

ILLINOIS EPA RCRA CORRECTIVE ACTION CERTIFICATION

This certification must accompany any document submitted to Illinois EPA in accordance with the corrective action requirements set forth in a facility's RCRA permit. The original and two copies of all documents submitted must be provided.

1.0 FACILITY IDENTIFICATION

Name: WRB Refining LLC - Wood River Refinery County: Madison
Street Address: 900 South Central Ave. Site No. (IEPA): 1191150002
City: Roxana, IL 62084 Site No. (USEPA): ILD 080 012 305

2.0 OWNER INFORMATION

Name: Not Applicable

Mailing Address: _____

Contact Name: _____

Contact Title: _____

Phone No.: _____

3.0 OPERATOR INFORMATION

Equilon Enterprises LLC d/b/a Shell Oil Products US

17 Junction Drive, PMB #399

Glen Carbon, IL 62034

Kevin Dyer

Principal Program Manager

618-288-7237

4.0 TYPE OF SUBMISSION (check applicable item and provide requested information, as applicable)

- RFI Phase I Workplan/Report
 RFI Phase II Workplan/Report
 CMP Report; Phase _____
 Other (describe):

2011 Vapor Intrusion Reports
Date of Submittal 9/2/2011

IEPA Permit Log No. B-43R

Date of Last IEPA Letter
on Project June 16, 2011

Log No. of Last IEPA
Letter on Project B-43-CA-16, B-43-CA-18

Does this submittal include groundwater information: Yes No

5.0 DESCRIPTION OF SUBMITTAL: (briefly describe what is being submitted and its purpose)

Vapor intrusion reports for sampling at the following 8 sample locations: Roxana High School (401 Chaffer Ave), 148 E 5th, 137 E 3rd, 147 E 2nd, 139 E 7th, 147 E 6th (secondary sampling), 142 E 3rd, 132 E 4th.

6.0 DOCUMENTS SUBMITTED (identify all documents in submittal, including cover letter; give dates of all documents)

Cover letter, RCRA Corrective Action Certification and Vapor intrusion reports for sampling in the Village of Roxana [Roxana High School (401 Chaffer Ave) 8/19/2011, 148 E 5th 7/19/2011, 137 E 3rd 7/18/2011, 147 E 2nd 7/19/2011, 139 E 7th 7/19/2011, 147 E 6th (secondary sampling) 8/22/2011, 142 E 3rd 8/24/2011, 132 E 4th 8/24/2011]

7.0 CERTIFICATION STATEMENT - (This statement is part of the overall certification being provided by the owner/operator, professional and laboratory in Items 7.1, 7.2 and 7.3 below). The activities described in the subject submittals have been carried out in accordance with procedures approved by Illinois EPA. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

EPA RCRA Corrective Action Certification

For: Equilon Enterprises LLC d/b/a Shell Oil Products US

Date of Submission: 9/2/2011

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7.1 OWNER/OPERATOR CERTIFICATION (Must be completed for all submittals. Certification and signature requirements are set forth in 35 IAC 702.126.) All submittals pertaining to the corrective action requirements set forth in a RCRA Permit must be signed by the person designated below (or by a duly authorized representative of that person):

- 1. For a Corporation, by a principal executive officer of at least the level of vice-president.
2. For a Partnership or Sole Proprietorship, by a general partner or the proprietor, respectively.
3. For a Governmental Entity, by either a principal executive officer or a ranking elected official.

A person is a duly authorized representative only if:

- 1. the authorization is made in writing by a person described above; and
2. the written authorization is provided with this submittal (a copy of a previously submitted authorization can be used).

Owner Signature: _____ (Date)

Title: _____

Operator Signature: [Handwritten Signature] _____ 8/29/11 (Date)

Title: Principal Program Manager

7.2 PROFESSIONAL CERTIFICATION (if necessary) - Work carried out in this submittal or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. No one is relieved from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

Professional's Signature: _____ Date:

Professional's Name: _____

Professional's Seal:

Professional's Address: _____

Professional's Phone No.: _____

7.3 LABORATORY CERTIFICATION (if necessary) - The sample collection, handling, preservation, preparation and analysis efforts for which this laboratory was responsible were carried out in accordance with procedures approved by Illinois EPA.

Name of Laboratory Air Toxics Ltd [Handwritten Signature] 8/25/11
Signature of Laboratory Responsible Officer Date

Mailing Address of Laboratory [Handwritten Signature] VP of R&D
Name and Title of Laboratory Responsible Officer



August 29, 2011

Mr. Steven F. Nightingale, P.E.
Manager, Permit Section
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
Springfield, Illinois 62794

**Subject: Indoor Air Sampling Report
Roxana, Illinois
119115002 – Madison County
Equilon Enterprises LLC d/b/a Shell Oil Products US
Log No. B-43-CA-16 and 18**

Dear Mr. Nightingale:

On behalf of Shell Oil Products US, URS Corporation is submitting the enclosed report for your review. This cover letter and the enclosed report address the Roxana High School at 401 Chaffer Ave. This sampling was requested by the Agency on July 12, 2011.

If you have any questions during your review, please contact Kevin Dyer, SOPUS Principal Program Manager, at kevin.dyer@shell.com (618/288-7237), or me at bob_billman@urs.com (314/743-4108).

Sincerely,

Robert B. Billman
Senior Project Manager

Enclosures: original plus 2 copies

Cc: Debra Kreutztrager, Roxana High School (3 copies)
Kevin Dyer, SOPUS
Jim Moore, IEPA Springfield
Gina Search, IEPA Collinsville
Dave Webb, IDPH
Michelle Watters, ATSDR

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St. Louis, MO 63110
Phone: 314.429.0100
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R E P O R T

INDOOR AIR SAMPLING
REPORT

ROXANA HIGH SCHOOL

401 CHAFFER AVENUE-

Vocational Building

Workshop Building

Large Gym Building

Small Gym Building

ROXANA, ILLINOIS

Prepared for

Shell Oil Products US
17 Junction Drive
PMB #399
Glen Carbon, IL62034

August 19, 2011



URS Corporation
1001 Highlands Plaza Drive West, Suite 300
St. Louis, MO63110
314.429.0100
Project #21562593

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SECTION ONE

Introduction

Shell Oil Products US (SOPUS) is currently addressing historical petroleum releases inside the WRB Refining LP Wood River Refinery (which was formerly owned/operated by Shell or predecessors). As part of this work, the Illinois Environmental Protection Agency (IEPA) directed SOPUS to conduct vapor intrusion assessments of selected homes, buildings, and the Roxana Public Works facility that are in proximity to the West Fenceline of the refinery.

The vapor sampling in Roxana is being performed in accordance with the *Vapor Intrusion Investigation Workplan Roxana, Illinois* prepared by URS Corporation (URS), on behalf of SOPUS, dated March 29, 2011 and a corresponding approval letter (with conditions) from IEPA dated April 6, 2011.

On July 12, 2011 the IEPA requested that SOPUS conduct soil gas and indoor air sampling of the Roxana High School. Although the school is outside of the study zone and quite a distance from the areas Shell is currently investigating, the sampling was done to provide information for the community. Sampling at Roxana High School was performed in accordance with the *Indoor Air Sampling Plan Roxana Junior and Senior High School* prepared by URS Corporation (URS) on behalf of SOPUS, dated July 22, 2011 and a corresponding approval letter (with conditions) from IEPA dated July 26, 2011.

This report presents the results of the vapor intrusion assessment conducted for Roxana High School located at 401 Chaffer Avenue in Roxana, Illinois (**Figure 1**). This report is being submitted in accordance with Condition 20 as set forth in IEPA's April 6, 2011 approval letter.

Four buildings located on the southern portion of the Roxana High School campus were sampled. These include the: Vocational Building, Workshop Building, Large Gym Building, and Small Gym Building (**Figures 1 & 2**). Per the Work Plan, these buildings were judged to be the most likely to exhibit impact (if present). The buildings are briefly described below.

- The Vocational Building is a slab-on-grade one story building.
- The Workshop Building is a slab-on-grade one story building with a 4 foot deep, 5 foot wide crawl space present around the perimeter of the building.

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Introduction

- The Large Gym Building contains a ground floor¹ that is partially below grade. A lower-level poured concrete basement room exists north and below the wrestling room.
- The Small Gym Building is a two story building with a partially-below-grade ground floor.

¹ The school refers to the level which is partially below ground as the “ground floor.”

SECTION TWO

FIELD AND LABORATORY PROCEDURES

This section describes the procedural aspects of the sampling program.

2.1 WALK-THROUGH ASSESSMENT AND INDOOR AIR FIELD SCREENING

Field activities began on August 4, 2011. School was not in session at the time of the events described herein; however, open registration occurred on August 4th. The initial evaluation and screening process began by screening indoor air for total volatile organic compounds with a PE Photovac microFiD I/S flame ionization detector (FID) and a Mini-RAE 2000 photoionization detector (PID), lower explosive limit (LEL), carbon monoxide, hydrogen sulfide, and oxygen with a Multi-RAE gas meter, and methane and carbon dioxide with a Landtec GEM 2000 landfill gas meter. Instruments were calibrated prior to use. Screening measurements were collected from the first floor, crawl space, basement and ground floor at breathing zone height in centrally located student activity areas. Screening measurements were generally collected in the lowest level of each building, within two inches above the drain(s), as well as at wall and floor penetrations. The results of the field screening are included in **Table 1** and in **Appendix A**.

Next, a visual inspection of the property was conducted (including interviewing of the school representative). This included identifying existing potential indoor emission sources currently present within the buildings. IEPA waived the typical removal of chemicals 48 hours prior to sampling in order to expedite the sampling event. Lastly, sketches of the areas sampled were developed (**Figures 3 through 6**). The results of the visual inspections and interviews were documented on the *Walk-Through Assessment Surveys* presented in **Appendix A** and photographs in **Appendix C**.

2.2 SUBSLAB SAMPLING PORT INSTALLATION, FIELD SCREENING AND SAMPLING

Subslab soil gas sample probes were installed at twelve locations (three locations per building) in the lowest level of each the four buildings (Vocational Building, Workshop Building, Large Gym Building, and Small Gym Building). In the Vocational and Workshop Buildings, the subslab samples were placed on the first floor. In the Large Gym Building, a subslab sample was collected in the lower level poured concrete basement room north of the wrestling room, as well as in the partially-below-ground Wrestling Room to the south. In the Small Gym Building, subslab samples were collected in the partially-below-ground lower level. The probes were installed in accordance with SOP47 – *Sub Slab Soil Gas Sampling with Canisters*. The sample canisters were then kept in a safe location, to minimize temperature change and to protect the

SECTION TWO

FIELD AND LABORATORY PROCEDURES

canister stem prior to shipping. Expandable concrete was used to repair the concrete slab prior to leaving the building.

The results of the field screening are included in **Table 2** and in **Appendix A**.

2.3 INDOOR AIR SAMPLING

Indoor air sampling procedures were performed per SOP 46 – *Indoor Air Sampling with Canisters*. Six indoor air samples were collected using evacuated, 6-Liter stainless-steel canisters over approximately a 24 hour period. The samples were collected as follows:

- Vocational Building, (first floor) Room C102, atop a table in the west side of the room.
- Workshop Building, (first floor) Room B108 (ISS Room), atop a table in the north side of the room.
- Workshop Building, Room B108 (ISS Room), set in the crawlspace in the northwest portion of the room.
- Large Gym Building, (ground floor) Wrestling Room, atop a table in the north-central portion of the room.
- Small Gym Building, (first floor) Room 104, atop a table in the southeast portion of the room.
- Small Gym Building, (first floor) Room 102, atop a table in the southern portion of the room.

The samples were collected at a height of approximately 4-5 feet above floor level. Duplicate samples were collected for quality assurance purposes from Room C102 in the Vocational Building, and Room 102 in the Small Gym Building. At the completion of sampling, the stainless-steel canisters and flow controllers were removed and a final vacuum reading was taken with a separate gauge. The stainless-steel canisters were then kept in a safe location, to minimize temperature change and protect the canister stem prior to shipping.

Indoor air samples were not collected in the Large or Small Gymnasiums due to recent floor treatments. The Large Gymnasium floors were sealed in early August 2011, and the Small Gymnasium floors were sealed in August of 2010.

SECTION TWO

FIELD AND LABORATORY PROCEDURES

2.4 AMBIENT AIR SAMPLING

An upwind, outdoor air (ambient) sample was collected to correspond to the indoor air samples. The sample canister was placed in the southeast portion of the campus, south of the Vocational Building, and was collected using an evacuated, 6-Liter stainless-steel canister over approximately a 24 hour period. The sample was collected in a part paved, part gravel area, approximately 4 feet above ground level, adjacent to the southeast corner of Room C104. It should be noted that during the sampling, on Friday August 5, asphalt pavement was being laid on the running track (approximately 50 feet from the outdoor air sample canister).

At the completion of sampling, the stainless-steel canister and flow controller were removed and a final vacuum reading was taken with a separate gauge. The stainless-steel canister was then kept in a safe location, to minimize temperature change and protect the canister stem prior to shipping.

2.5 QUALITY ASSURANCE/QUALITY CONTROL, SAMPLE HANDLING AND DOCUMENTATION

Prior to mobilizing for sampling, an initial stainless-steel canister vacuum check was performed. A designated pressure gauge provided by the laboratory was attached to the stainless-steel canister inlet. The stainless-steel canister valve was opened completely. The pressure gauge reading was recorded as "Initial Vacuum Reading" on the stainless-steel canister tag and the field sheet. This ensured that the canister showed a vacuum of approximately 28 to 30 inches of mercury (Hg).

In addition, prior to mobilization, each flow controller was subjected to an isolated vacuum check to ensure that frequently used connectors did not leak. This was conducted by attaching a plug to one end of the controller and a barbed connector to the other. A 15 mL hand pump with a vacuum gauge was then attached to the barb. The hand pump evacuated the air inside the controller until a vacuum of at least 10 inches Hg was achieved. If the vacuum change over after five minutes was equal to or less than 0.5 in. Hg, the controller was considered acceptable for sampling use.

Data pertaining to canister ID, start and finish time, initial and final vacuum readings, purge

SECTION TWO

FIELD AND LABORATORY PROCEDURES

volumes, and leak checks were recorded on the Soil Vapor Sampling – Canister Sampling Data field sheets, included in **Appendix A**. Data recorded in the field using portable field analyzers such as a PID, FID, multi-gas meter, landfill gas meter, and a helium gas detector were recorded on the Soil Vapor Sampling – Tedlar Sampling Data field sheet. These data sheets are included following the canister sampling data in **Appendix A**.

Field reporting was conducted in accordance with SOP 08 – *Field Reporting and Documentation*. Canister classification, packaging and shipping was performed under SOP 51 – *Vapor Sample Classification, Packaging and Shipping*. Sample control and custody procedures were performed per SOP 26 – *Sample Control and Custody Procedures*.

Chain-of-custody (COC) form(s) were completed per building to accompany each set of samples sent to the laboratory. The laboratory sent an electronic sample receipt confirmation, listing all samples received (sample IDs), dates sampled, analyses requested, the vacuum reading measured by the laboratory and a copy of the COC. This information was checked against the COC to confirm that the laboratory entered all information correctly into their laboratory information management system (LIMS) system. Any discrepancies between the COC and sample receipt confirmation were identified and resolved with the laboratory.

2.6 LABORATORY TESTING PROCEDURES

Indoor and ambient air samples were analyzed for the petroleum hydrocarbons listed below.

Benzene	n-Propylbenzene
Toluene	Isopentane
Ethylbenzene	n-Butane
m-/p-Xylene	Cyclohexane
o-Xylene	2,2,4-Trimethylpentane
1,2,4-Trimethylbenzene	1,4-Dioxane
1,3,5-Trimethylbenzene	TPH-g
n-Hexane	Methane

Subslab soil gas samples were analyzed for the same petroleum hydrocarbons above plus helium, oxygen, nitrogen, carbon dioxide, carbon monoxide, ethane, and ethene.

Indoor, outdoor and soil gas sample testing was performed by Air Toxics Ltd. of Folsom, CA under subcontract to URS. Samples were analyzed via EPA Method TO-15 and ASTM D-1946. Low-level techniques were used for the indoor and outdoor samples to achieve the necessary detection limits.

SECTION THREE

Results and Conclusions

This section presents the results of the investigative activities described in Section 2.

3.1 DATA REVIEW RESULTS AND DATA SCREENING PROCESS

Laboratory data were provided in electronic form, in nine reports (Sample Delivery Groups [SDGs]). URS independently reviewed the analytical data for quality and completeness, as described in the workplan. Data review procedures followed those contained in USEPA's "Contract Laboratory Program Functional Guidelines for Superfund Organic Methods Data Review" (USEPA, 2008). Data qualifiers were added, as appropriate, and are included on the laboratory results pages in **Appendix B**. Qualifiers provided by Air Toxics are also included on the laboratory result pages.

Data for indoor air were compared to project-specific screening levels as contained in the *Vapor Intrusion Investigation Workplan Roxana, Illinois*; these levels are summarized below:

Residential Indoor Air Screening Criteria

Constituent	Screening Level (mg/m ³)
Benzene	0.010 0.029 (acute)
Toluene	5.2
Ethylbenzene	a
m-/p-Xylene	0.73
o-Xylene	0.73
1,2,4-Trimethylbenzene	0.0073
1,3,5-Trimethylbenzene	a
n-Hexane	0.73
n-Propylbenzene	1.0
Isopentane	a
n-Butane	a
Cyclohexane	6.3
2,2,4-Trimethylpentane	a
1,4-Dioxane	a
TPH-g	a
Methane	a

a – No screening level has been established for this constituent or category. Data were generated for informational purposes only.

SECTION THREE

Results and Conclusions

The analytical results were compiled and summarized, and are presented in **Table 3**.

Data associated with subslab soil gas samples were compared to IEPA's Tier 1 soil gas remediation objectives, as presented in the proposed regulation in 35 IAC Part 742, Appendix B, Table H; these levels are summarized below.

Residential Subslab Soil Gas Screening Criteria

Constituent	Screening Level, mg/m ³
Benzene	0.37
1,4-Dioxane	0.22
Ethylbenzene	1,400
Toluene	6,200
m-/p-Xylene	130
o-Xylene	120

The analytical results were compiled and summarized, and are presented in **Table 4**.

3.2 INDOOR AIR FIELD SCREENING AND SAMPLING RESULTS

The results of the indoor air field screening for the four school buildings are summarized in **Table 1**. The results show one FID measurement above the action criteria of 20 parts per million (ppm) in the boiler room of the Vocational Building (35.6 ppm). However, this measurement was found near the hot water heater gas line and is attributed to minor natural gas leaks. FID and LEL measurements taken from inside the building away from this specific location were below action criteria. Measurements from the other three buildings showed FID, PID and LEL readings all below the project screening criteria.

The results of the indoor air sampling for the samples collected from the four school buildings indicated the presence of most of the target constituents (**Table 3**), but all values are below the project screening levels. The 1, 2, 4-Trimethylbenzene result (0.016 mg/m³) in the crawlspace of the Workshop Building exceeded the project screening level (0.0073 mg/m³).

3.3 AMBIENT (OUTDOOR) AIR RESULTS

The results of the outdoor air sampling for the sample collected from the southeast portion of the campus, outside the Vocational Building indicated the presence of most of the target constituents

SECTION THREE

Results and Conclusions

(Table 3). 1, 4-Dioxane was not detected in the outdoor sample. In general, the detected concentrations in the outdoor sample were similar to the respective indoor air concentrations, except for benzene which was higher in the outdoor sample.

3.4 SUBSLAB PROBE FIELD SCREENING AND SAMPLING RESULTS

As shown in Table 2, the results of the field screening of the subslab soil gas from locations A, B and C in each of the four school buildings, showed little evidence of petroleum vapors. Screening in the Vocational, Workshop and Large Gym Buildings resulted in FID and PID values of 0 ppm. Screening in the Small Gym Building resulted in a FID value of 1.74 ppm and a PID value of 0 ppm.

The results of the subslab soil gas samples collected from locations A, B and C in each of the four buildings indicated relatively low concentrations of most of the target constituents (Table 4), all below the project screening levels. 1, 4-Dioxane was not detected in the subslab soil gas samples from any of the four buildings.

The subslab soil gas samples were also analyzed by ASTM D-1946 for fixed gases. The samples from the four buildings predominantly contained nitrogen (79-82%), oxygen (18-19%), carbon dioxide (0.94-1.8 %), and helium (2.2-3.5%), along with trace levels of methane. No carbon monoxide, ethane, or ethene were detected from any the subslab samples taken from the four school buildings. The results indicate that the conditions in the subslab space are primarily aerobic.

3.5 DISCUSSION OF RESULTS AND CONCLUSIONS

The field screening, indoor air, and subslab results do not indicate a vapor intrusion in the buildings on the Roxana High School Campus. Indoor air sample concentrations were below the project screening criteria in all but one sample. The 1, 2, 4-Trimethylbenzene detection in the Workshop Building is attributed to an indoor source, as the concentrations for the same analyte were lower in the subslab samples. The detections observed in the subslab vapor samples are below the IEPA action levels and as such do not require any action. Moreover, subsurface oxygen levels are sufficient to support aerobic degradation of petroleum constituents present in proximity to the subslab.

**TABLE 1
INDOOR AIR FIELD SCREENING RESULTS**

Date	Floor	Room	Location	FID (ppm)	PID (ppm)	MultiRAE Instrument				Landtec Instrument			
						CO (ppm)	H2S (ppm)	LEL(%)	O2(%)	CH4(%)	LEL(%)	CO2(%)	O2(%)
ROXANA HIGH SCHOOL VOCATIONAL BUILDING													
8/4/2011	1st	HOME EC ROOM	CENTER	0	0	0	0	0	20.9	0	0	0	20.9
			PANTRY	0	0	0	0	0	20.9	0	0	0	20.9
			STOVES	0	0	0	0	0	20.9	0	0	0	20.9
		OFFICE	CENTER OF BLDG	0	0	0	0	0	20.9	0	0	0	20.9
		C-102	SE SIDE	0	0	0	0	0	20.9	0	0	0	21.1
		C-103	SE SIDE	0	0	0	0	0	20.9	0	0	0	21.2
		HALLWAY	CENTER OF BLDG	0	0	0	0	0	20.9	0	0	0	21.3
		BOYS BATHROOM	SW SIDE	0	0	0	0	0	20.9	0	0	0	21.3
		CLOSET	WEST CENTRAL	0	0	0	0	0	20.9	0	0	0	21.4
		GIRLS BATHROOM	WEST CENTRAL	0	0	0	0	0	20.9	0	0	0	21.4
		BOILER ROOM	NW SIDE	0	0	0	0	0	20.9	0	0	0	21.4
		BOILER ROOM	GAS LINES	35.6	0	0	0	0	20.9	0	0	0	21.4
		AUTOSHOP	CENTRAL	0	0	0	0	0	20.9	0	0	0	21.5
			NW FLOOR CRACK	1.19	0	0	0	0	20.9	0	0	0	20.9
			NE FLOOR CRACK	0.5	0	0	0	0	20.9	0	0	0	20.9
			SW SIDE FLOOR GRATES	0.5	0	0	0	0	20.9	0	0	0	20.9
NW CLASSROOM	0		0	0	0	0	20.9	0	0	0	20.9		

Notes:
 NA-Not Analyzed
 Bold indicates exceedances of action criteria

**TABLE 1
INDOOR AIR FIELD SCREENING RESULTS**

Date	Floor	Room	Location	FID (ppm)	PID (ppm)	MultiRAE Instrument				Landtec Instrument			
						CO (ppm)	H2S (ppm)	LEL(%)	O2(%)	CH4(%)	LEL(%)	CO2(%)	O2(%)
ROXANA HIGH SCHOOL WORKSHOP BUILDING													
8/4/2011	1st	WELDING SHOP	SE SIDE	0	0	0	0	0	20.9	0	0	0	20.9
		ISS ROOM	WSIDE	0	0	0	0	0	20.9	0	0	0	20.9
		MACHINE SHOP	SE SIDE	0.3	0	0	0	0	20.9	0	0	0	20.9
			S CLASSROOM	1.13	0	0	0	0	20.9	0	0	0	20.9
		BOYS ROOM	E SIDE	0.3	0	0	0	0	20.9	0	0	0	20.9
			DRAIN	0	0	0	0	0	20.9	0	0	0	20.9
		GIRLS ROOM	E SIDE	0.3	0	0	0	0	20.9	0	0	0	20.9
		COMPUTER LAB	E SIDE	0	0	0	0	0	20.9	0	0	0	20.9
		SMALL CLASSROOM	NE SIDE	0	0	0	0	0	20.9	0	0	0	20.9
		DARKROOM	NE SIDE	0	0	0	0	0	20.9	0	0	0	20.9
		WOODSHOP	NE SIDE	0.4	0	0	0	0	20.9	0	0	0	20.9
			M	12	0.2	2	0	0	20.9	0	0	0	20.9
			STORAGE	0.4	0	0	0	0	20.9	0	0	0	20.9
			CLOSET SE	0.92	0	3	0	0	20.9	0	0	0	20.9
		COMPUTER ROOM	NW SIDE	0	0	2	0	0	20.9	0	0	0	20.9
		WEST OFFICE	WEST SIDE	0	0	2	0	0	20.9	0	0	0	20.9
			FLOOR PENETRATIO N	4.9	0	2	0	0	20.9	0	0	0	20.9
CLOSET	0		0	2	0	0	20.9	0	0	0	20.9		

Notes:

NA-Not Analyzed

Bold indicates exceedances of action criteria

**TABLE 1
INDOOR AIR FIELD SCREENING RESULTS**

Date	Floor	Room	Location	FID (ppm)	PID (ppm)	MultiRAE Instrument				Landtec Instrument				
						CO (ppm)	H2S (ppm)	LEL(%)	O2(%)	CH4(%)	LEL(%)	CO2(%)	O2(%)	
ROXANA HIGH SCHOOL LARGE GYM BUILDING														
8/5/2011	Basement	STORAGE	EAST SIDE	0.14	0.1	1	0	0	20.9	0	0	0	20.9	
	1st	POOL ROOM	SOUTH SIDE	0	0	1	0	0	20.9	0	0	0	20.9	
			W FLOORCRACK	0	0	0	0	0	20.9	0	0	0	20.9	
		PHYS THERAPY ROOM	CENTRAL	0	0	0	0	0	20.9	0	0	0	20.9	
		PHYS THERAPY ROOM	FLOOR DRAIN	0	0	1	0	0	20.9	0	0	0	20.8	
		BOYS SHOWER ROOM	E SIDE	0	0	0	0	0	20.9	0	0	0	20.9	
		BOYS SHOWER ROOM	DRAINS	0	0	0	0	0	20.9	0	0	0	20.9	
		BOYS LOCKER ROOM	E SIDE	0	0	0	0	0	20.9	0	0	0	20.9	
BOYS LOCKER ROOM	FLOOR CRACK	0	0	0	0	0	20.9	0	0	0	20.9			
ROXANA HIGH SCHOOL SMALL GYM BUILDING														
8/4/2011	1st	ROOM 102	NW CORNER	0	0	0	0	0	20.9	0	0	0	20.9	
8/5/2011		STAIRWELL		SE CORNER	0	0	0	0	0	20.9	0	0	0	21
				FLOOR PENETRATION	0	0	0	0	0	20.9	0	0	0	21
		HALLWAY		CENTER	0	0	0	0	0	20.9	0	0	0	21
				NE FLOOR CRACKS	0	0	0	0	0	20.9	0	0	0	21
				S CENTRAL FLOOR CRACKS	0	0	0	0	0	20.9	0	0	0	21
			NW FLOOR		0	0	0	0	0	20.9	0	0	0	20.9
					0	0	0	0	0	20.9	0	0	0	20.9
		STRENGTH ROOM		SW CORNER	0	0	0	0	0	20.9	0	0	0	21.1
				E FLOOR CRACKS	0	0	0	0	0	20.9	0	0	0	21.1
		MRS MATHIS' OFFICE (PE Office)		SE CORNER	0	0	0	0	0	20.9	0	0	0	21.1
				FLOOR DRAIN	0	0	0	0	0	20.9	0	0	0	21.3
		GIRLS LOCKERROOM		CENTER	0	0	0	0	0	20.9	0	0	0	21.4
				FLOOR DRAIN S	0	0	0	0	0	20.9	0	0	0	21.4
FLOOR DRAIN SE	0			0	0	0	0	20.9	0	0	0	21.4		
FLOOR CRACK SE	0			0	0	0	0	20.9	0	0	0	21.4		

Notes:

NA-Not Analyzed

Bold indicates exceedances of action criteria

**TABLE 2
SUBSLAB PROBE FIELD SCREENING RESULTS**

Date	Location	FID(ppm)	PID(ppm)	MultiRAE Instrument				Landtec Instrument			
				CO (ppm)	H2S (ppm)	LEL(%)	O2(%)	CH4(%)	LEL(%)	CO2(%)	O2(%)
ROXANA HIGH SCHOOL VOCATIONAL BUILDING											
8/4/2011	SS-A	0	0	0	0	0	15.5	0	0	2.7	15.6
	SS-B	0	0	0	0	0	18.3	0	0	1.4	18.1
	SS-C	0	0	0	0	0	19.2	0	0	1.2	18.9
ROXANA HIGH SCHOOL WORKSHOP BUILDING											
8/4/2011	SS-A	0	0	0	0	0	21.1	0	0	0.8	19.8
	SS-B	0	0	0	0	0	18.9	0	0	1.9	18.6
	SS-C	0	0	0	0	0	18.9	0	0	1	19.5
ROXANA HIGH SCHOOL LARGE GYM BUILDING											
8/5/2011	SS-A	0	0	0	0	0	18.6	0	0	1.2	18.6
	SS-B	0	0	0	0	0	17.8	0	0	1.8	18
	SS-C	0	0	0	0	0	18.3	0	0	2.7	18.2
ROXANA HIGH SCHOOL SMALL GYM BUILDING											
8/5/2011	SS-A	0	0	0	0	0	19.4	0	0	1.6	19.5
	SS-B	0	0	0	0	0	18.6	0	0	2.6	18.5
8/8/2011	SS-C	1.74	0	0	0	0	18.1	0	0	2.9	18.3

Notes:

NA-Not Analyzed

**TABLE 3
SUMMARY OF ANALYTICAL RESULTS - INDOOR AND OUTDOOR AIR SAMPLES**

Date	Group	Constituent	Residential Indoor Air Criteria	IA-B (First Floor)	IA-B-DUP (First Floor)	OA-A (Outdoor)
				Result	Result	Result
Vocational Building						
8/5/2011	VOCs	1,2,4-Trimethylbenzene (mg/m3)	0.0073	0.0021	0.002	0.0016
		1,3,5-Trimethylbenzene (mg/m3)		0.00056	0.00046	0.00054
		1,4-Dioxane (mg/m3)		0.00075	0.00066	<0.00066
		2,2,4-Trimethylpentane (mg/m3)		0.0046	0.0044	0.0016
		Benzene (mg/m3)	0.01	0.0014	0.0013	0.13
		Butane (mg/m3)		0.0075	0.0084	0.0045
		Cyclohexane (mg/m3)	6.3	0.00081	0.00073	0.00045
		Ethylbenzene (mg/m3)		0.0016	0.0014	0.0015
		Hexane (mg/m3)	0.73	0.0024	0.0022	0.0063
		Isopentane (mg/m3)		0.021	0.021	0.012
		m,p-Xylene (mg/m3)	0.73	0.0046	0.0042	0.0045
		n-Propylbenzene (mg/m3)	1	0.00038	0.0004	0.00044
		o-Xylenes (mg/m3)	0.73	0.0016	0.0016	0.0011
		Toluene (mg/m3)	5.2	0.024	0.024	0.021
TPH (MW=100) (mg/m3)		0.7	0.65	2.9		
8/5/2011	Other	Methane (%)		0.00022	0.00021	NA

NOTES:

NA = Not Analyzed

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Yellow highlighting indicates an exceedance of the screening criteria.

NS = Not Sampled

**TABLE 3
SUMMARY OF ANALYTICAL RESULTS - INDOOR AND OUTDOOR AIR SAMPLES**

Date	Group	Constituent	Residential Indoor Air Criteria	IA-A (First Floor)	IA-B (Crawlspace)
				Result	Result
Workshop Building					
8/5/2011	VOCs	1,2,4-Trimethylbenzene (mg/m3)	0.0073	0.0037	0.016
		1,3,5-Trimethylbenzene (mg/m3)		0.00099	0.0044
		1,4-Dioxane (mg/m3)		<0.00062	<0.00063
		2,2,4-Trimethylpentane (mg/m3)		0.0087	0.017
		Benzene (mg/m3)	0.01	0.0018	0.0038
		Butane (mg/m3)		0.0054	0.0074
		Cyclohexane (mg/m3)	6.3	0.0012	0.0032
		Ethylbenzene (mg/m3)		0.0032	0.012
		Hexane (mg/m3)	0.73	0.0042	0.0078
		Isopentane (mg/m3)		0.017	0.023
		m,p-Xylene (mg/m3)	0.73	0.0095	0.035
		n-Propylbenzene (mg/m3)	1	0.00076	0.0032
		o-Xylenes (mg/m3)	0.73	0.0031	0.012
		Toluene (mg/m3)	5.2	0.044	0.093
TPH (MW=100) (mg/m3)		1.1	16		
8/5/2011	Other	Methane (%)		0.00024	0.00032

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**TABLE 3
SUMMARY OF ANALYTICAL RESULTS - INDOOR AND OUTDOOR AIR SAMPLES**

Date	Group	Constituent	Residential Indoor Air Criteria	IA-A (First Floor)	IA-A-DUP (First Floor)	IA-B (First Floor)
				Result	Result	Result
Small Gym Building						
8/5/2011	VOCs	1,2,4-Trimethylbenzene (mg/m3)	0.0073	0.00053	0.00049	0.00051
		1,3,5-Trimethylbenzene (mg/m3)		<0.00085	<0.00091	<0.00082
		1,4-Dioxane (mg/m3)		<0.00062	<0.00067	<0.0006
		2,2,4-Trimethylpentane (mg/m3)		0.00086	0.00065	0.00062
		Benzene (mg/m3)	0.01	0.00079	0.00084	0.00079
		Butane (mg/m3)		0.01	0.01	0.0082
		Cyclohexane (mg/m3)	6.3	0.00062	0.00052	0.00046
		Ethylbenzene (mg/m3)		0.00036	0.00042	0.00034
		Hexane (mg/m3)	0.73	0.0016	0.0017	0.0017
		Isopentane (mg/m3)		0.0088	0.0092	0.0085
		m,p-Xylene (mg/m3)	0.73	0.0014	0.0013	0.0011
		n-Propylbenzene (mg/m3)	1	0.0002	0.00021	0.00021
		o-Xylenes (mg/m3)	0.73	0.00065	0.00067	0.0005
		Toluene (mg/m3)	5.2	0.0036	0.0038	0.0029
TPH (MW=100) (mg/m3)		0.098	0.098	0.086		
8/5/2011	Other	Methane (%)		0.00021	0.00021	0.00022

NOTES:

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**TABLE 3
SUMMARY OF ANALYTICAL RESULTS - INDOOR AND OUTDOOR AIR SAMPLES**

Date	Group	Constituent	Residential Indoor Air Criteria	IA-A (Ground Floor)
				Result
Large Gym Building				
8/5/2011	VOCs	1,2,4-Trimethylbenzene (mg/m3)	0.0073	0.00098
		1,3,5-Trimethylbenzene (mg/m3)		0.00024
		1,4-Dioxane (mg/m3)		<0.0008
		2,2,4-Trimethylpentane (mg/m3)		0.00094
		Benzene (mg/m3)	0.01	0.00092
		Butane (mg/m3)		0.01
		Cyclohexane (mg/m3)	6.3	0.00034
		Ethylbenzene (mg/m3)		0.00059
		Hexane (mg/m3)	0.73	0.0017
		Isopentane (mg/m3)		0.011
		m,p-Xylene (mg/m3)	0.73	0.0018
		n-Propylbenzene (mg/m3)	1	0.00022
		o-Xylenes (mg/m3)	0.73	0.0007
		Toluene (mg/m3)	5.2	0.012
TPH (MW=100) (mg/m3)		0.16		
8/5/2011	Other	Methane (%)		0.00022

NOTES:

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NS = Not Sampled

**TABLE 4
SUMMARY OF ANALYTICAL RESULTS - SUBSLAB SOIL GAS SAMPLES**

Date	Group	Constituent	Residential Vapor Criteria	SS-A	SS-B	SS-C
				Result	Result	Result
Vocational Building						
8/4/2011	VOCs	1,2,4-Trimethylbenzene (mg/m3)		0.018	0.0025	0.0029
		1,3,5-Trimethylbenzene (mg/m3)		0.0056	0.001	0.00089
		1,4-Dioxane (mg/m3)	0.22	<0.025	<0.023	<0.021
		2,2,4-Trimethylpentane (mg/m3)		0.0035	0.0028	0.0019
		Benzene (mg/m3)	0.37	0.013	0.017	0.0079
		Butane (mg/m3)		0.014	0.015	0.012
		Cyclohexane (mg/m3)		<0.006	0.0027	0.0012
		Ethylbenzene (mg/m3)	1400	0.0045	0.0036	0.0036
		Hexane (mg/m3)		0.021	0.019	0.018
		Isopentane (mg/m3)		0.012	0.013	0.0093
		m,p-Xylene (mg/m3)	130	0.025	0.01	0.0082
		n-Propylbenzene (mg/m3)		0.0024	0.0008	0.00086
		o-Xylenes (mg/m3)	120	0.0098	0.0027	0.0022
		Toluene (mg/m3)	6200	0.025	0.022	0.028
TPH (MW=100) (mg/m3)		6.5	5.3	7.4		
8/4/2011	Other	Carbon Dioxide (%)		1.7	0.72	0.38
		Carbon Monoxide (%)		<0.035	<0.032	<0.029
		Ethane (%)		<0.0035	<0.0032	<0.0029
		Ethene (%)		<0.0035	<0.0032	<0.0029
		Helium (%)		0.37	3.4	0.062
		Methane (%)		0.000076	0.00016	0.000065
		Nitrogen (%)		82	78	81
		Oxygen (%)		16	18	19

Notes:

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**TABLE 4
SUMMARY OF ANALYTICAL RESULTS - SUBSLAB SOIL GAS SAMPLES**

Date	Group	Constituent	Residential Vapor Criteria	SS-A	SS-B	SS-C
				Result	Result	Result
Workshop Building						
8/5/2011	VOCs	1,2,4-Trimethylbenzene (mg/m3)		0.003	0.0041	0.0024
		1,3,5-Trimethylbenzene (mg/m3)		0.00089	0.0011	0.00086
		1,4-Dioxane (mg/m3)	0.22	<0.019	<0.017	<0.019
		2,2,4-Trimethylpentane (mg/m3)		0.0025	0.002	0.0018
		Benzene (mg/m3)	0.37	0.014	0.0086	0.0094
		Butane (mg/m3)		0.0048	0.013	0.013
		Cyclohexane (mg/m3)		<0.0046	0.0013	<0.0046
		Ethylbenzene (mg/m3)	1400	0.0029	0.0028	0.0033
		Hexane (mg/m3)		0.016	0.011	0.013
		Isopentane (mg/m3)		0.01	0.015	0.01
		m,p-Xylene (mg/m3)	130	0.0069	0.0082	0.0062
		n-Propylbenzene (mg/m3)		0.00086	0.00085	<0.0066
		o-Xylenes (mg/m3)	120	0.0021	0.0022	0.0019
		Toluene (mg/m3)	6200	0.033	0.037	0.026
TPH (MW=100) (mg/m3)		4.9	6.1	3.8		
8/5/2011	Other	Carbon Dioxide (%)		0.79	0.94	0.88
		Carbon Monoxide (%)		<0.027	<0.024	<0.027
		Ethane (%)		<0.0027	<0.0024	<0.0027
		Ethene (%)		<0.0027	<0.0024	<0.0027
		Helium (%)		0.12	2.2	0.82
		Methane (%)		<0.00027	0.00011	0.000067
		Nitrogen (%)		80	78	79
		Oxygen (%)		19	19	19

Notes:

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**TABLE 4
SUMMARY OF ANALYTICAL RESULTS - SUBSLAB SOIL GAS SAMPLES**

Date	Group	Constituent	Residential Vapor Criteria	SS-A	SS-B	SS-C
				Result	Result	Result
Small Gym Building						
8/5/2011 & 8/8/2011	VOCs	1,2,4-Trimethylbenzene (mg/m3)		0.0023	0.0024	0.0016
		1,3,5-Trimethylbenzene (mg/m3)		<0.0069	<0.0073	<0.0074
		1,4-Dioxane (mg/m3)	0.22	<0.02	<0.021	<0.022
		2,2,4-Trimethylpentane (mg/m3)		0.003	0.0017	0.0019
		Benzene (mg/m3)	0.37	0.08	0.086	0.084
		Butane (mg/m3)		0.012	0.011	<0.014
		Cyclohexane (mg/m3)		0.0032	0.0024	0.0044
		Ethylbenzene (mg/m3)	1400	0.0035	0.0028	0.0025
		Hexane (mg/m3)		0.0067	0.0028	0.0021
		Isopentane (mg/m3)		0.031	0.0088	<0.018
		m,p-Xylene (mg/m3)	130	0.0091	0.0092	0.0096
		n-Propylbenzene (mg/m3)		0.00062	0.00067	<0.0074
		o-Xylenes (mg/m3)	120	0.0026	0.0024	0.0038
		Toluene (mg/m3)	6200	0.042	0.014	0.0076
TPH (MW=100) (mg/m3)		4.9	3.7	1.1		
8/5/2011 & 8/8/2011	Other	Carbon Dioxide (%)		0.069	0.97	1.8
		Carbon Monoxide (%)		<0.028	<0.03	<0.03
		Ethane (%)		<0.0028	<0.003	<0.003
		Ethene (%)		<0.0028	<0.003	<0.003
		Helium (%)		0.093	0.67	2.7
		Methane (%)		0.00011	0.00011	0.000074
		Nitrogen (%)		81	80	78
		Oxygen (%)		19	18	18

Notes:

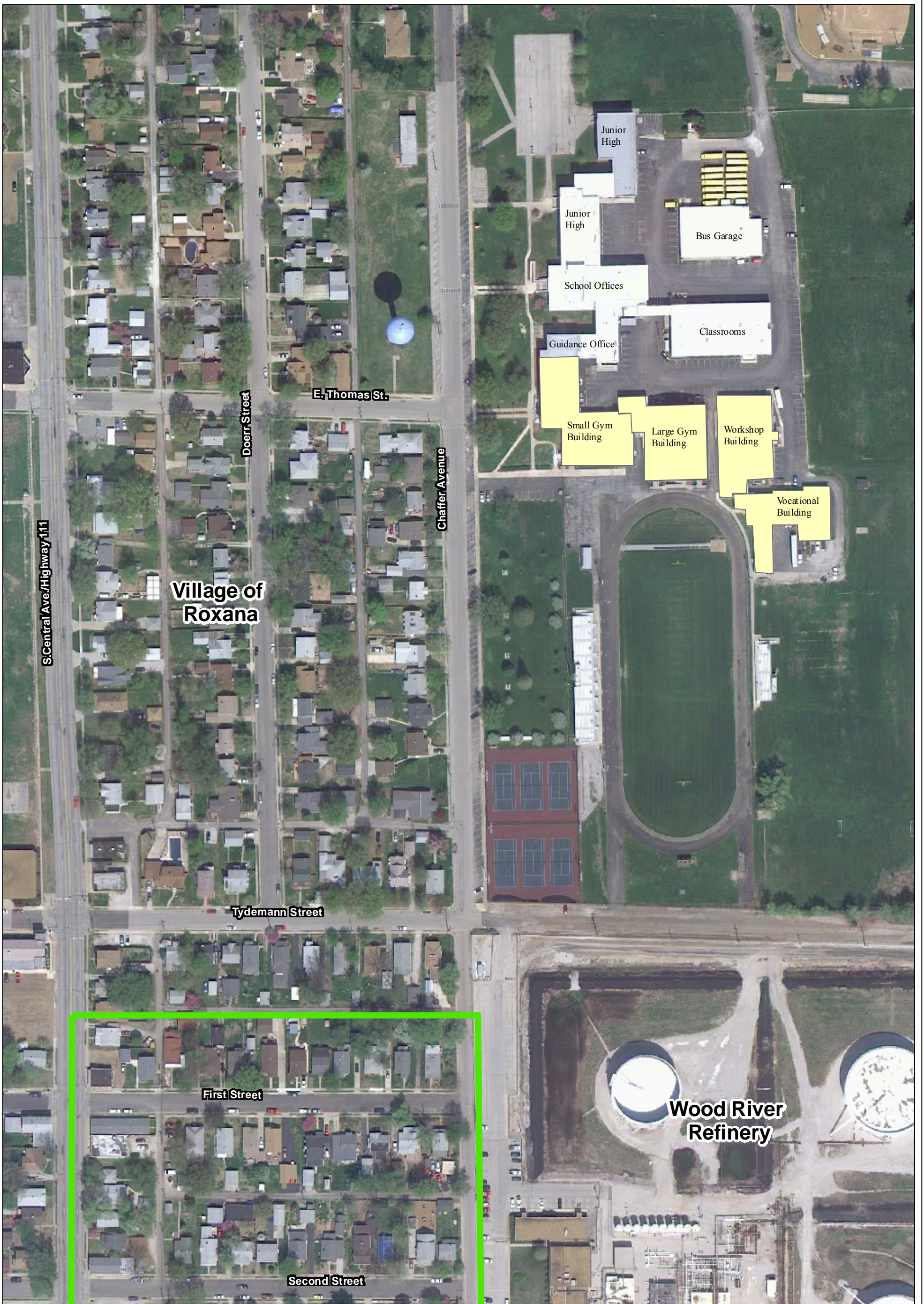
< Indicates the constituent was not detected at the indicated reporting limit.

