

May 6, 2015

Mr. Lucas Berresford
SCDHEC – State Voluntary Cleanup Section
Bureau of Land & Waste Management
2600 Bull Street
Columbia, SC 29201
803-896-4071



Subject: Winter 2015 Vapor Intrusion Assessment Report
Joslyn Clark Controls, LLC Facility
2013 West Meeting Street
Lancaster County, South Carolina

Dear Mr. Berresford:

On behalf of Joslyn Clark Controls, LLC, ERM NC, Inc. (ERM) is pleased to present one hard copy and one electronic copy of the Winter 2015 Vapor Intrusion (VI) Assessment Report for the above referenced site (Figure 1). The VI Assessment has been conducted in accordance with the approved VI Work Plan dated March 19, 2014, with the exception that permanent Vapor Pin™ sub-slab sampling points were installed to facilitate future sampling, if warranted, as described herein.

BACKGROUND

The subject property consists of 23 acres of land and is developed with two main buildings. The now vacant former manufacturing building was constructed in 1964 and consists of approximately 180,000 square feet of floor space. The now vacant former warehouse/storage building was constructed in 1967 and consists of approximately 14,400 square feet of floor space. The subject property has been used to manufacture electrical control equipment for fire safety purposes since its construction in 1964.

Site assessment activities at this facility have been ongoing since 2009. Groundwater at the site is impacted with elevated TCE concentrations of up to 3,200 ug/L. The apparent source area for the observed TCE in groundwater is beneath the existing building. A passive soil gas survey confirmed the presence of TCE and other organic vapors beneath the concrete slab of the building. As a result, SCDHEC requested a VI

Assessment of sub slab and indoor air at the facility on February 5, 2014. The requested VI Assessment was performed during May 2014.

PURPOSE AND SCOPE

This VI sampling event was conducted as a follow-up to the May 2014 VI assessment to confirm prior sample results and to collect samples in a “worst-case” scenario in the colder, winter months, as suggested by the IRTC (2007) guidance. Additionally, this confirmatory sampling event satisfies the SCDHEC letter dated May 15, 2014 which states that it may be necessary to evaluate sub slab vapor to following the Groundwater Pilot Test to determine if the potential remedy will have an impact on vapor intrusion.

The scope of work duplicated objectives set forth in the March 19, 2014 *Vapor Intrusion Work Plan*, which included:

- Collect seven indoor air samples from the building;
- Collect sub-slab soil gas samples from approximately the same locations as the indoor air samples (except for the office area where vinyl floor tiles have the potential to be asbestos-containing);
- Collect an ambient air sample outside the building;
- Analyze the air and soil gas samples for VOCs; and
- Evaluate and report the results.

Results of the Winter 2015 Vapor Intrusion Assessment are summarized in the following sections.

VAPOR INTRUSION ASSESSMENT

The vapor intrusion assessment was conducted by ERM on February 18 and 19, 2015 using the procedures and methods outlined in ERM’s VI Work Plan dated March 19, 2014, with the exception that permanent Vapor Pins™ were installed in the concrete slab to facilitate ease of future sub-slab sampling efforts. The assessment consisted of co-located sub-slab soil gas and indoor/ambient air samples at select locations (see Figure 3). Prior to sample collection, ERM conducted a visual survey inside the building near the sampling locations to identify features relevant to the indoor air sampling activities such as areas of higher/lower susceptibility to potential vapor intrusion (i.e. utility corridors, enclosed rooms), general information on building ventilation and products used in the facility that may serve as potential sources of VOCs. Results of the building survey have been used to evaluate the

findings of the vapor intrusion assessment. A copy of the survey form is attached as Appendix A.

Indoor air samples were collected on February 18th. On February 19th, permanent vapor pins were installed, leak tested, and then sampled. Field sampling forms were completed at each sampling location to document the setup and sampling details (see Appendix B).

Sub-Slab Soil Gas Sample Collection

Sub-slab samples were collected from the same six locations used in 2014 to assess the potential for vapor intrusion. Two of the six locations were chosen to correspond to the two areas of highest soil gas TCE concentrations from ERM's December 2012 passive soil gas survey. The remaining locations focused on the overall source area and the general footprint of the building. Permanent Vapor Pins™ were installed at each location on February 19, 2015. The sample points were installed in the floor slab using a rotary hammer drill to bore a 1-inch diameter hole in the concrete slab to a depth of approximately 2-inches from the floor surface. A ½-inch diameter hole was then drilled through the remainder of the floor slab. The hole was terminated approximately 2-3 inches beneath the soil/slab interface and then the Vapor Pin™ was installed at each location.

