID#: 1005612CR1-07A

No Detections Were Found.

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-13

Lab ID#: 1005612CR1-05A

MODIFIED METHOD TO-17

File Name:	**j052629r1**	**Date of Extraction: NA**	**Date of Collection: 5/24/10 10:18:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 5/27/10 05:48 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Carbon Tetrachloride	5.0	25	Not Detected	Not Detected
Benzene	10	50	Not Detected	Not Detected
1,2-Dibromoethane (EDB)	5.0	25	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	5.0	25	Not Detected	Not Detected
Naphthalene	5.0	25	Not Detected	Not Detected
TPH (Diesel Range)	1000	5000	Not Detected	Not Detected

Air Sample Volume(L): 0.200
Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Toluene-d8	119	70-130
4-Bromofluorobenzene	124	70-130
Benzene-d6	124	50-150
Naphthalene-d8	119	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-14

Lab ID#: 1005612CR1-07A

MODIFIED METHOD TO-17

File Name:	**j052631r1**	**Date of Extraction: NA**	**Date of Collection: 5/24/10 12:55:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 5/27/10 07:12 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Carbon Tetrachloride	5.0	25	Not Detected	Not Detected
Benzene	10	50	Not Detected	Not Detected
1,2-Dibromoethane (EDB)	5.0	25	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	5.0	25	Not Detected	Not Detected
Naphthalene	5.0	25	Not Detected	Not Detected
TPH (Diesel Range)	1000	5000	Not Detected	Not Detected

Air Sample Volume(L): 0.200
Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
4-Bromofluorobenzene	99	70-130
Benzene-d6	98	50-150
Naphthalene-d8	96	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-15

Lab ID#: 1005612CR1-06A

MODIFIED METHOD TO-17

File Name:	**j052630r1**	**Date of Extraction: NA**	**Date of Collection: 5/24/10 10:38:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 5/27/10 06:30 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Carbon Tetrachloride	5.0	25	Not Detected	Not Detected
Benzene	10	50	Not Detected	Not Detected
1,2-Dibromoethane (EDB)	5.0	25	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	5.0	25	Not Detected	Not Detected
Naphthalene	5.0	25	Not Detected	Not Detected
TPH (Diesel Range)	1000	5000	Not Detected	Not Detected

Air Sample Volume(L): 0.200
Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Toluene-d8	112	70-130
4-Bromofluorobenzene	117	70-130
Benzene-d6	114	50-150
Naphthalene-d8	115	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1005612CR1-08A

MODIFIED METHOD TO-17

File Name:	**j052609a**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 5/26/10 02:31 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Carbon Tetrachloride	5.0	25	Not Detected	Not Detected
Benzene	10	50	Not Detected	Not Detected
1,2-Dibromoethane (EDB)	5.0	25	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	5.0	25	Not Detected	Not Detected
Naphthalene	5.0	25	Not Detected	Not Detected
TPH (Diesel Range)	1000	5000	Not Detected	Not Detected

Air Sample Volume(L): 0.200
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
4-Bromofluorobenzene	106	70-130
Benzene-d6	103	50-150
Naphthalene-d8	103	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1005612CR1-09A

MODIFIED METHOD TO-17

File Name:	**j052604a**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 5/26/10 11:37 AM**

Compound	%Recovery
Carbon Tetrachloride	104
Benzene	100
1,2-Dibromoethane (EDB)	98
1,1,2,2-Tetrachloroethane	94
Naphthalene	92
TPH (Diesel Range)	85

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
4-Bromofluorobenzene	95	70-130
Benzene-d6	100	50-150
Naphthalene-d8	84	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1005612CR1-10A

MODIFIED METHOD TO-17

File Name:	**j052606a**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 5/26/10 12:34 PM**

Compound	%Recovery
Carbon Tetrachloride	128
Benzene	120
1,2-Dibromoethane (EDB)	109
1,1,2,2-Tetrachloroethane	104
Naphthalene	104
TPH (Diesel Range)	97

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130
Benzene-d6	101	50-150
Naphthalene-d8	83	70-130

Air Toxics LTD.
Laboratory Services Since 1989

6/25/2010
Mr. John Moe
ERM-West
1277 Treat Blvd
Suite 500
Walnut Creek CA 94597

Project Name: Lucasey Manufacturing
Project #:
Workorder #: 1005274BR1

Dear Mr. John Moe

The following report includes the data for the above referenced project for sample(s) received on 5/12/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-17 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: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori
Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1005274BR1

Work Order Summary

CLIENT:	Mr. John Moe ERM-West 1277 Treat Blvd Suite 500 Walnut Creek, CA 94597	**BILL TO:**	Mr. John Moe ERM-West 1277 Treat Blvd Suite 500 Walnut Creek, CA 94597
PHONE:	925-946-0455	**P.O. #**	0097888
FAX:	925-946-9968	**PROJECT #**	Lucasey Manufacturing
DATE RECEIVED:	05/12/2010	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	05/21/2010		
DATE REISSUED:	06/25/2010		

FRACTION #	NAME	TEST
01A	Ambient Air 5-10-10	Modified TO-17
02A	ASV-12	Modified TO-17
03A	ASV-12/dup	Modified TO-17
04A	Lab Blank	Modified TO-17
05A	CCV	Modified TO-17
06A	LCS	Modified TO-17

CERTIFIED BY: Linda J. Furman DATE: 06/25/10

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10
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
TO-17 - Markes ATD
ERM-West
Workorder# 1005274BR1

Three TO-17 Tube (Tenax-TA) samples were received on May 12, 2010. The laboratory performed the analysis via modified EPA Method TO-17 using GC/MS in the full scan mode. TO-17 sorbent tubes are thermally desorbed onto a secondary trap. The trap is thermally desorbed to elute the components into the GC/MS system for further separation.