**TABLE 4
SUMMARY OF ANALYTICAL RESULTS - SUBSLAB SOIL GAS SAMPLES**

Date	Group	Constituent	Residential Vapor Criteria	SS-A	SS-B	SS-C
				Result	Result	Result
Large Gym Building						
8/5/2011	VOCs	1,2,4-Trimethylbenzene (mg/m3)		0.0028	0.0028	0.0017
		1,3,5-Trimethylbenzene (mg/m3)		0.001	0.00097	<0.0073
		1,4-Dioxane (mg/m3)	0.22	<0.018	<0.021	<0.021
		2,2,4-Trimethylpentane (mg/m3)		0.0018	0.0026	0.00093
		Benzene (mg/m3)	0.37	0.076	0.019	0.069
		Butane (mg/m3)		0.012	0.012	0.0086
		Cyclohexane (mg/m3)		0.0023	0.0018	<0.0051
		Ethylbenzene (mg/m3)	1400	0.0035	0.0034	0.0027
		Hexane (mg/m3)		0.0014	0.017	0.0025
		Isopentane (mg/m3)		0.017	0.014	<0.017
		m,p-Xylene (mg/m3)	130	0.01	0.0087	0.0076
		n-Propylbenzene (mg/m3)		0.00071	0.00081	0.00057
		o-Xylenes (mg/m3)	120	0.0027	0.0026	0.0016
		Toluene (mg/m3)	6200	0.015	0.028	0.016
TPH (MW=100) (mg/m3)		5.7	6.5	4.1		
8/5/2011	Other	Carbon Dioxide (%)		0.032	0.66	1.3
		Carbon Monoxide (%)		<0.025	<0.03	<0.03
		Ethane (%)		<0.0025	<0.003	<0.003
		Ethene (%)		<0.0025	<0.003	<0.003
		Helium (%)		3.5	3.3	2
		Methane (%)		0.000052	<0.0003	<0.0003
		Nitrogen (%)		78	78	79
		Oxygen (%)		18	18	18

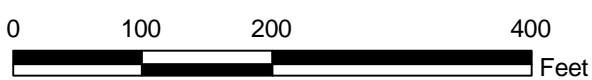
Notes:

< Indicates the constituent was not detected at the indicated reporting limit.



 Study Area for Residential Sampling Project

 Building Sampled



**Indoor Air Sampling Program-
Roxana Jr & Sr High School Map**

map:sej
15Aug2011
Project No. 21562593

FIGURE 1



- Workshop Building
- Vocational Building
- Large Gym Building
- Small Gym Building
- Air Sample
- Sub Slab Sample

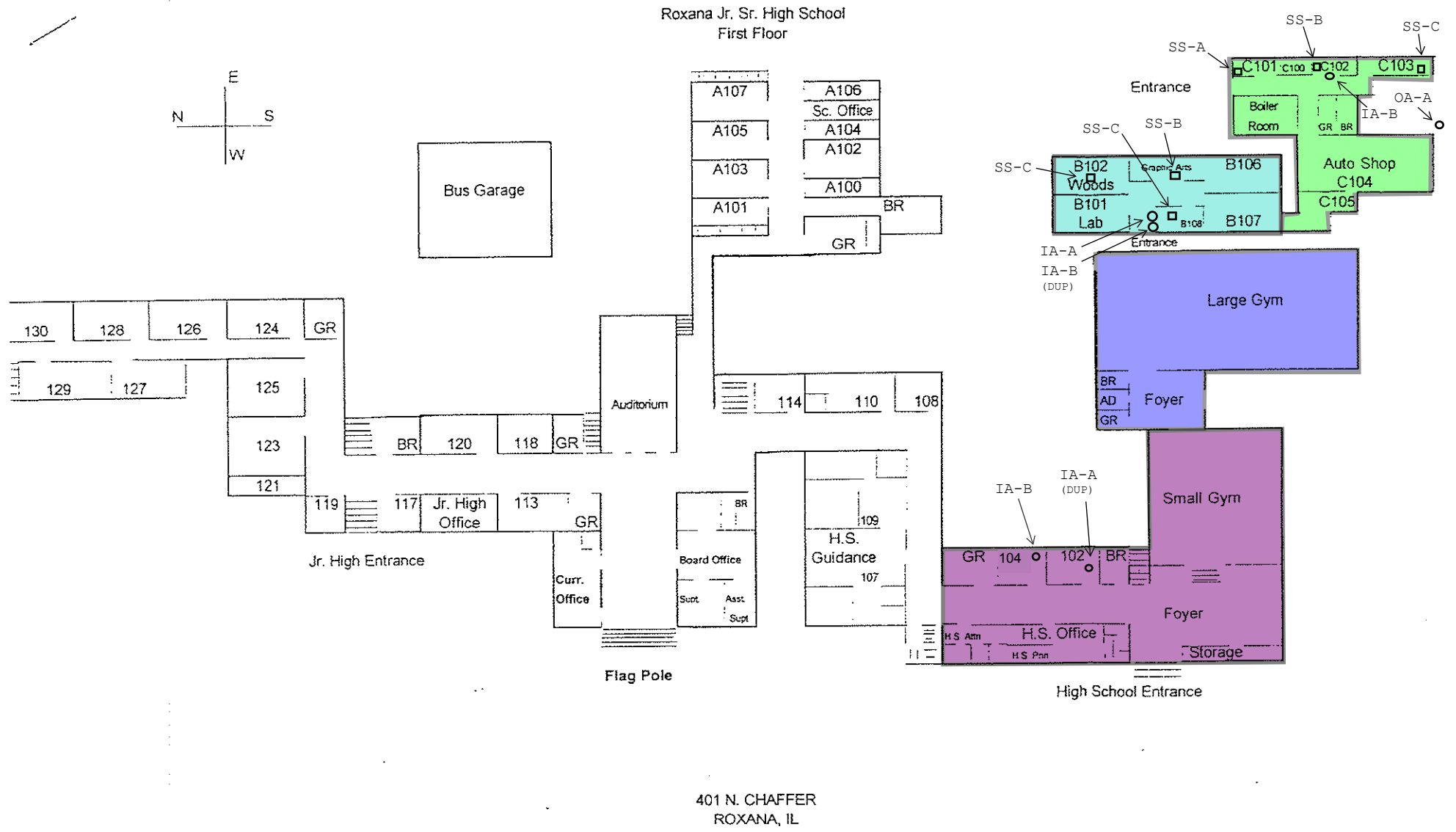


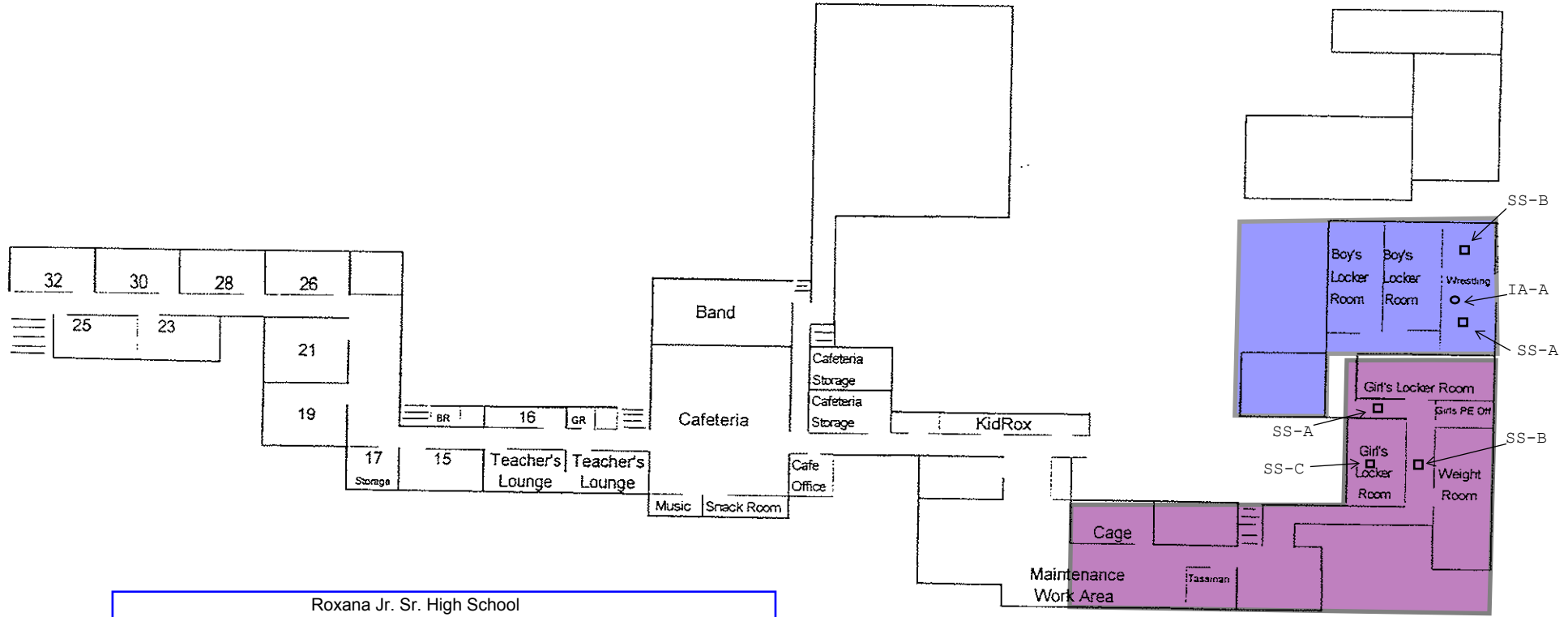
FIGURE 2

*Floor Plans provided to URS by Roxana High School and augmented by sej on 8.10.11

- Workshop Building
- Vocational Building
- Large Gym Building
- Small Gym Building

- Air Sample
- Sub Slab Sample

Roxana Jr. Sr. High School
Ground Floor



Roxana Jr. Sr. High School
Lower Level- Large Gym Building

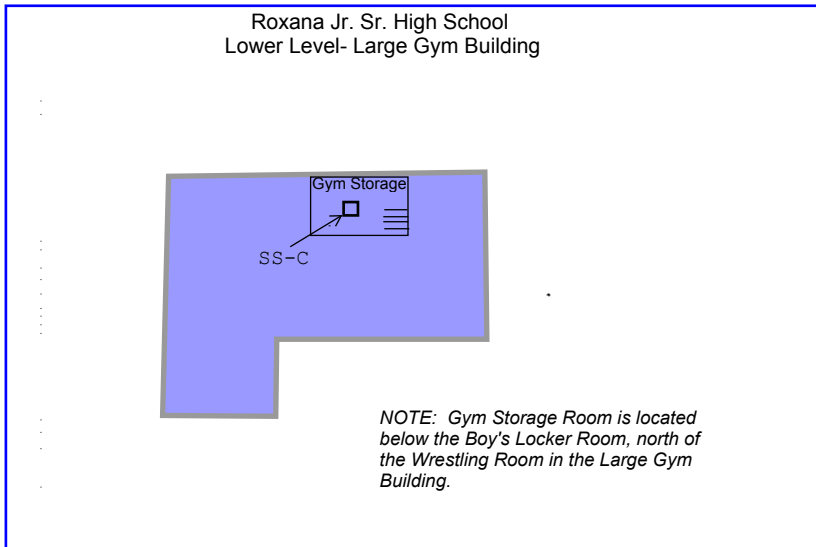






















FIGURE 2

*Floor Plans provided to URS by Roxana High School and augmented by sej on 8.10.11

Legend

-  Hot Water Heater
-  Furnace
-  Air Conditioner
-  Floor Drain
-  Stairs
-  Crawl Space
-  Window
-  Foundation Crack
-  Door
-  Sump Pump
-  Column
-  Wall Partition
-  Heating/Cooling Register
-  Electrical Load Center/Fuse Box
-  Electrical Outlet
-  Water
-  Gas
-  Electric
-  Sewer
-  Telephone

Walk-Through Inspection Worksheet

Residence Information:

Address: ROXANA HIGH LARGE GYM BLDG
 Name: DEBBIE KREUT+TRAGER

Walk-Through Date: 8-5-2011

Personnel: M. CURRIER / C. SMITH

Agency Oversight Rep.: G. SEARCH

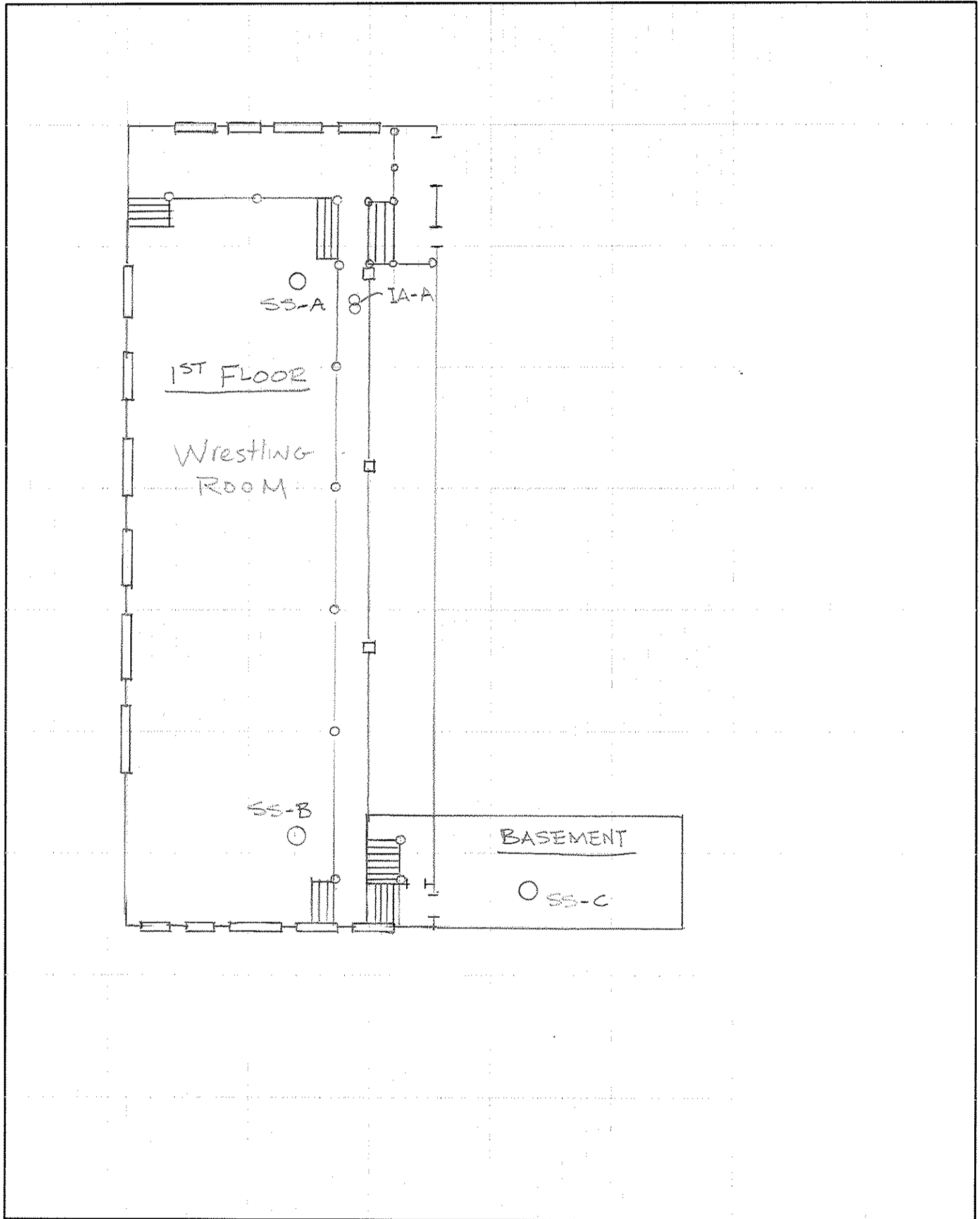
Drawn By: E. BOLDEN



Draw in
Arrow

1" = 20'-0"

LARGE GYM BUILDING FLOOR PLAN




Floor Condition:

All Concrete? Yes _____ No _____
 (If No, Note Areas of Concrete or Soil)





















Basement Wall Construction Type: _____

Interior Finished? Yes _____ No _____

If Yes, Type of Finished Wall: _____

SHELL OIL PRODUCTS US ROXANA, ILLINOIS	PROJECT NO. 21562293
	
DRN. BY: DSGN. BY: CHKD. BY:	Walk-Through Inspection Worksheet
FIG. NO. 3	

Legend

-  Hot Water Heater
-  Furnace
-  Air Conditioner
-  Floor Drain
-  Stairs
-  Crawl Space
-  Window
-  Foundation Crack
-  Door
-  Sump Pump
-  Column
-  Wall Partition
-  Heating/Cooling Register
-  Electrical Load Center/Fuse Box
-  Electrical Outlet
-  Water
-  Gas
-  Electric
-  Sewer
-  Telephone

Walk-Through Inspection Worksheet

Residence Information:

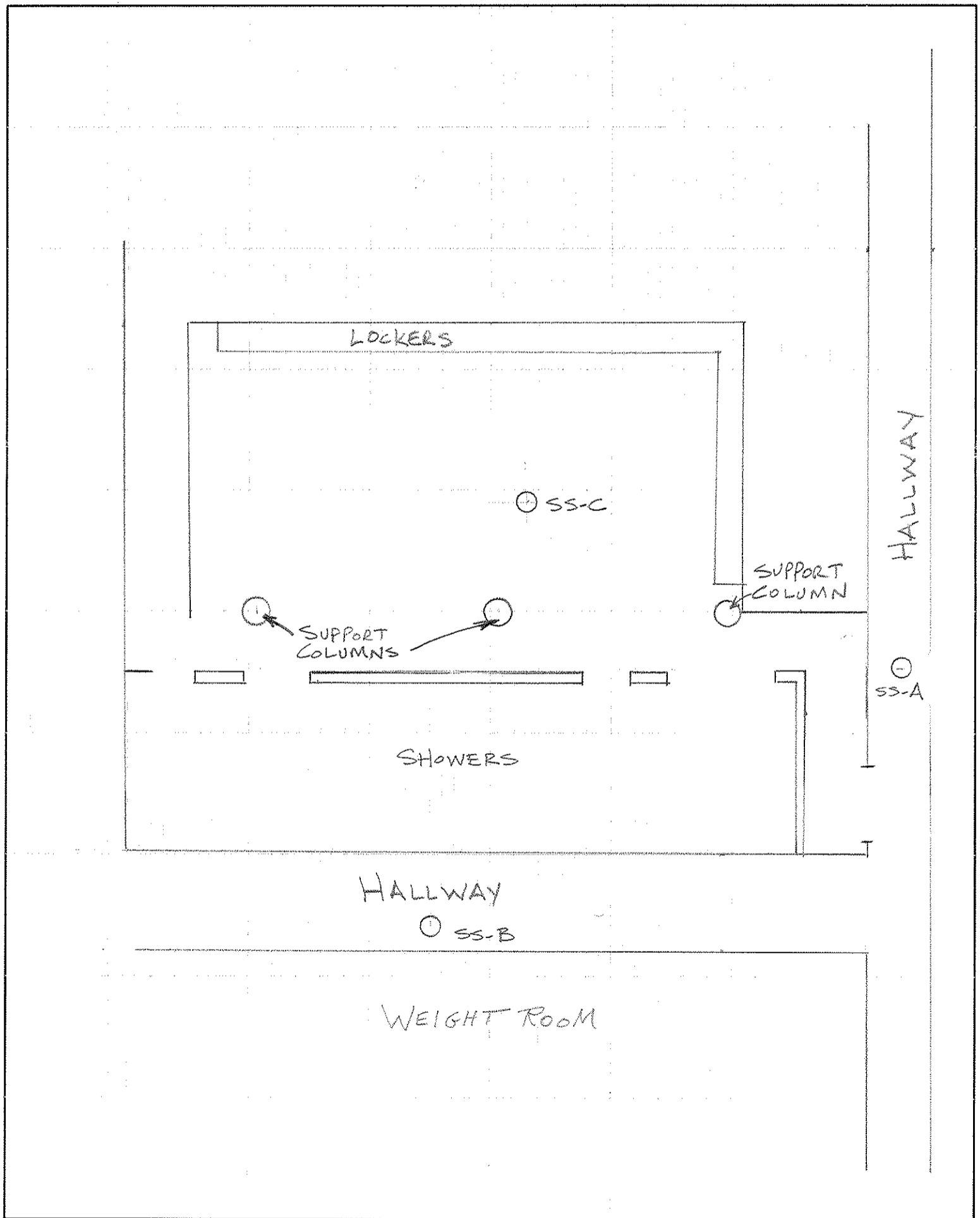
Address: ROXANA HIGH SCHOOL GYM BLDG.
 Name: DEBBIE KREITZBERGER

Walk-Through Date: 8-5-2011
 Personnel: MIKE CURRIER / C. SMITH
 Agency Oversight Rep.: G. SEARCH
 Drawn By: E. BOLDEN



1" = 10'-0"

**JUNIOR GIRLS
LOCKER ROOM FLOOR PLAN**




Floor Condition:

All Concrete? Yes _____ No _____
 (If No, Note Areas of Concrete or Soil)



















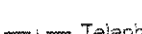

Basement Wall Construction Type: _____

Interior Finished? Yes _____ No _____

If Yes, Type of Finished Wall: _____

SHELL OIL PRODUCTS US ROXANA, ILLINOIS	PROJECT NO. 21562293	
		
DRN. BY: DSGN. BY: CHKD. BY:	Walk-Through Inspection Worksheet	FIG. NO. 4

Legend

-  Hot Water Heater
-  Furnace
-  Air Conditioner
-  Floor Drain
-  Stairs
-  Crawl Space
-  Window
-  Foundation Crack
-  Door
-  Sump Pump
-  Column
-  Wall Partition
-  Heating/Cooling Register
-  Electrical Load Center/Fuse Box
-  Electrical Outlet
-  Water
-  Gas
-  Electric
-  Sewer
-  Telephone

Walk-Through Inspection Worksheet

Residence Information:

Address: ROXANA HIGH WORKSHOP BLDG
 Name: DEBBIE KREUTZTRAGER

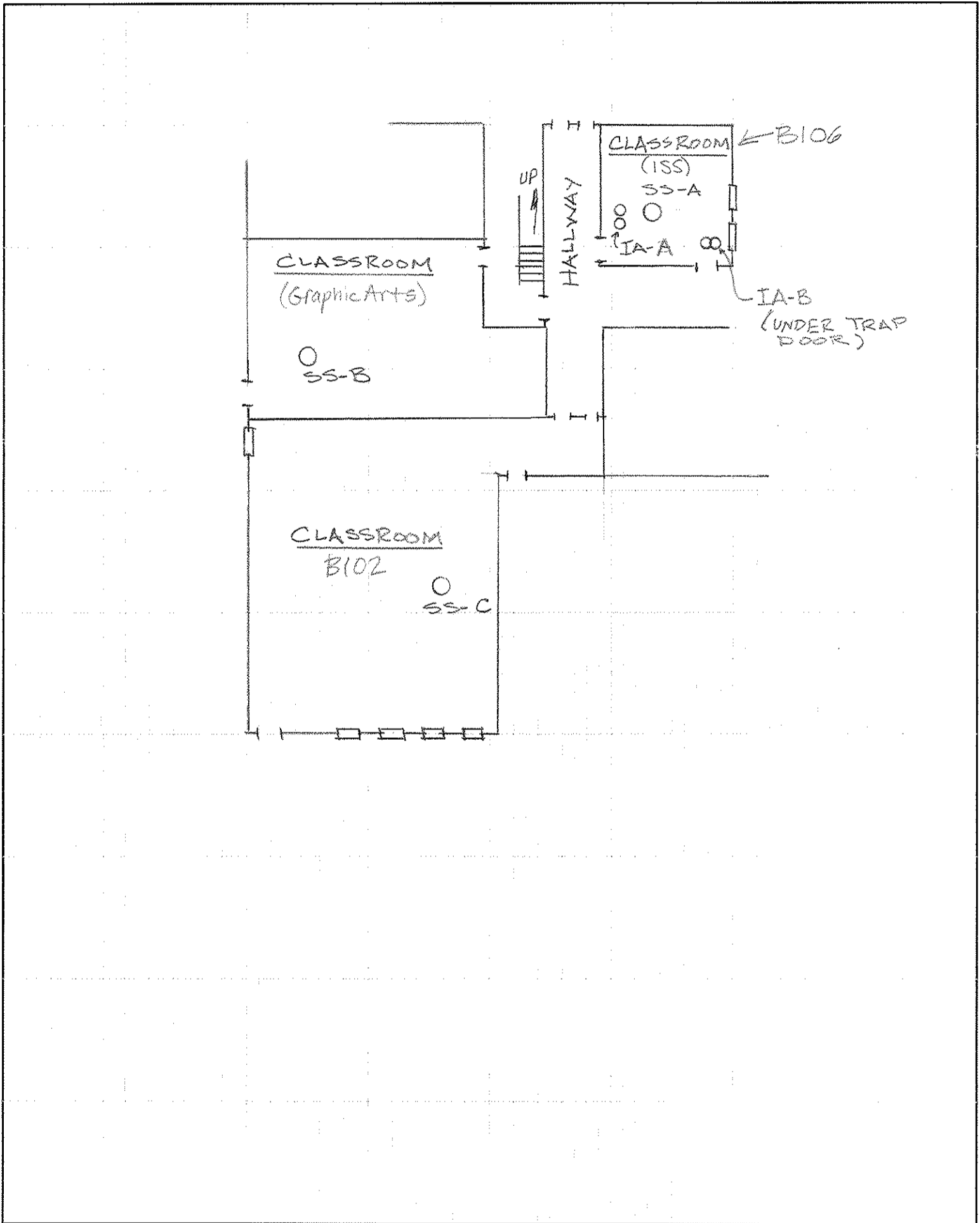
Walk-Through Date: 8-5-2011
 Personnel: M. CURRIER / C. SMITH
 Agency Oversight Rep.: G. SEARCH
 Drawn By: E. BOLDEN



Draw in
Arrow

1" = 20'-0"

WORKSHOP BUILDING FLOOR PLAN



Floor Condition:

All Concrete? Yes No
 (If No, Note Areas of Concrete or Soil)
















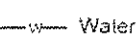



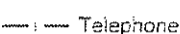
Basement Wall Construction Type: _____

Interior Finished? Yes No

If Yes, Type of Finished Wall: _____

SHELL OIL PRODUCTS US ROXANA, ILLINOIS	PROJECT NO. 21562293
URS	
DRN. BY: DSGN. BY: CHKD. BY:	Walk-Through Inspection Worksheet
FIG. NO. 5	

Legend

-  Hot Water Heater
-  Furnace
-  Air Conditioner
-  Floor Drain
-  Stairs
-  Crawl Space
-  Window
-  Foundation Crack
-  Door
-  Sump Pump
-  Column
-  Wall Partition
-  Heating/Cooling Register
-  Electrical Load Center/Fuse Box
-  Electrical Outlet
-  Water
-  Gas
-  Electric
-  Sewer
-  Telephone

Walk-Through Inspection Worksheet

Residence Information:

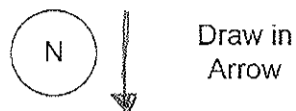
Address: Roxana High Vocational Building
 Name: Debbie Kreutztrager

Walk-Through Date: 8-4-11

Personnel: C. Smith M. Currier

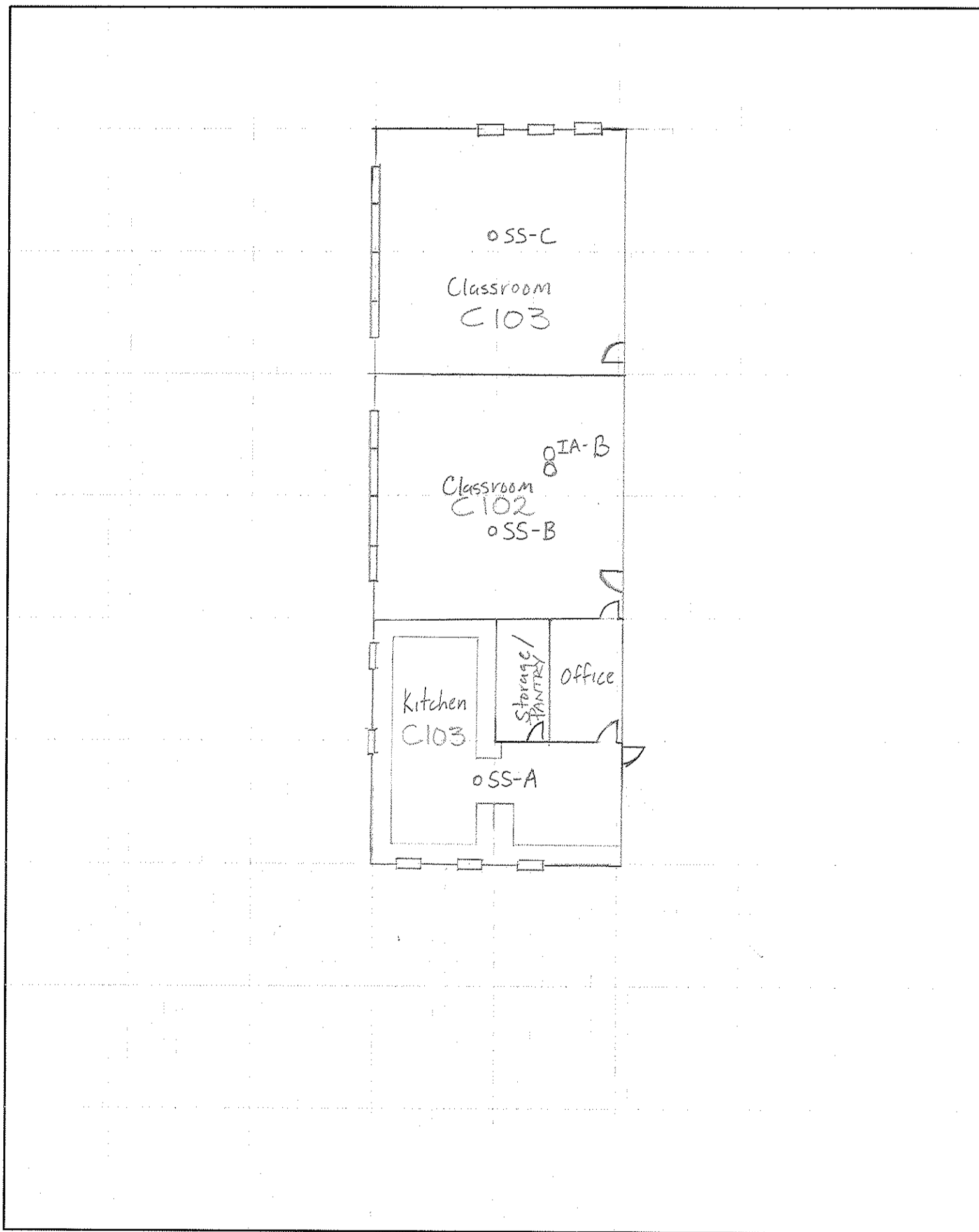
Agency Oversight Rep.: G. Search

Drawn By: C. Smith



1" = 20'-0"

VOCATIONAL BLDG FLOOR PLAN



Floor Condition:

All Concrete? Yes No
 (If No, Note Areas of Concrete or Soil)

Basement Wall Construction Type: _____

Interior Finished? Yes No

If Yes, Type of Finished Wall: _____

SHELL OIL PRODUCTS US ROXANA, ILLINOIS	PROJECT NO. 21562293	
URS		
DRN. BY: DSGN. BY: CHKD. BY:	Walk-Through Inspection Worksheet	FIG. NO. 6

Indoor Air Sampling Report
401 Chaffer Avenue, Roxana High School
Roxana, Illinois

APPENDIX A **Walk-Through Assessment Sheet and Supporting Information**

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Large Gym**

GENERAL INFORMATION

Date: Friday, August 05, 2011

Time: 9:59:17 AM

Residential Contact: DEBBIE KREUTZTRAGER

Phone (Home): (618) 254-7544

Cell:

Choose one:

If Renting/Other:

Own

Landlord Name: Roxana School District

Rent

Landlord Address:

Other

Landlord Phone Number:

Has there been an odor complaint(s) reported? Yes No

Date of Complaint(s):

Type of Odor:

Was there an odor complaint at time of assessment? Yes No

Type of Odor:

Have indoor air samples been collected from the residence? Yes No

If so, can URS be provided the results? Yes No

Comments:

Residents

Name	Occupation	Under 18?	Sex	Length of Time at Residence
NA		<input type="checkbox"/>		

WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Large Gym

BUILDING CONSTRUCTION

Type of Structure: Other

Description: Building consists of Large Gymnasium, boys locker rooms, wrestling (former swimming pool) room, and hallways

Number of Floors: 2

Age of Structure: Built in 1941

Slab on grade? *(If yes, see Slab Section below for additional description)* **Yes** **No**

Basement? *(If yes, see Basement Section for additional description)* **Yes** **No**

Finished Basement Unfinished Basement *Basement consists of one room known as Gym Storage room

Crawlspace? *(If yes, see Exterior Section for additional description)* **Yes** **No**

Under What Percent of Structure? NA

Approximate square footage of the structure: 10,000 sq ft

General aboveground construction material (check all that apply):

Wood Brick Concrete Cement block Other:

Foundation construction (check all that apply):

Concrete Slab Fieldstone Concrete Block Elevated Aboveground/grade

Other Foundation (describe):

Structural Integrity: Good

Description:

Has the structure been weatherized with any of the following (check all that apply):

Insulation Storm Windows Energy-Efficient Windows Other:

SLAB SECTION *(skip if no slab on grade)*

Are there any drains in the slab? **Yes** **No** If yes, how many?

If yes, are there sewer trap(s)? **Yes** **No** Other Slab Features:

Are there exposed slab cracks? **Yes** **No**

WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Large Gym

UTILITIES

Private water well on the property? **Yes** **No**

Septic system on the property? **Yes** **No**

Electrical service amperage: 60A 100A 200A Other Amperage:

Type of heating (check all that apply): Natural Gas Fuel Oil Electric Wood Coal

Other heating type:

Heat conveyance system: Forced hot air Forced hot water Radiant floor Steam

Wood stove Coal furnace Fireplace Other:

Where is the furnace located? (*show on drawing*): **BOILER ROOM**

Is there air conditioning? **Yes** **No**

Air conditioning type (check all that apply):

Central air conditioning Window air conditioning unit(s) Other: **A/C units in certain rooms**

Water heater type: Gas Electric Furnace Other:

Water heater location: **BOILER ROOM**

Outside utility outlet present? **Yes** **No** If yes, where:

Where do utilities enter the building? (*show on drawing*):

North side:

East side: **WATER**

South side: **ELECTRICAL**

West side: **SEWER, GAS**

WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Large Gym

NATURAL GAS SECTION

Is there a notable natural gas odor in the indoor ambient air of building? **Yes** **No**

If yes, where?:

If no notable odor, has air monitoring equipment detected natural gas near any joints, valves, thermostats or lines connected to the furnace, boiler or water heater? **Yes** **No**

Comment:

If yes, has resident been notified of the natural gas odor and detection? **Yes** **No**

Will an additional walk through assessment need to be conducted once the natural gas line has been fixed? **Yes** **No**

EXTERIOR

Exterior Description *(Provide Field Drawing)*

Is there a garage? **Yes** **No** Garage Type

Is there a storage shed or other building unit on property? **Yes** **No**

Storage Shed Type:

Describe:

CRAWLSPACE *(skip if no crawlspace)*

Crawlspace Dimensions: NA

Crawlspace floor type: Concrete Dirt Gravel Other:

Crawlspace construction type: Wood Brick Concrete Cement Block

Accessibility: Indoors Outdoors

Describe

Entry Points:

WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Large Gym

BASEMENT SECTION

(Skip if no basement)

Does anyone reside in the basement? **Yes** **No** If so, how many and who?