To test the integrity of the seal between the pins and the concrete, a helium tracer test was performed at each location. The test was performed by placing of a shroud over the sampling point and filling the shroud with helium gas. The soil gas probe was then purged with a 50 mL syringe to a Tedlar bag, and the effluent was monitored using a field helium detector (Dielectric MGD-2002). A test was considered passed if the helium concentrations in the effluent are less than 10% of the helium concentration in the shroud. Each sample point passed during the first test.

On February 19, 2015, soil gas sampling was performed using 6-liter SUMMA® canisters to collect whole air samples. The SUMMA canisters were equipped with flow regulators and to allow air samples to be collected over a 4-hour sampling period at rate not exceeding 200 ml/min. After completion of the sampling activities, the temporary probes were removed and the holes were filled with concrete.

Soil gas samples were analyzed by USEPA Method TO-15 for VOCs. The samples were submitted to Eurofins Air Toxics of Lancaster, Pennsylvania (Air Toxics) for laboratory analysis.

Air Sample Collection

Seven indoor air samples were collected using 6-liter SUMMA® canisters on February 18, 2015 at locations corresponding with the sub-slab samples, except for the office area where a sub-slab sample was not collected due to potential asbestos material in the floor tiles.

One ambient air sample was also collected from an outdoor location approximately 100 feet northeast of the site building. Air samples were collected in accordance with the *Work Plan* and field data sheets were completed for each location (see Appendix A). Indoor and ambient air samples were analyzed using USEPA TO-15 SIM Method. The samples were submitted to Air Toxics for laboratory analyses.

FINDINGS

A summary of the samples collected and analytical results generated as part of this sampling event are presented in Table 1 (sub slab soil gas results) and Table 2 (indoor air results). Each table show results from the May 2014 and February 2015 sampling event for comparison. Indoor air results were compared to Industrial Air Regional Screening Levels (RSLs) established by the US EPA, dated January 2015. Sub slab soil gas samples were compared to the same RSLs, but at one order of magnitude higher concentration than for indoor air (assuming an attenuation factor of 10). This method is commensurate with the EPA VISL calculator which lists soil gas target values of one order magnitude higher than those for indoor air. The laboratory analytical report for the sampling event is included in Appendix C.

Soil Gas Results

Compounds detected during the February 2015 were similar to those detected in May 2014. TCE continued to be the most prevalent VOC detected with concentrations ranging from 1.4 to 15,000 $\mu\text{g}/\text{m}^3$. However, concentrations of TCE and other VOCs in soil gas showed a 50% or greater reduction since the May 2014 event. The reduction in sub-slab VOC concentrations may be attributed to a remedial pilot test that was initiated in June to July 2014. The pilot test involved injecting approximately 2,000-gallons of a 5% sodium permanganate solution into the saprolite aquifer in the northeast portion of the building.

Indoor Air Results

Trace concentrations of nine VOCs were detected above the laboratory reporting limits in indoor air samples; however, seven of these

compounds were also detected in the ambient outdoor sample at similar concentrations. Based on this, the indoor air concentrations may be false positives. One of the samples (AA-2) detected 1,2-dichloroethane at $0.581 \mu\text{g}/\text{m}^3$, which slightly exceeds the RSL of $0.47 \mu\text{g}/\text{m}^3$.

TCE was detected in five of the seven indoor air samples at concentrations ranging from $0.672 \mu\text{g}/\text{m}^3$ to $2.54 \mu\text{g}/\text{m}^3$. These concentrations were less than the May 2014 detections and also below the industrial RSL for TCE which is $3.0 \mu\text{g}/\text{m}^3$.

RECOMMENDATIONS

The second round of soil gas and indoor air samples were collected in February 2015 as a worst-case scenario (winter months) for vapor intrusion, and as a post-pilot test evaluation. Laboratory results from the February 2015 event showed lower VOC concentrations in soil gas when compared to the May 2014 results, and no exceedances of RSLs in the indoor air samples. Based on the lack of indoor air exceedances and reduction of soil gas concentrations, neither seasonal changes or the pilot test remediation activities appear to have had an adverse effect on sub-slab soil gas or indoor air at the subject building.

Should you have any questions or comments, feel free to contact us at (704) 541-8345.