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

Requirement	*TO-17*	*ATL Modifications*
Laboratory Blank	At least 2 tubes from the same cleaning batch as the samples are analyzed at the beginning and end of the analytical sequence. Do not dry purge Lab Blanks.	Tubes used for daily lab blank may or may not be from the same batch or sampling media. Only 1 lab blank is analyzed prior to sample analysis. Lab blanks are dry purged to eliminate the possibility of sample anomaly attributed to dry purge process.
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-17 (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

A sampling volume of 0.200 L was used to convert ng to ug/m3 for the associated Lab Blank.

PER CLIENT REQUEST, THE WORKORDER WAS REISSUED ON 6/25/10 TO REPORT ADDITIONAL TARGET COMPOUNDS.

THE REPORTED CCV AND LCS FOR EACH DAILY BATCH WERE 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 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
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

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED METHOD TO-17

Client Sample ID: Ambient Air 5-10-10

Lab ID#: 1005274BR1-01A

No Detections Were Found.

Client Sample ID: ASV-12

Lab ID#: 1005274BR1-02A

No Detections Were Found.

Client Sample ID: ASV-12/dup

Lab ID#: 1005274BR1-03A

No Detections Were Found.

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Ambient Air 5-10-10

Lab ID#: 1005274BR1-01A

MODIFIED METHOD TO-17

File Name:	**j051226r1**	**Date of Extraction: NA**	**Date of Collection: 5/10/10 10:25:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 5/13/10 05:31 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Carbon Tetrachloride	5.0	25	Not Detected	Not Detected
Benzene	10	50	Not Detected	Not Detected
1,2-Dibromoethane (EDB)	5.0	25	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	5.0	25	Not Detected	Not Detected
Naphthalene	5.0	25	Not Detected	Not Detected
TPH (Diesel Range)	1000	5000	Not Detected	Not Detected

Air Sample Volume(L): 0.200
Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Benzene-d6	110	50-150
Naphthalene-d8	118	70-130
Toluene-d8	112	70-130
4-Bromofluorobenzene	104	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-12

Lab ID#: 1005274BR1-02A

MODIFIED METHOD TO-17

File Name:	**j051227r1**	**Date of Extraction: NA**	**Date of Collection: 5/10/10 1:12:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 5/13/10 06:14 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Carbon Tetrachloride	5.0	25	Not Detected	Not Detected
Benzene	10	50	Not Detected	Not Detected
1,2-Dibromoethane (EDB)	5.0	25	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	5.0	25	Not Detected	Not Detected
Naphthalene	5.0	25	Not Detected	Not Detected
TPH (Diesel Range)	1000	5000	Not Detected	Not Detected

Air Sample Volume(L): 0.200
Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Benzene-d6	116	50-150
Naphthalene-d8	124	70-130
Toluene-d8	117	70-130
4-Bromofluorobenzene	109	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: ASV-12/dup

Lab ID#: 1005274BR1-03A

MODIFIED METHOD TO-17

File Name:	**j051228r1**	**Date of Extraction: NA**	**Date of Collection: 5/10/10 1:12:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 5/13/10 06:57 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Carbon Tetrachloride	5.0	25	Not Detected	Not Detected
Benzene	10	50	Not Detected	Not Detected
1,2-Dibromoethane (EDB)	5.0	25	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	5.0	25	Not Detected	Not Detected
Naphthalene	5.0	25	Not Detected	Not Detected
TPH (Diesel Range)	1000	5000	Not Detected	Not Detected

Air Sample Volume(L): 0.200
Container Type: TO-17 Tube (Tenax-TA)

Surrogates	%Recovery	Method Limits
Benzene-d6	112	50-150
Naphthalene-d8	124	70-130
Toluene-d8	114	70-130
4-Bromofluorobenzene	107	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1005274BR1-04A

MODIFIED METHOD TO-17

File Name:	**j051216d**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 5/13/10 01:34 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Carbon Tetrachloride	5.0	25	Not Detected	Not Detected
Benzene	10	50	Not Detected	Not Detected
1,2-Dibromoethane (EDB)	5.0	25	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	5.0	25	Not Detected	Not Detected
Naphthalene	5.0	25	Not Detected	Not Detected
TPH (Diesel Range)	1000	5000	Not Detected	Not Detected

Air Sample Volume(L): 0.200
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Benzene-d6	112	50-150
Naphthalene-d8	118	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	107	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1005274BR1-05A

MODIFIED METHOD TO-17

File Name:	**j051212a**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 5/12/10 11:41 PM**

Compound	%Recovery
Carbon Tetrachloride	110
Benzene	101
1,2-Dibromoethane (EDB)	111
1,1,2,2-Tetrachloroethane	114
Naphthalene	116
TPH (Diesel Range)	79

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Benzene-d6	112	50-150
Naphthalene-d8	104	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	101	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1005274BR1-06A

MODIFIED METHOD TO-17

File Name:	**j051214a**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 5/13/10 12:38 AM**

Compound	%Recovery
Carbon Tetrachloride	110
Benzene	95
1,2-Dibromoethane (EDB)	98
1,1,2,2-Tetrachloroethane	105
Naphthalene	109
TPH (Diesel Range)	102

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Benzene-d6	98	50-150
Naphthalene-d8	99	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	91	70-130