Basement description (Provide field drawing) *Basement consists of one room known as Gym Storage room

Basement Dimensions: 25X60 Has the basement flooded previously? **Yes** **No**

Last Time Flooded:

Flooding Frequency:

Was there a sheen on the water? **Yes** **No**

Sheen Description:

Does the basement have moisture problems? **No**

Explain Moisture Problem:

Basement Floor is (check all that apply):

Concrete Floor Dirt Floor Tile Floor Other Floor Type:

Integrity of Basement Floor: good

Are there cracks in the basement floor? **Yes** **No**

Describe:

Is there exposed soil in the basement walls? **Yes** **No** If yes, explain:

Is the basement easily accessible? **Yes** **No** Explain: Via stairs north of Wrestling Room

Basement Drains, Sumps and Openings

Are there sumps in the basement? **Yes** **No** How many sumps?

Are there drains in the basement? **Yes** **No** How many drains?

How many floor drains have sewer traps?:

Other drain comments/descriptions:

Are there any other types of holes or openings in the basement? **Yes** **No**

Explain:

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Large Gym**

HOUSEHOLD ITEMS

Potential VOC Source	Item Present in Building?	Source Location	Removed 48 hours prior to sampling?
Paints or paint thinners	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Gas-powered equipment	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Gasoline storage cans	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Cleaning solvents	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	HALLWAY, BASEMENT	NO
Air freshners	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Oven cleaners	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Carpet/upholstery cleaners	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Hairspray	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Nail polish remover	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Large Gym**

HOUSEHOLD ITEMS (continued)

Potential VOC Source	Item Present in Building?	Source Location	Removed 48 hours prior to sampling?
Bathroom cleaner	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Appliance cleaner	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Furniture/floor polish	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Moth balls	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Fuel tank	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Wood stove	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Fireplace	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Perfume/cologne	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Hobby supplies (solvents, paints glues, etc.)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Large Gym**

HOUSEHOLD ITEMS (continued)

Potential VOC Source	Item Present in Building?	Source Location	Removed 48 hours prior to sampling?
Photo/darkroom chemicals	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Scented trees, wreaths, potpourri, etc.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Other	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A

- Do one or more smokers occupy this structure on a regular basis? **Yes** **No**
- Do the occupants frequently have their clothes dry-cleaned? **Yes** **No**
- Have you recently remodeled or painted? **Yes** **No**
- Are there any pressed wood products in the structure?
(e.g., hardwood, plywood wall paneling, particleboard, fibreboard) **Yes** **No**
- Are there any new upholstery, drapes, shower curtains,
or other textiles in the structure? **Yes** **No**
- Has the building ever been treated with any insecticides/pesticides?
If yes, what chemicals are used/how often are they applied?
STORE BOUGHT, ANNUALLY **Yes** **No**
- Are pesticides/herbicides utilized in the yard or garden?
If yes, what chemicals are used/how often are they applied?
STORE BOUGHT, ANNUALLY **Yes** **No**
- Is there any stationary emission source in the vicinity of the building?
If yes, describe: REFINERY TO THE SOUTH **Yes** **No**
- Are there any mobile emission sources (e.g., highway, bus stop,
high-traffic area) in the vicinity of the structure?
If yes, describe: SCHOOL BUSES **Yes** **No**

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Large Gym**

Indoor Air Screening (Vapor Readings)

Date	Floor	Room	Location	FID (ppm)	PID (ppm)	MultiRAE Instrument				Landtec Instrument			
						CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)
8/5/2011	basement	STORAGE	EAST SIDE	0.14	0.1	1.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/5/2011	1st	POOL ROOM	SOUTH SIDE	0.0	0.0	1.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/5/2011	1st	POOL ROOM	W FLOOR CRACK	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/5/2011	1st	PHY THERAPY ROOM	CENTRAL	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/5/2011	1st	PHY THERAPY ROOM	FLOOR DRAIN	0.0	0.0	1.0	0.0	0.0	20.9	0.0	0.0	0.0	20.8
8/5/2011	1st	BOYS SHOWER ROOM	E SIDE	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/5/2011	1st	BOYS SHOWER ROOM	DRAINS	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/5/2011	1st	BOYS LOCKERROOM	E SIDE	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/5/2011	1st	BOYS LOCKERROOM	FLOOR CRACK	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9

Indoor Air and Outdoor Air Monitoring - Canister Sampling Data
Roxana High School Large Gym

Date	Matrix	QC Type	Sample ID	Canister ID	Flow Controller ID	Initial Vacuum (in Hg)	Time Start	Final Vacuum (in Hg)	Time Finish	Location / Comments
8/4/2011	Indoor Air	Duplicate	RoxHighSchLarGym-08042011-IA-A-D	2264	40318	30	4:26:00 PM		4:33:00 PM	1ST FLOOR - POOL ROOM
8/4/2011	Indoor Air	Primary	RoxHighSchLarGym-08042011-IA-A	1166	5682	30	4:26:00 PM	12	4:33:00 PM	1ST FLOOR - POOL ROOM

Sub-Slab Monitoring - Canister Sampling Data

Roxana High School Large Gym

Date	SSMP	Type	Required Purge (mL)	15 mL Hand Pumps	# of Hand Pumps Achieved	Canister ID	Flow Controller ID	Vacuum Leak Check OK	Helium Leak Check Before OK	Initial Vacuum (in Hg)	Time Start	Final Vacuum (in Hg)	Time Finish	Note
8/5/2011	A	P	150	10	10	3752	FC00973	<input type="checkbox"/>	Yes	30	11:34	5.5	13:34	
8/5/2011	B	P	150	10	10	2163	FC00794	<input checked="" type="checkbox"/>	Yes	30	11:25	9	13:25	
8/5/2011	C	P	150	10	10	2204	FC00826	<input type="checkbox"/>	Yes	29.5	14:44	9.5	16:44	PORT C INITIALLY HAD 13.1% HELIUM IN FINAL TEDLAR. RESAMPLE WAS CONDUCTED.

Sub-Slab Monitoring - Tedlar Bag Sampling Data
Roxana High School Large Gym

Reading Location			Shroud	Tedlar Bag 1			Tedlar Bag 2								
Instrument			Dielectric		Landtec	FID	PID	MultiRAE				Landtec			
Date	SSMP	Type	Helium in Shroud Before (%)	Helium Before (%)	CH4 (%)	FID (ppm)	PID (ppm)	CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)
8/5/2011	A	Primary	62.0	0.2	N/A	0.0	0.0	0.0	0.0	0.0	18.6	0.0	0.0	1.2	18.6
8/5/2011	B	Primary	63.0	0.1	N/A	0.0	0.0	0.0	0.0	0.0	17.8	0.0	0.0	1.8	18.0
8/5/2011	C	Primary	74.1	0.2	N/A	0.0	0.0	0.0	0.0	0.0	18.3	0.0	0.0	2.7	18.2

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Small Gym**

GENERAL INFORMATION

Date: Thursday, August 04, 2011

Time: 3:31:14 PM

Residential Contact: DEBBIE KREUTZTRAGER

Phone (Home): (618) 254-7544

Cell:

Choose one:

If Renting/Other:

Own

Landlord Name: Roxana School District

Rent

Landlord Address:

Other

Landlord Phone Number:

Has there been an odor complaint(s) reported? Yes No

Date of Complaint(s):

Type of Odor:

Was there an odor complaint at time of assessment? Yes No

Type of Odor:

Have indoor air samples been collected from the residence? Yes No

If so, can URS be provided the results? Yes No

Comments:

Residents

Name	Occupation	Under 18?	Sex	Length of Time at Residence
NA		<input type="checkbox"/>		

WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Small Gym

BUILDING CONSTRUCTION

Type of Structure: Other

Description: Small Gym, Girls Locker Rooms, Maintenance Work area, Weight Room, Foyer, Hallways, High School Office, Classrooms

Number of Floors: 2

Age of Structure: Built in 1941

Slab on grade? *(If yes, see Slab Section below for additional description)* **Yes** **No**

Basement? *(If yes, see Basement Section for additional description)* **Yes** **No**

Finished Basement Unfinished Basement

Crawlspace? *(If yes, see Exterior Section for additional description)* **Yes** **No**

Under What Percent of Structure?

Approximate square footage of the structure: 10,000 sq ft

General aboveground construction material (check all that apply):

Wood Brick Concrete Cement block Other:

Foundation construction (check all that apply):

Concrete Slab Fieldstone Concrete Block Elevated Aboveground/grade

Other Foundation (describe): NA

Structural Integrity: Fair

Description: SOME 'SPIDERWEB' FLOOR CRACKING THROUGHOUT HALLWAYS

Has the structure been weatherized with any of the following (check all that apply):

Insulation Storm Windows Energy-Efficient Windows Other:

SLAB SECTION *(skip if no slab on grade)*

Are there any drains in the slab? **Yes** **No** If yes, how many?

If yes, are there sewer trap(s)? **Yes** **No** Other Slab Features:

Are there exposed slab cracks? **Yes** **No**

WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Small Gym

UTILITIES

Private water well on the property? **Yes** **No**

Septic system on the property? **Yes** **No**

Electrical service amperage: 60A 100A 200A Other Amperage:

Type of heating (check all that apply): Natural Gas Fuel Oil Electric Wood Coal

Other heating type:

Heat conveyance system: Forced hot air Forced hot water Radiant floor Steam

Wood stove Coal furnace Fireplace Other:

Where is the furnace located? (*show on drawing*): BOILER ROOM

Is there air conditioning? **Yes** **No**

Air conditioning type (check all that apply):

Central air conditioning Window air conditioning unit(s) Other: A/C units in certain rooms

Water heater type: Gas Electric Furnace Other:

Water heater location: BOILER ROOM

Outside utility outlet present? **Yes** **No** If yes, where:

Where do utilities enter the building? (*show on drawing*):

North side: WATER

East side:

South side: ELECTRICAL

West side: SEWER, GAS

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Small Gym**

NATURAL GAS SECTION

Is there a notable natural gas odor in the indoor ambient air of building? **Yes** **No**

If yes, where?:

If no notable odor, has air monitoring equipment detected natural gas near any joints, valves, thermostats or lines connected to the furnace, boiler or water heater? **Yes** **No**

Comment:

If yes, has resident been notified of the natural gas odor and detection? **Yes** **No**

Will an additional walk through assessment need to be conducted once the natural gas line has been fixed? **Yes** **No**

EXTERIOR

Exterior Description *(Provide Field Drawing)*

Is there a garage? **Yes** **No** Garage Type

Is there a storage shed or other building unit on property? **Yes** **No**

Storage Shed Type:

Describe:

CRAWLSPACE *(skip if no crawlspace)*

Crawlspace Dimensions:

Crawlspace floor type: Concrete Dirt Gravel Other:

Crawlspace construction type: Wood Brick Concrete Cement Block

Accessibility: Indoors Outdoors

Describe NA

Entry Points:

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Small Gym**

BASEMENT SECTION

(Skip if no basement)

Does anyone reside in the basement? **Yes** **No** If so, how many and who?

Basement description (Provide field drawing)

Basement Dimensions: _____ Has the basement flooded previously? **Yes** **No**

Last Time Flooded: _____

Flooding Frequency: _____

Was there a sheen on the water? **Yes** **No**

Sheen Description: _____

Does the basement have moisture problems?

Explain Moisture Problem: _____

Basement Floor is (check all that apply):

Concrete Floor Dirt Floor Tile Floor Other Floor Type: _____

Integrity of Basement Floor: _____

Are there cracks in the basement floor? **Yes** **No**

Describe: _____

Is there exposed soil in the basement walls? **Yes** **No** If yes, explain: _____

Is the basement easily accessible? **Yes** **No** Explain: _____

Basement Drains, Sumps and Openings

Are there sumps in the basement? **Yes** **No** How many sumps? _____

Are there drains in the basement? **Yes** **No** How many drains? _____

How many floor drains have sewer traps?: _____

Other drain comments/descriptions: _____

Are there any other types of holes or openings in the basement? **Yes** **No**

Explain: _____

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Small Gym**

HOUSEHOLD ITEMS

Potential VOC Source	Item Present in Building?	Source Location	Removed 48 hours prior to sampling?
Paints or paint thinners	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Gas-powered equipment	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Gasoline storage cans	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Cleaning solvents	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	BATHROOM, MRS LITTLES -PE Office	NO
Air freshners	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Oven cleaners	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Carpet/upholstery cleaners	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Hairspray	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Nail polish remover	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Small Gym**

HOUSEHOLD ITEMS (continued)

Potential VOC Source	Item Present in Building?	Source Location	Removed 48 hours prior to sampling?
Bathroom cleaner	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		NO
Appliance cleaner	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Furniture/floor polish	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Moth balls	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Fuel tank	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Wood stove	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Fireplace	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Perfume/cologne	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Hobby supplies (solvents, paints glues, etc.)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Small Gym**

HOUSEHOLD ITEMS (continued)

Potential VOC Source	Item Present in Building?	Source Location	Removed 48 hours prior to sampling?
Photo/darkroom chemicals	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Scented trees, wreaths, potpourri, etc.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Other	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A

- Do one or more smokers occupy this structure on a regular basis? **Yes** **No**
- Do the occupants frequently have their clothes dry-cleaned? **Yes** **No**
- Have you recently remodeled or painted? **Yes** **No**
- Are there any pressed wood products in the structure?
(e.g., hardwood, plywood wall paneling, particleboard, fibreboard) **Yes** **No**
- Are there any new upholstery, drapes, shower curtains,
or other textiles in the structure? **Yes** **No**
- Has the building ever been treated with any insecticides/pesticides?
If yes, what chemicals are used/how often are they applied?
STORE BOUGHT, ANNUALLY **Yes** **No**
- Are pesticides/herbicides utilized in the yard or garden?
If yes, what chemicals are used/how often are they applied?
STORE BOUGHT, ANNUALLY **Yes** **No**
- Is there any stationary emission source in the vicinity of the building?
If yes, describe: REFINERY TO THE SOUTH **Yes** **No**
- Are there any mobile emission sources (e.g., highway, bus stop,
high-traffic area) in the vicinity of the structure?
If yes, describe: SCHOOL BUSES **Yes** **No**

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Small Gym**

Indoor Air Screening (Vapor Readings)

Date	Floor	Room	Location	FID (ppm)	PID (ppm)	MultiRAE Instrument				Landtec Instrument			
						CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)
8/4/2011	1st	Room 102	NW CORNER	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/5/2011	1st	STAIRWELL	SE CORNER	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.0
8/5/2011	1st	STAIRWELL	FLOOR PENETRATION	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.0
8/5/2011	1st	HALLWAY	CENTER	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.0
8/5/2011	1st	HALLWAY	NE FLOOR CRACKS	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.0
8/5/2011	1st	HALLWAY	S CENTRAL FLOOR CRACKS	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.0
8/5/2011	1st	HALLWAY	NW FLOOR	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/5/2011	1st	STRENGTH ROOM	SW CORNER	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.1
8/5/2011	1st	STRENGTH ROOM	E FLOOR CRACKS	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.1
8/5/2011	1st	MRS MATHIS' OFFICE -PE Office	SE CORNER	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.1
8/5/2011	1st	MRS MATHIS' OFFICE -PE Office	FLOOR XRAIN	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.3
8/5/2011	1st	GIRLS LOCKER ROOM	CENTER	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.4
8/5/2011	1st	GIRLS LOCKER ROOM	FLOOR DRAINS	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.4
8/5/2011	1st	GIRLS LOCKER ROOM	FLOOR DRAIN SE	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.4
8/5/2011	1st	GIRLS LOCKER ROOM	FLOORCRACK SE	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.4

Indoor Air and Outdoor Air Monitoring - Canister Sampling Data
Roxana High School Small Gym

Date	Matrix	QC Type	Sample ID	Canister ID	Flow Controller ID	Initial Vacuum (in Hg)	Time Start	Final Vacuum (in Hg)	Time Finish	Location / Comments
8/4/2011	Indoor Air	Duplicate	RoxHighSchSmGym-08042011-IA-A-D	3226	40692	30	4:17:00 PM	9	4:22:00 PM	IST FLOOR - ROOM 102
8/4/2011	Indoor Air	Primary	RoxHighSchSmGym-08042011-IA-A	164	40451	30	4:17:00 PM	7.5	4:22:00 PM	IST FLOOR - ROOM 102
8/4/2011	Indoor Air	Duplicate	RoxHighSchSmGym-08042011-IA-B-D	2193	6776	30	4:21:00 PM		4:21:00 PM	IST FLOOR - ROOM 104
8/4/2011	Indoor Air	Primary	RoxHighSchSmGym-08042011-IA-B	254	40111	29	4:21:00 PM	6.5	4:21:00 PM	IST FLOOR - ROOM 104

Sub-Slab Monitoring - Canister Sampling Data
Roxana High School Small Gym

Date	SSMP	Type	Required Purge (mL)	15 mL Hand Pumps	# of Hand Pumps Achieved	Canister ID	Flow Controller ID	Vacuum Leak Check OK	Helium Leak Check Before OK	Initial Vacuum (in Hg)	Time Start	Final Vacuum (in Hg)	Time Finish	Note
8/5/2011	A	P	150	10	10	3022	FC00284	<input type="checkbox"/>	Yes	26	15:16	9	17:16	
8/5/2011	B	P	150	10	10	3864	FC00883	<input type="checkbox"/>	Yes	30	15:03	9.5	17:03	
8/8/2011	C	P	150	10	10	1044	FC00637	<input type="checkbox"/>	Yes	29.5	11:05	10	13:05	

Sub-Slab Monitoring - Tedlar Bag Sampling Data
Roxana High School Small Gym

Reading Location			Shroud	Tedlar Bag 1			Tedlar Bag 2								
Instrument			Dielectric		Landtec	FID	PID	MultiRAE				Landtec			
Date	SSMP	Type	Helium in Shroud Before (%)	Helium Before (%)	CH4 (%)	FID (ppm)	PID (ppm)	CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)
8/5/2011	A	Primary	59.0	0.1	N/A	0.0	0.0	0.0	0.0	0.0	19.4	0.0	0.0	1.6	19.5
8/5/2011	B	Primary	67.1	0.1	N/A	0.0	0.0	0.0	0.0	0.0	18.6	0.0	0.0	2.6	18.5
8/8/2011	C	Primary	55.4	0	N/A	1.74	0.0	0.0	0.0	0.0	18.1	0.0	0.0	2.9	18.3

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Workshop**

GENERAL INFORMATION

Date: Thursday, August 04, 2011

Time: 9:25:08 AM

Residential Contact: DEBBIE KREUTZTRAGER

Phone (Home): (618) 254-7544

Cell:

Choose one:

If Renting/Other:

Own

Landlord Name: Roxana School District

Rent

Landlord Address:

Other

Landlord Phone Number:

Has there been an odor complaint(s) reported? Yes No

Date of Complaint(s): 12/31/2010

Type of Odor: UNKNOWN

Was there an odor complaint at time of assessment? Yes No

Type of Odor:

Have indoor air samples been collected from the residence? Yes No

If so, can URS be provided the results? Yes No

Comments:

ODOR IN GIRLS/BOYS BATHROOMS, PERIODIC, UNSURE WHAT THE ODOR IS.

Residents

Name	Occupation	Under 18?	Sex	Length of Time at Residence
NA		<input type="checkbox"/>		

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Workshop**

BUILDING CONSTRUCTION

Type of Structure: Other

Description: WOOD SHOP, COMPUTER LABS, DARKROOM, WELDING ROOM

Number of Floors: 1

Age of Structure: Built in 1960's

Slab on grade? *(If yes, see Slab Section below for additional description)* **Yes** **No**

Basement? *(If yes, see Basement Section for additional description)* **Yes** **No**

Finished Basement Unfinished Basement

Crawlspace? *(If yes, see Exterior Section for additional description)* **Yes** **No**

Under What Percent of Structure? 10

Approximate square footage of the structure:

General aboveground construction material (check all that apply):

Wood Brick Concrete Cement block Other:

Foundation construction (check all that apply):

Concrete Slab Fieldstone Concrete Block Elevated Aboveground/grade

Other Foundation (describe):

Structural Integrity: Good

Description:

Has the structure been weatherized with any of the following (check all that apply):

Insulation Storm Windows Energy-Efficient Windows Other:

SLAB SECTION *(skip if no slab on grade)*

Are there any drains in the slab? **Yes** **No** If yes, how many?

If yes, are there sewer trap(s)? **Yes** **No** Other Slab Features:

Are there exposed slab cracks? **Yes** **No**

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Workshop**

UTILITIES

Private water well on the property? **Yes** **No**

Septic system on the property? **Yes** **No**

Electrical service amperage: 60A 100A 200A Other Amperage:

Type of heating (check all that apply): Natural Gas Fuel Oil Electric Wood Coal

Other heating type:

Heat conveyance system: Forced hot air Forced hot water Radiant floor Steam

Wood stove Coal furnace Fireplace Other:

Where is the furnace located? (*show on drawing*): BOILER ROOM

Is there air conditioning? **Yes** **No**

Air conditioning type (check all that apply):

Central air conditioning Window air conditioning unit(s) Other: A/C units in certain rooms

Water heater type: Gas Electric Furnace Other:

Water heater location: BOILER ROOM

Outside utility outlet present? **Yes** **No** If yes, where:

Where do utilities enter the building? (*show on drawing*):

North side: WATER

East side:

South side: ELECTRICAL

West side: SEWER, GAS

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Workshop****NATURAL GAS SECTION**

Is there a notable natural gas odor in the indoor ambient air of building? **Yes** **No**

If yes, where?:

If no notable odor, has air monitoring equipment detected natural gas near any joints, valves, thermostats or lines connected to the furnace, boiler or water heater? **Yes** **No**

Comment:

If yes, has resident been notified of the natural gas odor and detection? **Yes** **No**

Will an additional walk through assessment need to be conducted once the natural gas line has been fixed? **Yes** **No**

EXTERIOR**Exterior Description** *(Provide Field Drawing)*

Is there a garage? **Yes** **No** Garage Type

Is there a storage shed or other building unit on property? **Yes** **No**

Storage Shed Type:

Describe:

CRAWLSPACE *(skip if no crawlspace)*

Crawlspace Dimensions: 4X5

Crawlspace floor type: Concrete Dirt Gravel Other:

Crawlspace construction type: Wood Brick Concrete Cement Block

Accessibility: Indoors Outdoors

Describe 4' DEEP, 5' WIDE, LOCATED AROUND THE PERIMETER OF THE STRUCTURE.
Entry Points: Access via floor hatch in Room B106 (ISS ROOM)

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Workshop**

BASEMENT SECTION

(Skip if no basement)

Does anyone reside in the basement? **Yes** **No** If so, how many and who?

Basement description (Provide field drawing)

Basement Dimensions: _____ Has the basement flooded previously? **Yes** **No**

Last Time Flooded: _____

Flooding Frequency: _____

Was there a sheen on the water? **Yes** **No**

Sheen Description: _____

Does the basement have moisture problems?

Explain Moisture Problem: _____

Basement Floor is (check all that apply):

Concrete Floor Dirt Floor Tile Floor Other Floor Type: _____

Integrity of Basement Floor: _____

Are there cracks in the basement floor? **Yes** **No**

Describe: _____

Is there exposed soil in the basement walls? **Yes** **No** If yes, explain: _____

Is the basement easily accessible? **Yes** **No** Explain: _____

Basement Drains, Sumps and Openings

Are there sumps in the basement? **Yes** **No** How many sumps? _____

Are there drains in the basement? **Yes** **No** How many drains? _____

How many floor drains have sewer traps?: _____

Other drain comments/descriptions: _____

Are there any other types of holes or openings in the basement? **Yes** **No**

Explain: _____

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Workshop**

HOUSEHOLD ITEMS

Potential VOC Source	Item Present in Building?	Source Location	Removed 48 hours prior to sampling?
Paints or paint thinners	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	WOOD SHOP	NO
Gas-powered equipment	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Gasoline storage cans	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Cleaning solvents	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	WOOD SHOP	NO
Air freshners	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Oven cleaners	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Carpet/upholstery cleaners	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	WOOD SHOP	NO
Hairspray	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Nail polish remover	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A

Roxana High School Workshop

HOUSEHOLD ITEMS (continued)

Potential VOC Source	Item Present in Building?	Source Location	Removed 48 hours prior to sampling?
Bathroom cleaner	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	WOOD SHOP	NO
Appliance cleaner	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Furniture/floor polish	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	WOOD SHOP	NO
Moth balls	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Fuel tank	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Wood stove	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Fireplace	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Perfume/cologne	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Hobby supplies (solvents, paints glues, etc.)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	WOOD SHOP	NO

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Workshop**

HOUSEHOLD ITEMS (continued)

Potential VOC Source	Item Present in Building?	Source Location	Removed 48 hours prior to sampling?
Photo/darkroom chemicals	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	DARKROOM	NO
Scented trees, wreaths, potpourri, etc.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Other	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A

- Do one or more smokers occupy this structure on a regular basis? **Yes** **No**
- Do the occupants frequently have their clothes dry-cleaned? **Yes** **No**
- Have you recently remodeled or painted? **Yes** **No**
- Are there any pressed wood products in the structure?
(e.g., hardwood, plywood wall paneling, particleboard, fibreboard) **Yes** **No**
- Are there any new upholstery, drapes, shower curtains,
or other textiles in the structure? **Yes** **No**
- Has the building ever been treated with any insecticides/pesticides?
If yes, what chemicals are used/how often are they applied? **Yes** **No**
- Are pesticides/herbicides utilized in the yard or garden?
If yes, what chemicals are used/how often are they applied? **Yes** **No**
- Is there any stationary emission source in the vicinity of the building?
If yes, describe: REFINERY TO THE SOUTH **Yes** **No**
- Are there any mobile emission sources (e.g., highway, bus stop,
high-traffic area) in the vicinity of the structure?
If yes, describe: SCHOOL BUSES **Yes** **No**

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Workshop**

Indoor Air Screening (Vapor Readings)

Date	Floor	Room	Location	FID (ppm)	PID (ppm)	MultiRAE Instrument				Landtec Instrument			
						CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)
8/4/2011	1st	WELDING SHOP	SE SIDE	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	ISS ROOM	W SIDE	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	MACHINE SHOP	SE SIDE	0.30	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	MACHINE SHOP	S CLASSROOM	1.13	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	BOYS ROOM	E SIDE	0.30	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	BOYS ROOM	DRAIN	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	GIRLS ROOM	E SIDE	0.30	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	COMPUTER LAB	E SIDE	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	SMALL CLASSROOM	NE SIDE	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	DARKROOM	NE SIDE	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	WOOD SHOP	NE SIDE	0.40	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	WOOD SHOP	STAINING ROOM	12.00	0.2	2.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	WOOD SHOP	STORAGE	0.40	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	WOODSHOP	CLOSET SE	0.92	0.0	3.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	COMPUTER ROOM	NW SIDE	0.0	0.0	2.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	WEST OFFICE	WEST SIDE	0.0	0.0	2.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	WEST OFFICE	FLOOR PENETRATION	4.90	0.0	2.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	WEST OFFICE	CLOSET	0.0	0.0	2.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9

Indoor Air and Outdoor Air Monitoring - Canister Sampling Data
Roxana High School Workshop

Date	Matrix	QC Type	Sample ID	Canister ID	Flow Controller ID	Initial Vacuum (in Hg)	Time Start	Final Vacuum (in Hg)	Time Finish	Location / Comments
8/4/2011	Indoor Air	Duplicate	RoxHighSchWrkshp-08042011-IA-A-D	963	40458	30	3:48:00 PM		3:56:00 PM	1ST FLOOR - ROOM 108
8/4/2011	Indoor Air	Primary	RoxHighSchWrkshp-08042011-IA-A	3371	40106	30	3:48:00 PM	7	3:56:00 PM	1ST FLOOR - ROOM 108
8/4/2011	Indoor Air	Duplicate	RoxHighSchWrkshp-08042011-IA-B-D	3046	40520	30	6:00:00 PM	15	6:00:00 PM	CRAWLSPACE
8/4/2011	Indoor Air	Primary	RoxHighSchWrkshp-08042011-IA-B	1344	40029	30	6:00:00 PM	7.5	6:00:00 PM	CRAWLSPACE

Sub-Slab Monitoring - Canister Sampling Data

Roxana High School Workshop

Date	SSMP	Type	Required Purge (mL)	15 mL Hand Pumps	# of Hand Pumps Achieved	Canister ID	Flow Controller ID	Vacuum Leak Check OK	Helium Leak Check Before OK	Initial Vacuum (in Hg)	Time Start	Final Vacuum (in Hg)	Time Finish	Note
8/4/2011	A	P	150	10	10	5621	FC00940	<input type="checkbox"/>	Yes	30	17:25	7.5	19:25	
8/4/2011	B	P	150	10	10	2540	FC00523	<input type="checkbox"/>	Yes	30	17:34	8.5	19:34	
8/4/2011	C	P	150	10	10	2049	FC00980	<input type="checkbox"/>	Yes	30	17:35	7.5	19:35	

Sub-Slab Monitoring - Tedlar Bag Sampling Data
Roxana High School Workshop

Reading Location			Shroud	Tedlar Bag 1			Tedlar Bag 2								
Instrument			Dielectric		Landtec	FID	PID	MultiRAE				Landtec			
Date	SSMP	Type	Helium in Shroud Before (%)	Helium Before (%)	CH4 (%)	FID (ppm)	PID (ppm)	CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)
8/4/2011	A	Primary	55.4	0	N/A	0.0	0.0	0.0	0.0	0.0	21.1	0.0	0.0	0.8	19.8
8/4/2011	B	Primary	65.0	0	N/A	0.0	0.0	0.0	0.0	0.0	18.9	0.0	0.0	1.9	18.6
8/4/2011	C	Primary	74.0	0	N/A	0.0	0.0	0.0	0.0	0.0	18.9	0.0	0.0	1.0	19.5

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Vocational Building**

GENERAL INFORMATION

Date: Thursday, August 04, 2011 **Time:** 9:36:17 AM

Residential Contact: DEBBIE KREUTZTRAGER

Phone (Home): (618) 254-7544 **Cell:**

Choose one: If Renting/Other:

Own **Landlord Name:** Roxana School District

Rent **Landlord Address:**

Other **Landlord Phone Number:**

Has there been an odor complaint(s) reported? Yes No

Date of Complaint(s):

Type of Odor:

Was there an odor complaint at time of assessment? Yes No

Type of Odor:

Have indoor air samples been collected from the residence? Yes No

If so, can URS be provided the results? Yes No

Comments:

Residents

Name	Occupation	Under 18?	Sex	Length of Time at Residence
NA		<input type="checkbox"/>		

WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Vocational Building

BUILDING CONSTRUCTION

Type of Structure: Other

Description: HOME EC ROOMS, AUTO SHOP, AND VARIOUS CLASSROOMS

Number of Floors: 1

Age of Structure: Built in 1960's

Slab on grade? *(If yes, see Slab Section below for additional description)* **Yes** **No**

Basement? *(If yes, see Basement Section for additional description)* **Yes** **No**

Finished Basement Unfinished Basement

Crawlspace? *(If yes, see Exterior Section for additional description)* **Yes** **No**

Under What Percent of Structure? NA

Approximate square footage of the structure:

General aboveground construction material (check all that apply):

Wood Brick Concrete Cement block Other:

Foundation construction (check all that apply):

Concrete Slab Fieldstone Concrete Block Elevated Aboveground/grade

Other Foundation (describe):

Structural Integrity:

Description:

Has the structure been weatherized with any of the following (check all that apply):

Insulation Storm Windows Energy-Efficient Windows Other:

SLAB SECTION *(skip if no slab on grade)*

Are there any drains in the slab? **Yes** **No** If yes, how many?

If yes, are there sewer trap(s)? **Yes** **No** Other Slab Features:

Are there exposed slab cracks? **Yes** **No**

CRACKS PRESENT IN AUTO SHOP

WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Vocational Building

UTILITIES

Private water well on the property? **Yes** **No**

Septic system on the property? **Yes** **No**

Electrical service amperage: 60A 100A 200A Other Amperage:

Type of heating (check all that apply): Natural Gas Fuel Oil Electric Wood Coal

Other heating type:

Heat conveyance system: Forced hot air Forced hot water Radiant floor Steam

Wood stove Coal furnace Fireplace Other:

Where is the furnace located? (*show on drawing*): BOILER ROOM

Is there air conditioning? **Yes** **No**

Air conditioning type (check all that apply):

Central air conditioning Window air conditioning unit(s) Other: A/C units in certain rooms

Water heater type: Gas Electric Furnace Other:

Water heater location: BOILER ROOM

Outside utility outlet present? **Yes** **No** If yes, where:

Where do utilities enter the building? (*show on drawing*):

North side: WATER

East side:

South side: ELECTRICAL

West side: SEWER, GAS

WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Vocational Building

NATURAL GAS SECTION

Is there a notable natural gas odor in the indoor ambient air of building? **Yes** **No**

If yes, where?:

If no notable odor, has air monitoring equipment detected natural gas near any joints, valves, thermostats or lines connected to the furnace, boiler or water heater? **Yes** **No**

Comment:

If yes, has resident been notified of the natural gas odor and detection? **Yes** **No**

Will an additional walk through assessment need to be conducted once the natural gas line has been fixed? **Yes** **No**

EXTERIOR

Exterior Description *(Provide Field Drawing)*

Is there a garage? **Yes** **No** Garage Type

Is there a storage shed or other building unit on property? **Yes** **No**

Storage Shed Type:

Describe:

CRAWLSPACE *(skip if no crawlspace)*

Crawlspace Dimensions: NA

Crawlspace floor type: Concrete Dirt Gravel Other:

Crawlspace construction type: Wood Brick Concrete Cement Block

Accessibility: Indoors Outdoors

Describe
Entry Points:

BASEMENT SECTION

(Skip if no basement)

Does anyone reside in the basement? **Yes** **No** If so, how many and who?

Basement description (Provide field drawing)

Basement Dimensions: _____ Has the basement flooded previously? **Yes** **No**

Last Time Flooded: _____

Flooding Frequency: _____

Was there a sheen on the water? **Yes** **No**

Sheen Description: _____

Does the basement have moisture problems?

Explain Moisture Problem: _____

Basement Floor is (check all that apply):

Concrete Floor Dirt Floor Tile Floor Other Floor Type: _____

Integrity of Basement Floor: _____

Are there cracks in the basement floor? **Yes** **No**

Describe: _____

Is there exposed soil in the basement walls? **Yes** **No** If yes, explain: _____

Is the basement easily accessible? **Yes** **No** Explain: _____

Basement Drains, Sumps and Openings

Are there sumps in the basement? **Yes** **No** How many sumps? _____

Are there drains in the basement? **Yes** **No** How many drains? _____

How many floor drains have sewer traps?: _____

Other drain comments/descriptions: _____

Are there any other types of holes or openings in the basement? **Yes** **No**

Explain: _____

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Vocational Building**

HOUSEHOLD ITEMS

Potential VOC Source	Item Present in Building?	Source Location	Removed 48 hours prior to sampling?
Paints or paint thinners	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	AUTO SHOP	NO
Gas-powered equipment	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	AUTO SHOP	NO
Gasoline storage cans	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	AUTO SHOP	NO
Cleaning solvents	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	AUTO SHOP	NO
Air freshners	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	HOME EC ROOM	NO
Oven cleaners	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	HOME EC ROOM	NO
Carpet/upholstery cleaners	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Hairspray	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Nail polish remover	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Vocational Building**

HOUSEHOLD ITEMS (continued)

Potential VOC Source	Item Present in Building?	Source Location	Removed 48 hours prior to sampling?
Bathroom cleaner	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	HOME EC ROOM	NO
Appliance cleaner	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	HOME EC ROOM	NO
Furniture/floor polish	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Moth balls	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Fuel tank	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Wood stove	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Fireplace	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Perfume/cologne	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Hobby supplies (solvents, paints glues, etc.)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Vocational Building**

HOUSEHOLD ITEMS (continued)

Potential VOC Source	Item Present in Building?	Source Location	Removed 48 hours prior to sampling?
Photo/darkroom chemicals	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Scented trees, wreaths, potpourri, etc.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A
Other	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		N/A

- Do one or more smokers occupy this structure on a regular basis? **Yes** **No**
- Do the occupants frequently have their clothes dry-cleaned? **Yes** **No**
- Have you recently remodeled or painted? **Yes** **No**
- Are there any pressed wood products in the structure?
(e.g., hardwood, plywood wall paneling, particleboard, fibreboard) **Yes** **No**
- Are there any new upholstery, drapes, shower curtains,
or other textiles in the structure? **Yes** **No**
- Has the building ever been treated with any insecticides/pesticides?
If yes, what chemicals are used/how often are they applied?
STORE BOUGHT, ANNUALLY **Yes** **No**
- Are pesticides/herbicides utilized in the yard or garden?
If yes, what chemicals are used/how often are they applied?
STORE BOUGHT, ANNUALLY **Yes** **No**
- Is there any stationary emission source in the vicinity of the building?
If yes, describe: REFINERY TO THE SOUTH **Yes** **No**
- Are there any mobile emission sources (e.g., highway, bus stop,
high-traffic area) in the vicinity of the structure?
If yes, describe: SCHOOL BUSES **Yes** **No**

**WALK-THROUGH ASSESSMENT SURVEY
Roxana High School Vocational Building**

Indoor Air Screening (Vapor Readings)

Date	Floor	Room	Location	FID (ppm)	PID (ppm)	MultiRAE Instrument				Landtec Instrument			
						CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)
8/4/2011	1st	HOME EC ROOM	CENTER	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	HOME EC ROOM	PANTRY	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	HOMEEC ROOM	STOVES	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	OFFICE	CENTER OF BLD	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	C-102	SE SIDE	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.1
8/4/2011	1st	C-103	SE SIDE	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.2
8/4/2011	1st	HALLWAY	CENTER OF BLD	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.3
8/4/2011	1st	BOYS BATHROOM	SW SIDE	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.3
8/4/2011	1st	CLOSET	WEST CENTRAL	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.4
8/4/2011	1st	GIRLS BATHROOM	WEST WENTRAL	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.4
8/4/2011	1st	BOILER ROOM	NW SIDE	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.4
8/4/2011	1st	BOILER ROOM	GAS LINES	35.6	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.4
8/4/2011	1st	AUTO SHOP	CENTRAL	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	21.5
8/4/2011	1st	AUTO SHOP	NW FLOOR CRACK	1.19	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	AUTO SHOP	NE FLOOR CRACK	.50	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	AUTO SHOP	SW SIDE GRATES	.5	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9
8/4/2011	1st	AUTO SHOP	NW CLASSROOM	0.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	20.9

Indoor Air and Outdoor Air Monitoring - Canister Sampling Data
Roxana High School Vocational Building

Date	Matrix	QC Type	Sample ID	Canister ID	Flow Controller ID	Initial Vacuum (in Hg)	Time Start	Final Vacuum (in Hg)	Time Finish	Location / Comments
8/4/2011	Indoor Air	Duplicate	RoxHighSchVocBldg-08042011-IA-B-D	1934	40396	30	3:53:00 PM	6.5	3:59:00 PM	1ST FLOOR - C-102
8/4/2011	Indoor Air	Primary	RoxHighSchVocBldg-08042011-IA-B	3088	40510	30	3:53:00 PM	6.5	3:59:00 PM	1ST FLOOR - C-102
8/4/2011	Outdoor Air	Duplicate	RoxHighSchVocBldg-08042011-OA-A-D	230	40446	30	4:05:00 PM		4:05:00 PM	OUTSIDE - SE SIDESCHOOL LAID ASPHALT WITHIN 50 FEET OF SAMPLING LOCATION
8/4/2011	Outdoor Air	Primary	RoxHighSchVocBldg-08042011-OA-A	1955	40616	30	4:05:00 PM	8	4:05:00 PM	OUTSIDE - SE SIDE

Sub-Slab Monitoring - Canister Sampling Data
Roxana High School Vocational Building

Date	SSMP	Type	Required Purge (mL)	15 mL Hand Pumps	# of Hand Pumps Achieved	Canister ID	Flow Controller ID	Vacuum Leak Check OK	Helium Leak Check Before OK	Initial Vacuum (in Hg)	Time Start	Final Vacuum (in Hg)	Time Finish	Note
8/4/2011	A	P	150	10	10	3089	FC00461	<input type="checkbox"/>	Yes	29	12:07	13	14:07	
8/4/2011	B	P	150	10	10	3717	FC00076	<input type="checkbox"/>	Yes	27.5	12:10	11.5	14:10	
8/4/2011	C	P	150	10	10	2367	FC00247	<input type="checkbox"/>	Yes	29.5	12:12	9	14:12	

Sub-Slab Monitoring - Tedlar Bag Sampling Data
Roxana High School Vocational Building

Reading Location			Shroud	Tedlar Bag 1			Tedlar Bag 2								
Instrument			Dielectric		Landtec	FID	PID	MultiRAE				Landtec			
Date	SSMP	Type	Helium in Shroud Before (%)	Helium Before (%)	CH4 (%)	FID (ppm)	PID (ppm)	CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)
8/4/2011	A	Primary	72.4	0.2	N/A	0.0	0.0	0.0	0.0	0.0	15.5	0.0	0.0	2.7	15.6
8/4/2011	B	Primary	60.7	0	N/A	0.0	0.0	0.0	0.0	0.0	18.3	0.0	0.0	1.4	18.1
8/4/2011	C	Primary	75.4	0	N/A	0.0	0.0	0.0	0.0	0.0	19.2	0.0	0.0	1.2	18.9

Indoor Air Sampling Report
401 Chaffer Avenue, Roxana High School
Roxana, Illinois

APPENDIX B

Data Review Sheets and Analytical Reports

Roxana High School – Large Gym Building Indoor Air Data Review

Laboratory SDG: 1108152A, C

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Tony Sedlacek

Date Reviewed: 8/10/2011

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Work Plan: Vapor Intrusion Investigation, Roxana, Illinois (March 2011)

Sample Identification
RoxHighSchLarGym-08042011-IA-A

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Although not indicated in the laboratory case narrative, analytes were detected in the method blank. This issue is addressed further in the appropriate section below.