Sincerely,



Rick Tarravechia, P.G.
Partner in Charge



Michael Pressley
Project Manager

cc: Mr. Carl Grabinski - Joslyn Clark Controls

Attachments

Figure 1 - Site Location Map

Figure 2 - Site Plan Map

Figure 3 - Vapor Intrusion Assessment Sample Location Map

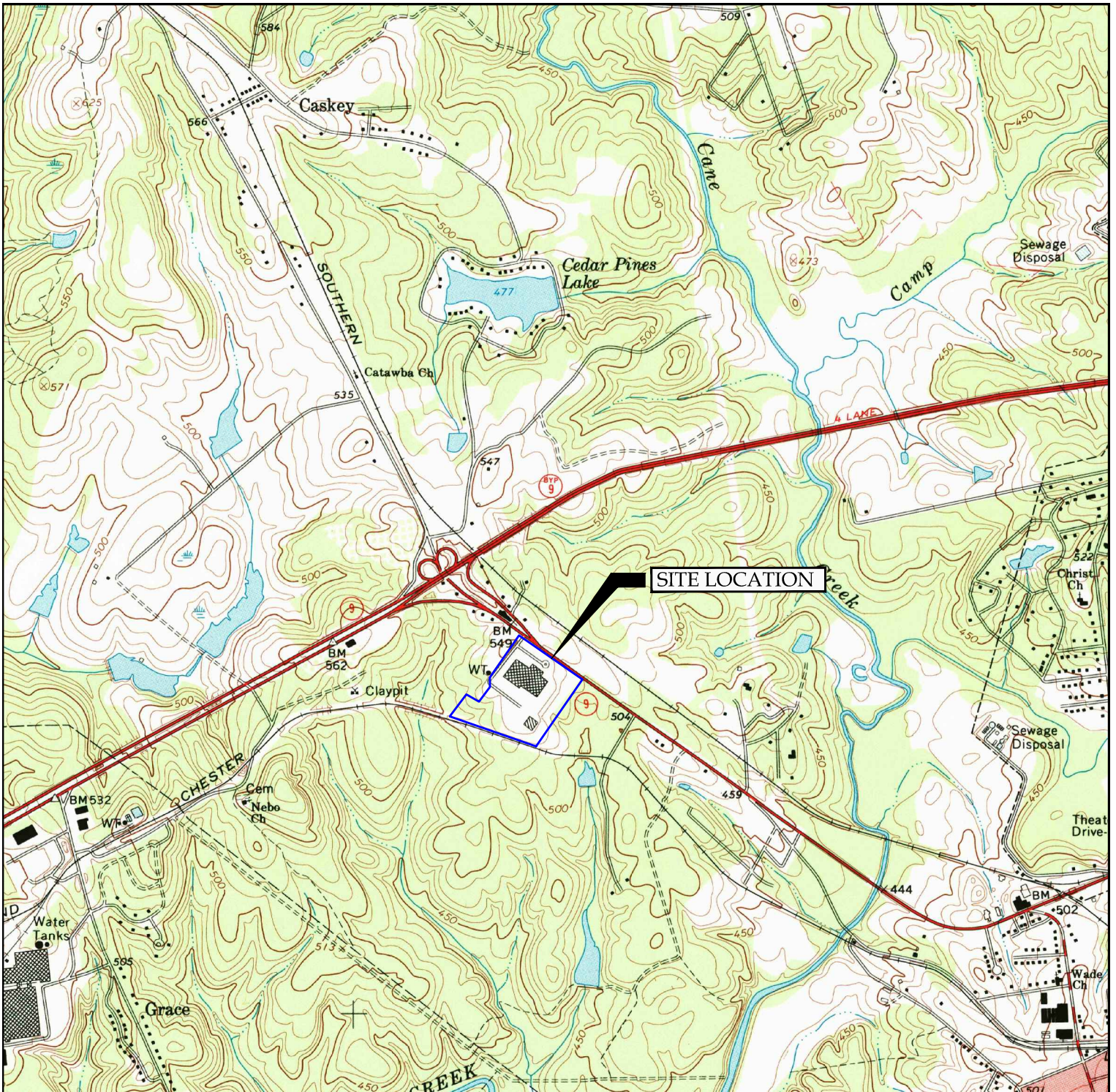
Table 1 - Sub Slab Soil Gas Analytical Results

Table 2 - Indoor Air Analytical Results

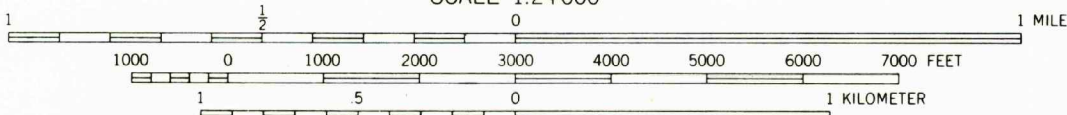
Appendix A - Building Survey Form

Appendix B - Field Sample Forms

Appendix C - Laboratory Analytical Data Sheets



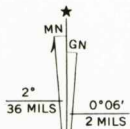
SCALE 1:24 000



QUADRANGLE LOCATION

CONTOUR INTERVAL 10 FEET
 DATUM IS MEAN SEA LEVEL
 ROAD CLASSIFICATION

- Primary highway, all weather, hard surface
- Secondary highway, all weather, hard surface
- U. S. Route
- Light-duty road, all weather, improved surface
- Unimproved road, fair or dry weather
- State Route



LANCASTER, S. C.
 N3437.5—W8045/7.5

ERM NC, Inc.