No problems were indicated in the cooler receipt form.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
1108152A-02A	TO-15	Benzene	0.0092 ppbv / 0.029 µg/m ³
1108152A-02A	TO-15	1,2,4-Trimethylbenzene	0.021 ppbv / 0.10 µg/m ³
1108152A-02A	TO-15	Butane	0.088 ppbv / 0.021 µg/m ³

Analytical data reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

MS/MSD samples are not applicable for vapor samples due to the inability to spike the samples.

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

No

8/8/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.00016
Workorder #: 1108152A

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/6/2011 at Air Toxics Ltd.

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

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

Regards,



Kelly Buettner
Project Manager

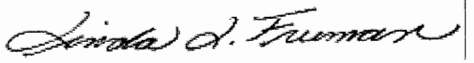
Reviewed
on
8/10/2011

WORK ORDER #: 1108152A

Work Order Summary

CLIENT:	Mr. Thomas Adams URS Corporation 1001 Highlands Plaza Dr. West Suite 300 St. Louis, MO 63110	BILL TO:	Accounts Payable Austin URS Corporation P.O. BOX 203970 Austin, TX 78720-1088
PHONE:	314-429-0100	P.O. #	
FAX:		PROJECT #	21562593.00016 Roxana IA/SS
DATE RECEIVED:	08/06/2011	CONTACT:	Kelly Buettner
DATE COMPLETED:	08/08/2011		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	RoxHighSchLarGym-08042011-IA-A ✓	Modified TO-15	11.8 "Hg	5 psi
02A	Lab Blank	Modified TO-15	NA	NA
03A	CCV	Modified TO-15	NA	NA
04A	LCS	Modified TO-15	NA	NA
04AA	LCS	Modified TO-15	NA	NA

CERTIFIED BY: 
Laboratory Director

DATE: 08/08/11

Certification 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: 07/01/11 , Expiration date: 06/30/12.
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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

**LABORATORY NARRATIVE
Modified TO-15
URS Corporation
Workorder# 1108152A**

One 6 Liter Summa Canister (100% Certified) sample was received on August 06, 2011. 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.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
ICAL %RSD acceptance criteria	+/- 30% RSD with 2 compounds allowed out to < 40% RSD	30% RSD with 4 compounds allowed out to < 40% RSD
Daily Calibration	+/- 30% Difference	<= 30% Difference with four allowed out up to <=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
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
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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.1 ppbv for compounds reported at 0.1 ppbv and 0.5ppbv for compounds reported at 0.5 ppbv) may be false positives.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: RoxHighSchLarGym-08042011-IA-A

Lab ID#: 1108152A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.22	0.48	0.78	1.7
Cyclohexane	0.22	0.098 J	0.76	0.34 J
2,2,4-Trimethylpentane	1.1	0.20 J	5.2	0.94 J
Benzene	0.22	0.29	0.71	0.92
Toluene	0.22	3.1	0.83	12
Ethyl Benzene	0.22	0.14 J	0.96	0.59 J
m,p-Xylene	0.22	0.41	0.96	1.8
o-Xylene	0.22	0.16 J	0.96	0.70 J
Propylbenzene	0.22	0.044 J	1.1	0.22 J
1,3,5-Trimethylbenzene	0.22	0.049 J	1.1	0.24 J
1,2,4-Trimethylbenzene	0.22	0.20 J	1.1	0.98 J
Isopentane	1.1	3.9	3.3	11
Butane	1.1	4.3	2.6	10
TPH ref. to Gasoline (MW=100)	22	39	90	160

Client Sample ID: RoxHighSchLarGym-08042011-IA-A

Lab ID#: 1108152A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080607	Date of Collection:	8/5/11 4:33:00 PM
Dil. Factor:	2.21	Date of Analysis:	8/6/11 11:05 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.22	0.48	0.78	1.7
Cyclohexane	0.22	0.098 J	0.76	0.34 J
2,2,4-Trimethylpentane	1.1	0.20 J	5.2	0.94 J
Benzene	0.22	0.29	0.71	0.92
1,4-Dioxane	0.22	Not Detected	0.80	Not Detected
Toluene	0.22	3.1	0.83	12
Ethyl Benzene	0.22	0.14 J	0.96	0.59 J
m,p-Xylene	0.22	0.41	0.96	1.8
o-Xylene	0.22	0.16 J	0.96	0.70 J
Propylbenzene	0.22	0.044 J	1.1	0.22 J
1,3,5-Trimethylbenzene	0.22	0.049 J	1.1	0.24 J
1,2,4-Trimethylbenzene	0.22	0.20 J	1.1	0.98 J
Isopentane	1.1	3.9	3.3	11
Butane	1.1	4.3	2.6	10
TPH ref. to Gasoline (MW=100)	22	39	90	160

J = Estimated value.

Container Type: 6 Liter Summa Canister (100% Certified)

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

Client Sample ID: Lab Blank

Lab ID#: 1108152A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080606	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/5/11 09:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.10	Not Detected	0.35	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.10	0.0092 J	0.32	0.029 J
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	0.021 J	0.49	0.10 J
Isopentane	0.50	Not Detected	1.5	Not Detected
Butane	0.50	0.088 J	1.2	0.21 J
TPH ref. to Gasoline (MW=100)	10	Not Detected	41	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: CCV

Lab ID#: 1108152A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/5/11 05:40 PM

Compound	%Recovery
Hexane	97
Cyclohexane	91
2,2,4-Trimethylpentane	102
Benzene	96
1,4-Dioxane	89
Toluene	92
Ethyl Benzene	90
m,p-Xylene	88
o-Xylene	90
Propylbenzene	91
1,3,5-Trimethylbenzene	87
1,2,4-Trimethylbenzene	89
Isopentane	109
Butane	96
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: LCS

Lab ID#: 1108152A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/5/11 06:20 PM

Compound	%Recovery
Hexane	92
Cyclohexane	87
2,2,4-Trimethylpentane	89
Benzene	100
1,4-Dioxane	90
Toluene	94
Ethyl Benzene	93
m,p-Xylene	94
o-Xylene	95
Propylbenzene	99
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	93
Isopentane	103
Butane	90
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

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

Client Sample ID: LCS D

Lab ID#: 1108152A-04AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/5/11 06:55 PM

Compound	%Recovery
Hexane	92
Cyclohexane	88
2,2,4-Trimethylpentane	89
Benzene	98
1,4-Dioxane	89
Toluene	92
Ethyl Benzene	93
m,p-Xylene	92
o-Xylene	94
Propylbenzene	98
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	94
Isopentane	102
Butane	91
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

1108152

URS

Shell Oil Products Chain Of Custody Record

Air Toxics LTD.
Project Name: Roxana IA/SS
Project # 21562593.000016

Lab Vendor # _____
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300 - ST. LOUIS, MO 63110
 Air Toxics, LTD 160 Blue Ravine Road, Suite B, Falcon, CA 96600-4719
 314-7429-0100

Print-Email To Contact Name: Thomas Adams
 PO # _____
 600 SOUTH CENTRAL AVE - ROXANA, ILL. 62451
 Elizabeth Kunkel, URS, St. Louis 314-743-4179
 Elizabeth.Kunkel@URS.com

INCIDENT # (ENV. SERVICES): _____
 DATE: 8/6/2011
 CHECK IF NO INCIDENT # APPLIES:

DATE: 8/6/2011
 PAGE: 2 of 2

Requested Analysis: _____
 Turn Around Time: _____
 Lab Use Only: _____
 Processed by: _____
 Date: _____
 Processed on: _____
 Additional Notes: _____

Method TO-15 (Standard)	Method TO-15 (Methane Only)	Method TO-15 (Low Level)	Conistar Pressure/Vacuum	
			Initial (Psi)	Final (Psi)
ASTM D-1946 + Helium	x	x	-30	-12
ASTM D-1946 (Methane Only)	x	x	-30	-5.5
Method TO-15 (Low Level)	x	x	-30	-9
			-29.5	-9.5

Field Sample Identification	SAMPLING		Conistar Number	Initial (Psi)	Final (Psi)	Receipt	Final (Psi)
	DATE	STOP TIME					
RoxHighSchLarGym-08042011-AA	8/4/11-8/5/11	1628	1166	-30	-12		
RoxHighSchLarGym-08052011-SS-A	08/05/11	1134	3752	-30	-5.5		
RoxHighSchLarGym-08052011-SS-B	08/05/11	1125	2156	-30	-9		
RoxHighSchLarGym-08052011-SS-C	08/05/11	1444	2204	-29.5	-9.5		

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4

TURNAROUND TIME (CALENDAR DAYS): 1 DAY 2 DAYS 3 DAYS 4 DAYS 5 DAYS 7 DAYS 14 DAYS RESULTS NEEDED ON WEEKEND

OTHER (SPECIFY): _____

DELIVERABLES: SIEL CONTRACT RATE APPLIES STATE REIMBURSEMENT RATE APPLIES EEO NOT NEEDED RECEIPT VERIFICATION REQUESTED

Received by (Signature): _____
 Date: 8/5/11
 Time: 1900

Received by (Signature): B. W. Spitzer
 Date: 8/6/11
 Time: 0736

RECEIVED

CUSTOMER SEAL INTACT?
 ON HOUR TEMP N/A
 FedEx

8/8/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.00016
Workorder #: 1108152C

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/6/2011 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,



Kelly Buettner
Project Manager

Reviewed
on
8/10/2011

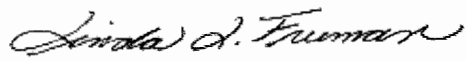
WORK ORDER #: 1108152C

Work Order Summary

CLIENT:	Mr. Thomas Adams URS Corporation 1001 Highlands Plaza Dr. West Suite 300 St. Louis, MO 63110	BILL TO:	Accounts Payable Austin URS Corporation P.O. BOX 203970 Austin, TX 78720-1088
PHONE:	314-429-0100	P.O. #	
FAX:		PROJECT #	21562593.00016 Roxana IA/SS
DATE RECEIVED:	08/06/2011	CONTACT:	Kelly Buettner
DATE COMPLETED:	08/08/2011		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	RoxHighSchLarGym-08042011-IA-A ✓	Modified ASTM D-1946	11.8 "Hg	5 psi
02A	Lab Blank	Modified ASTM D-1946	NA	NA
03A	LCS	Modified ASTM D-1946	NA	NA
03AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY:



Laboratory Director

DATE: 08/08/11

Certification 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: 06/30/11

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

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

**LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1108152C**

One 6 Liter Summa Canister (100% Certified) sample was received on August 06, 2011. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane in air using GC/FID. The method involves direct injection of 1.0 mL of sample.

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

<i>Requirement</i>	<i>ASTM D-1946</i>	<i>ATL Modifications</i>
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections $> 5 X$'s the RL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request 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

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

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 detection limit.

M - Reported value may be biased due to apparent matrix interferences.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: RoxHighSchLarGym-08042011-IA-A

Lab ID#: 1108152C-01A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00022	0.00022 J



Client Sample ID: RoxHighSchLarGym-08042011-IA-A

Lab ID#: 1108152C-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080607	Date of Collection:	8/5/11 4:33:00 PM
Dil. Factor:	2.21	Date of Analysis:	8/6/11 04:24 PM

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00022	0.00022 J

J = Estimated value.

Container Type: 6 Liter Summa Canister (100% Certified)



Client Sample ID: Lab Blank

Lab ID#: 1108152C-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080604a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/6/11 03:13 PM

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00010	Not Detected

Container Type: NA - Not Applicable



Client Sample ID: LCS

Lab ID#: 1108152C-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 02:29 PM

Compound	%Recovery
Methane	97

Container Type: NA - Not Applicable



Client Sample ID: LCSD

Lab ID#: 1108152C-03AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080623	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 10:37 PM

Compound	%Recovery
Methane	97

Container Type: NA - Not Applicable

1108152



Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana IA/SS
Project # 21562593.000016

Lab Vendor # _____
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

Address: Air Toxics LTD, 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4718
 TEL: 916-947-3142 FAX: 916-947-3142
 314-7429-0100 314-429-0482

Print Bill To Contact Name: Thomas Adams
 PO # _____
 800 SOUTH CENTRAL AVE -- BOXYANA
 314-743-4179

Site Address Street and City: Elizabeth Kunkel, URS, St. Louis
 314-743-4179
 E-MAIL: Elizabeth_Kunkel@URS.CO.D.COM

INCIDENT # (EAV SERVICES): _____
 DATE: 8/5/11
 CHECK IF NO INCIDENT # APPLIES:

DATE: 8/5/11
 PAGE: 2 of 2

SHIPMENT COMPARTMENT: _____
 URS PROJECT NUMBER: _____

SHIPMENT TYPE: ENV. SERVICES SHELL RETAIL MOTIVA RETAIL SHELL PIPELINE
 MOTIVA SOACH CONSULTANT JURIS OTHER _____

LABOR CODE: _____

TURNAROUND TIME (CALENDAR DAYS): 5 DAYS 3 DAYS 2 DAYS RESULTS NEEDED ON WEEKEND

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4

OTHER (SPECIFY): _____

SHIPMENT CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 ESD NOT NEEDED
 RECEIPT VERIFICATION REQUESTED

LABOR CODE	Field Sample Identification		SAMPLING		Container Pressure/Vacuum	
	DATE	START TIME	STOP TIME	Initial (Psi)	Final (Psi)	Receipt
01	8/4/11-8/5/11	1828	1833	-30	-12	
02	8/05/11	1134	1344	-30	-5.5	
03	8/05/11	1125	1325	-30	-9	
04	8/05/11	1444	1644	-29.5	-9.5	

Method TO-15 (Standard) x x x x
 ASTM D-1946 (Methane Only) x x
 Method TO-15 (Low Level) x x

Turn Around Time: Normal Rush
 Specify: _____

Lab Use Only
 Pressurized by: _____
 Date: _____
 Pressurization Gas: _____

ADDITIONAL NOTES:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVP
 - SAME DAY TURNAROUND

Requested by: _____
 Date: 8/5/11
 Time: 1900

Received by (Signature): FEDEX
 Received by (Signature): B. W. H. T. H. K. URS
 Received by (Signature): _____

CUSTOMER SEAL INTACT?
 ON NOISE TEMP N/A
 FedEx

Roxana High School – Large Gym Building Sub-Slab Vapor Data Review

Laboratory SDG: 1108152B, D

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Tony Sedlacek

Date Reviewed: 8/10/2011

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Work Plan: Vapor Intrusion Investigation, Roxana, Illinois (March 2011)

Sample Identification	Sample Identification
RoxHighSchLarGym-08052011-A	RoxHighSchLarGym-08052011-B
RoxHighSchLarGym-08052011-C	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Although not indicated in the laboratory case narrative, analytes were detected in the method blank. This issue is addressed further in the appropriate section below.

The cooler receipt form indicated a sample ID discrepancy between the canister tag date and COC designated sample ID date. The COC designated sample ID dates are correct and results have been reported with the COC designated sample ID dates.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
1108152B-05A	TO-15	Toluene	0.098 ppbv / 0.37 µg/m ³
1108152B-05A	TO-15	Ethylbenzene	0.056 ppbv / 0.24 µg/m ³
1108152B-05A	TO-15	m,p-Xylenes	0.11 ppbv / 0.47 µg/m ³
1108152B-05A	TO-15	Propylbenzene	0.089 ppbv / 0.44 µg/m ³
1108152B-05A	TO-15	1,3,5-Trimethylbenzene	0.10 ppbv / 0.50 µg/m ³
1108152D-05A	Natural gases	Nitrogen	0.048%

Qualifications due to blank contamination are included in the table below. Analytical data reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	Qualification
RoxHighSchLarGym-08052011-A	TO-15	Propylbenzene	U
RoxHighSchLarGym-08052011-A	TO-15	1,3,5-Trimethylbenzene	U
RoxHighSchLarGym-08052011-B	TO-15	Propylbenzene	U
RoxHighSchLarGym-08052011-B	TO-15	1,3,5-Trimethylbenzene	U
RoxHighSchLarGym-08052011-C	TO-15	Propylbenzene	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

MS/MSD samples are not applicable for vapor samples due to the inability to spike the samples.

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

No

8/6/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.00016
Workorder #: 1108152B

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/6/2011 at Air Toxics Ltd.

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

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

Regards,



Kelly Buettner
Project Manager

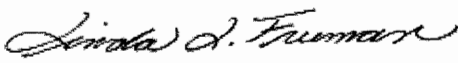
Reviewed
on
8/10/2011

WORK ORDER #: 1108152B

Work Order Summary

CLIENT:	Mr. Thomas Adams URS Corporation 1001 Highlands Plaza Dr. West Suite 300 St. Louis, MO 63110	BILL TO:	Accounts Payable Austin URS Corporation P.O. BOX 203970 Austin, TX 78720-1088
PHONE:	314-429-0100	P.O. #	
FAX:		PROJECT #	21562593.00016 Roxana IA/SS
DATE RECEIVED:	08/06/2011	CONTACT:	Kelly Buettner
DATE COMPLETED:	08/06/2011		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
02A	RoxHighSchLarGym-08042011-SS-A	Modified TO-15	6.0 "Hg	15 psi
03A	RoxHighSchLarGym-08042011-SS-B	Modified TO-15	9.5 "Hg	15 psi
04A	RoxHighSchLarGym-08042011-SS-C	Modified TO-15	9.5 "Hg	15 psi
05A	Lab Blank	Modified TO-15	NA	NA
06A	CCV	Modified TO-15	NA	NA
07A	LCS	Modified TO-15	NA	NA
07AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 

DATE: 08/06/11

Laboratory Director

Certification 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: 06/30/11
 Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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

**LABORATORY NARRATIVE
EPA Method TO-15
URS Corporation
Workorder# 1108152B**

Three 1 Liter Summa Canister (100% Certified) samples were received on August 06, 2011. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

The Chain of Custody (COC) information for sample RoxHighSchLarGym-08042011-SS-B did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified may be false positives.

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

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



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

Client Sample ID: RoxHighSchLarGym-08042011-SS-A

Lab ID#: 1108152B-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.3	0.41 J	4.4	1.4 J
Cyclohexane	1.3	0.66 J	4.3	2.3 J
2,2,4-Trimethylpentane	1.3	0.40 J	5.9	1.8 J
Benzene	1.3	24	4.0	76
Toluene	1.3	4.0	4.7	15
Ethyl Benzene	1.3	0.80 J	5.5	3.5 J
m,p-Xylene	1.3	2.3	5.5	10
o-Xylene	1.3	0.62 J	5.5	2.7 J
Propylbenzene	1.3	0.14 U	6.2	0.71 U
1,3,5-Trimethylbenzene	1.3	0.21 U	6.2	1.0 U
1,2,4-Trimethylbenzene	1.3	0.56 J	6.2	2.8 J
Isopentane	5.0	5.7	15	17
Butane	5.0	5.1	12	12
TPH ref. to Gasoline (MW=100)	63	1400	260	5700

Client Sample ID: RoxHighSchLarGym-08042011-SS-B

Lab ID#: 1108152B-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.5	4.7	5.2	17
Cyclohexane	1.5	0.54 J	5.1	1.8 J
2,2,4-Trimethylpentane	1.5	0.55 J	6.9	2.6 J
Benzene	1.5	5.8	4.7	19
Toluene	1.5	7.3	5.6	28
Ethyl Benzene	1.5	0.78 J	6.4	3.4 J
m,p-Xylene	1.5	2.0	6.4	8.7
o-Xylene	1.5	0.60 J	6.4	2.6 J
Propylbenzene	1.5	0.16 U	7.3	0.81 U
1,3,5-Trimethylbenzene	1.5	0.20 U	7.3	0.97 U
1,2,4-Trimethylbenzene	1.5	0.58 J	7.3	2.8 J
Isopentane	5.9	4.6 J	17	14 J

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

Client Sample ID: RoxHighSchLarGym-08042011-SS-B

Lab ID#: 1108152B-03A

Butane	5.9	5.3 J	14	12 J
TPH ref. to Gasoline (MW=100)	74	1600	300	6500

Client Sample ID: RoxHighSchLarGym-08042011-SS-C

Lab ID#: 1108152B-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.5	0.72 J	5.2	2.5 J
2,2,4-Trimethylpentane	1.5	0.20 J	6.9	0.93 J
Benzene	1.5	22	4.7	69
Toluene	1.5	4.2	5.6	16
Ethyl Benzene	1.5	0.63 J	6.4	2.7 J
m,p-Xylene	1.5	1.8	6.4	7.6
o-Xylene	1.5	0.37 J	6.4	1.6 J
Propylbenzene	1.5	0.12 J u	7.3	0.57 J u
1,2,4-Trimethylbenzene	1.5	0.35 J	7.3	1.7 J
Butane	5.9	3.6 J	14	8.6 J
TPH ref. to Gasoline (MW=100)	74	1000	300	4100



Client Sample ID: RoxHighSchLarGym-08042011-SS-A

Lab ID#: 1108152B-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080614	Date of Collection:	8/5/11 1:44:00 PM
Dil. Factor:	2.52	Date of Analysis:	8/6/11 02:30 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.3	0.41 J	4.4	1.4 J
Cyclohexane	1.3	0.66 J	4.3	2.3 J
2,2,4-Trimethylpentane	1.3	0.40 J	5.9	1.8 J
Benzene	1.3	24	4.0	76
1,4-Dioxane	5.0	Not Detected	18	Not Detected
Toluene	1.3	4.0	4.7	15
Ethyl Benzene	1.3	0.80 J	5.5	3.5 J
m,p-Xylene	1.3	2.3	5.5	10
o-Xylene	1.3	0.62 J	5.5	2.7 J
Propylbenzene	1.3	0.14 J u	6.2	0.71 J u
1,3,5-Trimethylbenzene	1.3	0.21 J u	6.2	1.0 J u
1,2,4-Trimethylbenzene	1.3	0.56 J	6.2	2.8 J
Isopentane	5.0	5.7	15	17
Butane	5.0	5.1	12	12
TPH ref. to Gasoline (MW=100)	63	1400	260	5700

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	107	70-130



Client Sample ID: RoxHighSchLarGym-08042011-SS-B

Lab ID#: 1108152B-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080615	Date of Collection:	8/5/11 1:25:00 PM
Dil. Factor:	2.96	Date of Analysis:	8/6/11 02:53 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.5	4.7	5.2	17
Cyclohexane	1.5	0.54 J	5.1	1.8 J
2,2,4-Trimethylpentane	1.5	0.55 J	6.9	2.6 J
Benzene	1.5	5.8	4.7	19
1,4-Dioxane	5.9	Not Detected	21	Not Detected
Toluene	1.5	7.3	5.6	28
Ethyl Benzene	1.5	0.78 J	6.4	3.4 J
m,p-Xylene	1.5	2.0	6.4	8.7
o-Xylene	1.5	0.60 J	6.4	2.6 J
Propylbenzene	1.5	0.16 J u	7.3	0.81 J u
1,3,5-Trimethylbenzene	1.5	0.20 J u	7.3	0.97 J u
1,2,4-Trimethylbenzene	1.5	0.58 J	7.3	2.8 J
Isopentane	5.9	4.6 J	17	14 J
Butane	5.9	5.3 J	14	12 J
TPH ref. to Gasoline (MW=100)	74	1600	300	6500

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	105	70-130



Client Sample ID: RoxHighSchLarGym-08042011-SS-C

Lab ID#: 1108152B-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080616	Date of Collection:	8/5/11 4:44:00 PM
Dil. Factor:	2.96	Date of Analysis:	8/6/11 03:12 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.5	0.72 J	5.2	2.5 J
Cyclohexane	1.5	Not Detected	5.1	Not Detected
2,2,4-Trimethylpentane	1.5	0.20 J	6.9	0.93 J
Benzene	1.5	22	4.7	69
1,4-Dioxane	5.9	Not Detected	21	Not Detected
Toluene	1.5	4.2	5.6	16
Ethyl Benzene	1.5	0.63 J	6.4	2.7 J
m,p-Xylene	1.5	1.8	6.4	7.6
o-Xylene	1.5	0.37 J	6.4	1.6 J
Propylbenzene	1.5	0.12 J u	7.3	0.57 J u
1,3,5-Trimethylbenzene	1.5	Not Detected	7.3	Not Detected
1,2,4-Trimethylbenzene	1.5	0.35 J	7.3	1.7 J
Isopentane	5.9	Not Detected	17	Not Detected
Butane	5.9	3.6 J	14	8.6 J
TPH ref. to Gasoline (MW=100)	74	1000	300	4100

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: Lab Blank

Lab ID#: 1108152B-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080606a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 10:18 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.50	Not Detected	1.8	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Toluene	0.50	0.098 J	1.9	0.37 J
Ethyl Benzene	0.50	0.056 J	2.2	0.24 J
m,p-Xylene	0.50	0.11 J	2.2	0.47 J
o-Xylene	0.50	Not Detected	2.2	Not Detected
Propylbenzene	0.50	0.089 J	2.4	0.44 J
1,3,5-Trimethylbenzene	0.50	0.10 J	2.4	0.50 J
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
TPH ref. to Gasoline (MW=100)	25	Not Detected	100	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	82	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: CCV

Lab ID#: 1108152B-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 08:20 AM

Compound	%Recovery
Hexane	91
Cyclohexane	99
2,2,4-Trimethylpentane	88
Benzene	99
1,4-Dioxane	117
Toluene	95
Ethyl Benzene	107
m,p-Xylene	108
o-Xylene	110
Propylbenzene	106
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	110
Isopentane	103
Butane	88
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	81	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: LCS

Lab ID#: 1108152B-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 08:48 AM

Compound	%Recovery
Hexane	93
Cyclohexane	103
2,2,4-Trimethylpentane	91
Benzene	102
1,4-Dioxane	115
Toluene	96
Ethyl Benzene	107
m,p-Xylene	111
o-Xylene	112
Propylbenzene	106
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	107
Isopentane	104
Butane	85
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	81	70-130
4-Bromofluorobenzene	104	70-130



Client Sample ID: LCSD

Lab ID#: 1108152B-07AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 09:06 AM

Compound	%Recovery
Hexane	94
Cyclohexane	103
2,2,4-Trimethylpentane	94
Benzene	102
1,4-Dioxane	116
Toluene	97
Ethyl Benzene	105
m,p-Xylene	110
o-Xylene	111
Propylbenzene	108
1,3,5-Trimethylbenzene	109
1,2,4-Trimethylbenzene	109
Isopentane	105
Butane	92
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	82	70-130
4-Bromofluorobenzene	106	70-130

1108152



Shell Oil Products Chain Of Custody Record

URS

Air TOXICS LTD.
Project Name: Roxana IA/SS
Project # 21662593.000016

Lab Vendor # _____
 SAMPLING COMPANY: _____
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

Address: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
 TELEPHONE: 314-7425-0100
 FAX: 314-429-0462

TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4

LA - RWCB REPORT FORMAT UST AGENCY

RESULTS NEEDED ON WEEKEND

Print-Bill To Contact Name: Thomas Adams
 PO # _____
 SHELL RETAIL MOTIVA RETAIL SHELL RETAIL MOTIVA RETAIL SHELL RETAIL MOTIVA RETAIL

INCIDENT # (ENV. SERVICES) 8 7 2 1 9 6 4 0
 DATE: 8/9/2011
 PAGE 2 of 2

CONSULTANT PROJECT NUMBER: Roxana IA/SS
 CONSULTANT PROJECT NAME: Elizabeth Kunkel, URS, St. Louis
 PHONE NO.: 314-743-4179
 EMAIL: Elizabeth.Kunkel@URS Corp.com

900 SOUTH CENTRAL AVE - ROXANA
 (FOR DELIVERABLE TO NAME, COMPANY, OTHER LOCATION)
 Elizabeth Kunkel, URS, St. Louis
 PHONE NO.: 314-743-4179
 EMAIL: Elizabeth.Kunkel@URS Corp.com

Mike Currier / Curt Smith

REQUESTED ANALYSIS

Turn Around Time:
 Normal
 Rush
 Specify _____

Lab Use Only
 Pressurized by: _____
 Date: _____
 Pressurization Gas: _____

ADDITIONAL NOTES:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVP
 - SAME DAY TURNAROUND

LAB USE ONLY	Field Sample Identification	SAMPLING		Container Pressure/Vacuum			
		DATE	START TIME	STOP TIME	Initial (Htg)	Final (Htg)	Receipt
	Rox-HighSchLarGym-08042011-IA-A	8/4/11-8/5/11	1626	1633	-30	-12	
	Rox-HighSchLarGym-08062011-SS-A	09/05/11	1134	1344	-30	-5.5	
	Rox-HighSchLarGym-08052011-SS-B	09/05/11	1125	1325	-30	-9	
	Rox-HighSchLarGym-08052011-SS-C	09/05/11	1444	1644	-29.5	-9.5	

Method TO-15 (Standard) x x x x
 Method TO-15 (Low Level) x
 ASTM D-1946 (Methane Only) x
 ASTM D-1946 + Helium x

Received by (Signature): *[Signature]*
 FEDEX
 Received by (Signature): *[Signature]*
 Received by (Signature): *[Signature]*
 Received by (Signature): *[Signature]*

Date: 8/5/11
 Date: 8/6/11
 Date: _____

Time: 1900

CUSTOMER DEAL INTACT?
 ON NONE TEMP N/A
 Fedex

8/8/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.00016
Workorder #: 1108152D

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/6/2011 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,



Kelly Buettner
Project Manager

Reviewed
on
8/10/2011

WORK ORDER #: 1108152D

Work Order Summary

CLIENT:	Mr. Thomas Adams URS Corporation 1001 Highlands Plaza Dr. West Suite 300 St. Louis, MO 63110	BILL TO:	Accounts Payable Austin URS Corporation P.O. BOX 203970 Austin, TX 78720-1088
PHONE:	314-429-0100	P.O. #	
FAX:		PROJECT #	21562593.00016 Roxana IA/SS
DATE RECEIVED:	08/06/2011	CONTACT:	Kelly Buettner
DATE COMPLETED:	08/08/2011		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
02A	RoxHighSchLarGym-08042011-SS-A	Modified ASTM D-1946	6.0 "Hg	15 psi
03A	RoxHighSchLarGym-08042011-SS-B	Modified ASTM D-1946	9.5 "Hg	15 psi
04A	RoxHighSchLarGym-08042011-SS-C	Modified ASTM D-1946	9.5 "Hg	15 psi
05A	Lab Blank	Modified ASTM D-1946	NA	NA
05B	Lab Blank	Modified ASTM D-1946	NA	NA
06A	LCS	Modified ASTM D-1946	NA	NA
06AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: *Sandra J. Fumara*

DATE: 08/08/11

Laboratory Director

Certification 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: 06/30/11

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

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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

**LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1108152D**

Three 1 Liter Summa Canister (100% Certified) samples were received on August 06, 2011. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

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

<i>Requirement</i>	<i>ASTM D-1946</i>	<i>ATL Modifications</i>
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections $> 5 \times$ the RL.

Receiving Notes

The Chain of Custody (COC) information for sample RoxHighSchLarGym-08042011-SS-B did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

Analytical Notes

As per project specific client request 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

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

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 detection limit.

M - Reported value may be biased due to apparent matrix interferences.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

**Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

Client Sample ID: RoxHighSchLarGym-08042011-SS-A

Lab ID#: 1108152D-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	18
Nitrogen	0.25	78
Methane	0.00025	0.000052 J
Carbon Dioxide	0.025	0.032
Helium	0.13	3.5

Client Sample ID: RoxHighSchLarGym-08042011-SS-B

Lab ID#: 1108152D-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	78
Carbon Dioxide	0.030	0.66
Helium	0.15	3.3

Client Sample ID: RoxHighSchLarGym-08042011-SS-C

Lab ID#: 1108152D-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	79
Carbon Dioxide	0.030	1.3
Helium	0.15	2.0

Client Sample ID: RoxHighSchLarGym-08042011-SS-A

Lab ID#: 1108152D-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080806	Date of Collection: 8/5/11 1:44:00 PM
Dil. Factor:	2.52	Date of Analysis: 8/8/11 08:46 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	18
Nitrogen	0.25	78
Carbon Monoxide	0.025	Not Detected
Methane	0.00025	0.000052 J
Carbon Dioxide	0.025	0.032
Ethane	0.0025	Not Detected
Ethene	0.0025	Not Detected
Helium	0.13	3.5

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchLarGym-08042011-SS-B

Lab ID#: 1108152D-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080807	Date of Collection:	8/5/11 1:25:00 PM
Dil. Factor:	2.96	Date of Analysis:	8/8/11 09:08 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	78
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	Not Detected
Carbon Dioxide	0.030	0.66
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	3.3

Container Type: 1 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchLarGym-08042011-SS-C

Lab ID#: 1108152D-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080808	Date of Collection:	8/5/11 4:44:00 PM
Dil. Factor:	2.96	Date of Analysis:	8/8/11 09:30 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	79
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	Not Detected
Carbon Dioxide	0.030	1.3
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	2.0

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: Lab Blank

Lab ID#: 1108152D-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080805a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/8/11 08:14 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	0.048 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable



Client Sample ID: Lab Blank

Lab ID#: 1108152D-05B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080804b	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/8/11 07:52 AM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.050	Not Detected

Container Type: NA - Not Applicable

Client Sample ID: LCS

Lab ID#: 1108152D-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080802	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/8/11 06:38 AM

Compound	%Recovery
Oxygen	99
Nitrogen	101
Carbon Monoxide	100
Methane	97
Carbon Dioxide	100
Ethane	100
Ethene	99
Helium	92

Container Type: NA - Not Applicable

Client Sample ID: LCSD

Lab ID#: 1108152D-06AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080814	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/8/11 12:13 PM

Compound	%Recovery
Oxygen	100
Nitrogen	101
Carbon Monoxide	98
Methane	97
Carbon Dioxide	98
Ethane	99
Ethene	98
Helium	95

Container Type: NA - Not Applicable

1108152

URS

Shell Oil Products Chain Of Custody Record

Air Toxics Ltd.
 Project Name: **Roxana IA/SS**
 Project # **21662893.000016**

Lab Vendor # _____
 SAMPLING COMPANY: _____
 ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
 TELEPHONE: 314-742B-0100 FAX: 314-428-0462
 TURNAROUND TIME (CALENDAR DAYS): 5 DAYS 3 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

Print Bill To Contact Name: Thomas Adams
 PO # _____
 SHELL RETAIL MOTIVA RETAIL SHELL RETAIL LUBES

INCIDENT # (ENV SERVICES): 9 7 2 1 8 8 4 0
 DATE: 8/5/2011
 PAGE: 2 of 2

CONSULTANT PROJECT NUMBER: Roxana IA/SS
 CONSULTANT: Elizabeth Kunkel@URSCorp.com
 PHONE NO: 314-743-4179
 CONSULTANT PROJECT NUMBER: _____

Requested Analysis

Turn Around Time: Normal Rush
 Lib Use Only: _____
 Pressurized by: _____
 Date: _____
 Pressurization Gas: _____

Additional Notes:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVF
 - SAME DAY TURNAROUND

Field Sample Identification	SAMPLING		Container Pressure/Vacuum	
	DATE	START TIME	Initial (Psi)	Final (Psi)
RoxHighSchLarGym-08042011-IA-A	8/4/11-8/5/11	1626	-30	-12
RoxHighSchLarGym-08052011-SS-A	08/05/11	1344	-30	-6.5
RoxHighSchLarGym-08052011-SS-B	08/05/11	1325	-30	-9
RoxHighSchLarGym-08052011-SS-C	08/05/11	1444	-29.5	-9.5

Requested by (Signature): _____
 Received by (Signature): **FEDEX**
 Date: 8/5/11
 Time: 1900

Requested by (Signature): _____
 Received by (Signature): **B. Whitaker**
 Date: 8/6/11
 Time: 0736

CUSTOMER DEAL INTACT?
 ON NOISE TEMP N/A
 Fedex

Roxana High School – Small Gym Building Indoor Air Data Review

Laboratory SDG: 1108153A, C

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Tony Sedlacek

Date Reviewed: 8/11/2011

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Work Plan: Vapor Intrusion Investigation, Roxana, Illinois (March 2011)

Sample Identification	Sample Identification
RoxHighSchSmGym-08042011-IA-A	RoxHighSchSmGym-08042011-IA-A-Dup
RoxHighSchSmGym-08042011-IA-B	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Although not indicated in the laboratory case narrative, analytes were detected in the method blank. This issue is addressed further in the appropriate section below.

No problems were indicated in the cooler receipt form.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
1108153A-04A	TO-15	Benzene	0.0092 ppbv / 0.029 µg/m ³
1108153A-04A	TO-15	1,2,4-Trimethylbenzene	0.021 ppbv / 0.10 µg/m ³
1108153A-04A	TO-15	Butane	0.088 ppbv / 0.21 µg/m ³
1108153C-06A	Natural gases	Nitrogen	0.048%

Qualifications due to blank contamination are included in the following table. Analytical data reported non-detect or at concentrations greater than five times (5X) the

associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	Qualification
RoxHighSchSmGym-08042011-IA-A-Dup	TO-15	1,2,4-Trimethylbenzene	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

MS/MSD samples are not applicable for vapor samples due to the inability to spike the samples.

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
RoxHighSchSmGym-08042011-IA-A	RoxHighSchSmGym-08042011-IA-A-Dup

Were field duplicate RPDs within evaluation criteria?

Yes

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

No

8/8/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.00016
Workorder #: 1108153A

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/6/2011 at Air Toxics Ltd.