FIGURE 1

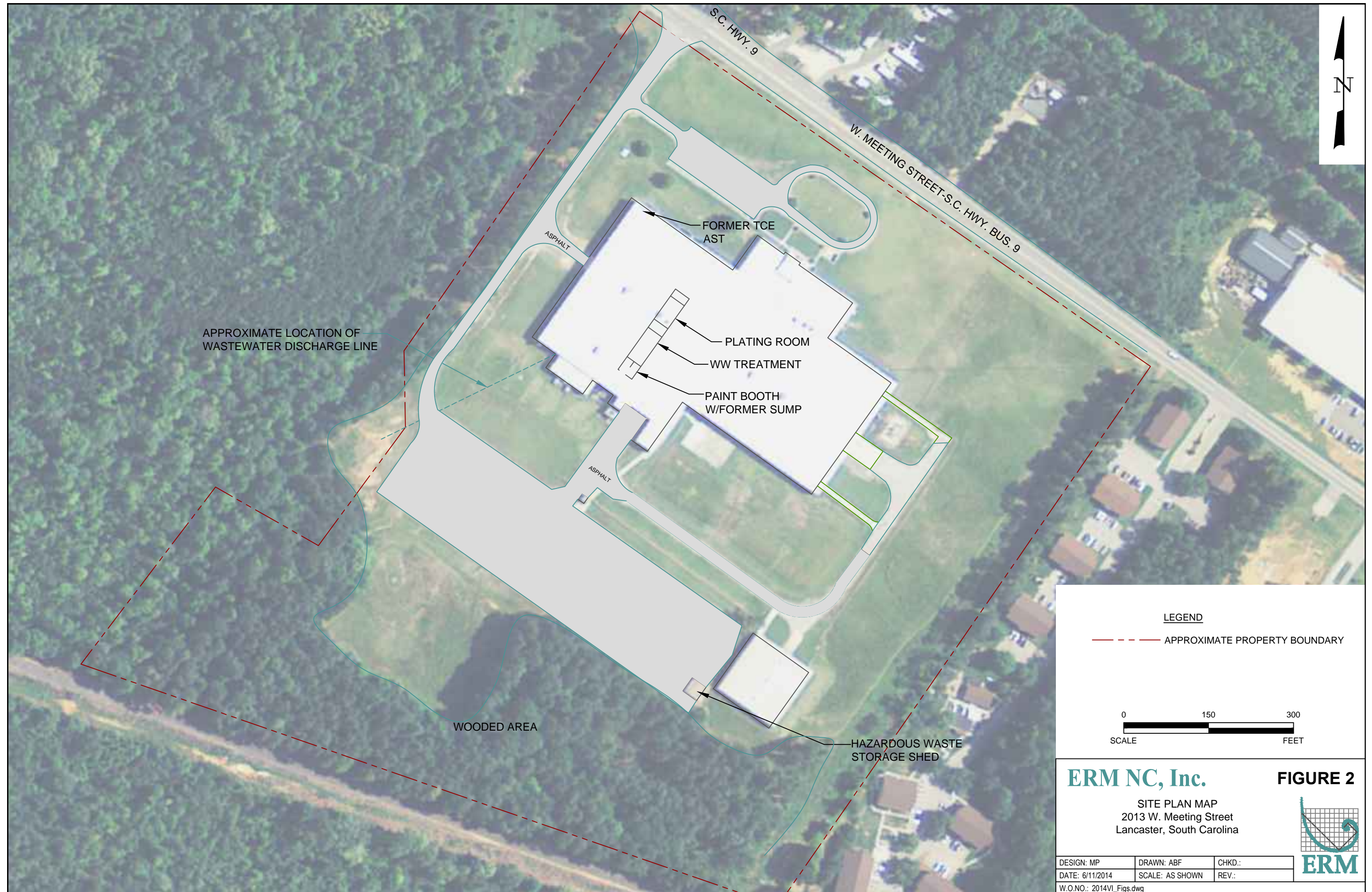
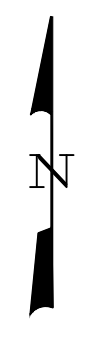
SITE LOCATION PLAN
 2013 W. Meeting Street
 Lancaster, South Carolina



DESIGN: MP	DRAWN: ABF	CHKD.:
DATE: 6/11/2014	SCALE: AS SHOWN	REV.:
W.O.NO.: 2014VI_Figs.dwg		

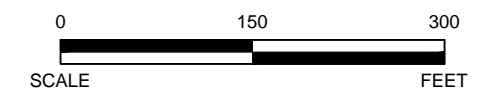
1969

UTM GRID AND 1969 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET



LEGEND

--- APPROXIMATE PROPERTY BOUNDARY



ERM NC, Inc.

FIGURE 2

SITE PLAN MAP
2013 W. Meeting Street
Lancaster, South Carolina



DESIGN: MP	DRAWN: ABF	CHKD.:
DATE: 6/11/2014	SCALE: AS SHOWN	REV.:
W.O.NO.: 2014VI_Figs.dwg		



LEGEND


- APPROXIMATE PROPERTY BOUNDARY
- CO-LOCATED SOIL GAS & INDOOR AIR SAMPLE
- ⊕ AIR SAMPLE ONLY

0 60 120
SCALE FEET

ERM NC, Inc. **FIGURE 3**

VAPOR INTRUSION ASSESSMENT
SAMPLE LOCATION MAP
2013 W. Meeting Street
Lancaster, South Carolina

DESIGN: MP	DRAWN: ABF	CHKD.:
DATE: 6/11/2014	SCALE: AS SHOWN	REV.:
W.O.NO.: 2014Workplan_Figs.dwg		



**TABLE 1
SUB SLAB SOIL GAS ANALYTICAL RESULTS
JOSLYN CLARK FACILITY
LANCASTER, SOUTH CAROLINA**

Sample ID	Date	VOCs in Air by EPA Method TO-15 (µg/m ³)																								
		Acetone	Benzene	2-Butanone	Carbon Disulfide	Chloroform	Chloromethane	Dichlorodifluoromethane	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	Ethanol	Ethylbenzene	4-Ethyltoluene	2-Propanol	Freon 113	Hexane	Methylene Chloride	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Trichlorofluoromethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	m,p-Xylene	o-Xylene
SS-1	5/9/2014	<110	<15	<54	<57	16 J	<94	NA	3.1 J	69	<18	<34	<20	<22	<45	<35	<16	<160	79	<25	6,400	NA	<22	<22	<20	<20
	2/19/2015	31J	<13	<29	<31	<20	<8.3	<34	<16	24J	<16	30J	<17	<20	<25	<77	<14	<14	28J	<22	2,100	<22	<20	<20	<17	<17
SS-2	5/9/2014	<530	<72	<260	<280	97 J	<460	NA	17 J	660	170	<170	<97	<110	<220	<170	<79	<780	490	<120	28,000	NA	<110	<110	<97	<97
	2/19/2015	940J	<130	<290	620J	<200	<83	<340	<160	350J	<160	1,100	<170	<200	<250	<770	1,400	450J	410J	<220	15,000	<220	<200	<200	<170	<170
SS-3	5/9/2014	67 J	<15	<54	<57	240	<94	NA	97	94	<18	<34	<20	62	35 J	<35	<16	<160	110	250	6,700	NA	100	32	25	340
	2/19/2015	62	<6.4	<15	<16	170	<4.1	<25	44	67	<7.9	18J	<8.7	<9.8	<12	<38	<7	<6.9	46J	130	3,100	<11	<9.8	<9.8	<8.7	14J
SS-4	5/9/2014	64	1.1J	14J	<23	14	<38	NA	19	28	<7.2	36	<7.9	<9.0	91	<14	<6.4	<64	38	<10	2,400	NA	<9.0	<9.0	<7.9	<7.9
	2/19/2015	48	<6.4	<15	<16	<9.8	<4.1	<25	<7.9	<7.9	<7.9	19	<8.7	<9.8	<12	<38	<7	<6.9	24J	<11	580	<11	<9.8	<9.8	<8.7	<8.7
SS-5	5/9/2014	22	0.51J	5.2J	<11	1.8 J	<18	NA	<3.6	<3.5	<3.5	8.5	<3.9	<4.4	24	<6.8	<3.2	<31	6.1	<4.9	100	NA	1.0 J	<4.4	1.4 J	<3.9
	2/19/2015	110	1.6J	22	<1.6	<0.98	1.1J	2.7J	<0.81	<0.79	<0.79	32	0.88J	<0.98	16	<3.8	<0.70	<0.69	2.4J	<1.1	29	1.3J	3.8J	1.4J	7.5	2.6J
SS-6	5/9/2014	18 J	<2.8	<10	<11	<4.4	<18	NA	<3.6	<3.5	<3.5	6.0 J	<3.9	<4.4	6.8 J	<6.8	<3.2	<31	14	<4.9	6.4	NA	0.75 J	<4.4	1.5 J	<3.9
	2/19/2015	54	<0.64	6.9	1.6	<0.98	<0.41	2.7J	<0.81	<0.79	0.80J	26	4.9	<0.98	54	<3.8	<0.70	<0.69	54	<1.1	1.4J	1.3J	<0.98	<0.98	19	5.7
Target Subslab Soil Gas Level for Industrial Air (µg/m3) @ TCR = 1E-06 or HI=1		14,000,000	16	22,000	3,100	5.3	390	440	77	880	NE	NE	49	NE	880	NE	3,100	12,000	470	22,000	30	3,100	31	NE	440	440