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

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

Regards,



Kelly Buettner
Project Manager

Reviewed
on
8/11/2011

WORK ORDER #: 1108153A

Work Order Summary

CLIENT:	Mr. Thomas Adams URS Corporation 1001 Highlands Plaza Dr. West Suite 300 St. Louis, MO 63110	BILL TO:	Accounts Payable Austin URS Corporation P.O. BOX 203970 Austin, TX 78720-1088
PHONE:	314-429-0100	P.O. #	
FAX:		PROJECT #	21562593.00016 Roxana IA/SS
DATE RECEIVED:	08/06/2011	CONTACT:	Kelly Buettner
DATE COMPLETED:	08/08/2011		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	RoxHighSchSmGym-08042011-IA-A ✓	Modified TO-15	6.8 "Hg	5 psi
02A	RoxHighSchSmGym-08042011-IA-A-Dup ✓	Modified TO-15	8.4 "Hg	5 psi
03A	RoxHighSchSmGym-08042011-IA-B ✓	Modified TO-15	6.0 "Hg	5 psi
04A	Lab Blank	Modified TO-15	NA	NA
05A	CCV	Modified TO-15	NA	NA
06A	LCS	Modified TO-15	NA	NA
06AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: *Sinda J. Fuemm*

DATE: 08/08/11

Laboratory Director

Certification 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: 07/01/11 , Expiration date: 06/30/12.
 Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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

**LABORATORY NARRATIVE
Modified TO-15
URS Corporation
Workorder# 1108153A**

Three 6 Liter Summa Canister (100% Certified) samples were received on August 06, 2011. 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.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
ICAL %RSD acceptance criteria	+/- 30% RSD with 2 compounds allowed out to < 40% RSD	30% RSD with 4 compounds allowed out to < 40% RSD
Daily Calibration	+/- 30% Difference	<=/ 30% Difference with four allowed out up to <=/40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
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
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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.1 ppbv for compounds reported at 0.1 ppbv and 0.5 ppbv for compounds reported at 0.5ppbv) may be false positives.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



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

Client Sample ID: RoxHighSchSmGym-08042011-IA-A

Lab ID#: 1108153A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.17	0.46	0.61	1.6
Cyclohexane	0.17	0.18	0.60	0.62
2,2,4-Trimethylpentane	0.86	0.18 J	4.0	0.86 J
Benzene	0.17	0.25	0.55	0.79
Toluene	0.17	0.97	0.65	3.6
Ethyl Benzene	0.17	0.084 J	0.75	0.36 J
m,p-Xylene	0.17	0.31	0.75	1.4
o-Xylene	0.17	0.15 J	0.75	0.65 J
Propylbenzene	0.17	0.042 J	0.85	0.20 J
1,2,4-Trimethylbenzene	0.17	0.11 J	0.85	0.53 J
Isopentane	0.86	3.0	2.6	8.8
Butane	0.86	4.2	2.0	10
TPH ref. to Gasoline (MW=100)	17	24	71	98

Client Sample ID: RoxHighSchSmGym-08042011-IA-A-Dup

Lab ID#: 1108153A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.19	0.48	0.66	1.7
Cyclohexane	0.19	0.15 J	0.64	0.52 J
2,2,4-Trimethylpentane	0.93	0.14 J	4.3	0.65 J
Benzene	0.19	0.26	0.59	0.84
Toluene	0.19	1.0	0.70	3.8
Ethyl Benzene	0.19	0.096 J	0.81	0.42 J
m,p-Xylene	0.19	0.31	0.81	1.3
o-Xylene	0.19	0.16 J	0.81	0.67 J
Propylbenzene	0.19	0.043 J	0.91	0.21 J
1,2,4-Trimethylbenzene	0.19	0.10 u	0.91	0.49 u
Isopentane	0.93	3.1	2.7	9.2
Butane	0.93	4.3	2.2	10
TPH ref. to Gasoline (MW=100)	19	24	76	98

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

Client Sample ID: RoxHighSchSmGym-08042011-IA-B

Lab ID#: 1108153A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.17	0.47	0.59	1.7
Cyclohexane	0.17	0.13 J	0.58	0.46 J
2,2,4-Trimethylpentane	0.84	0.13 J	3.9	0.62 J
Benzene	0.17	0.25	0.54	0.79
Toluene	0.17	0.78	0.63	2.9
Ethyl Benzene	0.17	0.077 J	0.73	0.34 J
m,p-Xylene	0.17	0.25	0.73	1.1
o-Xylene	0.17	0.12 J	0.73	0.50 J
Propylbenzene	0.17	0.042 J	0.82	0.21 J
1,2,4-Trimethylbenzene	0.17	0.10 J	0.82	0.51 J
Isopentane	0.84	2.9	2.5	8.5
Butane	0.84	3.4	2.0	8.2
TPH ref. to Gasoline (MW=100)	17	21	69	86

Client Sample ID: RoxHighSchSmGym-08042011-IA-A

Lab ID#: 1108153A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080608	Date of Collection:	8/5/11 4:22:00 PM
Dil. Factor:	1.73	Date of Analysis:	8/6/11 11:40 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.17	0.46	0.61	1.6
Cyclohexane	0.17	0.18	0.60	0.62
2,2,4-Trimethylpentane	0.86	0.18 J	4.0	0.86 J
Benzene	0.17	0.25	0.55	0.79
1,4-Dioxane	0.17	Not Detected	0.62	Not Detected
Toluene	0.17	0.97	0.65	3.6
Ethyl Benzene	0.17	0.084 J	0.75	0.36 J
m,p-Xylene	0.17	0.31	0.75	1.4
o-Xylene	0.17	0.15 J	0.75	0.65 J
Propylbenzene	0.17	0.042 J	0.85	0.20 J
1,3,5-Trimethylbenzene	0.17	Not Detected	0.85	Not Detected
1,2,4-Trimethylbenzene	0.17	0.11 J	0.85	0.53 J
Isopentane	0.86	3.0	2.6	8.8
Butane	0.86	4.2	2.0	10
TPH ref. to Gasoline (MW=100)	17	24	71	98

J = Estimated value.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130



Client Sample ID: RoxHighSchSmGym-08042011-IA-A-Dup

Lab ID#: 1108153A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080609	Date of Collection:	8/5/11 4:22:00 PM
Dil. Factor:	1.86	Date of Analysis:	8/6/11 12:16 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.19	0.48	0.66	1.7
Cyclohexane	0.19	0.15 J	0.64	0.52 J
2,2,4-Trimethylpentane	0.93	0.14 J	4.3	0.65 J
Benzene	0.19	0.26	0.59	0.84
1,4-Dioxane	0.19	Not Detected	0.67	Not Detected
Toluene	0.19	1.0	0.70	3.8
Ethyl Benzene	0.19	0.096 J	0.81	0.42 J
m,p-Xylene	0.19	0.31	0.81	1.3
o-Xylene	0.19	0.16 J	0.81	0.67 J
Propylbenzene	0.19	0.043 J	0.91	0.21 J
1,3,5-Trimethylbenzene	0.19	Not Detected	0.91	Not Detected
1,2,4-Trimethylbenzene	0.19	0.40 J U	0.91	0.49 J U
Isopentane	0.93	3.1	2.7	9.2
Butane	0.93	4.3	2.2	10
TPH ref. to Gasoline (MW=100)	19	24	76	98

J = Estimated value.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130



Client Sample ID: RoxHighSchSmGym-08042011-IA-B

Lab ID#: 1108153A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080610	Date of Collection:	8/5/11 4:21:00 PM
Dil. Factor:	1.68	Date of Analysis:	8/6/11 12:51 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.17	0.47	0.59	1.7
Cyclohexane	0.17	0.13 J	0.58	0.46 J
2,2,4-Trimethylpentane	0.84	0.13 J	3.9	0.62 J
Benzene	0.17	0.25	0.54	0.79
1,4-Dioxane	0.17	Not Detected	0.60	Not Detected
Toluene	0.17	0.78	0.63	2.9
Ethyl Benzene	0.17	0.077 J	0.73	0.34 J
m,p-Xylene	0.17	0.25	0.73	1.1
o-Xylene	0.17	0.12 J	0.73	0.50 J
Propylbenzene	0.17	0.042 J	0.82	0.21 J
1,3,5-Trimethylbenzene	0.17	Not Detected	0.82	Not Detected
1,2,4-Trimethylbenzene	0.17	0.10 J	0.82	0.51 J
Isopentane	0.84	2.9	2.5	8.5
Butane	0.84	3.4	2.0	8.2
TPH ref. to Gasoline (MW=100)	17	21	69	86

J = Estimated value.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: Lab Blank

Lab ID#: 1108153A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080606	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/5/11 09:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.10	Not Detected	0.35	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.10	0.0092 J	0.32	0.029 J
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	0.021 J	0.49	0.10 J
Isopentane	0.50	Not Detected	1.5	Not Detected
Butane	0.50	0.088 J	1.2	0.21 J
TPH ref. to Gasoline (MW=100)	10	Not Detected	41	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: CCV

Lab ID#: 1108153A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/5/11 05:40 PM

Compound	%Recovery
Hexane	97
Cyclohexane	91
2,2,4-Trimethylpentane	102
Benzene	96
1,4-Dioxane	89
Toluene	92
Ethyl Benzene	90
m,p-Xylene	88
o-Xylene	90
Propylbenzene	91
1,3,5-Trimethylbenzene	87
1,2,4-Trimethylbenzene	89
Isopentane	109
Butane	96
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: LCS

Lab ID#: 1108153A-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/5/11 06:20 PM

Compound	%Recovery
Hexane	92
Cyclohexane	87
2,2,4-Trimethylpentane	89
Benzene	100
1,4-Dioxane	90
Toluene	94
Ethyl Benzene	93
m,p-Xylene	94
o-Xylene	95
Propylbenzene	99
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	93
Isopentane	103
Butane	90
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

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

Client Sample ID: LCSD

Lab ID#: 1108153A-06AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/5/11 06:55 PM

Compound	%Recovery
Hexane	92
Cyclohexane	88
2,2,4-Trimethylpentane	89
Benzene	98
1,4-Dioxane	89
Toluene	92
Ethyl Benzene	93
m,p-Xylene	92
o-Xylene	94
Propylbenzene	98
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	94
Isopentane	102
Butane	91
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

1108158



Shell Oil Products Chain of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana IA/SS
Project # 21562693.000016

Lab Vendor # _____
 SHELL RETAIL: SHELL RETAIL MOTIVA RETAIL LUBES
 MOTIVA SIMCH CONSULTANT
 SHELL PIPELINE OTHER _____

ADDRESS: _____
 URS CORPORATION
 1001 HIGHLANDS PLAZA, DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 PHONE: _____ FAX: _____
 Air Toxics, LTD. 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
 314-7429-0100 314-429-0462

TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY) 3 DAYS 2 DAYS 1 DAY

INCIDENT # (ENV. SERVICES): 9 7 2 1 0 0 4 0
 DATE: 9/5/2011
 PAGE: 2 of 2

PRINT BILL TO CONTACT NAME: Thomas Adams
 PHONE NO.: 314-743-4179
 E-MAIL: Elizabeth.Kunkel@URS.com
 CONSULTANT PROJECT NUMBER: Roxana IA/SS

SITE ADDRESS, Street and City: _____
 STATE: IL
 ZIP: 600 SOUTH CENTRAL AVE -- ROXANA
 DELIVERABLE TO (NAME, COMPANY, ORS LOCATION): Elizabeth Kunkel, URS, St. Louis
 EMPLOYER NUMBER (PIN): _____

REQUESTED ANALYSIS

Turn Around Time:
 Normal
 Rush
 Specify _____

Method TO-15 (Standard) _____
 Method TO-15 (Methane Only) _____
 Method TO-15 (Low Level) _____

Lab Use Only
 Pressurized by: _____
 Date: _____
 Pressurization Gas: _____

ADDITIONAL NOTES:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVP
 - SAME DAY TURNAROUND

Field Sample Identification	SAMPLING		Canister Number		Canister Pressure/Vacuum	
	DATE	START TIME	STOP TIME	Initial (”Hg)	Final (”Hg)	Receipt (psi)
RoxHighSchSmGym-08042011-IA-A	8/4/11-8/5/11	1617	1622	-30	-7.5	
RoxHighSchSmGym-08042011-IA-A-Dup	8/4/11-8/5/11	1617	1622	-30	-9	
RoxHighSchSmGym-08042011-IA-B	8/4/11-8/5/11	1621	1621	-29	-6.5	
RoxHighSchSmGym-08052011-SS-A	08/05/11	1516	1716	-26	-9	
RoxHighSchSmGym-08052011-SS-B	08/05/11	1503	1703	-30	-9.5	

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4

RESULTS NEEDED ON WEEKEND O/RISK (SPECIFY) _____

SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 EID NOT NEEDED
 RECEIPT VERIFICATION REQUESTED

Received by: (Signature) *[Signature]*
 FEDEX
 Received by: (Signature) *B. Swaffaker*
 Received by: (Signature) _____

DATE: 8/5/11 TIME: 1700

DATE: _____ TIME: _____

DATE: _____ TIME: _____

FEDEX
CUSTOMER SEAL INTACT?
IN NONE TEMP N/A

8/8/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.00016
Workorder #: 1108153C

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/6/2011 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,



Kelly Buettner
Project Manager

Reviewed
on
8/11/2011

WORK ORDER #: 1108153C

Work Order Summary

CLIENT: Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis, MO 63110

BILL TO: Accounts Payable Austin
URS Corporation
P.O. BOX 203970
Austin, TX 78720-1088

PHONE: 314-429-0100

FAX:

DATE RECEIVED: 08/06/2011

DATE COMPLETED: 08/08/2011

P.O. #

PROJECT # 21562593.00016 Roxana IA/SS

CONTACT: Kelly Buettner

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	RoxHighSchSmGym-08042011-IA-A ✓	Modified ASTM D-1946	6.8 "Hg	5 psi
02A	RoxHighSchSmGym-08042011-IA-A-Dup ✓	Modified ASTM D-1946	8.4 "Hg	5 psi
03A	RoxHighSchSmGym-08042011-IA-B ✓	Modified ASTM D-1946	6.0 "Hg	5 psi
04A	RoxHighSchSmGym-08042011-SS-A	Modified ASTM D-1946	8.5 "Hg	15 psi
05A	RoxHighSchSmGym-08042011-SS-B	Modified ASTM D-1946	9.5 "Hg	15 psi
06A	Lab Blank	Modified ASTM D-1946	NA	NA
06B	Lab Blank	Modified ASTM D-1946	NA	NA
07A	LCS	Modified ASTM D-1946	NA	NA
07AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: *Linda J. Freeman*

DATE: 08/08/11

Laboratory Director

Certification 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: 06/30/11
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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

**LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1108153C**

Three 6 Liter Summa Canister (100% Certified) and two 1 Liter Summa Canister (100% Certified) samples were received on August 06, 2011. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

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

<i>Requirement</i>	<i>ASTM D-1946</i>	<i>ATL Modifications</i>
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.

Precision

Precision requirements established at each concentration level.

Duplicates should agree within 25% RPD for detections $> 5 \times$ the RL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request 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

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

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 detection limit.

M - Reported value may be biased due to apparent matrix interferences.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: RoxHighSchSmGym-08042011-IA-A

Lab ID#: 1108153C-01A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00021

Client Sample ID: RoxHighSchSmGym-08042011-IA-A-Dup

Lab ID#: 1108153C-02A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00019	0.00021

Client Sample ID: RoxHighSchSmGym-08042011-IA-B

Lab ID#: 1108153C-03A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00022

Client Sample ID: RoxHighSchSmGym-08042011-SS-A

Lab ID#: 1108153C-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	19
Nitrogen	0.28	81
Methane	0.00028	0.00011 J
Carbon Dioxide	0.028	0.069
Helium	0.14	0.093 J

Client Sample ID: RoxHighSchSmGym-08042011-SS-B

Lab ID#: 1108153C-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	80
Methane	0.00030	0.00011 J



Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: RoxHighSchSmGym-08042011-SS-B

Lab ID#: 1108153C-05A

Carbon Dioxide	0.030	0.97
Helium	0.15	0.67



Client Sample ID: RoxHighSchSmGym-08042011-IA-A

Lab ID#: 1108153C-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080608	Date of Collection:	8/5/11 4:22:00 PM
Dil. Factor:	1.73	Date of Analysis:	8/6/11 04:46 PM

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00021

Container Type: 6 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchSmGym-08042011-IA-A-Dup

Lab ID#: 1108153C-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080609	Date of Collection:	8/5/11 4:22:00 PM
Dil. Factor:	1.86	Date of Analysis:	8/6/11 05:09 PM

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00019	0.00021

Container Type: 6 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchSmGym-08042011-IA-B

Lab ID#: 1108153C-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080610	Date of Collection:	8/5/11 4:21:00 PM
Dil. Factor:	1.68	Date of Analysis:	8/6/11 05:34 PM

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00022

Container Type: 6 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchSmGym-08042011-SS-A

Lab ID#: 1108153C-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080615	Date of Collection:	8/5/11 5:16:00 PM
Dil. Factor:	2.82	Date of Analysis:	8/6/11 07:41 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	19
Nitrogen	0.28	81
Carbon Monoxide	0.028	Not Detected
Methane	0.00028	0.00011 J
Carbon Dioxide	0.028	0.069
Ethane	0.0028	Not Detected
Ethene	0.0028	Not Detected
Helium	0.14	0.093 J

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchSmGym-08042011-SS-B

Lab ID#: 1108153C-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080616	Date of Collection:	8/5/11 5:03:00 PM
Dil. Factor:	2.96	Date of Analysis:	8/6/11 08:04 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	80
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.00011 J
Carbon Dioxide	0.030	0.97
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	0.67

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: Lab Blank

Lab ID#: 1108153C-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080604c	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 03:13 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	0.048 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable



Client Sample ID: Lab Blank

Lab ID#: 1108153C-06B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080603b	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/6/11 02:51 PM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.050	Not Detected

Container Type: NA - Not Applicable

Client Sample ID: LCS

Lab ID#: 1108153C-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 02:29 PM

Compound	%Recovery
Oxygen	99
Nitrogen	101
Carbon Monoxide	93
Methane	97
Carbon Dioxide	101
Ethane	100
Ethene	99
Helium	95

Container Type: NA - Not Applicable

Client Sample ID: LCSD

Lab ID#: 1108153C-07AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080623	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 10:37 PM

Compound	%Recovery
Oxygen	99
Nitrogen	101
Carbon Monoxide	94
Methane	97
Carbon Dioxide	102
Ethane	100
Ethene	98
Helium	95

Container Type: NA - Not Applicable

1108158

0000046StroelE146

URS

Shell Oil Products Chain Of Custody Record

Air Toxics LTD.
 Project Name: Roxana IA/SS
 Project # 21562593.000016

Lab Vendor # _____
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110

1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 AIR TOXICS LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
 TEL: 314-7428-0100 FAX: 314-429-0482

TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS RESULTS NEEDED ON WEDNESDAY

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

SHIP TO: URS CORPORATION, 900 SOUTH CENTRAL AVE - ROXANA, ILL. 62451
 PHONE NO: 314-743-4179 FAX: Elizabeth.Kunkel@URSCorp.com
 CONSULTANT PROJECT NUMBER: Roxana IA/SS

Requested Analysis
 Turn Around Time:
 Normal
 Rush
 Specialty

Method TO-15 (Standard) Method TO-16 (Low Level)
 ASTM D-1946 + Helium ASTM D-1946 (Methane Only)

Method TO-15 (Standard) Method TO-16 (Low Level)
 ASTM D-1946 + Helium ASTM D-1946 (Methane Only)

Method TO-15 (Standard) Method TO-16 (Low Level)
 ASTM D-1946 + Helium ASTM D-1946 (Methane Only)

Field Sample Identification	DATE	START TIME	STOP TIME	Cylinder Number	Consider Pressure/Vacuum		Initial (Psi)	Final (Psi)
					Receipt	Receipt		
RoxHighSchSmGym-08042011-IA-A	8/4/11-8/5/11	1617	1622	184		-30	-7.5	
RoxHighSchSmGym-08042011-IA-A-Dup	8/4/11-8/5/11	1617	1622	3226		-30	-9	
RoxHighSchSmGym-08042011-IA-B	8/4/11-8/5/11	1621	1621	254		-29	-6.5	
RoxHighSchSmGym-08052011-SS-A	08/05/11	1516	1716	3022		-26	-9	
RoxHighSchSmGym-08052011-SS-B	08/05/11	1603	1703	3864		-30	-9.5	

Requested by: (Signature) *[Signature]*
 Received by: (Signature) B. Whittaker 8/6/11 0736
 Date: 8/5/11
 Time: 1700
 Date: _____
 Time: _____
 Date: _____
 Time: _____

FEDEX
 CUSTOMER SEAL INTACT?
 IN NICKLE TEMP N/A

Roxana High School – Small Gym Building Sub-Slab Vapor Data Review

Laboratory SDG: 1108153B, C

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Tony Sedlacek

Date Reviewed: 8/11/2011

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Work Plan: Vapor Intrusion Investigation, Roxana, Illinois (March 2011)

Sample Identification	Sample Identification
RoxHighSchSmGym-08052011-SS-A	RoxHighSchSmGym-08052011-SS-B

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Although not indicated in the laboratory case narrative, analytes were detected in the method blank. This issue is addressed further in the appropriate section below.

The cooler receipt form did not indicate any problems; however, samples with COC-designated IDs RoxHighSchSmGym-08052011-SS-A and RoxHighSchSmGym-08052011-SS-B were incorrectly transcribed as having been sampled on 08/04/2011. Data were reported using the correct sample IDs as designated on the COC.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
1108153B-06A	TO-15	Toluene	0.098 ppbv / 0.37 µg/m ³
1108153B-06A	TO-15	Ethylbenzene	0.056 ppbv / 0.24 µg/m ³
1108153B-06A	TO-15	m,p-Xylenes	0.11 ppbv / 0.47 µg/m ³
1108153B-06A	TO-15	Propylbenzene	0.089 ppbv / 0.44 µg/m ³
1108153B-06A	TO-15	1,3,5-Trimethylbenzene	0.10 ppbv / 0.50 µg/m ³
1108153C-06A	Natural gases	Nitrogen	0.048%

Qualifications due to blank contamination are included in the table below. Analytical data reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	Qualification
RoxHighSchSmGym-08052011-SS-A	TO-15	Propylbenzene	U
RoxHighSchSmGym-08052011-SS-B	TO-15	Propylbenzene	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

MS/MSD samples are not applicable for vapor samples due to the inability to spike the samples.

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

No

8/8/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.00016
Workorder #: 1108153B

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/6/2011 at Air Toxics Ltd.

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

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

Regards,



Kelly Buettner
Project Manager

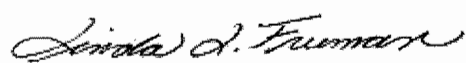
Reviewed
on
8/11/2011

WORK ORDER #: 1108153B

Work Order Summary

CLIENT:	Mr. Thomas Adams URS Corporation 1001 Highlands Plaza Dr. West Suite 300 St. Louis, MO 63110	BILL TO:	Accounts Payable Austin URS Corporation P.O. BOX 203970 Austin, TX 78720-1088
PHONE:	314-429-0100	P.O. #	
FAX:		PROJECT #	21562593.00016 Roxana IA/SS
DATE RECEIVED:	08/06/2011	CONTACT:	Kelly Buettner
DATE COMPLETED:	08/08/2011		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
04A	RoxHighSchSmGym-08042011-SS-A	Modified TO-15	8.5 "Hg	15 psi
05A	RoxHighSchSmGym-08042011-SS-B	Modified TO-15	9.5 "Hg	15 psi
06A	Lab Blank	Modified TO-15	NA	NA
07A	CCV	Modified TO-15	NA	NA
08A	LCS	Modified TO-15	NA	NA
08AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY:  DATE: 08/08/11

Laboratory Director

Certification 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: 07/01/11 , Expiration date: 06/30/12.
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards
This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
EPA Method TO-15
URS Corporation
Workorder# 1108153B**

Two 1 Liter Summa Canister (100% Certified) samples were received on August 06, 2011. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: RoxHighSchSmGym-08042011-SS-A

Lab ID#: 1108153B-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.4	1.9	5.0	6.7
Cyclohexane	1.4	0.94 J	4.8	3.2 J
2,2,4-Trimethylpentane	1.4	0.63 J	6.6	3.0 J
Benzene	1.4	25	4.5	80
Toluene	1.4	11	5.3	42
Ethyl Benzene	1.4	0.80 J	6.1	3.5 J
m,p-Xylene	1.4	2.1	6.1	9.1
o-Xylene	1.4	0.60 J	6.1	2.6 J
Propylbenzene	1.4	0.12 J u	6.9	0.62 J u
1,2,4-Trimethylbenzene	1.4	0.46 J	6.9	2.3 J
Isopentane	5.6	10	17	31
Butane	5.6	5.0 J	13	12 J
TPH ref. to Gasoline (MW=100)	70	1200	290	4900

Client Sample ID: RoxHighSchSmGym-08042011-SS-B

Lab ID#: 1108153B-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.5	0.80 J	5.2	2.8 J
Cyclohexane	1.5	0.70 J	5.1	2.4 J
2,2,4-Trimethylpentane	1.5	0.36 J	6.9	1.7 J
Benzene	1.5	27	4.7	86
Toluene	1.5	3.7	5.6	14
Ethyl Benzene	1.5	0.65 J	6.4	2.8 J
m,p-Xylene	1.5	2.1	6.4	9.2
o-Xylene	1.5	0.57 J	6.4	2.4 J
Propylbenzene	1.5	0.14 J u	7.3	0.67 J u
1,2,4-Trimethylbenzene	1.5	0.48 J	7.3	2.4 J
Isopentane	5.9	3.0 J	17	8.8 J
Butane	5.9	4.7 J	14	11 J
TPH ref. to Gasoline (MW=100)	74	910	300	3700

Client Sample ID: RoxHighSchSmGym-08042011-SS-A

Lab ID#: 1108153B-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080617	Date of Collection:	8/5/11 5:16:00 PM
Dil. Factor:	2.82	Date of Analysis:	8/6/11 03:34 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.4	1.9	5.0	6.7
Cyclohexane	1.4	0.94 J	4.8	3.2 J
2,2,4-Trimethylpentane	1.4	0.63 J	6.6	3.0 J
Benzene	1.4	25	4.5	80
1,4-Dioxane	5.6	Not Detected	20	Not Detected
Toluene	1.4	11	5.3	42
Ethyl Benzene	1.4	0.80 J	6.1	3.5 J
m,p-Xylene	1.4	2.1	6.1	9.1
o-Xylene	1.4	0.60 J	6.1	2.6 J
Propylbenzene	1.4	0.12 J u	6.9	0.62 J u
1,3,5-Trimethylbenzene	1.4	Not Detected	6.9	Not Detected
1,2,4-Trimethylbenzene	1.4	0.46 J	6.9	2.3 J
Isopentane	5.6	10	17	31
Butane	5.6	5.0 J	13	12 J
TPH ref. to Gasoline (MW=100)	70	1200	290	4900

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	104	70-130



Client Sample ID: RoxHighSchSmGym-08042011-SS-B

Lab ID#: 1108153B-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080618	Date of Collection:	8/5/11 5:03:00 PM
Dil. Factor:	2.96	Date of Analysis:	8/6/11 03:53 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.5	0.80 J	5.2	2.8 J
Cyclohexane	1.5	0.70 J	5.1	2.4 J
2,2,4-Trimethylpentane	1.5	0.36 J	6.9	1.7 J
Benzene	1.5	27	4.7	86
1,4-Dioxane	5.9	Not Detected	21	Not Detected
Toluene	1.5	3.7	5.6	14
Ethyl Benzene	1.5	0.65 J	6.4	2.8 J
m,p-Xylene	1.5	2.1	6.4	9.2
o-Xylene	1.5	0.57 J	6.4	2.4 J
Propylbenzene	1.5	0.14 J U	7.3	0.67 J U
1,3,5-Trimethylbenzene	1.5	Not Detected	7.3	Not Detected
1,2,4-Trimethylbenzene	1.5	0.48 J	7.3	2.4 J
Isopentane	5.9	3.0 J	17	8.8 J
Butane	5.9	4.7 J	14	11 J
TPH ref. to Gasoline (MW=100)	74	910	300	3700

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: Lab Blank

Lab ID#: 1108153B-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080606a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/6/11 10:18 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.50	Not Detected	1.8	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Toluene	0.50	0.098 J	1.9	0.37 J
Ethyl Benzene	0.50	0.056 J	2.2	0.24 J
m,p-Xylene	0.50	0.11 J	2.2	0.47 J
o-Xylene	0.50	Not Detected	2.2	Not Detected
Propylbenzene	0.50	0.089 J	2.4	0.44 J
1,3,5-Trimethylbenzene	0.50	0.10 J	2.4	0.50 J
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
TPH ref. to Gasoline (MW=100)	25	Not Detected	100	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	82	70-130
4-Bromofluorobenzene	104	70-130



Client Sample ID: CCV

Lab ID#: 1108153B-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 08:20 AM

Compound	%Recovery
Hexane	91
Cyclohexane	99
2,2,4-Trimethylpentane	88
Benzene	99
1,4-Dioxane	117
Toluene	95
Ethyl Benzene	107
m,p-Xylene	108
o-Xylene	110
Propylbenzene	106
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	110
Isopentane	103
Butane	88
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	81	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: LCS

Lab ID#: 1108153B-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 08:48 AM

Compound	%Recovery
Hexane	93
Cyclohexane	103
2,2,4-Trimethylpentane	91
Benzene	102
1,4-Dioxane	115
Toluene	96
Ethyl Benzene	107
m,p-Xylene	111
o-Xylene	112
Propylbenzene	106
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	107
Isopentane	104
Butane	85
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	81	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: LCS D

Lab ID#: 1108153B-08AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 09:06 AM

Compound	%Recovery
Hexane	94
Cyclohexane	103
2,2,4-Trimethylpentane	94
Benzene	102
1,4-Dioxane	116
Toluene	97
Ethyl Benzene	105
m,p-Xylene	110
o-Xylene	111
Propylbenzene	108
1,3,5-Trimethylbenzene	109
1,2,4-Trimethylbenzene	109
Isopentane	105
Butane	92
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	82	70-130
4-Bromofluorobenzene	106	70-130

1108758

URS

Shell Oil Products Chain Of Custody Record

Air Toxics LTD.
Project Name: Roxana IA/SS
Project # 21562593.000016

Lab Vendor # _____

URS CORPORATION
 ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
 Laboratory Address: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
 TELEPHONE: 314-7429-0100 FAX: 314-429-0462

TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (4 DAY) 5 DAYS 3 DAYS 2 DAYS

LA - RWQCE REPORT FORMAT IUST AGENCY

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4

74 HOURS RESULTS NEEDED ON WEEKEND

OTHER (SPECIFY): _____

SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 EDO NOT NEEDED
 RECEIPT VERIFICATION REQUESTED

Print Bill To Contact Name: Thomas Adams
 PO # _____
 SHT ADDRESS: STREET AND CITY: _____
 STATE: _____ ZIP: _____
 900 SOUTH CENTRAL AVE - ROXANA, ILL. 62451
 PHONE NO.: 314.743-4179
 CONTRACT PROJECT NUMBER: Roxana IA/SS
 ELIZABETH KUNKEL, URS, ST. LOUIS
 ELIZABETH KUNKEL@URS.CORP.COM

INCIDENT # (ENV. SERVICES): 9 7 2 1 0 0 4 0
 DATE: 06/20/11
 CHECK IF NO INCIDENT # APPLIES:

SAP # _____
 URGENT? YES NO

PAGE: 2 of 2

Lab Use Only	Field Sample Identification	SAMPLING		Canister Number	Conifer Pressure/Vacuum		Method TO-15 (Standard)	Method TO-15 (Low Level)	ASTM D-1946 (Methane Only)	ASTM D-1946 + Helium	Requested Analysis
		DATE	START TIME		STOP TIME	Initial (inHg)					
	RoxHighSchSmGym-08042011-IA-A	8/4/11-8/5/11	1617	1622	164	-30	-7.5	x	x	x	- 14 day hold time
	RoxHighSchSmGym-08042011-IA-A-Dup	8/4/11-8/5/11	1617	1622	3226	-30	-9	x	x	x	- Report results between MDL and RL
	RoxHighSchSmGym-08042011-IA-B	8/4/11-8/5/11	1621	1621	254	-29	-6.5	x	x	x	- Level IV ECVP
	RoxHighSchSmGym-08052011-SS-A	08/05/11	1516	1716	3022	-26	-9	x	x	x	- SAME DAY TURNAROUND
	RoxHighSchSmGym-08052011-SS-B	08/05/11	1503	1703	3864	-30	-9.5	x	x	x	

Requested by (Signature): *[Signature]*
 Received by (Signature): **FEDEX**
 Date: 8/5/11
 Time: 1:00

Requested by (Signature): *[Signature]*
 Received by (Signature): *[Signature]*
 Date: 8/10/11
 Time: 0736

Requested by (Signature): _____
 Received by (Signature): _____
 Date: _____
 Time: _____

FEDEX
 CUSTOMER SEAL INTACT?
 YES NO N/A
 TEMP N/A

8/8/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.00016
Workorder #: 1108153C

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/6/2011 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,



Kelly Buettner
Project Manager

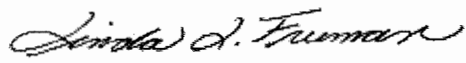
Reviewed
on
8/11/2011

WORK ORDER #: 1108153C

Work Order Summary

CLIENT:	Mr. Thomas Adams URS Corporation 1001 Highlands Plaza Dr. West Suite 300 St. Louis, MO 63110	BILL TO:	Accounts Payable Austin URS Corporation P.O. BOX 203970 Austin, TX 78720-1088
PHONE:	314-429-0100	P.O. #	
FAX:		PROJECT #	21562593.00016 Roxana IA/SS
DATE RECEIVED:	08/06/2011	CONTACT:	Kelly Buettner
DATE COMPLETED:	08/08/2011		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	RoxHighSchSmGym-08042011-IA-A	Modified ASTM D-1946	6.8 "Hg	5 psi
02A	RoxHighSchSmGym-08042011-IA-A-Dup	Modified ASTM D-1946	8.4 "Hg	5 psi
03A	RoxHighSchSmGym-08042011-IA-B	Modified ASTM D-1946	6.0 "Hg	5 psi
04A	RoxHighSchSmGym-08042011-SS-A	Modified ASTM D-1946	8.5 "Hg	15 psi
05A	RoxHighSchSmGym-08042011-SS-B	Modified ASTM D-1946	9.5 "Hg	15 psi
06A	Lab Blank	Modified ASTM D-1946	NA	NA
06B	Lab Blank	Modified ASTM D-1946	NA	NA
07A	LCS	Modified ASTM D-1946	NA	NA
07AA	LCS	Modified ASTM D-1946	NA	NA

CERTIFIED BY: 

DATE: 08/08/11

Laboratory Director

Certification 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: 06/30/11
 Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1108153C

Three 6 Liter Summa Canister (100% Certified) and two 1 Liter Summa Canister (100% Certified) samples were received on August 06, 2011. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

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

<i>Requirement</i>	<i>ASTM D-1946</i>	<i>ATL Modifications</i>
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.

Precision

Precision requirements established at each concentration level.

Duplicates should agree within 25% RPD for detections > 5 X's the RL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request 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

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

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 detection limit.

M - Reported value may be biased due to apparent matrix interferences.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: RoxHighSchSmGym-08042011-IA-A

Lab ID#: 1108153C-01A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00021

Client Sample ID: RoxHighSchSmGym-08042011-IA-A-Dup

Lab ID#: 1108153C-02A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00019	0.00021

Client Sample ID: RoxHighSchSmGym-08042011-IA-B

Lab ID#: 1108153C-03A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00022

Client Sample ID: RoxHighSchSmGym-08042011-SS-A

Lab ID#: 1108153C-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	19
Nitrogen	0.28	81
Methane	0.00028	0.00011 J
Carbon Dioxide	0.028	0.069
Helium	0.14	0.093 J

Client Sample ID: RoxHighSchSmGym-08042011-SS-B

Lab ID#: 1108153C-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	80
Methane	0.00030	0.00011 J



Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: RoxHighSchSmGym-08042011-SS-B

Lab ID#: 1108153C-05A

Carbon Dioxide	0.030	0.97
Helium	0.15	0.67



Client Sample ID: RoxHighSchSmGym-08042011-IA-A

Lab ID#: 1108153C-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080608	Date of Collection:	8/5/11 4:22:00 PM
Dil. Factor:	1.73	Date of Analysis:	8/6/11 04:46 PM

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00021

Container Type: 6 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchSmGym-08042011-IA-A-Dup

Lab ID#: 1108153C-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080609	Date of Collection:	8/5/11 4:22:00 PM
Dil. Factor:	1.86	Date of Analysis:	8/6/11 05:09 PM

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00019	0.00021

Container Type: 6 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchSmGym-08042011-IA-B

Lab ID#: 1108153C-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080610	Date of Collection:	8/5/11 4:21:00 PM
Dil. Factor:	1.68	Date of Analysis:	8/6/11 05:34 PM

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00022

Container Type: 6 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchSmGym-08042011-SS-A

Lab ID#: 1108153C-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080615	Date of Collection:	8/5/11 5:16:00 PM
Dil. Factor:	2.82	Date of Analysis:	8/6/11 07:41 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	19
Nitrogen	0.28	81
Carbon Monoxide	0.028	Not Detected
Methane	0.00028	0.00011 J
Carbon Dioxide	0.028	0.069
Ethane	0.0028	Not Detected
Ethene	0.0028	Not Detected
Helium	0.14	0.093 J

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchSmGym-08042011-SS-B

Lab ID#: 1108153C-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080616	Date of Collection: 8/5/11 5:03:00 PM
Dil. Factor:	2.96	Date of Analysis: 8/6/11 08:04 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	80
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.00011 J
Carbon Dioxide	0.030	0.97
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	0.67

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)



Client Sample ID: Lab Blank

Lab ID#: 1108153C-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080604c	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/6/11 03:13 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	0.048 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Client Sample ID: Lab Blank

Lab ID#: 1108153C-06B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080603b	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 02:51 PM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.050	Not Detected

Container Type: NA - Not Applicable

Client Sample ID: LCS

Lab ID#: 1108153C-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 02:29 PM

Compound	%Recovery
Oxygen	99
Nitrogen	101
Carbon Monoxide	93
Methane	97
Carbon Dioxide	101
Ethane	100
Ethene	99
Helium	95

Container Type: NA - Not Applicable

Client Sample ID: LCSD

Lab ID#: 1108153C-07AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080623	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 10:37 PM

Compound	%Recovery
Oxygen	99
Nitrogen	101
Carbon Monoxide	94
Methane	97
Carbon Dioxide	102
Ethane	100
Ethene	98
Helium	95

Container Type: NA - Not Applicable

1108158

00000048ShellE146



Shell Oil Products Chain Of Custody Record

Air Toxics LTD.
 Project Name: Roxana IA/SS
 Project # 21562593.000016

Lab Vendor # _____
 SHIPPING COMPANY: _____

URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
 ADDRESS: _____
 AIR TOXICS, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
 314-7428-0100 FAX: 314-428-0162

INCIDENT # (ENV. SERVICES): 9 7 2 1 0 0 4 0
 DATE: 8/2/2011
 PAGE 2 of 2

INCIDENT # (ENV. SERVICES): _____
 DATE: _____
 PAGE _____ of _____

Client: Thomas Adams
 P.O. # _____
 E-MAIL: Elizabeth.Kunkel@URS.com
 314-748-4179
 CONSULTANT PROJECT NUMBER: Roxana IA/SS

SHIP ADDRESS: Street and City
 900 SOUTH CENTRAL AVE - ROXANA
 ILL. PRICE NO.: 314-748-4179
 SUPPLIER NUMBER (P/N): _____

SHIP TO: _____
 E-MAIL: _____
 CONSULTANT PROJECT NUMBER: _____

SHIP TO: _____
 E-MAIL: _____
 CONSULTANT PROJECT NUMBER: _____

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Handwritten signature: *Mike Currier / Curt Smith*

Handwritten signature: *FEDEX*

Handwritten signature: *Bushnell*

Handwritten signature: *8/2/11*

Handwritten signature: *1700*

Stamp: **CUSTOMER SEAL INTACT? IN NON-TEMP N/A**

Roxana High School – Small Gym Building Sub-Slab Vapor Data Review

Laboratory SDG: 1108181A, B

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Tony Sedlacek

Date Reviewed: 8/11/2011

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Work Plan: Vapor Intrusion Investigation, Roxana, Illinois (March 2011)

Sample Identification
RoxHighSchSmGym-08082011-SS-C

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Although not indicated in the case narrative, analytes were detected in the method blank. This issue is addressed further in the appropriate section below.

No problems were indicated in the cooler receipt form.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
1108181A-02A	TO-15	2,2,4-Trimethylpentane	0.15 ppbv / 0.70 µg/m ³
1108181A-02A	TO-15	Toluene	0.074 ppbv / 0.28 µg/m ³
1108181A-02A	TO-15	m,p-Xylenes	0.17 ppbv / 0.73 µg/m ³
1108181A-02A	TO-15	o-Xylene	0.17 ppbv / 0.73 µg/m ³
1108181A-02A	TO-15	Propylbenzene	0.12 ppbv / 0.57 µg/m ³
1108181A-02A	TO-15	1,3,5-Trimethylbenzene	0.29 ppbv / 1.4 µg/m ³
1108181A-02A	TO-15	1,2,4-Trimethylbenzene	0.25 ppbv / 1.2 µg/m ³
1108181B-02A	Natural gases	Nitrogen	0.056%

Qualifications due to blank contamination are included in the table below. Analytical data reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	Qualification
RoxHighSchSmGym-08082011-SS-A	TO-15	2,2,4-Trimethylpentane	U
RoxHighSchSmGym-08082011-SS-B	TO-15	1,2,4-Trimethylbenzene	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

MS/MSD samples are not applicable for vapor samples due to the inability to spike the samples.

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

No

8/9/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.000016
Workorder #: 1108181A

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/9/2011 at Air Toxics Ltd.

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

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

Regards,



Kelly Buettner
Project Manager

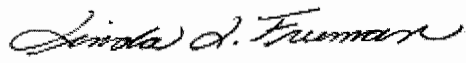
Reviewed
on
8/11/2011

WORK ORDER #: 1108181A

Work Order Summary

CLIENT:	Mr. Thomas Adams URS Corporation 1001 Highlands Plaza Dr. West Suite 300 St. Louis, MO 63110	BILL TO:	Accounts Payable Austin URS Corporation P.O. BOX 203970 Austin, TX 78720-1088
PHONE:	314-429-0100	P.O. #	
FAX:		PROJECT #	21562593.000016 Roxana IA/SS
DATE RECEIVED:	08/09/2011	CONTACT:	Kelly Buettner
DATE COMPLETED:	08/09/2011		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	RoxHighSchSmGym-08082011-SS-C ✓	Modified TO-15	10.0 "Hg	15 psi
02A	Lab Blank	Modified TO-15	NA	NA
03A	CCV	Modified TO-15	NA	NA
04A	LCS	Modified TO-15	NA	NA
04AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 

DATE: 08/09/11

Laboratory Director

Certification 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: 07/01/11 , Expiration date: 06/30/12.
 Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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

**LABORATORY NARRATIVE
EPA Method TO-15
URS Corporation
Workorder# 1108181A**

One 1 Liter Summa Canister (100% Certified) sample was received on August 09, 2011. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives.

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

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: RoxHighSchSmGym-08082011-SS-C

Lab ID#: 1108181A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.5	0.59 J	5.3	2.1 J
Cyclohexane	1.5	1.3 J	5.2	4.4 J
2,2,4-Trimethylpentane	1.5	0.41 J U	7.1	1.9 J U
Benzene	1.5	26	4.8	84
Toluene	1.5	2.0	5.7	7.6
Ethyl Benzene	1.5	0.58 J	6.6	2.5 J
m,p-Xylene	1.5	2.2	6.6	9.6
o-Xylene	1.5	0.88 J	6.6	3.8 J
1,2,4-Trimethylbenzene	1.5	0.33 J U	7.4	1.6 J U
TPH ref. to Gasoline (MW=100)	76	260	310	1100



Client Sample ID: RoxHighSchSmGym-08082011-SS-C

Lab ID#: 1108181A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p080837	Date of Collection:	8/8/11 1:05:00 PM
Dil. Factor:	3.03	Date of Analysis:	8/9/11 10:56 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.5	0.59 J	5.3	2.1 J
Cyclohexane	1.5	1.3 J	5.2	4.4 J
2,2,4-Trimethylpentane	1.5	0.41 J u	7.1	1.9 J u
Benzene	1.5	26	4.8	84
1,4-Dioxane	6.1	Not Detected	22	Not Detected
Toluene	1.5	2.0	5.7	7.6
Ethyl Benzene	1.5	0.58 J	6.6	2.5 J
m,p-Xylene	1.5	2.2	6.6	9.6
o-Xylene	1.5	0.88 J	6.6	3.8 J
Propylbenzene	1.5	Not Detected	7.4	Not Detected
1,3,5-Trimethylbenzene	1.5	Not Detected	7.4	Not Detected
1,2,4-Trimethylbenzene	1.5	0.33 J u	7.4	1.6 J u
Isopentane	6.1	Not Detected	18	Not Detected
Butane	6.1	Not Detected	14	Not Detected
TPH ref. to Gasoline (MW=100)	76	260	310	1100

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130
1,2-Dichloroethane-d4	79	70-130
4-Bromofluorobenzene	74	70-130

Client Sample ID: Lab Blank

Lab ID#: 1108181A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p080814a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/8/11 02:31 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.50	Not Detected	1.8	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
2,2,4-Trimethylpentane	0.50	0.15 J	2.3	0.70 J
Benzene	0.50	Not Detected	1.6	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Toluene	0.50	0.074 J	1.9	0.28 J
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	0.17 J	2.2	0.73 J
o-Xylene	0.50	0.17 J	2.2	0.73 J
Propylbenzene	0.50	0.12 J	2.4	0.57 J
1,3,5-Trimethylbenzene	0.50	0.29 J	2.4	1.4 J
1,2,4-Trimethylbenzene	0.50	0.25 J	2.4	1.2 J
Isopentane	2.0	Not Detected	5.9	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
TPH ref. to Gasoline (MW=100)	25	Not Detected	100	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130
1,2-Dichloroethane-d4	72	70-130
4-Bromofluorobenzene	76	70-130

Client Sample ID: CCV

Lab ID#: 1108181A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p080810	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/8/11 11:58 AM

Compound	%Recovery
Hexane	92
Cyclohexane	87
2,2,4-Trimethylpentane	90
Benzene	98
1,4-Dioxane	83
Toluene	83
Ethyl Benzene	100
m,p-Xylene	101
o-Xylene	100
Propylbenzene	89
1,3,5-Trimethylbenzene	96
1,2,4-Trimethylbenzene	97
Isopentane	112
Butane	95
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	84	70-130
1,2-Dichloroethane-d4	79	70-130
4-Bromofluorobenzene	84	70-130



Client Sample ID: LCS

Lab ID#: 1108181A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p080811	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/8/11 12:33 PM

Compound	%Recovery
Hexane	105
Cyclohexane	102
2,2,4-Trimethylpentane	103
Benzene	116
1,4-Dioxane	101
Toluene	95
Ethyl Benzene	114
m,p-Xylene	117
o-Xylene	115
Propylbenzene	102
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	109
Isopentane	128
Butane	110
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	86	70-130
1,2-Dichloroethane-d4	77	70-130
4-Bromofluorobenzene	80	70-130



Client Sample ID: LCSD

Lab ID#: 1108181A-04AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p080812a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/8/11 01:09 PM

Compound	%Recovery
Hexane	95
Cyclohexane	92
2,2,4-Trimethylpentane	94
Benzene	107
1,4-Dioxane	91
Toluene	87
Ethyl Benzene	106
m,p-Xylene	108
o-Xylene	106
Propylbenzene	95
1,3,5-Trimethylbenzene	100
1,2,4-Trimethylbenzene	100
Isopentane	116
Butane	101
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	83	70-130
1,2-Dichloroethane-d4	74	70-130
4-Bromofluorobenzene	80	70-130

1108181

URS

Shell Oil Products Chain Of Custody Record

Air Toxics LTD.
Project Name: Roxana IA/SS
Project # 21562593.000016

Lab Vendor # _____
 SHIPPING COMPANY _____
 ADDRESS 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300 - ST. LOUIS, MO 63110
 Laboratory Address Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
 TEL/FAX 314-7429-0100 / 314-429-0462
 TURNAROUND TIME (CALENDAR DAYS) 1 DAY 3 DAYS 5 DAYS 7 DAYS 10 DAYS 14 DAYS SAME DAY TURNAROUND
 LA - RWCD REPORT FORMAT LIST AGENCY
 DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4

Print Bill To Contact Name: Thomas Adams
 Print Bill To Contact Name: Thomas Adams
 INCIDENT # (ENV SERVICES) 9 7 2 1 8 6 4 0
 DATE 8/8/2011
 PAGE 2 of 2

SHIP ADDRESS: Street and City
 900 SOUTH CENTRAL AVE - ROXANA
 FOR DELIVERABLES TO THIS COMPANY, OTHER LOCATION
 PHONE NO 314-743-4179
 E-MAIL Elizabeth.Kunkel@URS.com
 CONTACT/PROJECT NUMBER Roxana IA/SS
 COMPANY NAME/ID# URS

SHIP TO CONTACT E-MAIL: Mike Currier / Curt Smith

REQUESTED ANALYSIS

Turn Around Time:	Method TO-15 (Standard)	Method TO-15 (Low Level)	Method TO-15 (Methane Only)	Method TO-15 (Methane + Helium)	Method TO-15 (Standard)	Method TO-15 (Low Level)	Method TO-15 (Methane Only)	Method TO-15 (Methane + Helium)
<input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush Specify _____	x			x				

High-Use Only Pressurized by _____
 Date _____
 Pressurization Size _____

ADDITIONAL NOTES:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECV
 - SAME DAY TURNAROUND

Received By (Signature)	Date	Time
<i>[Signature]</i>	8/8/11	1700
FEDEX	8/9/11	0840
<i>[Signature]</i>		

FEDEX
CUSTOMER SEAL INTACT?
Y/N NONE TEMP. I/A

8/9/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.000016
Workorder #: 1108181B

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/9/2011 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,



Kelly Buettner
Project Manager

Reviewed
on
8/11/2011

WORK ORDER #: 1108181B

Work Order Summary

CLIENT: Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis, MO 63110

BILL TO: Accounts Payable Austin
URS Corporation
P.O. BOX 203970
Austin, TX 78720-1088

PHONE: 314-429-0100

FAX:

DATE RECEIVED: 08/09/2011

DATE COMPLETED: 08/09/2011

P.O. #

PROJECT # 21562593.000016 Roxana IA/SS

CONTACT: Kelly Buettner

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	RoxHighSchSmGym-08082011-SS-C	Modified ASTM D-1946	10.0 "Hg	15 psi
02A	Lab Blank	Modified ASTM D-1946	NA	NA
02B	Lab Blank	Modified ASTM D-1946	NA	NA
03A	LCS	Modified ASTM D-1946	NA	NA
03AA	LCS	Modified ASTM D-1946	NA	NA

CERTIFIED BY: *Sandra A. Freeman*
Laboratory Director

DATE: 08/09/11

Certification 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: 06/30/11
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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

**LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1108181B**

One 1 Liter Summa Canister (100% Certified) sample was received on August 09, 2011. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

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

<i>Requirement</i>	<i>ASTM D-1946</i>	<i>ATL Modifications</i>
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections $> 5 \times$ the RL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request 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

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

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 detection limit.

M - Reported value may be biased due to apparent matrix interferences.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: RoxHighSchSmGym-08082011-SS-C

Lab ID#: 1108181B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	78
Methane	0.00030	0.000074 J
Carbon Dioxide	0.030	1.8
Helium	0.15	2.7



Client Sample ID: RoxHighSchSmGym-08082011-SS-C

Lab ID#: 1108181B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080911	Date of Collection:	8/8/11 1:05:00 PM
Dil. Factor:	3.03	Date of Analysis:	8/9/11 09:08 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	78
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.000074 J
Carbon Dioxide	0.030	1.8
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	2.7

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)



Client Sample ID: Lab Blank

Lab ID#: 1108181B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080905a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/8/11 08:53 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	0.056 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable



Client Sample ID: Lab Blank

Lab ID#: 1108181B-02B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080904b	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/8/11 08:30 PM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.050	Not Detected

Container Type: NA - Not Applicable



Client Sample ID: LCS

Lab ID#: 1108181B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/8/11 07:46 PM

Compound	%Recovery
Oxygen	100
Nitrogen	101
Carbon Monoxide	100
Methane	100
Carbon Dioxide	100
Ethane	102
Ethene	101
Helium	94

Container Type: NA - Not Applicable



Client Sample ID: LCSD

Lab ID#: 1108181B-03AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080927	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/9/11 03:25 PM

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	99
Methane	98
Carbon Dioxide	101
Ethane	101
Ethene	99
Helium	94

Container Type: NA - Not Applicable

1108181



Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana IA/SS
Project # 21562593.000016

Lab Vendor # _____

URS CORPORATION
 ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 City/State/Zip: _____

Print Bill To Contact Name: Thomas Adams
PO # _____

INCIDENT # (ENV SERVICES) 9 7 2 1 8 8 4 0
DATE 8/8/2011
PAGE 2 of 2

Check if no incident # applies

Site Address: Street and City: 800 SOUTH CENTRAL AVE - ROXANA, ILL. 62451
 Phone No: 314-743-4179
 E-MAIL: Elizabeth_Kunkel@URS Corp.com
 CORP/ALINE PROJECT NUMBER: Roxana IA/SS

Lab Address: Street and City: _____
 Phone No: _____
 E-MAIL: _____

Log Code _____

SHIP TO CONTACT E-MAIL: THOMAS.Adams@URSCorp.com

SHIP TO CONTACT PHONE: 314-743-0100

TURNAROUND TIME (CALENDAR DAYS)
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS SAME DAY TURNAROUND

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

LA - RVQCR REPORT FORMAT LA - RVQCR REPORT FORMAT LIST AGENCY

SHIP TO CONTACT: Mike Currier / Curt Smith

Requested Analysis

Method TO-15 (Standard) **Method TO-15 (Low Level)**
Method D-1946 + Helium Only **Method D-1946 + Methane Only**
Method TO-15 (Standard) **Method TO-15 (Low Level)**
Method D-1946 + Helium Only **Method D-1946 + Methane Only**

Turn Around Time:
 Normal Rush Specify _____

Lab Use Only
 Pressurized by: _____
 Date: _____
 Pressurization Gas: _____

ADDITIONAL NOTES:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVP
 - SAME DAY TURNAROUND

Lab Sample ID	Field Sample Identification	SAMPLING		Container Pressure/Vacuum		Receipt #	Signature	
		DATE	START TIME	STOP TIME	Initial (Psi)			Final (Psi)
014	RoxHighSchSmGym-08082011-SS-C	08/08/11	1105	1305	1044	-29.5	-10	FEDEX
(Remaining rows are crossed out with a diagonal line)								

Received by (Signature): _____
Received by (Signature): _____
Received by (Signature): _____

Date: 8/8/11 **Time:** 1700
Date: 8/9/11 **Time:** 0840

00000040hSteele146

FEDEX
CUSTOMER SEAL INTACT?
Y N NONE TEMP N/A

Roxana High School – Workshop Building Indoor Air Data Review

Laboratory SDG: 1108154A, C

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Tony Sedlacek

Date Reviewed: 8/9/2011

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Work Plan: Vapor Intrusion Investigation, Roxana, Illinois (March 2011)

Sample Identification	Sample Identification
RoxHighSchWrkshp-08042011-IA-A	RoxHighSchWrkshp-08042011-IA-B

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Although not indicated in the laboratory case narrative, analytes were detected in the method blank. This issue is addressed further in the appropriate section below.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
1108154A-03A	TO-15	Benzene	0.0092 ppbv / 0.029 µg/m ³
1108154A-03A	TO-15	1,2,4-Trimethylbenzene	0.021 ppbv / 0.10 µg/m ³
1108154A-03A	TO-15	Butane	0.088 ppbv / 0.21 µg/m ³
1108154C-06A	Natural gases	Nitrogen	0.048%

Analytical data were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration and did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

MS/MSD samples are not applicable for vapor samples due to the inability to spike the samples.

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

No

8/8/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.00016
Workorder #: 1108154A

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/6/2011 at Air Toxics Ltd.

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

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

Regards,



Kelly Buettner
Project Manager

Reviewed
on
8/9/2011

WORK ORDER #: 1108154A

Work Order Summary

CLIENT: Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis, MO 63110

BILL TO: Accounts Payable Austin
URS Corporation
P.O. BOX 203970
Austin, TX 78720-1088

PHONE: 314-429-0100

FAX:

DATE RECEIVED: 08/06/2011

DATE COMPLETED: 08/08/2011

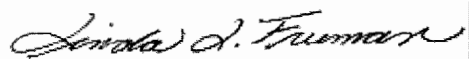
P.O. #

PROJECT # 21562593.00016 Roxana IA/SS

CONTACT: Kelly Buettner

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	RoxHighSchWrkshp-08042011-IA-A ✓	Modified TO-15	6.6 "Hg	5 psi
02A	RoxHighSchWrkshp-08042011-IA-B ✓	Modified TO-15	7.2 "Hg	5 psi
03A	Lab Blank	Modified TO-15	NA	NA
04A	CCV	Modified TO-15	NA	NA
05A	LCS	Modified TO-15	NA	NA
05AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY:



Laboratory Director

DATE: 08/08/11

Certification 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: 07/01/11, Expiration date: 06/30/12.

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

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
Modified TO-15
URS Corporation
Workorder# 1108154A**

Two 6 Liter Summa Canister (100% Certified) samples were received on August 06, 2011. 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.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
ICAL %RSD acceptance criteria	+/- 30% RSD with 2 compounds allowed out to < 40% RSD	30% RSD with 4 compounds allowed out to < 40% RSD
Daily Calibration	+/- 30% Difference	<= 30% Difference with four allowed out up to <=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
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
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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.1 ppbv for compounds reported at 0.1 ppbv and 0.5 ppbv for compounds reported at 0.5 ppbv) may be false positives.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: RoxHighSchWrkshp-08042011-IA-A

Lab ID#: 1108154A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.17	1.2	0.61	4.2
Cyclohexane	0.17	0.36	0.59	1.2
2,2,4-Trimethylpentane	0.86	1.8	4.0	8.7
Benzene	0.17	0.55	0.55	1.8
Toluene	0.17	12	0.65	44
Ethyl Benzene	0.17	0.74	0.75	3.2
m,p-Xylene	0.17	2.2	0.75	9.5
o-Xylene	0.17	0.71	0.75	3.1
Propylbenzene	0.17	0.15 J	0.84	0.76 J
1,3,5-Trimethylbenzene	0.17	0.20	0.84	0.99
1,2,4-Trimethylbenzene	0.17	0.75	0.84	3.7
Isopentane	0.86	5.7	2.5	17
Butane	0.86	2.2	2.0	5.4
TPH ref. to Gasoline (MW=100)	17	260	70	1100

Client Sample ID: RoxHighSchWrkshp-08042011-IA-B

Lab ID#: 1108154A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.18	2.2	0.62	7.8
Cyclohexane	0.18	0.93	0.60	3.2
2,2,4-Trimethylpentane	0.88	3.7	4.1	17
Benzene	0.18	1.2	0.56	3.8
Toluene	0.18	25	0.66	93
Ethyl Benzene	0.18	2.8	0.76	12
m,p-Xylene	0.18	8.1	0.76	35
o-Xylene	0.18	2.8	0.76	12
Propylbenzene	0.18	0.65	0.86	3.2
1,3,5-Trimethylbenzene	0.18	0.90	0.86	4.4
1,2,4-Trimethylbenzene	0.18	3.2	0.86	16
Isopentane	0.88	7.8	2.6	23

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

Client Sample ID: RoxHighSchWrkshp-08042011-IA-B

Lab ID#: 1108154A-02A

Butane	0.88	3.1	2.1	7.4
TPH ref. to Gasoline (MW=100)	18	3900	72	16000



Client Sample ID: RoxHighSchWrkshp-08042011-IA-A

Lab ID#: 1108154A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080611	Date of Collection:	8/5/11 4:05:00 PM
Dil. Factor:	1.72	Date of Analysis:	8/6/11 01:26 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.17	1.2	0.61	4.2
Cyclohexane	0.17	0.36	0.59	1.2
2,2,4-Trimethylpentane	0.86	1.8	4.0	8.7
Benzene	0.17	0.55	0.55	1.8
1,4-Dioxane	0.17	Not Detected	0.62	Not Detected
Toluene	0.17	12	0.65	44
Ethyl Benzene	0.17	0.74	0.75	3.2
m,p-Xylene	0.17	2.2	0.75	9.5
o-Xylene	0.17	0.71	0.75	3.1
Propylbenzene	0.17	0.15 J	0.84	0.76 J
1,3,5-Trimethylbenzene	0.17	0.20	0.84	0.99
1,2,4-Trimethylbenzene	0.17	0.75	0.84	3.7
Isopentane	0.86	5.7	2.5	17
Butane	0.86	2.2	2.0	5.4
TPH ref. to Gasoline (MW=100)	17	260	70	1100

J = Estimated value.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	101	70-130



Client Sample ID: RoxHighSchWrkshp-08042011-IA-B

Lab ID#: 1108154A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080612	Date of Collection:	8/5/11 6:00:00 PM
Dil. Factor:	1.76	Date of Analysis:	8/6/11 02:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.18	2.2	0.62	7.8
Cyclohexane	0.18	0.93	0.60	3.2
2,2,4-Trimethylpentane	0.88	3.7	4.1	17
Benzene	0.18	1.2	0.56	3.8
1,4-Dioxane	0.18	Not Detected	0.63	Not Detected
Toluene	0.18	25	0.66	93
Ethyl Benzene	0.18	2.8	0.76	12
m,p-Xylene	0.18	8.1	0.76	35
o-Xylene	0.18	2.8	0.76	12
Propylbenzene	0.18	0.65	0.86	3.2
1,3,5-Trimethylbenzene	0.18	0.90	0.86	4.4
1,2,4-Trimethylbenzene	0.18	3.2	0.86	16
Isopentane	0.88	7.8	2.6	23
Butane	0.88	3.1	2.1	7.4
TPH ref. to Gasoline (MW=100)	18	3900	72	16000

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	104	70-130



Client Sample ID: Lab Blank

Lab ID#: 1108154A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080606	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/5/11 09:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.10	Not Detected	0.35	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.10	0.0092 J	0.32	0.029 J
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	0.021 J	0.49	0.10 J
Isopentane	0.50	Not Detected	1.5	Not Detected
Butane	0.50	0.088 J	1.2	0.21 J
TPH ref. to Gasoline (MW=100)	10	Not Detected	41	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: CCV

Lab ID#: 1108154A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/5/11 05:40 PM

Compound	%Recovery
Hexane	97
Cyclohexane	91
2,2,4-Trimethylpentane	102
Benzene	96
1,4-Dioxane	89
Toluene	92
Ethyl Benzene	90
m,p-Xylene	88
o-Xylene	90
Propylbenzene	91
1,3,5-Trimethylbenzene	87
1,2,4-Trimethylbenzene	89
Isopentane	109
Butane	96
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: LCS

Lab ID#: 1108154A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/5/11 06:20 PM

Compound	%Recovery
Hexane	92
Cyclohexane	87
2,2,4-Trimethylpentane	89
Benzene	100
1,4-Dioxane	90
Toluene	94
Ethyl Benzene	93
m,p-Xylene	94
o-Xylene	95
Propylbenzene	99
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	93
Isopentane	103
Butane	90
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

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

Client Sample ID: LCSD

Lab ID#: 1108154A-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/5/11 06:55 PM

Compound	%Recovery
Hexane	92
Cyclohexane	88
2,2,4-Trimethylpentane	89
Benzene	98
1,4-Dioxane	89
Toluene	92
Ethyl Benzene	93
m,p-Xylene	92
o-Xylene	94
Propylbenzene	98
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	94
Isopentane	102
Butane	91
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

1108154



Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana IA/SS
Project # 21562593.000016

Lab Vendor #
URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

SHIP TO COMPANY:
 AIR TOXICS, LTD. 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719

SHIP TO CONTACT E-MAIL:
 Thomas.Adams@URSCorp.com

TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 1 DAY

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4

INCIDENT # (ENV. SERVICES): CHECK IF NO INCIDENT # APPLIES

DATE: 8/6/2011

PAGE: 2 of 2

SHIP TO CONTACT NAME: Thomas Adams

SHIP TO CONTACT PHONE: 314-428-0462

SHIP TO CONTACT FAX: 314-428-0462

SHIP TO CONTACT E-MAIL: Elizabeth.Kunkel@URSCorp.com

SHIP TO CONTACT PROJECT NUMBER: Roxana IA/SS

SHIP TO CONTACT ADDRESS: 900 SOUTH CENTRAL AVE -- ROXANA, IL 61273

SHIP TO CONTACT CITY: Roxana

SHIP TO CONTACT STATE: IL

SHIP TO CONTACT ZIP: 61273

SHIP TO CONTACT COUNTRY: USA

SHIP TO CONTACT PHONE: 314-743-4179

SHIP TO CONTACT FAX: 314-743-4179

SHIP TO CONTACT E-MAIL: Elizabeth.Kunkel@URSCorp.com

SHIP TO CONTACT PROJECT NUMBER: Roxana IA/SS

SHIP TO CONTACT ADDRESS: 900 SOUTH CENTRAL AVE -- ROXANA, IL 61273

SHIP TO CONTACT CITY: Roxana

SHIP TO CONTACT STATE: IL

SHIP TO CONTACT ZIP: 61273

SHIP TO CONTACT COUNTRY: USA

SHIP TO CONTACT PHONE: 314-743-4179

SHIP TO CONTACT FAX: 314-743-4179

SHIP TO CONTACT E-MAIL: Elizabeth.Kunkel@URSCorp.com

SHIP TO CONTACT PROJECT NUMBER: Roxana IA/SS

Requested Analysis

Turn Around Time:
 Normal
 Rush
 Specify

Lab-Use-Only:
 Pressurized by: _____
 Date: _____
 Pressurization Gas: _____

ADDITIONAL NOTES:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVP
 - SAME DAY TURNAROUND

Field Sample Identification	DATE	START TIME	STOP TIME	Canister Number	Canister Pressure/Volume		Method TO-15 (Standard)	Method TO-15 (Methane Only)	Method TO-15 (Low Level)
					Initial (Psi)	Final (Psi)			
RoxHighSchWrkshp-08042011-IA-A	8/4/11-8/5/11	1605	1605	3371	-30	-7	x	x	x
RoxHighSchWrkshp-08042011-IA-B	8/4/11-8/5/11	1800	1800	1344	-30	-7.5	x	x	x
RoxHighSchWrkshp-08042011-SS-A	08/04/11	1725	1925	5621	-30	-7.5	x	x	x
RoxHighSchWrkshp-08042011-SS-B	08/04/11	1734	1934	2540	-30	-8.5	x	x	x
RoxHighSchWrkshp-08042011-SS-C	08/04/11	1735	1935	2049	-30	-7.5	x	x	x

Requested by (Signature): *[Signature]*

Requested by (Name): FEDEX

Requested by (Signature): *B. W. Switzer*

Requested by (Name): B. W. Switzer

Date: 8/5/11

Time: 1900

Date: 8/6/11

Time: _____

Date: _____

Time: _____

CUSTOMER DEAL INTACT?
 (Y) N NONE. TEMP N/A

Fedex

8/8/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.00016
Workorder #: 1108154C

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/6/2011 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,



Kelly Buettner
Project Manager

Reviewed
on
8/9/2011

WORK ORDER #: 1108154C

Work Order Summary

CLIENT:	Mr. Thomas Adams URS Corporation 1001 Highlands Plaza Dr. West Suite 300 St. Louis, MO 63110	BILL TO:	Accounts Payable Austin URS Corporation P.O. BOX 203970 Austin, TX 78720-1088
PHONE:	314-429-0100	P.O. #	
FAX:		PROJECT #	21562593.00016 Roxana IA/SS
DATE RECEIVED:	08/06/2011	CONTACT:	Kelly Buettner
DATE COMPLETED:	08/08/2011		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	RoxHighSchWrkshp-08042011-IA-A ✓	Modified ASTM D-1946	6.6 "Hg	5 psi
02A	RoxHighSchWrkshp-08042011-IA-B ✓	Modified ASTM D-1946	7.2 "Hg	5 psi
03A	RoxHighSchWrkshp-08042011-SS-A	Modified ASTM D-1946	7.5 "Hg	15 psi
04A	RoxHighSchWrkshp-08042011-SS-B	Modified ASTM D-1946	5.0 "Hg	15 psi
05A	RoxHighSchWrkshp-08042011-SS-C	Modified ASTM D-1946	7.5 "Hg	15 psi
06A	Lab Blank	Modified ASTM D-1946	NA	NA
06B	Lab Blank	Modified ASTM D-1946	NA	NA
07A	LCS	Modified ASTM D-1946	NA	NA
07AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: *Sandra J. Freeman*

DATE: 08/08/11

Laboratory Director

Certification 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: 06/30/11

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

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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

**LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1108154C**

Two 6 Liter Summa Canister (100% Certified) and three 1 Liter Summa Canister (100% Certified) samples were received on August 06, 2011. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

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

<i>Requirement</i>	<i>ASTM D-1946</i>	<i>ATL Modifications</i>
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.

Precision

Precision requirements established at each concentration level.

Duplicates should agree within 25% RPD for detections $> 5 X$'s the RL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request 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

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

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 detection limit.

M - Reported value may be biased due to apparent matrix interferences.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: RoxHighSchWrkshp-08042011-IA-A

Lab ID#: 1108154C-01A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00024

Client Sample ID: RoxHighSchWrkshp-08042011-IA-B

Lab ID#: 1108154C-02A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00018	0.00032

Client Sample ID: RoxHighSchWrkshp-08042011-SS-A

Lab ID#: 1108154C-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	19
Nitrogen	0.27	80
Carbon Dioxide	0.027	0.79
Helium	0.13	0.12 J

Client Sample ID: RoxHighSchWrkshp-08042011-SS-B

Lab ID#: 1108154C-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	19
Nitrogen	0.24	78
Methane	0.00024	0.00011 J
Carbon Dioxide	0.024	0.94
Helium	0.12	2.2

Client Sample ID: RoxHighSchWrkshp-08042011-SS-C

Lab ID#: 1108154C-05A

Compound	Rpt. Limit (%)	Amount (%)
-----------------	-----------------------	-------------------

Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: RoxHighSchWrkshp-08042011-SS-C

Lab ID#: 1108154C-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	19
Nitrogen	0.27	79
Methane	0.00027	0.000067 J
Carbon Dioxide	0.027	0.88
Helium	0.13	0.82



Client Sample ID: RoxHighSchWrkshp-08042011-IA-A

Lab ID#: 1108154C-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080611	Date of Collection:	8/5/11 4:05:00 PM
Dil. Factor:	1.72	Date of Analysis:	8/6/11 06:08 PM

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00024

Container Type: 6 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchWrkshp-08042011-IA-B

Lab ID#: 1108154C-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080612	Date of Collection:	8/5/11 6:00:00 PM
Dil. Factor:	1.76	Date of Analysis:	8/6/11 06:31 PM

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00018	0.00032

Container Type: 6 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchWrkshp-08042011-SS-A

Lab ID#: 1108154C-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080620	Date of Collection:	8/5/11 7:25:00 PM
Dil. Factor:	2.69	Date of Analysis:	8/6/11 09:31 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	19
Nitrogen	0.27	80
Carbon Monoxide	0.027	Not Detected
Methane	0.00027	Not Detected
Carbon Dioxide	0.027	0.79
Ethane	0.0027	Not Detected
Ethene	0.0027	Not Detected
Helium	0.13	0.12 J

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchWrkshp-08042011-SS-B

Lab ID#: 1108154C-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080621	Date of Collection: 8/5/11 7:34:00 PM
Dil. Factor:	2.42	Date of Analysis: 8/6/11 09:53 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	19
Nitrogen	0.24	78
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	0.00011 J
Carbon Dioxide	0.024	0.94
Ethane	0.0024	Not Detected
Ethene	0.0024	Not Detected
Helium	0.12	2.2

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchWrkshp-08042011-SS-C

Lab ID#: 1108154C-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080622	Date of Collection: 8/5/11 7:35:00 PM
Dil. Factor:	2.69	Date of Analysis: 8/6/11 10:15 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	19
Nitrogen	0.27	79
Carbon Monoxide	0.027	Not Detected
Methane	0.00027	0.000067 J
Carbon Dioxide	0.027	0.88
Ethane	0.0027	Not Detected
Ethene	0.0027	Not Detected
Helium	0.13	0.82

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: Lab Blank

Lab ID#: 1108154C-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080604c	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 03:13 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	0.048 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable



Client Sample ID: Lab Blank

Lab ID#: 1108154C-06B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080603b	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/6/11 02:51 PM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.050	Not Detected

Container Type: NA - Not Applicable





Client Sample ID: LCS

Lab ID#: 1108154C-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 02:29 PM

Compound	%Recovery
Oxygen	99
Nitrogen	101
Carbon Monoxide	93
Methane	97
Carbon Dioxide	101
Ethane	100
Ethene	99
Helium	95

Container Type: NA - Not Applicable

Client Sample ID: LCSD

Lab ID#: 1108154C-07AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080623	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 10:37 PM

Compound	%Recovery
Oxygen	99
Nitrogen	101
Carbon Monoxide	94
Methane	97
Carbon Dioxide	102
Ethane	100
Ethene	98
Helium	95

Container Type: NA - Not Applicable

1108154



Shell Oil Products Chain of Custody Record

URS

Air Toxics LTD.
 Project Name: Roxana I/SS
 Project # 21562593.000016

Lab Vendor # _____
 SHIPPING COMPANY: URS CORPORATION
 ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
 PHONE: 314-742-0100
 FAX: 314-428-0462

INCIDENT # (ENV. SERVICES) _____
 DATE: 8/8/2011
 PAGE: 2 of 2

Print Bill To: Contact Name: Thomas Adams
 PO # _____
 SUPPLIER NAME (PIN) _____
 URS MAIL: Elizabeth Kunkel, URS, St. Louis
 CONSULTANT PROJECT NUMBER: Roxana I/SS

SHIP TO CONTACT E-MAIL: Thomas.Adams@URS Corp.com
 314-743-4179

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4

TURNAROUND TIME (CALENDAR DAYS): 5 DAYS 3 DAYS 2 DAYS 24 HOURS

RESULTS NEEDED ON WEEKEND: YES NO

Lab Vendor ONLY	Field Sample Identification	SAMPLING		Container Number		Consister Pressure/Vacuum		Method TO-15 (Standard)	Method TO-15 (Low Level)	Turn Around Time:	REQUESTED ANALYSIS
		DATE	START TIME	STOP TIME	Initial (Hg)	Final (Hg)	Receipt				
URS	RoxHighSchWrkshp-08042011-IA-A	8/4/11-8/5/11	1605	1605	3371	-30	-7	x	x	- 14 day hold time	Lab Use Only
URS	RoxHighSchWrkshp-08042011-IA-B	8/4/11-8/5/11	1800	1800	1344	-30	-7.5	x	x	- Report results between MDL and RL	Pressurized by _____
	RoxHighSchWrkshp-08042011-SS-A	08/04/11	1725	1925	5621	-30	-7.5	x	x	- Level IV ECVF	Date: _____
	RoxHighSchWrkshp-08042011-SS-B	08/04/11	1734	1934	2540	-30	-8.5	x	x	- SAME DAY TURNAROUND	Pressurization Gas: _____
	RoxHighSchWrkshp-08042011-SS-C	08/04/11	1735	1935	2049	-30	-7.5	x	x		Additional Notes: _____

Received by (Signature): *FEDEX*
 Received by (Signature): *B. W. Stottaker*
 Received by (Signature): _____
 Date: 8/5/11
 Date: 8/6/11
 Date: _____

Time: 1900

Fedex
 CUSTOMER SEAL INTACT?
 YES NO NO. TEMP N/A

Roxana High School – Workshop Building Sub-Slab Vapor Data Review

Laboratory SDG: 1108154B, C

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Tony Sedlacek

Date Reviewed: 8/9/2011

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Work Plan: Vapor Intrusion Investigation, Roxana, Illinois (March 2011)

Sample Identification	Sample Identification
RoxHighSchWrkshp-08042011-SS-A	RoxHighSchWrkshp-08042011-SS-B
RoxHighSchWrkshp-08042011-SS-C	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Although not indicated in the laboratory case narrative, analytes were detected in the method blank. This issue is addressed further in the appropriate section below.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
1108154B-06A	TO-15	Toluene	0.098 ppbv / 0.37 µg/m ³
1108154B-06A	TO-15	Ethylbenzene	0.056 ppbv / 0.24 µg/m ³
1108154B-06A	TO-15	m,p-Xylenes	0.11 ppbv / 0.47 µg/m ³
1108154B-06A	TO-15	Propylbenzene	0.089 ppbv / 0.44 µg/m ³
1108154B-06A	TO-15	1,3,5-Trimethylbenzene	0.10 ppbv / 0.50 µg/m ³
1108154C-06A	Natural gases	Nitrogen	0.048%

Qualifications due to blank contamination are included in the table below. Analytical data reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	Qualification
RoxHighSchWrkshp-08042011-SS-A	TO-15	Propylbenzene	U
RoxHighSchWrkshp-08042011-SS-A	TO-15	1,3,5-Trimethylbenzene	U
RoxHighSchWrkshp-08042011-SS-B	TO-15	Propylbenzene	U
RoxHighSchWrkshp-08042011-SS-B	TO-15	1,3,5-Trimethylbenzene	U
RoxHighSchWrkshp-08042011-SS-C	TO-15	1,3,5-Trimethylbenzene	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

MS/MSD samples are not applicable for vapor samples due to the inability to spike the samples.

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

No

8/8/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.00016
Workorder #: 1108154B

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/6/2011 at Air Toxics Ltd.

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

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

Regards,



Kelly Buettner
Project Manager

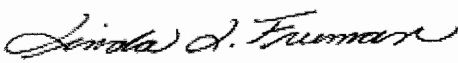
Reviewed
on
8/9/2011

WORK ORDER #: 1108154B

Work Order Summary

CLIENT:	Mr. Thomas Adams URS Corporation 1001 Highlands Plaza Dr. West Suite 300 St. Louis, MO 63110	BILL TO:	Accounts Payable Austin URS Corporation P.O. BOX 203970 Austin, TX 78720-1088
PHONE:	314-429-0100	P.O. #	
FAX:		PROJECT #	21562593.00016 Roxana IA/SS
DATE RECEIVED:	08/06/2011	CONTACT:	Kelly Buettner
DATE COMPLETED:	08/08/2011		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
03A	RoxHighSchWrkshp-08042011-SS-A ✓	Modified TO-15	7.5 "Hg	15 psi
04A	RoxHighSchWrkshp-08042011-SS-B ✓	Modified TO-15	5.0 "Hg	15 psi
05A	RoxHighSchWrkshp-08042011-SS-C ✓	Modified TO-15	7.5 "Hg	15 psi
06A	Lab Blank	Modified TO-15	NA	NA
07A	CCV	Modified TO-15	NA	NA
08A	LCS	Modified TO-15	NA	NA
08AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 

DATE: 08/08/11

Laboratory Director

Certification 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: 07/01/11 , Expiration date: 06/30/12.