Notes:
BOLD values indicate an exceedance of a published regulatory threshold
µg/m³ = micrograms per cubic meter
< = Not Detected above laboratory detection limit; NE = Not Established
Values obtained using indoor air RSL with attenuation factor of 10

**TABLE 2
INDOOR AIR ANALYTICAL RESULTS
JOSLYN CLARK FACILITY
LANCASTER, SOUTH CAROLINA**

		VOCs in Air by EPA Method TO-15 SIM (µg/m ³)																								
Sample ID	Date	Acetone	Benzene	Carbon Tetrachloride	Chloroform	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethanol	Ethylbenzene	Freon 113	2-Propanol	Hexane	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	m,p-Xylene	o-Xylene
OA-1	5/9/2014	14 J	<3	<5.9	<4.6	<5.6	<5.6	<5.6	<3.8	<3.7	<3.8	<3.7	<3.7	4.4 J	<4	<7.2	<9.2	1.7 J	<6.3	<3.5	<5.1	<5.0	<4.6	<4.6	<4.1	<4.1
	2/18/2015	NA	0.425	0.377	<0.0977	<0.120	<0.120	<0.120	<0.0809	<0.0793	<0.0809	<0.0793	<0.0793	NA	0.108J	0.469	NA	NA	<0.139	0.251	<0.109	<0.107	NA	NA	0.230J	0.126J
AA-1	5/9/2014	20 J	<2.9	<5.8	<4.5	<5.5	<5.5	<5.5	<3.7	<3.6	<3.7	<3.6	<3.6	6.5 J	<4	<7	<9.0	1.8 J	<6.2	<3.5	<5.0	3.5 J	0.74 J	<4.5	<4.0	<4.0
	2/18/2015	NA	1.08	0.391	<0.0977	<0.120	<0.120	<0.120	<0.0809	<0.0793	<0.0809	<0.0793	<0.0793	NA	0.939J	0.493	NA	NA	<0.136	0.567	<0.109	1.27	NA	NA	0.234J	0.125J
AA-2	5/9/2014	11 J	<2.8	<5.6	<4.4	<5.4	<5.4	<5.4	<3.6	<3.5	<3.6	<3.5	<3.5	<6.7	<3.9	<6.8	<8.8	1.2 J	<6.1	<3.5	<4.9	3.3 J	<4.4	<4.4	<3.9	<3.9
	2/18/2015	NA	1.28	0.409	<0.0977	0.421	0.368	0.394	<0.0809	<0.0793	0.581	<0.0793	<0.0793	NA	2.44	0.499	NA	NA	0.364	1.43	<0.109	2.54	NA	NA	5.26	3.60
AA-3	5/9/2014	15 J	<3	<5.9	<4.6	<5.6	<5.6	<5.6	<3.8	<3.7	<3.8	<3.7	<3.7	<7.0	<4	<7.2	<9.2	1.2 J	<6.3	<3.5	<5.1	2.3 J	<4.6	<4.6	<4.1	<4.1
	2/18/2015	NA	<0.0639	<0.126	<0.0977	<0.120	<0.120	<0.120	<0.0809	<0.0793	<0.0809	<0.0793	<0.0793	NA	<0.868	<0.153	NA	NA	<0.136	<0.0754	<0.109	<0.107	NA	NA	<0.0868	<0.0868
AA-4	5/9/2014	18 J	<2.9	<2.9	<5.8	<4.5	<5.5	<5.5	<5.5	<3.7	<3.6	<3.7	<3.6	<3.6	<4	<7	<9.0	0.84 J	<6.2	<3.5	<5.0	2.2 J	<4.5	<4.5	<4.0	<4.0
	2/18/2015	NA	0.89	0.366	<0.0977	<0.120	<0.120	<0.120	<0.0809	<0.0793	0.456	<0.0793	<0.0793	NA	0.3	0.456	NA	NA	<0.136	0.576	<0.109	1.41	NA	NA	0.791	0.432
AA-5	5/9/2014	19 J	<2.9	<2.9	<5.8	<4.5	<5.5	<5.5	<5.5	<3.7	<3.6	<3.7	<3.6	4.0 J	<4	<7	<9.0	4.5	<6.2	<3.5	<5.0	1.4 J	NA	NA	<4.0	<4.0
	2/18/2015	NA	0.998	0.382	<0.0977	<0.120	<0.120	0.135J	<0.0809	<0.0793	0.442	<0.0793	<0.0793	NA	0.827	0.477	NA	NA	0.141J	0.847	<0.109	1.43	NA	NA	2.32	1.17
AA-6	5/9/2014	17 J	<2.8	<5.6	<4.5	<5.4	<5.4	<5.4	<3.7	<3.6	<3.6	<3.6	<3.5	<6.9	<3.9	<6.8	2.8 J	0.69 J	<6.2	<3.5	<5.0	1.7 J	<4.5	<4.5	<4.0	<4.0
	2/18/2015	NA	0.77	0.384	<0.0977	0.166J	0.147J	0.170J	<0.0809	<0.0793	0.252	<0.0793	0.356	NA	0.931	0.478	NA	NA	<0.136	0.795	<0.109	0.74	NA	NA	2.64	1.28
AA-7	5/9/2014	17 J	<2.8	<5.6	<4.4	<5.4	<5.4	<5.4	<3.6	<3.5	<3.6	<3.5	<3.5	3.7 J	<3.9	<6.8	<8.8	0.83 J	<6.1	<3.5	<4.9	<4.8	<4.4	<4.4	<3.9	<3.9
	2/18/2015	NA	0.831	0.392	<0.0977	<0.120	<0.120	<0.120	<0.0809	<0.0793	0.207	<0.0793	<0.0793	NA	0.150J	0.504	NA	NA	<0.136	0.504	<0.109	0.672	NA	NA	0.408J	0.191J
Regional Screening Level (RSL) for Industrial Air (µg/m ³) @ TCR = 1E-06 or HI=1		140,000	1.6	2	0.53	88	NE	1.1	7.7	88	0.47	NE	NE	NE	4.9	NE	88	310	18	2,200	2,200	3	3.1	NE	44	44