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

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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

**LABORATORY NARRATIVE
EPA Method TO-15
URS Corporation
Workorder# 1108154B**

Three 1 Liter Summa Canister (100% Certified) samples were received on August 06, 2011. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: RoxHighSchWrkshp-08042011-SS-A

Lab ID#: 1108154B-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.3	4.6	4.7	16
2,2,4-Trimethylpentane	1.3	0.54 J	6.3	2.5 J
Benzene	1.3	4.4	4.3	14
Toluene	1.3	8.8	5.1	33
Ethyl Benzene	1.3	0.68 J	5.8	2.9 J
m,p-Xylene	1.3	1.6	5.8	6.9
o-Xylene	1.3	0.49 J	5.8	2.1 J
Propylbenzene	1.3	0.18 J U	6.6	0.86 J U
1,3,5-Trimethylbenzene	1.3	0.18 J U	6.6	0.89 J U
1,2,4-Trimethylbenzene	1.3	0.62 J	6.6	3.0 J
Isopentane	5.4	3.5 J	16	10 J
Butane	5.4	2.0 J	13	4.8 J
TPH ref. to Gasoline (MW=100)	67	1200	280	4900

Client Sample ID: RoxHighSchWrkshp-08042011-SS-B

Lab ID#: 1108154B-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.2	3.1	4.3	11
Cyclohexane	1.2	0.37 J	4.2	1.3 J
2,2,4-Trimethylpentane	1.2	0.43 J	5.6	2.0 J
Benzene	1.2	2.7	3.9	8.6
Toluene	1.2	9.9	4.6	37
Ethyl Benzene	1.2	0.66 J	5.2	2.8 J
m,p-Xylene	1.2	1.9	5.2	8.2
o-Xylene	1.2	0.51 J	5.2	2.2 J
Propylbenzene	1.2	0.17 J U	5.9	0.85 J U
1,3,5-Trimethylbenzene	1.2	0.22 J U	5.9	1.1 J U
1,2,4-Trimethylbenzene	1.2	0.83 J	5.9	4.1 J
Isopentane	4.8	5.2	14	15
Butane	4.8	5.3	12	13

Client Sample ID: RoxHighSchWrkshp-08042011-SS-A

Lab ID#: 1108154B-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080619	Date of Collection:	8/5/11 7:25:00 PM
Dil. Factor:	2.69	Date of Analysis:	8/6/11 04:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.3	4.6	4.7	16
Cyclohexane	1.3	Not Detected	4.6	Not Detected
2,2,4-Trimethylpentane	1.3	0.54 J	6.3	2.5 J
Benzene	1.3	4.4	4.3	14
1,4-Dioxane	5.4	Not Detected	19	Not Detected
Toluene	1.3	8.8	5.1	33
Ethyl Benzene	1.3	0.68 J	5.8	2.9 J
m,p-Xylene	1.3	1.6	5.8	6.9
o-Xylene	1.3	0.49 J	5.8	2.1 J
Propylbenzene	1.3	0.18 J u	6.6	0.86 J u
1,3,5-Trimethylbenzene	1.3	0.18 J u	6.6	0.89 J u
1,2,4-Trimethylbenzene	1.3	0.62 J	6.6	3.0 J
Isopentane	5.4	3.5 J	16	10 J
Butane	5.4	2.0 J	13	4.8 J
TPH ref. to Gasoline (MW=100)	67	1200	280	4900

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	106	70-130



Client Sample ID: RoxHighSchWrkshp-08042011-SS-B

Lab ID#: 1108154B-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080620	Date of Collection:	8/5/11 7:34:00 PM
Dil. Factor:	2.42	Date of Analysis:	8/6/11 05:15 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.2	3.1	4.3	11
Cyclohexane	1.2	0.37 J	4.2	1.3 J
2,2,4-Trimethylpentane	1.2	0.43 J	5.6	2.0 J
Benzene	1.2	2.7	3.9	8.6
1,4-Dioxane	4.8	Not Detected	17	Not Detected
Toluene	1.2	9.9	4.6	37
Ethyl Benzene	1.2	0.66 J	5.2	2.8 J
m,p-Xylene	1.2	1.9	5.2	8.2
o-Xylene	1.2	0.51 J	5.2	2.2 J
Propylbenzene	1.2	0.47 J U	5.9	0.85 J U
1,3,5-Trimethylbenzene	1.2	0.22 J U	5.9	1.1 J U
1,2,4-Trimethylbenzene	1.2	0.83 J	5.9	4.1 J
Isopentane	4.8	5.2	14	15
Butane	4.8	5.3	12	13
TPH ref. to Gasoline (MW=100)	60	1500	250	6100

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	106	70-130

Client Sample ID: RoxHighSchWrkshp-08042011-SS-C

Lab ID#: 1108154B-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080621	Date of Collection:	8/5/11 7:35:00 PM
Dil. Factor:	2.69	Date of Analysis:	8/6/11 05:33 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.3	3.7	4.7	13
Cyclohexane	1.3	Not Detected	4.6	Not Detected
2,2,4-Trimethylpentane	1.3	0.40 J	6.3	1.8 J
Benzene	1.3	3.0	4.3	9.4
1,4-Dioxane	5.4	Not Detected	19	Not Detected
Toluene	1.3	7.0	5.1	26
Ethyl Benzene	1.3	0.77 J	5.8	3.3 J
m,p-Xylene	1.3	1.4	5.8	6.2
o-Xylene	1.3	0.43 J	5.8	1.9 J
Propylbenzene	1.3	Not Detected	6.6	Not Detected
1,3,5-Trimethylbenzene	1.3	0.18 J u	6.6	0.86 J u
1,2,4-Trimethylbenzene	1.3	0.49 J	6.6	2.4 J
Isopentane	5.4	3.4 J	16	10 J
Butane	5.4	5.6	13	13
TPH ref. to Gasoline (MW=100)	67	930	280	3800

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	107	70-130

Client Sample ID: Lab Blank

Lab ID#: 1108154B-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080606a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 10:18 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.50	Not Detected	1.8	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Toluene	0.50	0.098 J	1.9	0.37 J
Ethyl Benzene	0.50	0.056 J	2.2	0.24 J
m,p-Xylene	0.50	0.11 J	2.2	0.47 J
o-Xylene	0.50	Not Detected	2.2	Not Detected
Propylbenzene	0.50	0.089 J	2.4	0.44 J
1,3,5-Trimethylbenzene	0.50	0.10 J	2.4	0.50 J
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
TPH ref. to Gasoline (MW=100)	25	Not Detected	100	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	82	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: CCV

Lab ID#: 1108154B-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 08:20 AM

Compound	%Recovery
Hexane	91
Cyclohexane	99
2,2,4-Trimethylpentane	88
Benzene	99
1,4-Dioxane	117
Toluene	95
Ethyl Benzene	107
m,p-Xylene	108
o-Xylene	110
Propylbenzene	106
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	110
Isopentane	103
Butane	88
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	81	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: LCS

Lab ID#: 1108154B-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 08:48 AM

Compound	%Recovery
Hexane	93
Cyclohexane	103
2,2,4-Trimethylpentane	91
Benzene	102
1,4-Dioxane	115
Toluene	96
Ethyl Benzene	107
m,p-Xylene	111
o-Xylene	112
Propylbenzene	106
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	107
Isopentane	104
Butane	85
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	81	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: LCSD

Lab ID#: 1108154B-08AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 09:06 AM

Compound	%Recovery
Hexane	94
Cyclohexane	103
2,2,4-Trimethylpentane	94
Benzene	102
1,4-Dioxane	116
Toluene	97
Ethyl Benzene	105
m,p-Xylene	110
o-Xylene	111
Propylbenzene	108
1,3,5-Trimethylbenzene	109
1,2,4-Trimethylbenzene	109
Isopentane	105
Butane	92
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	82	70-130
4-Bromofluorobenzene	106	70-130

1108154

URS

Shell Oil Products Chain Of Custody Record

Air Toxics LTD.
 Project Name: Roxana IA/SS
 Project # 21562593.000016

Lab Vendor # _____

INCIDENT # (ENV SERVICES) CHECK IF NO INCIDENT # APPLIES

DATE: 8/6/2011
 PAGE: 2 of 2

Print Bill To Contact Name: Thomas Adams
 PO # _____

STATE: IL
 COUNTY: _____

SITE ADDRESS: Street and City: _____
 900 SOUTH CENTRAL AVE - ROXANA
 DELIVERABLE TO: Roxana, Co. IL 62451

PHONE NO.: 314-743-4179
 CONSULTANT PROJECT NUMBER: Roxana IA/SS

EMAIL: Elizabeth.Kunkel@URSCorp.com
 CONSULTANT: Elizabeth Kunkel / Curt Smith

PLEASE CHECK APPROPRIATE BOX:

ENV. SERVICES SHELL RETAIL
 MOTIVA SONCH CONSULTANT LUBES
 SHELL PIPELINE OTHER _____

LOG CODE: _____

URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110

Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719

TELEPHONE: 314-429-0100 FAX: 314-429-0482

TURNAROUND TIME (CALENDAR DAYS): 5 DAYS 7 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

IA - RWCS REPORT FORMAT USE AGENCY: _____

SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 EDD NOT NEEDED
 RECEIPT VERIFICATION REQUESTED

Lab Order #	Field Sample Identification	SAMPLING		Container Pressure/Vacuum		Method TO-15 (Standard)	Method TO-15 (Methane Only)	Method TO-15 (Low Level)	Requested Analysis
		DATE	START TIME	STOP TIME	Canister Number				
	RoxHighSchWrkshp-08042011-IA-A	8/6/11-9/5/11	1605	1605	3371	-30	-7	x	14 day hold time
	RoxHighSchWrkshp-08042011-IA-B	8/6/11-9/5/11	1800	1800	1344	-30	-7.5	x	Report results between MDL and RL
	RoxHighSchWrkshp-08042011-SS-A	08/04/11	1725	1925	5621	-30	-7.5	x	Level IV ECVF
	RoxHighSchWrkshp-08042011-SS-B	08/04/11	1734	1934	2540	-30	-8.5	x	SAME DAY TURNAROUND
	RoxHighSchWrkshp-08042011-SS-C	08/04/11	1735	1935	2049	-30	-7.5	x	

ADDITIONAL NOTES:

Turn Around Time: Normal Rush Specify _____

Lab: Use Only Pressurized by: _____

Date: _____

Pressurization Gas: _____

Time: 1900

Received by (Signature): *FFDEX*
 Received by (Signature): *B. W. Stutts*
 Received by (Signature): _____

Date: 8/5/11
 Date: 8/6/11
 Date: _____

Fedex

CUSTOMER DEAL INTACT?
 YES NO N/A EMP N/A

8/8/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.00016
Workorder #: 1108154C

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/6/2011 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,



Kelly Buettner
Project Manager

Reviewed
on
8/9/2011

WORK ORDER #: 1108154C

Work Order Summary

CLIENT:	Mr. Thomas Adams URS Corporation 1001 Highlands Plaza Dr. West Suite 300 St. Louis, MO 63110	BILL TO:	Accounts Payable Austin URS Corporation P.O. BOX 203970 Austin, TX 78720-1088
PHONE:	314-429-0100	P.O. #	
FAX:		PROJECT #	21562593.00016 Roxana IA/SS
DATE RECEIVED:	08/06/2011	CONTACT:	Kelly Buettner
DATE COMPLETED:	08/08/2011		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	RoxHighSchWrkshp-08042011-IA-A	Modified ASTM D-1946	6.6 "Hg	5 psi
02A	RoxHighSchWrkshp-08042011-IA-B	Modified ASTM D-1946	7.2 "Hg	5 psi
03A	RoxHighSchWrkshp-08042011-SS-A ✓	Modified ASTM D-1946	7.5 "Hg	15 psi
04A	RoxHighSchWrkshp-08042011-SS-B ✓	Modified ASTM D-1946	5.0 "Hg	15 psi
05A	RoxHighSchWrkshp-08042011-SS-C	Modified ASTM D-1946	7.5 "Hg	15 psi
06A	Lab Blank	Modified ASTM D-1946	NA	NA
06B	Lab Blank	Modified ASTM D-1946	NA	NA
07A	LCS	Modified ASTM D-1946	NA	NA
07AA	LCS	Modified ASTM D-1946	NA	NA

CERTIFIED BY: *Sandra D. Freeman*
Laboratory Director

DATE: 08/08/11

Certification 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: 06/30/11
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1108154C

Two 6 Liter Summa Canister (100% Certified) and three 1 Liter Summa Canister (100% Certified) samples were received on August 06, 2011. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

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

<i>Requirement</i>	<i>ASTM D-1946</i>	<i>ATL Modifications</i>
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.

Precision

Precision requirements established at each concentration level.

Duplicates should agree within 25% RPD for detections $> 5 \times$ the RL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request 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

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

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 detection limit.

M - Reported value may be biased due to apparent matrix interferences.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: RoxHighSchWrkshp-08042011-IA-A

Lab ID#: 1108154C-01A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00024

Client Sample ID: RoxHighSchWrkshp-08042011-IA-B

Lab ID#: 1108154C-02A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00018	0.00032

Client Sample ID: RoxHighSchWrkshp-08042011-SS-A

Lab ID#: 1108154C-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	19
Nitrogen	0.27	80
Carbon Dioxide	0.027	0.79
Helium	0.13	0.12 J

Client Sample ID: RoxHighSchWrkshp-08042011-SS-B

Lab ID#: 1108154C-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	19
Nitrogen	0.24	78
Methane	0.00024	0.00011 J
Carbon Dioxide	0.024	0.94
Helium	0.12	2.2

Client Sample ID: RoxHighSchWrkshp-08042011-SS-C

Lab ID#: 1108154C-05A

Compound	Rpt. Limit (%)	Amount (%)
-----------------	-----------------------	-------------------

Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: RoxHighSchWrkshp-08042011-SS-C

Lab ID#: 1108154C-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	19
Nitrogen	0.27	79
Methane	0.00027	0.000067 J
Carbon Dioxide	0.027	0.88
Helium	0.13	0.82



Client Sample ID: RoxHighSchWrkshp-08042011-IA-A

Lab ID#: 1108154C-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080611	Date of Collection:	8/5/11 4:05:00 PM
Dil. Factor:	1.72	Date of Analysis:	8/6/11 06:08 PM

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00024

Container Type: 6 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchWrkshp-08042011-IA-B

Lab ID#: 1108154C-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080612	Date of Collection:	8/5/11 6:00:00 PM
Dil. Factor:	1.76	Date of Analysis:	8/6/11 06:31 PM

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00018	0.00032

Container Type: 6 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchWrkshp-08042011-SS-A

Lab ID#: 1108154C-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080620	Date of Collection:	8/5/11 7:25:00 PM
Dil. Factor:	2.69	Date of Analysis:	8/6/11 09:31 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	19
Nitrogen	0.27	80
Carbon Monoxide	0.027	Not Detected
Methane	0.00027	Not Detected
Carbon Dioxide	0.027	0.79
Ethane	0.0027	Not Detected
Ethene	0.0027	Not Detected
Helium	0.13	0.12 J

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchWrkshp-08042011-SS-B

Lab ID#: 1108154C-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080621	Date of Collection:	8/5/11 7:34:00 PM
Dil. Factor:	2.42	Date of Analysis:	8/6/11 09:53 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	19
Nitrogen	0.24	78
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	0.00011 J
Carbon Dioxide	0.024	0.94
Ethane	0.0024	Not Detected
Ethene	0.0024	Not Detected
Helium	0.12	2.2

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: RoxHighSchWrkshp-08042011-SS-C

Lab ID#: 1108154C-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080622	Date of Collection:	8/5/11 7:35:00 PM
Dil. Factor:	2.69	Date of Analysis:	8/6/11 10:15 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	19
Nitrogen	0.27	79
Carbon Monoxide	0.027	Not Detected
Methane	0.00027	0.000067 J
Carbon Dioxide	0.027	0.88
Ethane	0.0027	Not Detected
Ethene	0.0027	Not Detected
Helium	0.13	0.82

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)



Client Sample ID: Lab Blank

Lab ID#: 1108154C-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080604c	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 03:13 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	0.048 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable



Client Sample ID: Lab Blank

Lab ID#: 1108154C-06B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080603b	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/6/11 02:51 PM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.050	Not Detected

Container Type: NA - Not Applicable

Client Sample ID: LCS

Lab ID#: 1108154C-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 02:29 PM

Compound	%Recovery
Oxygen	99
Nitrogen	101
Carbon Monoxide	93
Methane	97
Carbon Dioxide	101
Ethane	100
Ethene	99
Helium	95

Container Type: NA - Not Applicable

Client Sample ID: LCSD

Lab ID#: 1108154C-07AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080623	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 10:37 PM

Compound	%Recovery
Oxygen	99
Nitrogen	101
Carbon Monoxide	94
Methane	97
Carbon Dioxide	102
Ethane	100
Ethene	98
Helium	95

Container Type: NA - Not Applicable

1108154

URS

Shell Oil Products Chain Of Custody Record

Air Toxics LTD.
Project Name: Roxana IA/SS
Project # 21562593.000016

Lab Vendor # _____

URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
 ADDRESS: 900 SOUTH CENTRAL AVE. - ROXANA, ILL. 62451
 TEL: 314-7429-0100 FAX: 314-428-0462
 TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

Site Address: Firm and City
 900 SOUTH CENTRAL AVE. - ROXANA, ILL. 62451
Client Name: Thomas Adams
PO # _____

Contract #: 314-742-4179
Supplier Name (P/N): Elizabeth Kunkel, URS, St. Louis
Contract Project Number: Roxana IA/SS

Incident # (ENV SERVICES): CHECK IF NO INCIDENT # APPLIES
 9 7 2 1 8 8 4 0
DATE: 8/9/2011
PAGE: 2 of 2

Requested Analysis

Turn Around Time:
 Normal
 Rush
 Specify _____

Lab Use Only
 Pressurized by: _____
 Date: _____
 Pressurization Gas: N₂ He

ADDITIONAL NOTES:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVP
 - SAME DAY TURNAROUND

Field Sample Identification	SAMPLING		Container Number		Container Pressure/Vacuum	
	DATE	START TIME	STOP TIME	Initial (PSI)	Final (PSI)	Receipt (PSI)
RoxHighSchWrkshp-08042011-IA-A	8/4/11-8/5/11	1605	1605	-30	-7	
RoxHighSchWrkshp-08042011-IA-B	8/4/11-8/5/11	1800	1800	-30	-7.5	
RoxHighSchWrkshp-08042011-SS-A	08/04/11	1725	1925	-30	-7.5	
RoxHighSchWrkshp-08042011-SS-B	08/04/11	1734	1934	-30	-8.5	
RoxHighSchWrkshp-08042011-SS-C	08/04/11	1735	1935	-30	-7.5	

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4

IA - RWQCB REPORT FORMAT UST AGENCY

SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 ERO NOT NEEDED
 RECEIPT VERIFICATION REQUESTED

Signature: *[Signature]*
 Received by (Signature): **FEDEX**
 Received by (Signature): **B. W. Stutts**
 Date: 8/16/11 0736
 Date: 8/5/11 1900

CUSTOMER SEAL INTACT?
 YES NO N/A

Fedex

Roxana High School – Vocational Building Indoor Air/Outdoor Air Data Review

Laboratory SDG: 1108155A, C

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Tony Sedlacek

Date Reviewed: 8/8/2011

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Work Plan: Vapor Intrusion Investigation, Roxana, Illinois (March 2011)

Sample Identification	Sample Identification
RoxHighSchVocBldg-08042011-OA-A	RoxHighSchVocBldg-08042011-IA-B
RoxHighSchVocBldg-08042011-IA-B-Dup	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Although not indicated in the laboratory case narrative, analytes were detected in the method blank. This issue is addressed further in the appropriate section below.

No problems were indicated in the cooler receipt form.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
1108155A-04A	TO-15	Benzene	0.0092 ppbv / 0.029 µg/m ³
1108155A-04A	TO-15	1,2,4-Trimethylpentane	0.021 ppbv / 0.10 µg/m ³
1108155A-04A	TO-15	Butane	0.088 ppbv / 0.21 µg/m ³
1108155C-07A	Natural gases	Nitrogen	0.048%

Analytical data were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration and did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

MS/MSD samples are not applicable for vapor samples due to the inability to spike the samples.

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
RoxHighSchVocBldg-08042011-IA-B	RoxHighSchVocBldg-08042011-IA-B-Dup

Were field duplicate RPDs within evaluation criteria?

Yes

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

No

8/8/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.00016
Workorder #: 1108155A

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/6/2011 at Air Toxics Ltd.

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

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

Regards,



Kelly Buettner
Project Manager

Reviewed
on
8/8/2011

WORK ORDER #: 1108155A

Work Order Summary

CLIENT:	Mr. Thomas Adams URS Corporation 1001 Highlands Plaza Dr. West Suite 300 St. Louis, MO 63110	BILL TO:	Accounts Payable Austin URS Corporation P.O. BOX 203970 Austin, TX 78720-1088
PHONE:	314-429-0100	P.O. #	
FAX:		PROJECT #	21562593.00016 Roxana IA/SS
DATE RECEIVED:	08/06/2011	CONTACT:	Kelly Buettner
DATE COMPLETED:	08/08/2011		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	RoxHighSchVocBldg-08042011-OA-A	Modified TO-15	8.0 "Hg	5 psi
02A	RoxHighSchVocBldg-08042011-IA-B	Modified TO-15	6.4 "Hg	5 psi
03A	RoxHighSchVocBldg-08042011-IA-B-Dup	Modified TO-15	6.2 "Hg	5 psi
04A	Lab Blank	Modified TO-15	NA	NA
05A	CCV	Modified TO-15	NA	NA
06A	LCS	Modified TO-15	NA	NA
06AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: *Linda J. Furrer*

DATE: 08/08/11

Laboratory Director

Certification 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: 07/01/11, Expiration date: 06/30/12.

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

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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

**LABORATORY NARRATIVE
Modified TO-15
URS Corporation
Workorder# 1108155A**

Three 6 Liter Summa Canister (100% Certified) samples were received on August 06, 2011. 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.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
ICAL %RSD acceptance criteria	+/- 30% RSD with 2 compounds allowed out to < 40% RSD	30% RSD with 4 compounds allowed out to < 40% RSD
Daily Calibration	+/- 30% Difference	<= 30% Difference with four allowed out up to <=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
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
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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.1 ppbv for compounds reported at 0.1 ppbv and 0.5 ppbv for compounds reported at 0.5ppbv) may be false positives.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



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

Client Sample ID: RoxHighSchVocBldg-08042011-OA-A

Lab ID#: 1108155A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.18	1.8	0.64	6.3
Cyclohexane	0.18	0.13 J	0.63	0.45 J
2,2,4-Trimethylpentane	0.92	0.34 J	4.3	1.6 J
Benzene	0.18	42	0.58	130
Toluene	0.18	5.5	0.69	21
Ethyl Benzene	0.18	0.35	0.79	1.5
m,p-Xylene	0.18	1.0	0.79	4.5
o-Xylene	0.18	0.26	0.79	1.1
Propylbenzene	0.18	0.089 J	0.90	0.44 J
1,3,5-Trimethylbenzene	0.18	0.11 J	0.90	0.54 J
1,2,4-Trimethylbenzene	0.18	0.32	0.90	1.6
Isopentane	0.92	4.2	2.7	12
Butane	0.92	1.9	2.2	4.5
TPH ref. to Gasoline (MW=100)	18	720	75	2900

Client Sample ID: RoxHighSchVocBldg-08042011-IA-B

Lab ID#: 1108155A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.17	0.68	0.60	2.4
Cyclohexane	0.17	0.24	0.58	0.81
2,2,4-Trimethylpentane	0.85	0.99	4.0	4.6
Benzene	0.17	0.43	0.54	1.4
1,4-Dioxane	0.17	0.21	0.61	0.75
Toluene	0.17	6.5	0.64	24
Ethyl Benzene	0.17	0.36	0.74	1.6
m,p-Xylene	0.17	1.1	0.74	4.6
o-Xylene	0.17	0.38	0.74	1.6
Propylbenzene	0.17	0.078 J	0.84	0.38 J
1,3,5-Trimethylbenzene	0.17	0.12 J	0.84	0.56 J
1,2,4-Trimethylbenzene	0.17	0.43	0.84	2.1



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

Client Sample ID: RoxHighSchVocBldg-08042011-IA-B

Lab ID#: 1108155A-02A

Isopentane	0.85	7.1	2.5	21
Butane	0.85	3.1	2.0	7.5
TPH ref. to Gasoline (MW=100)	17	170	70	700

Client Sample ID: RoxHighSchVocBldg-08042011-IA-B-Dup

Lab ID#: 1108155A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.17	0.63	0.60	2.2
Cyclohexane	0.17	0.21	0.58	0.73
2,2,4-Trimethylpentane	0.84	0.94	3.9	4.4
Benzene	0.17	0.42	0.54	1.3
1,4-Dioxane	0.17	0.18	0.61	0.66
Toluene	0.17	6.3	0.64	24
Ethyl Benzene	0.17	0.33	0.73	1.4
m,p-Xylene	0.17	0.97	0.73	4.2
o-Xylene	0.17	0.37	0.73	1.6
Propylbenzene	0.17	0.080 J	0.83	0.40 J
1,3,5-Trimethylbenzene	0.17	0.094 J	0.83	0.46 J
1,2,4-Trimethylbenzene	0.17	0.42	0.83	2.0
Isopentane	0.84	7.2	2.5	21
Butane	0.84	3.5	2.0	8.4
TPH ref. to Gasoline (MW=100)	17	160	69	650

Client Sample ID: RoxHighSchVocBldg-08042011-OA-A

Lab ID#: 1108155A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080613	Date of Collection:	8/5/11 4:05:00 PM
Dil. Factor:	1.83	Date of Analysis:	8/6/11 02:46 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.18	1.8	0.64	6.3
Cyclohexane	0.18	0.13 J	0.63	0.45 J
2,2,4-Trimethylpentane	0.92	0.34 J	4.3	1.6 J
Benzene	0.18	42	0.58	130
1,4-Dioxane	0.18	Not Detected	0.66	Not Detected
Toluene	0.18	5.5	0.69	21
Ethyl Benzene	0.18	0.35	0.79	1.5
m,p-Xylene	0.18	1.0	0.79	4.5
o-Xylene	0.18	0.26	0.79	1.1
Propylbenzene	0.18	0.089 J	0.90	0.44 J
1,3,5-Trimethylbenzene	0.18	0.11 J	0.90	0.54 J
1,2,4-Trimethylbenzene	0.18	0.32	0.90	1.6
Isopentane	0.92	4.2	2.7	12
Butane	0.92	1.9	2.2	4.5
TPH ref. to Gasoline (MW=100)	18	720	75	2900

J = Estimated value.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130



Client Sample ID: RoxHighSchVocBldg-08042011-IA-B

Lab ID#: 1108155A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080614	Date of Collection:	8/5/11 3:59:00 PM
Dil. Factor:	1.70	Date of Analysis:	8/6/11 03:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.17	0.68	0.60	2.4
Cyclohexane	0.17	0.24	0.58	0.81
2,2,4-Trimethylpentane	0.85	0.99	4.0	4.6
Benzene	0.17	0.43	0.54	1.4
1,4-Dioxane	0.17	0.21	0.61	0.75
Toluene	0.17	6.5	0.64	24
Ethyl Benzene	0.17	0.36	0.74	1.6
m,p-Xylene	0.17	1.1	0.74	4.6
o-Xylene	0.17	0.38	0.74	1.6
Propylbenzene	0.17	0.078 J	0.84	0.38 J
1,3,5-Trimethylbenzene	0.17	0.12 J	0.84	0.56 J
1,2,4-Trimethylbenzene	0.17	0.43	0.84	2.1
Isopentane	0.85	7.1	2.5	21
Butane	0.85	3.1	2.0	7.5
TPH ref. to Gasoline (MW=100)	17	170	70	700

J = Estimated value.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: RoxHighSchVocBldg-08042011-IA-B-Dup

Lab ID#: 1108155A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080615	Date of Collection:	8/5/11 3:59:00 PM
Dil. Factor:	1.69	Date of Analysis:	8/6/11 03:57 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.17	0.63	0.60	2.2
Cyclohexane	0.17	0.21	0.58	0.73
2,2,4-Trimethylpentane	0.84	0.94	3.9	4.4
Benzene	0.17	0.42	0.54	1.3
1,4-Dioxane	0.17	0.18	0.61	0.66
Toluene	0.17	6.3	0.64	24
Ethyl Benzene	0.17	0.33	0.73	1.4
m,p-Xylene	0.17	0.97	0.73	4.2
o-Xylene	0.17	0.37	0.73	1.6
Propylbenzene	0.17	0.080 J	0.83	0.40 J
1,3,5-Trimethylbenzene	0.17	0.094 J	0.83	0.46 J
1,2,4-Trimethylbenzene	0.17	0.42	0.83	2.0
Isopentane	0.84	7.2	2.5	21
Butane	0.84	3.5	2.0	8.4
TPH ref. to Gasoline (MW=100)	17	160	69	650

J = Estimated value.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: Lab Blank

Lab ID#: 1108155A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080606	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/5/11 09:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.10	Not Detected	0.35	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.10	0.0092 J	0.32	0.029 J
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	0.021 J	0.49	0.10 J
Isopentane	0.50	Not Detected	1.5	Not Detected
Butane	0.50	0.088 J	1.2	0.21 J
TPH ref. to Gasoline (MW=100)	10	Not Detected	41	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: CCV

Lab ID#: 1108155A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/5/11 05:40 PM

Compound	%Recovery
Hexane	97
Cyclohexane	91
2,2,4-Trimethylpentane	102
Benzene	96
1,4-Dioxane	89
Toluene	92
Ethyl Benzene	90
m,p-Xylene	88
o-Xylene	90
Propylbenzene	91
1,3,5-Trimethylbenzene	87
1,2,4-Trimethylbenzene	89
Isopentane	109
Butane	96
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: LCS

Lab ID#: 1108155A-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/5/11 06:20 PM

Compound	%Recovery
Hexane	92
Cyclohexane	87
2,2,4-Trimethylpentane	89
Benzene	100
1,4-Dioxane	90
Toluene	94
Ethyl Benzene	93
m,p-Xylene	94
o-Xylene	95
Propylbenzene	99
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	93
Isopentane	103
Butane	90
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

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

Client Sample ID: LCSD

Lab ID#: 1108155A-06AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/5/11 06:55 PM

Compound	%Recovery
Hexane	92
Cyclohexane	88
2,2,4-Trimethylpentane	89
Benzene	98
1,4-Dioxane	89
Toluene	92
Ethyl Benzene	93
m,p-Xylene	92
o-Xylene	94
Propylbenzene	98
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	94
Isopentane	102
Butane	91
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

108155



Shell Oil Products Chain of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana IA/SS
Project # 21562593.000016

Lab Vendor # _____
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110

Print Bill To Contact Name: Thomas Adams
 PO # _____
 SHELL RETAIL: SHELL RETAIL
 MOTIVA RETAIL
 MOTIVA SUBCH
 SHELL PIPELINE
 OTHER _____

INCIDENT # (ENV. SERVICES): 9 7 2 1 6 6 4 0
 DATE: 8/5/2011
 PAGE: 2 of 2

SHIP TO CONTACT E-MAIL: Elizabeth_Kunkel@URSComp.com
 PHONE NO.: 314-743-4179
 CONSULTANT PROJECT NUMBER: Roxana IA/SS

SHIP TO CONTACT E-MAIL: Mike Currier / Curt Smith
 PHONE NO.: _____

SHIP TO CONTACT E-MAIL: _____
 PHONE NO.: _____

REQUESTED ANALYSIS

Turn Around Time:
 Normal
 Rush
 Specify _____

Lab Use Only
 Pressurized by: _____
 Date: _____
 Pressurization Gas: _____

ADDITIONAL NOTES:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVP
 - SAME DAY TURNAROUND

Field Sample Identification	SAMPLING		Container Pressure/Vacuum		Initial ("Hg)	Final ("Hg)	Receipt	Final (psi)
	DATE	START TIME	STOP TIME	Container Number				
RoxHighSchVocBlgdg-08042011-OA-A	8/4/11-8/5/11	1605	1605	1955	-30	-8		
RoxHighSchVocBlgdg-08042011-IA-B	8/4/11-8/5/11	1553	1559	3088	-30	-6.5		
RoxHighSchVocBlgdg-08042011-IA-B-Dup	8/4/11-8/5/11	1553	1559	1934	-30	-6.5		
RoxHighSchVocBlgdg-08042011-SS-A	08/04/11	1207	1407	3089	-29	-13		
RoxHighSchVocBlgdg-08042011-SS-B	08/04/11	1210	1410	3717	-27.5	-11.5		
RoxHighSchVocBlgdg-08042011-SS-C	08/04/11	1212	1412	2367	-29.5	-9		

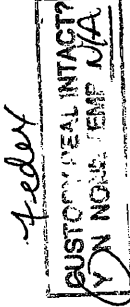
DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4

OTHER (SPECIFY): _____

RESULTS NEEDED ON WEEKEND: 74 HOURS RESULTS NEEDED ON WEEKEND

RECEIVED BY (Signature): *FEDEX*
 RECEIVED BY (Signature): *B. Wittobeker*
 RECEIVED BY (Signature): _____

DATE: 8/5/11
 TIME: 1900



Fedex

8/8/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.00016
Workorder #: 1108155C

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/6/2011 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,



Kelly Buettner
Project Manager

Reviewed
on
8/8/2011

WORK ORDER #: 1108155C

Work Order Summary

CLIENT:	Mr. Thomas Adams URS Corporation 1001 Highlands Plaza Dr. West Suite 300 St. Louis, MO 63110	BILL TO:	Accounts Payable Austin URS Corporation P.O. BOX 203970 Austin, TX 78720-1088
PHONE:	314-429-0100	P.O. #	
FAX:		PROJECT #	21562593.00016 Roxana IA/SS
DATE RECEIVED:	08/06/2011	CONTACT:	Kelly Buettner
DATE COMPLETED:	08/08/2011		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
02A	RoxHighSchVocBldg-08042011-IA-B ✓	Modified ASTM D-1946	6.4 "Hg	5 psi
03A	RoxHighSchVocBldg-08042011-IA-B-Dup	Modified ASTM D-1946	6.2 "Hg	5 psi
04A	RoxHighSchVocBldg-08042011-SS-A	Modified ASTM D-1946	12.5 "Hg	15 psi
05A	RoxHighSchVocBldg-08042011-SS-B	Modified ASTM D-1946	11.0 "Hg	15 psi
06A	RoxHighSchVocBldg-08042011-SS-C	Modified ASTM D-1946	9.0 "Hg	15 psi
07A	Lab Blank	Modified ASTM D-1946	NA	NA
07B	Lab Blank	Modified ASTM D-1946	NA	NA
08A	LCS	Modified ASTM D-1946	NA	NA
08AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: *Sinda D. Fumman*
Laboratory Director

DATE: 08/08/11

Certification 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: 06/30/11
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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

**LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1108155C**

Two 6 Liter Summa Canister (100% Certified) and three 1 Liter Summa Canister (100% Certified) samples were received on August 06, 2011. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

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

<i>Requirement</i>	<i>ASTM D-1946</i>	<i>ATL Modifications</i>
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.

Precision

Precision requirements established at each concentration level.

Duplicates should agree within 25% RPD for detections $> 5 \times$ the RL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request 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

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

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 detection limit.

M - Reported value may be biased due to apparent matrix interferences.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: RoxHighSchVocBldg-08042011-IA-B

Lab ID#: 1108155C-02A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00022

Client Sample ID: RoxHighSchVocBldg-08042011-IA-B-Dup

Lab ID#: 1108155C-03A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00021

Client Sample ID: RoxHighSchVocBldg-08042011-SS-A

Lab ID#: 1108155C-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.35	16
Nitrogen	0.35	82
Methane	0.00035	0.000076 J
Carbon Dioxide	0.035	1.7
Helium	0.17	0.37

Client Sample ID: RoxHighSchVocBldg-08042011-SS-B

Lab ID#: 1108155C-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.32	18
Nitrogen	0.32	78
Methane	0.00032	0.00016 J
Carbon Dioxide	0.032	0.72
Helium	0.16	3.4

Client Sample ID: RoxHighSchVocBldg-08042011-SS-C

Lab ID#: 1108155C-06A

Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: RoxHighSchVocBldg-08042011-SS-C

Lab ID#: 1108155C-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	19
Nitrogen	0.29	81
Methane	0.00029	0.000065 J
Carbon Dioxide	0.029	0.38
Helium	0.14	0.062 J



Client Sample ID: RoxHighSchVocBldg-08042011-IA-B

Lab ID#: 1108155C-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080613	Date of Collection:	8/5/11 3:59:00 PM
Dil. Factor:	1.70	Date of Analysis:	8/6/11 06:55 PM

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00022

Container Type: 6 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchVocBldg-08042011-IA-B-Dup

Lab ID#: 1108155C-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080614	Date of Collection:	8/5/11 3:59:00 PM
Dil. Factor:	1.69	Date of Analysis:	8/6/11 07:19 PM

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00021

Container Type: 6 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchVocBldg-08042011-SS-A

Lab ID#: 1108155C-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080617	Date of Collection: 8/4/11 2:07:00 PM
Dil. Factor:	3.46	Date of Analysis: 8/6/11 08:26 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.35	16
Nitrogen	0.35	82
Carbon Monoxide	0.035	Not Detected
Methane	0.00035	0.000076 J
Carbon Dioxide	0.035	1.7
Ethane	0.0035	Not Detected
Ethene	0.0035	Not Detected
Helium	0.17	0.37

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchVocBldg-08042011-SS-B

Lab ID#: 1108155C-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080618	Date of Collection:	8/4/11 2:10:00 PM
Dil. Factor:	3.19	Date of Analysis:	8/6/11 08:47 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.32	18
Nitrogen	0.32	78
Carbon Monoxide	0.032	Not Detected
Methane	0.00032	0.00016 J
Carbon Dioxide	0.032	0.72
Ethane	0.0032	Not Detected
Ethene	0.0032	Not Detected
Helium	0.16	3.4

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchVocBldg-08042011-SS-C

Lab ID#: 1108155C-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080619	Date of Collection:	8/4/11 2:12:00 PM
Dil. Factor:	2.89	Date of Analysis:	8/6/11 09:09 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	19
Nitrogen	0.29	81
Carbon Monoxide	0.029	Not Detected
Methane	0.00029	0.000065 J
Carbon Dioxide	0.029	0.38
Ethane	0.0029	Not Detected
Ethene	0.0029	Not Detected
Helium	0.14	0.062 J

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: Lab Blank

Lab ID#: 1108155C-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080604c	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 03:13 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	0.048 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable



Client Sample ID: Lab Blank

Lab ID#: 1108155C-07B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080603b	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/6/11 02:51 PM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.050	Not Detected

Container Type: NA - Not Applicable

Client Sample ID: LCS

Lab ID#: 1108155C-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 02:29 PM

Compound	%Recovery
Oxygen	99
Nitrogen	101
Carbon Monoxide	93
Methane	97
Carbon Dioxide	101
Ethane	100
Ethene	99
Helium	95

Container Type: NA - Not Applicable

Client Sample ID: LCSD

Lab ID#: 1108155C-08AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080623	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 10:37 PM

Compound	%Recovery
Oxygen	99
Nitrogen	101
Carbon Monoxide	94
Methane	97
Carbon Dioxide	102
Ethane	100
Ethene	98
Helium	95

Container Type: NA - Not Applicable

1108155



Shell Oil Products Chain of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana IA/SS
Project # 21562693.000016

Lab Vendor #
SUPPLYING COMPANY:
 URS CORPORATION
 ADDRESS:
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
 Library Address:
 Air Toxics, LTD 190 Blue Ravina Road, Suite B, Folsom, CA 95630-4719
 TELEPHONE:
 314-7425-0100
 FAX:
 314-429-0462

Print Bill To Client's Name:
 Thomas Adams
PO #
SHIP TO COMPANY E-MAIL:
 Thomas.Adams@URSComp.com

INCIDENT # (ENV. SERVICES): CHECK IF NO INCIDENT # APPLIES
 DATE: 8/6/2011
 PAGE: 2 of 2

SHIP TO ADDRESS: Street and City
 900 SOUTH CENTRAL AVE - ROXANA
 ZIP DELIVERABLE TO THEM. COMPANY, OTHER CONTACT:
 Elizabeth Kuntel, URS, St. Louis
 314-743-4179
SHIP TO COMPANY E-MAIL:
 Elizabeth.Kuntel@URSComp.com
CONSULTANT PROJECT NUMBER:
 Roxana IA/SS

TURNAROUND TIME CALENDAR DAYS:
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS
 LA - RWQCB REPORT FORMAT LIST AGENCY: RESULTS NEEDED ON WEDNESDAY
DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4
 24 HOURS OTHER (SPECIFY): _____
 SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 EDD NOT NEEDED
 RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS
 Turn Around Time:
 Normal
 Rush
 Specify _____
 Lab Use Only
 Pressurized by:
 Date: _____
 Pressurization Gas: _____
 Y: _____
 No: _____

ADDITIONAL NOTES:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVF
 - SAME DAY TURNAROUND

Field Sample Identification	SAMPLING		Container Pressure/Vacuum		Canister Number	Conifer Pressure/Vacuum	
	DATE	START TIME	STOP TIME	Initial (Psi)		Final (Psi)	Receipt
RoxHighSchVocBldg-08042011-OA-A	8/4/11-8/5/11	1605	1605	-30	1955	-8	
RoxHighSchVocBldg-08042011-IA-B	8/4/11-8/5/11	1553	1559	-30	3088	-6.5	
RoxHighSchVocBldg-08042011-IA-B-Dup	8/4/11-8/5/11	1553	1559	-30	1934	-6.5	
RoxHighSchVocBldg-08042011-SS-A	08/04/11	1207	1407	-29	3089	-13	
RoxHighSchVocBldg-08042011-SS-B	08/04/11	1210	1410	-27.5	3717	-11.5	
RoxHighSchVocBldg-08042011-SS-C	08/04/11	1212	1412	-29.5	2367	-9	

Method TO-15 (Standard)	Method TO-15 (Methane Only)	Method TO-15 (Low Level)
x	x	x
x	x	x
x	x	x
x	x	x
x	x	x

Received by: (Signature)

Received by: (Signature)
 B.W. Stutts
Received by: (Signature)

DATE: 8/5/11
TIME: 1900

FEDEX
 CUSTOMER SEAL INTACT?
 (Y/N) NONE TEMP N/A

Roxana High School – Vocational Building Sub-Slab Vapor Data Review

Laboratory SDG: 1108155B, C

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Tony Sedlacek

Date Reviewed: 8/9/2011

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Work Plan: Vapor Intrusion Investigation, Roxana, Illinois (March 2011)

Sample Identification	Sample Identification
RoxHighSchVocBldg-08042011-SS-A	RoxHighSchVocBldg-08042011-SS-B
RoxHighSchVocBldg-08042011-SS-C	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Although not indicated in the laboratory case narrative, analytes were detected in the method blank. This issue is addressed further in the appropriate section below.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
1108155B-07A	TO-15	Toluene	0.098 ppbv / 0.37 µg/m ³
1108155B-07A	TO-15	Ethylbenzene	0.056 ppbv / 0.24 µg/m ³
1108155B-07A	TO-15	m,p-Xylenes	0.11 ppbv / 0.47 µg/m ³
1108155B-07A	TO-15	Propylbenzene	0.089 ppbv / 0.44 µg/m ³
1108155B-07A	TO-15	1,3,5-Trimethylbenzene	0.10 ppbv / 0.50 µg/m ³
1108155C-07A	Natural gases	Nitrogen	0.048%

Qualifications due to blank contamination are included in the table below. Analytical data reported non-detect or at concentrations greater than five times (5X) the

associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	Qualification
RoxHighSchVocBldg-08042011-SS-B	TO-15	Propylbenzene	U
RoxHighSchVocBldg-08042011-SS-B	TO-15	1,3,5-Trimethylbenzene	U
RoxHighSchVocBldg-08042011-SS-C	TO-15	Propylbenzene	U
RoxHighSchVocBldg-08042011-SS-C	TO-15	1,3,5-Trimethylbenzene	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

MS/MSD samples are not applicable for vapor samples due to the inability to spike the samples.