Notes:
BOLD values indicate an exceedance of a published regulatory threshold
EPA Regional Screening Levels for Chemical Contaminants at Superfund Sites, January 2015
µg/m³ = micrograms per cubic meter
< = Not Detected above laboratory detection limit; NE = Not Established
NA = Not Analyzed (not included in analytical list due to SIM method)

FORM A-2
BUILDING INFORMATION FORM

Date: 2/18/15 Time: 0800 Inspector: G. Kanellis

Pictures Allowed: Yes No

Sample No. _____

Address: 2013 W. Meeting St. Lancaster, SC

Contact Name: NA

Years at this Address: NA

BUILDING TYPE: One story: Multi-story _____ Brick _____ Siding _____ Stucco _____

WEATHER SEALS: General Condition: Good _____ Fair Poor (roof leaks)

BASEMENT: None Finished _____ Unfinished _____ Depth below grade _____
Partial _____ _____
Full _____ _____
Crawl space na na _____

Foundation construction: Poured concrete Cinder block

Condition at floor/wall joint (if visible) Good

Floor drains, sump Present

Vents, fans, windows Present

Floor condition (type, cracks, drains) Good few drains / monitor walls

Wall openings, utility pipe penetrations exhaust fans and louvers

Moisture Condition (dry, damp, wet) Dry

FURNACE: Location: off. cc area heated (roof mounted)
Type: gas Forced air
oil hot water
electric other _____

Blower capacity (if applicable) _____

Does furnace have outside combustion air vent? _____

Winter temperature setting: day NA night _____

AIR CONDITIONER: None _____ Central (if yes, capacity?) _____ Room _____

(If yes, which rooms and capacities? NA

RADON SYSTEM: Yes _____ No If yes, floor scaled? _____

Floor drain/sump vent? No

Other ventilation? _____

Pictures Taken:

1. sample locations
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.
- 16.
- 17.
- 18.
- 19.
- 20.

**FORM A-3
TENANT QUESTIONNAIRE**

VOCs are found in outside air and in the air inside of buildings. VOCs can be found in solvents and other household items such as pesticides, insecticides, adhesives, aerosols, paints, coatings, dry cleaning, carpet and drapery cleaning fluids, and household spot removers. Other common VOC sources include telephone and computer cables, plastic items, vinyl cove molding, PVC plumbing, linoleum, concrete blocks, latex paint, carpet padding, foam rubber, lubricants, and cosmetics.