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

No

8/6/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.00016
Workorder #: 1108155B

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/6/2011 at Air Toxics Ltd.

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

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

Regards,



Kelly Buettner
Project Manager

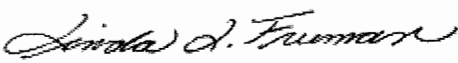
Reviewed
on
8/9/2011

WORK ORDER #: 1108155B

Work Order Summary

CLIENT:	Mr. Thomas Adams URS Corporation 1001 Highlands Plaza Dr. West Suite 300 St. Louis, MO 63110	BILL TO:	Accounts Payable Austin URS Corporation P.O. BOX 203970 Austin, TX 78720-1088
PHONE:	314-429-0100	P.O. #	
FAX:		PROJECT #	21562593.00016 Roxana IA/SS
DATE RECEIVED:	08/06/2011	CONTACT:	Kelly Buettner
DATE COMPLETED:	08/06/2011		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
04A	RoxHighSchVocBldg-08042011-SS-A ✓	Modified TO-15	12.5 "Hg	15 psi
05A	RoxHighSchVocBldg-08042011-SS-B ✓	Modified TO-15	11.0 "Hg	15 psi
06A	RoxHighSchVocBldg-08042011-SS-C ✓	Modified TO-15	9.0 "Hg	15 psi
07A	Lab Blank	Modified TO-15	NA	NA
08A	CCV	Modified TO-15	NA	NA
09A	LCS	Modified TO-15	NA	NA
09AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 

DATE: 08/06/11

Laboratory Director

Certification 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: 06/30/11
 Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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

**LABORATORY NARRATIVE
EPA Method TO-15
URS Corporation
Workorder# 1108155B**

Three 1 Liter Summa Canister (100% Certified) samples were received on August 06, 2011. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified may be false positives.

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

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



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

Client Sample ID: RoxHighSchVocBldg-08042011-SS-A

Lab ID#: 1108155B-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.7	6.1	6.1	21
2,2,4-Trimethylpentane	1.7	0.75 J	8.1	3.5 J
Benzene	1.7	4.0	5.5	13
Toluene	1.7	6.8	6.5	25
Ethyl Benzene	1.7	1.0 J	7.5	4.5 J
m,p-Xylene	1.7	5.8	7.5	25
o-Xylene	1.7	2.2	7.5	9.8
Propylbenzene	1.7	0.49 J	8.5	2.4 J
1,3,5-Trimethylbenzene	1.7	1.1 J	8.5	5.6 J
1,2,4-Trimethylbenzene	1.7	3.6	8.5	18
Isopentane	6.9	4.0 J	20	12 J
Butane	6.9	5.8 J	16	14 J
TPH ref. to Gasoline (MW=100)	86	1600	350	6500

Client Sample ID: RoxHighSchVocBldg-08042011-SS-B

Lab ID#: 1108155B-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.6	5.3	5.6	19
Cyclohexane	1.6	0.78 J	5.5	2.7 J
2,2,4-Trimethylpentane	1.6	0.60 J	7.4	2.8 J
Benzene	1.6	5.2	5.1	17
Toluene	1.6	5.8	6.0	22
Ethyl Benzene	1.6	0.83 J	6.9	3.6 J
m,p-Xylene	1.6	2.4	6.9	10
o-Xylene	1.6	0.63 J	6.9	2.7 J
Propylbenzene	1.6	0.16 J u	7.8	0.60 J u
1,3,5-Trimethylbenzene	1.6	0.21 J u	7.8	1.0 J u
1,2,4-Trimethylbenzene	1.6	0.50 J	7.8	2.5 J
Isopentane	6.4	4.4 J	19	13 J
Butane	6.4	6.2 J	15	15 J



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

Client Sample ID: RoxHighSchVocBldg-08042011-SS-B

Lab ID#: 1108155B-05A

TPH ref. to Gasoline (MW=100)	80	1300	330	5300
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Client Sample ID: RoxHighSchVocBldg-08042011-SS-C

Lab ID#: 1108155B-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.4	5.0	5.1	18
Cyclohexane	1.4	0.34 J	5.0	1.2 J
2,2,4-Trimethylpentane	1.4	0.41 J	6.8	1.9 J
Benzene	1.4	2.5	4.6	7.9
Toluene	1.4	7.5	5.4	28
Ethyl Benzene	1.4	0.84 J	6.3	3.6 J
m,p-Xylene	1.4	1.9	6.3	8.2
o-Xylene	1.4	0.51 J	6.3	2.2 J
Propylbenzene	1.4	0.17 J u	7.1	0.86 J u
1,3,5-Trimethylbenzene	1.4	0.18 J u	7.1	0.89 J u
1,2,4-Trimethylbenzene	1.4	0.58 J	7.1	2.9 J
Isopentane	5.8	3.2 J	17	9.3 J
Butane	5.8	5.1 J	14	12 J
TPH ref. to Gasoline (MW=100)	72	1800	300	7400

Client Sample ID: RoxHighSchVocBldg-08042011-SS-A

Lab ID#: 1108155B-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080611	Date of Collection:	8/4/11 2:07:00 PM
Dil. Factor:	3.46	Date of Analysis:	8/6/11 01:09 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.7	6.1	6.1	21
Cyclohexane	1.7	Not Detected	6.0	Not Detected
2,2,4-Trimethylpentane	1.7	0.75 J	8.1	3.5 J
Benzene	1.7	4.0	5.5	13
1,4-Dioxane	6.9	Not Detected	25	Not Detected
Toluene	1.7	6.8	6.5	25
Ethyl Benzene	1.7	1.0 J	7.5	4.5 J
m,p-Xylene	1.7	5.8	7.5	25
o-Xylene	1.7	2.2	7.5	9.8
Propylbenzene	1.7	0.49 J	8.5	2.4 J
1,3,5-Trimethylbenzene	1.7	1.1 J	8.5	5.6 J
1,2,4-Trimethylbenzene	1.7	3.6	8.5	18
Isopentane	6.9	4.0 J	20	12 J
Butane	6.9	5.8 J	16	14 J
TPH ref. to Gasoline (MW=100)	86	1600	350	6500

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	82	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: RoxHighSchVocBldg-08042011-SS-B

Lab ID#: 1108155B-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080612	Date of Collection:	8/4/11 2:10:00 PM
Dil. Factor:	3.19	Date of Analysis:	8/6/11 01:39 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.6	5.3	5.6	19
Cyclohexane	1.6	0.78 J	5.5	2.7 J
2,2,4-Trimethylpentane	1.6	0.60 J	7.4	2.8 J
Benzene	1.6	5.2	5.1	17
1,4-Dioxane	6.4	Not Detected	23	Not Detected
Toluene	1.6	5.8	6.0	22
Ethyl Benzene	1.6	0.83 J	6.9	3.6 J
m,p-Xylene	1.6	2.4	6.9	10
o-Xylene	1.6	0.63 J	6.9	2.7 J
Propylbenzene	1.6	0.16 J u	7.8	0.80 J u
1,3,5-Trimethylbenzene	1.6	0.21 J u	7.8	1.0 J u
1,2,4-Trimethylbenzene	1.6	0.50 J	7.8	2.5 J
Isopentane	6.4	4.4 J	19	13 J
Butane	6.4	6.2 J	15	15 J
TPH ref. to Gasoline (MW=100)	80	1300	330	5300

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	82	70-130
4-Bromofluorobenzene	104	70-130



Client Sample ID: RoxHighSchVocBldg-08042011-SS-C

Lab ID#: 1108155B-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080613	Date of Collection:	8/4/11 2:12:00 PM
Dil. Factor:	2.89	Date of Analysis:	8/6/11 02:06 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1.4	5.0	5.1	18
Cyclohexane	1.4	0.34 J	5.0	1.2 J
2,2,4-Trimethylpentane	1.4	0.41 J	6.8	1.9 J
Benzene	1.4	2.5	4.6	7.9
1,4-Dioxane	5.8	Not Detected	21	Not Detected
Toluene	1.4	7.5	5.4	28
Ethyl Benzene	1.4	0.84 J	6.3	3.6 J
m,p-Xylene	1.4	1.9	6.3	8.2
o-Xylene	1.4	0.51 J	6.3	2.2 J
Propylbenzene	1.4	0.17 J u	7.1	0.86 J u
1,3,5-Trimethylbenzene	1.4	0.18 J u	7.1	0.89 J u
1,2,4-Trimethylbenzene	1.4	0.58 J	7.1	2.9 J
Isopentane	5.8	3.2 J	17	9.3 J
Butane	5.8	5.1 J	14	12 J
TPH ref. to Gasoline (MW=100)	72	1800	300	7400

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	81	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: Lab Blank

Lab ID#: 1108155B-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080606a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/6/11 10:18 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	0.50	Not Detected	1.8	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Toluene	0.50	0.098 J	1.9	0.37 J
Ethyl Benzene	0.50	0.056 J	2.2	0.24 J
m,p-Xylene	0.50	0.11 J	2.2	0.47 J
o-Xylene	0.50	Not Detected	2.2	Not Detected
Propylbenzene	0.50	0.089 J	2.4	0.44 J
1,3,5-Trimethylbenzene	0.50	0.10 J	2.4	0.50 J
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
TPH ref. to Gasoline (MW=100)	25	Not Detected	100	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	82	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: CCV

Lab ID#: 1108155B-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 08:20 AM

Compound	%Recovery
Hexane	91
Cyclohexane	99
2,2,4-Trimethylpentane	88
Benzene	99
1,4-Dioxane	117
Toluene	95
Ethyl Benzene	107
m,p-Xylene	108
o-Xylene	110
Propylbenzene	106
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	110
Isopentane	103
Butane	88
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	81	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: LCS

Lab ID#: 1108155B-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 08:48 AM

Compound	%Recovery
Hexane	93
Cyclohexane	103
2,2,4-Trimethylpentane	91
Benzene	102
1,4-Dioxane	115
Toluene	96
Ethyl Benzene	107
m,p-Xylene	111
o-Xylene	112
Propylbenzene	106
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	107
Isopentane	104
Butane	85
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	81	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: LCSD

Lab ID#: 1108155B-09AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3080604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 09:06 AM

Compound	%Recovery
Hexane	94
Cyclohexane	103
2,2,4-Trimethylpentane	94
Benzene	102
1,4-Dioxane	116
Toluene	97
Ethyl Benzene	105
m,p-Xylene	110
o-Xylene	111
Propylbenzene	108
1,3,5-Trimethylbenzene	109
1,2,4-Trimethylbenzene	109
Isopentane	105
Butane	92
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	82	70-130
4-Bromofluorobenzene	106	70-130

1108155



Shell Oil Products Chain of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana IA/SS
Project # 21662593.000016

Lab Vendor # _____
 URS CORPORATION
 1001 HIGHLANDS PLAZA, DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

Client: **Thomas Adams**
 Thomas Adams
 800 SOUTH CENTRAL AVE - ROXANA
 ILLINOIS 62451

Site Address: **St. Louis**
 800 SOUTH CENTRAL AVE - ROXANA
 ILLINOIS 62451

URS Project # **314-743-4179**
 URS Project # **314-743-4179**

URS Project # **314-743-4179**
 URS Project # **314-743-4179**

URS Project # **314-743-4179**
 URS Project # **314-743-4179**

Requested Analysis

Method TO-15 (Standard) Method TO-15 (Methane Only) Method TO-15 (Low Level)

ASTM D-1946 + Helium ASTM D-1946 (Methane Only) ASTM D-1946 (Low Level)

Turn Around Time: Normal Rush Specify _____

Lab Use Only: Pressurized by _____

Additional Notes:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVP
 - SAME DAY TURNAROUND

Field Sample Identification	SAMPLING		Customer Number		Conister Pressure/Vacuum	
	DATE	START TIME	STOP TIME	Initial (Psi)	Final (Psi)	Receipt
RoxHighSchVocBldg-08042011-OA-A	8/4/11-8/5/11	1605	1605	-30	-8	
RoxHighSchVocBldg-08042011-JA-B	8/4/11-8/5/11	1553	1559	-30	-6.5	
RoxHighSchVocBldg-08042011-JA-B-Dup	8/4/11-8/5/11	1553	1559	-30	-6.5	
RoxHighSchVocBldg-08042011-SS-A	08/04/11	1207	1407	-29	-13	
RoxHighSchVocBldg-08042011-SS-B	08/04/11	1210	1410	-27.5	-11.5	
RoxHighSchVocBldg-08042011-SS-C	08/04/11	1212	1412	-29.5	-9	

Received by: (Signature) *[Signature]* Date: 8/5/11 Time: 1900

Received by: (Signature) *B. Wuttobek* Date: 8/6/11 Time: 0736

Received by: (Signature) _____ Date: _____ Time: _____

Fedex

CUSTOMER SEAL INTACT?
YES/NO/TEMP N/A

8/8/2011
Mr. Thomas Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana IA/SS
Project #: 21562593.00016
Workorder #: 1108155C

Dear Mr. Thomas Adams

The following report includes the data for the above referenced project for sample(s) received on 8/6/2011 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,



Kelly Buettner
Project Manager

Reviewed
on
8/9/2011

WORK ORDER #: 1108155C

Work Order Summary

CLIENT:	Mr. Thomas Adams URS Corporation 1001 Highlands Plaza Dr. West Suite 300 St. Louis, MO 63110	BILL TO:	Accounts Payable Austin URS Corporation P.O. BOX 203970 Austin, TX 78720-1088
PHONE:	314-429-0100	P.O. #	
FAX:		PROJECT #	21562593.00016 Roxana IA/SS
DATE RECEIVED:	08/06/2011	CONTACT:	Kelly Buettner
DATE COMPLETED:	08/08/2011		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
02A	RoxHighSchVocBldg-08042011-IA-B	Modified ASTM D-1946	6.4 "Hg	5 psi
03A	RoxHighSchVocBldg-08042011-IA-B-Dup	Modified ASTM D-1946	6.2 "Hg	5 psi
04A	RoxHighSchVocBldg-08042011-SS-A ✓	Modified ASTM D-1946	12.5 "Hg	15 psi
05A	RoxHighSchVocBldg-08042011-SS-B ✓	Modified ASTM D-1946	11.0 "Hg	15 psi
06A	RoxHighSchVocBldg-08042011-SS-C ✓	Modified ASTM D-1946	9.0 "Hg	15 psi
07A	Lab Blank	Modified ASTM D-1946	NA	NA
07B	Lab Blank	Modified ASTM D-1946	NA	NA
08A	LCS	Modified ASTM D-1946	NA	NA
08AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: *Jocinda J. Freeman*
Laboratory Director

DATE: 08/08/11

Certification 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: 06/30/11
 Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards
 This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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

**LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1108155C**

Two 6 Liter Summa Canister (100% Certified) and three 1 Liter Summa Canister (100% Certified) samples were received on August 06, 2011. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

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

<i>Requirement</i>	<i>ASTM D-1946</i>	<i>ATL Modifications</i>
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.

Precision

Precision requirements established at each concentration level.

Duplicates should agree within 25% RPD for detections $> 5 \times$ the RL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request 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

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

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 detection limit.

M - Reported value may be biased due to apparent matrix interferences.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: RoxHighSchVocBldg-08042011-IA-B

Lab ID#: 1108155C-02A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00022

Client Sample ID: RoxHighSchVocBldg-08042011-IA-B-Dup

Lab ID#: 1108155C-03A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00021

Client Sample ID: RoxHighSchVocBldg-08042011-SS-A

Lab ID#: 1108155C-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.35	16
Nitrogen	0.35	82
Methane	0.00035	0.000076 J
Carbon Dioxide	0.035	1.7
Helium	0.17	0.37

Client Sample ID: RoxHighSchVocBldg-08042011-SS-B

Lab ID#: 1108155C-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.32	18
Nitrogen	0.32	78
Methane	0.00032	0.00016 J
Carbon Dioxide	0.032	0.72
Helium	0.16	3.4

Client Sample ID: RoxHighSchVocBldg-08042011-SS-C

Lab ID#: 1108155C-06A

Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: RoxHighSchVocBldg-08042011-SS-C

Lab ID#: 1108155C-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	19
Nitrogen	0.29	81
Methane	0.00029	0.000065 J
Carbon Dioxide	0.029	0.38
Helium	0.14	0.062 J



Client Sample ID: RoxHighSchVocBldg-08042011-IA-B

Lab ID#: 1108155C-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080613	Date of Collection: 8/5/11 3:59:00 PM
Dil. Factor:	1.70	Date of Analysis: 8/6/11 06:55 PM

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00022

Container Type: 6 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchVocBldg-08042011-IA-B-Dup

Lab ID#: 1108155C-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080614	Date of Collection:	8/5/11 3:59:00 PM
Dil. Factor:	1.69	Date of Analysis:	8/6/11 07:19 PM

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00021

Container Type: 6 Liter Summa Canister (100% Certified)

Client Sample ID: RoxHighSchVocBldg-08042011-SS-A

Lab ID#: 1108155C-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080617	Date of Collection: 8/4/11 2:07:00 PM
Dil. Factor:	3.46	Date of Analysis: 8/6/11 08:26 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.35	16
Nitrogen	0.35	82
Carbon Monoxide	0.035	Not Detected
Methane	0.00035	0.000076 J
Carbon Dioxide	0.035	1.7
Ethane	0.0035	Not Detected
Ethene	0.0035	Not Detected
Helium	0.17	0.37

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchVocBldg-08042011-SS-B

Lab ID#: 1108155C-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080618	Date of Collection:	8/4/11 2:10:00 PM
Dil. Factor:	3.19	Date of Analysis:	8/6/11 08:47 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.32	18
Nitrogen	0.32	78
Carbon Monoxide	0.032	Not Detected
Methane	0.00032	0.00016 J
Carbon Dioxide	0.032	0.72
Ethane	0.0032	Not Detected
Ethene	0.0032	Not Detected
Helium	0.16	3.4

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)



Client Sample ID: RoxHighSchVocBldg-08042011-SS-C

Lab ID#: 1108155C-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080619	Date of Collection:	8/4/11 2:12:00 PM
Dil. Factor:	2.89	Date of Analysis:	8/6/11 09:09 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	19
Nitrogen	0.29	81
Carbon Monoxide	0.029	Not Detected
Methane	0.00029	0.000065 J
Carbon Dioxide	0.029	0.38
Ethane	0.0029	Not Detected
Ethene	0.0029	Not Detected
Helium	0.14	0.062 J

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: Lab Blank

Lab ID#: 1108155C-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080604c	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 03:13 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	0.048 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable



Client Sample ID: Lab Blank

Lab ID#: 1108155C-07B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080603b	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/6/11 02:51 PM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.050	Not Detected

Container Type: NA - Not Applicable

Client Sample ID: LCS

Lab ID#: 1108155C-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 02:29 PM

Compound	%Recovery
Oxygen	99
Nitrogen	101
Carbon Monoxide	93
Methane	97
Carbon Dioxide	101
Ethane	100
Ethene	99
Helium	95

Container Type: NA - Not Applicable

Client Sample ID: LCSD

Lab ID#: 1108155C-08AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9080623	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/6/11 10:37 PM

Compound	%Recovery
Oxygen	99
Nitrogen	101
Carbon Monoxide	94
Methane	97
Carbon Dioxide	102
Ethane	100
Ethene	98
Helium	95

Container Type: NA - Not Applicable

1103155

URS

Shell Oil Products Chain Of Custody Record



Air Toxics LTD.
Project Name: Roxana IA/SS
Project # 21582693.000016

Lab Vendor # _____
 SHIPPING COMPANY: URS CORPORATION
 ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
 Air Toxics, LTD. 180 Blue Ravinia Road, Suite B, Folsom, CA. 95630-4719
 Telephone: 314-743-0700 FAX: 314-429-0462
 TURNAROUND TIME (CALENDAR DAYS): 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4

Print Bill To Contact Name: Thomas Adams
 Print Bill To Contact Name: Thomas Adams
 PO # _____
 SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE - ROXANA
 ZIP DELIVERABLE TO (NWA, CONVA, OTH, LABOUR):
 STATE: IL PHONE NO: 314-743-4179
 SUPPLIER NAME(S) (P/N): Elizabeth Kunkel, URS, St. Louis
 E-MAIL: Elizabeth.Kunkel@URS Corp.com
 CONSULTANT PROJECT NUMBER: Roxana IA/SS
 Mike Currier / Curt Smith

INCIDENT # (EAW SERVICES): _____
 CHECK IF NO INCIDENT # APPLIES
 DATE: 8/5/2011
 PAGE: 2 of 2

SHIP # _____
 GLOBAL ID NO: _____

Field Sample Identification	SAMPLING		Container Pressure/Vacuum		Container Number	Method TO-15 (Standard)		Method TO-15 (Low Level)		ASTM D-1946 (Methane Only)	ASTM D-1946 + Helium	Turn Around Time:	Requested Analysis
	DATE	START TIME	STOP TIME	Initial (Psi)		Final (Psi)	Receipt	Method TO-15 (Standard)	Method TO-15 (Low Level)				
RoxHighSchVocBldg-08042011-OA-A	8/4/11-8/5/11	1805	1805	-30	-8	1955	x	x	x	x	x	-14 day hold time	Lab Use Only
RoxHighSchVocBldg-08042011-A-B	8/4/11-8/5/11	1553	1559	-30	-6.5	3088	x	x	x	x	x	- Report results between MDL and RL	Presubmitted by:
RoxHighSchVocBldg-08042011-A-B-Dup	8/4/11-8/5/11	1553	1559	-30	-6.5	1934	x	x	x	x	x	- Level IV ECVF	Diagn
RoxHighSchVocBldg-08042011-SS-A	08/04/11	1207	1407	-29	-13	3089	x	x	x	x	x	- SAME DAY TURNAROUND	Pressurization Gas
RoxHighSchVocBldg-08042011-SS-B	08/04/11	1210	1410	-27.5	-11.5	3717	x	x	x	x	x		
RoxHighSchVocBldg-08042011-SS-C	08/04/11	1212	1412	-29.5	-9	2367	x	x	x	x	x		

Additional Notes:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVF
 - SAME DAY TURNAROUND

Requested Analysis:
 Lab Use Only
 Presubmitted by:
 Diagn
 Pressurization Gas

Turn Around Time:
 Normal
 Rush
 Specify

Method TO-15 (Standard): x x x x x x
 Method TO-15 (Low Level): x x x x x x

ASTM D-1946 (Methane Only): x x x x x x
 ASTM D-1946 + Helium: x x x x x x

Received by (Signature): *[Signature]*
 Received by (Signature): FEDEX
 Received by (Signature): B. Shuttaker REC 8/6/11 0736
 Received by (Signature): *[Signature]*

Date: 8/5/11 Time: 1900
 Date: _____ Time: _____
 Date: _____ Time: _____

Handwritten: *FeDEX*
 Boxed stamp: **TOXICITY SEAL INTACT?**
Y/N NONE TEMP N/A

Indoor Air Sampling Report
401 Chaffer Avenue, Roxana High School
Roxana, Illinois

APPENDIX C

Photographs



Roxana High School Large Gym Building PHOTOGRAPHIC LOG

Client Name:
Shell Oil Products US

Site Location:
Roxana, Illinois

Project No.
21562593

Photo No.
1

Date:
08/04/11

Description:

Photo of the Large Gym Building facing Northwest.



Photo No.
2

Date:
08/04/11

Description:

Photo showing the indoor air sample location and the old pool location.





Client Name: Shell Oil Products US		Site Location: Roxana, Illinois	Project No.: 21562593
Photo No.: 3	Date: 8/5/2011		
Description: Photo of sub slab sampling location in the south portion of the Wrestling Room.			

Photo No.: 4	Date: 08/05/11	
Description: Photo of sub slab sampling location in the north portion of the Wrestling Room.		



Roxana High School Large Gym Building PHOTOGRAPHIC LOG

Client Name:
Shell Oil Products US

Site Location:
Roxana, Illinois

Project No.
21562593

Photo No.
5

Date:
08/08/11

Description:
Photo showing the basement Gym Storage Room.



Photo No.
6

Date:
08/08/11

Description:
Photo of sub slab sampling location in the basement Gym Storage Room.





Roxana High School Large Gym Building PHOTOGRAPHIC LOG

Client Name:

Shell Oil Products US

Site Location:

Roxana, Illinois

Project No.

21562593

Photo No.

7

Date:

08/08/11

Description:

Photo showing floor drain in Large Gym bathroom.



Photo No.

8

Date:

08/04/11

Description:

Photo showing overview of Wrestling Room where two subslab samples were taken.





Roxana High School Small Gym Building PHOTOGRAPHIC LOG

Client Name:
Shell Oil Products US

Site Location:
Roxana, Illinois

Project No.
21562593

Photo No.
1

Date:
08/04/11

Description:

Photo of the Small Gym Building facing Northwest.



Photo No.
2

Date:
08/04/11

Description:

Photo showing the indoor air sample location in Room 104.





Roxana High School Small Gym Building PHOTOGRAPHIC LOG

Client Name:

Shell Oil Products US

Site Location:

Roxana, Illinois

Project No.

21562593

Photo No.

3

Date:

8/4/2011

Description:

Photo showing the indoor air sample location in Room 102.

**Photo No.**

4

Date:

08/05/11

Description:

Photo of sub slab sampling location in hallway between Girl's Locker Rooms.





Roxana High School Small Gym Building PHOTOGRAPHIC LOG

Client Name:
Shell Oil Products US

Site Location:
Roxana, Illinois

Project No.
21562593

Photo No.
5

Date:
08/08/11

Description:

Photo of hallway and sub slab sampling location in hallway between the Girls Locker Rooms.



Photo No.
6

Date:
08/08/11

Description:

Main entrance to High School within Small Gym Building. Facing Northeast.



Client Name: Shell Oil Products US	Site Location: Roxana, Illinois	Project No.: 21562593
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Photo No. 7	Date: 08/08/11
Description: Photo of sub slab sampling location outside Weight Room.	



Photo No. 8	Date: 08/08/11
Description: Photo showing subslab sample location in Girl's Locker Room.	





Roxana High School Workshop Building PHOTOGRAPHIC LOG

Client Name:
Shell Oil Products US

Site Location:
Roxana, Illinois

Project No.
21562593

Photo No.
1

Date:
08/04/11

Description:

Photo of the Workshop Building facing Southwest.



Photo No.
2

Date:
08/04/11

Description:

Photo showing the Welding Room B107



Client Name:
Shell Oil Products US

Site Location:
Roxana, Illinois

Project No.
21562593

Photo No.
3

Date:
8/4/2011

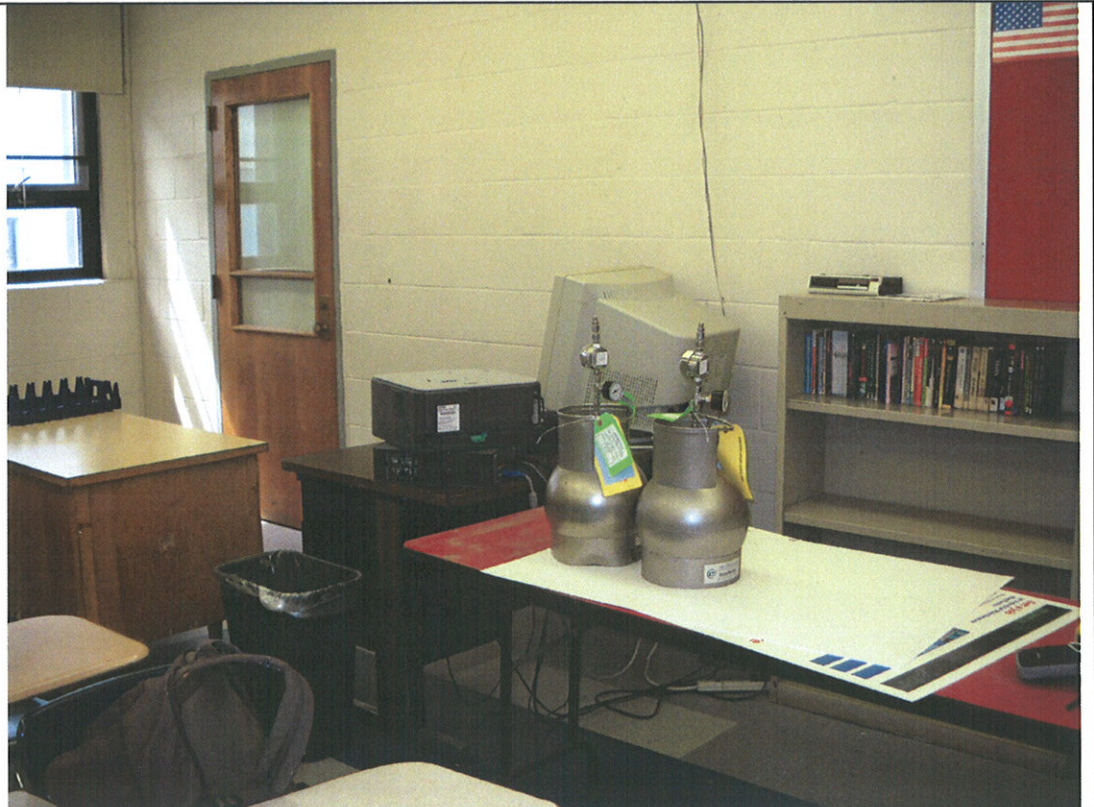
Description:
Photo of Room B108 (ISS Room), access to the crawlspace is below the window on the far right.



Photo No.
4

Date:
08/04/11

Description:
Photo showing of Air Sample location in Room B108 (ISS Room).





Roxana High School Workshop Building PHOTOGRAPHIC LOG

Client Name: Shell Oil Products US	Site Location: Roxana, Illinois	Project No.: 21562593
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Photo No.: 5	Date: 08/04/11
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Description:

Photo showing sub slab sampling location in Room B108 (ISS Room).



Photo No.: 6	Date: 08/04/11
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Description:

Photo showing Indoor Air Sample location in the crawlspace. Access to crawlspace is in Room B108 (ISS Room).





Roxana High School Workshop Building PHOTOGRAPHIC LOG

Client Name: Shell Oil Products US	Site Location: Roxana, Illinois	Project No.: 21562593
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Photo No. 7	Date: 08/04/11
Description: Photo showing chemicals in Room B102 – Woods.	



Photo No. 8	Date: 08/04/11
Description: Photo showing the sub slab sampling location in Room B102 – Woods.	





Roxana High School Workshop Building PHOTOGRAPHIC LOG

Client Name: Shell Oil Products US	Site Location: Roxana, Illinois	Project No.: 21562593
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Photo No.: 9	Date: 08/04/11
Description: Photo showing the sub slab sampling location in the Graphic Arts Room.	



Photo No.: 10	Date: 08/04/11
Description: Photo showing the sub slab sampling location in Graphic Arts Room.	





Roxana High School Vocational Building PHOTOGRAPHIC LOG

Client Name:

Shell Oil Products US

Site Location:

Roxana, Illinois

Project No.

21562593

Photo No.

1

Date:

08/04/11

Description:

Photo of the Vocational Building, facing Southwest



Photo No.

2

Date:

08/04/11

Description:

Photo showing the boiler room, hot water heater and overhead tank.





Roxana High School Vocational Building PHOTOGRAPHIC LOG

Client Name:
Shell Oil Products US

Site Location:
Roxana, Illinois

Project No.
21562593

Photo No.
3

Date:
8/4/2011

Description:

Exterior shot of auto shop, showing outdoor sampling location.



Photo No.
4

Date:
08/04/11

Description:

Photo showing south portion of Auto Shop.





**Roxana High School Vocational Building
PHOTOGRAPHIC LOG**

Client Name: Shell Oil Products US	Site Location: Roxana, Illinois	Project No.: 21562593
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Photo No.: 5	Date: 08/04/11
------------------------	--------------------------

Description:
Photo showing floor cracks and sealed drain in Auto Shop.

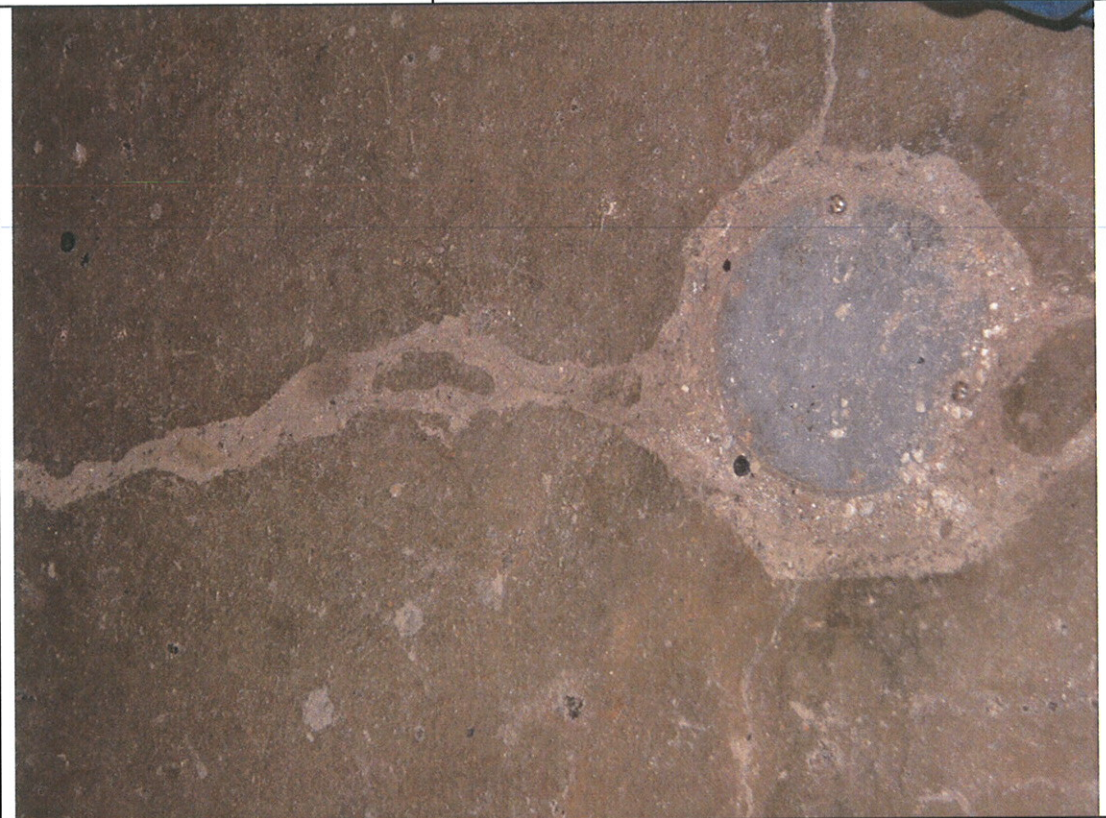


Photo No.: 6	Date: 08/04/11
------------------------	--------------------------

Description:
Photo showing Room C 101, East portion.





Roxana High School Vocational Building PHOTOGRAPHIC LOG

Client Name:

Shell Oil Products US

Site Location:

Roxana, Illinois

Project No.

21562593

Photo No.

7

Date:

08/04/11

Description:

Photo showing the indoor air sampling location in Room C 102.



Photo No.

8

Date:

08/04/11

Description:

Photo showing the sub slab sampling location in Room C 103.



Client Name:

Shell Oil Products US

Site Location:

Roxana, Illinois

Project No.

21562593

Photo No.

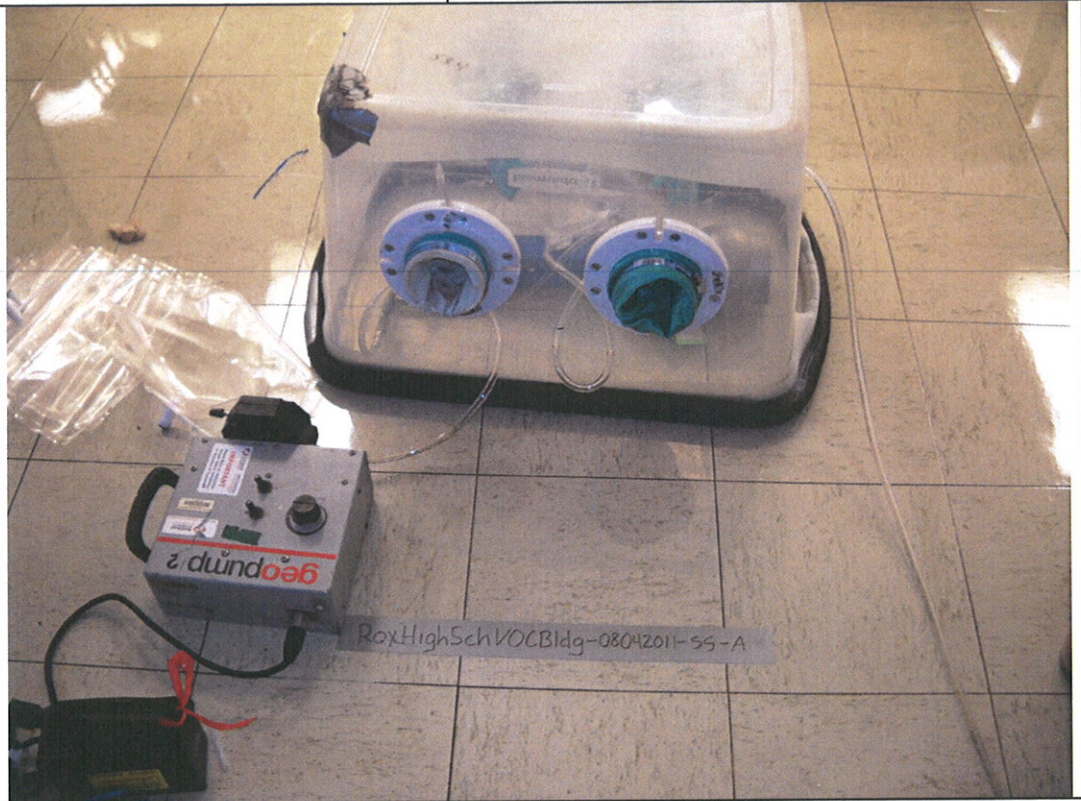
9

Date:

08/04/11

Description:

Photo showing the sub slab sampling location in room C 101.

**Photo No.**

10

Date:

08/04/11

Description:

Photo showing the sub slab sampling location in room C 102.