Your answer to the following questions will help us determine if VOC sources exist in your building. Please answer each question to the best of your knowledge.

1. When was the last time dry-cleaned clothes were brought into the building?
 0 to 5 days ago 6 to 10 days ago More than 10 days ago

2. When was the carpet installed?
 In the last six months More than six months ago

3. When was the last time the carpet was cleaned?
 In the last six months More than six months ago

4. Are there any spot removers in the building?
 Yes No

5. Do your tasks include model building, arts and crafts, model railroading metal cleaning, or others that require paints, thinners, solvents, or glue?
 Yes No

6. Is automotive or other vehicle maintenance or repair performed at the building?
 Yes No

7. Please review the following list, and check items you know are in the building.
 Latex caulk
 Latex paint
 Vinyl cove molding
 Linoleum tile
 Large diameter telephone cable
 Small diameter telephone cable
 Black rubber molding
 Vinyl edge molding

polystyrene foam insulation

cement block

treated metal roofing

8. Are there any pesticides in the building?

Yes No Unsure

9. Are there any spray insecticides in the building?

Yes No Unsure

10. Has the building interior been painted in the last 12 months?

Yes No

11. Has the building exterior been painted in the last 12 months?

Yes No

12. If question 10 or 11 is yes, please indicate what paint was used.

enamel

Vinyl

Latex

Other

13. Where are paint, thinner, pesticides, insecticides stored?

Garage

Basement

storage shed

Other

These are not stored in the building.

14. Are there pets or other animals in the building?

Yes No

If yes, what type? _____

If yes, number _____



Project #: 0284652
 Project Name: Joslyn Clark
 Location: Lancaster, SC
 Project Manager: Michael Pressley

Sample Location:		Collector(s):	GK
Address:	2013 W. Meeting Street		
PID Meter Used: (Model, Serial #)	ppBRAE 10.6 eV lamp	Date:	2/18/15

Sample ID: ~~AA-1~~ AA-1
 Duplicate Sample? (Y/N) N Duplicate Sample ID:
 Type of sample (circle one): INDOOR AIR AMBIENT AIR SOIL GAS

Photograph description:

Summa® Information - Sampling Duration: 9 hr

Canister Serial Number: 1193	Flow Controller Number: 339183
Start Date/Time: 2/18/15 9:27	Stop Date/Time: 2/18/15 16:41
Start Pressure: (inches Hg) -28.5	Stop Pressure: (inches Hg) -5

Other Sampling Information:					
Story/Level	1st	Ground Surface (pavement, flooring)	concrete	Depth of Vapor Probe (if applicable)	NA
Room	Reduction	Slab thickness (if applicable)	NA	Distance to building (if applicable)	NA
Air Temp (°F)	~40	Potential Vapor Pathways Observed?	floor joints	Intake Tubing used?	NA
Intake Height Above Ground Level (m)	5'	PID Reading (ppm)?	0	Distance to nearest Roadway (m)	NA
Noticeable Odor?	N	Barometric Pressure (°Hg or mb)		Other	

Interim Monitoring - Check pressure periodically during sampling event and record below:

Initial Sample Purge (soil gas only):	Time:	PID Reading (ppm):	Noticeable Odor? (Y/N)	Summa Pressure (inches Hg):
Reading #1:	12:46	0	N	-17
Reading #2:				
Reading #3:				
Reading #4:				
Reading #5:				

Sketch of Sample Location:

See map

Comments:

Signature: _____



Project #: 0284652
 Project Name: Joslyn Clark
 Location: Lancaster, SC
 Project Manager: Michael Pressley

Sample Location:		Collector(s):	GK
Address:	2013 W. Meeting Street		
PID Meter Used: (Model, Serial #)	ppbRAE 10.6 eV lamp	Date:	2/16/15

Sample ID: ~~AA-1~~ AA-2
 Duplicate Sample? (Y/N) N Duplicate Sample ID:
 Type of sample (circle one): INDOOR AIR AMBIENT AIR SOIL GAS

Photograph description:

Summa® Information - Sampling Duration: 2 hr
 Canister Serial Number: 1176 Flow Controller Number: 236795
 Start Date/Time: 2/14/15 834 Stop Date/Time: 2/14/15 1653
 Start Pressure: (inches Hg) -30 Stop Pressure: (inches Hg) -6.5

Other Sampling Information:					
Story/Level	1st	Ground Surface (pavement, flooring)	concrete	Depth of Vapor Probe (if applicable)	NA
Room	plumbing	Slab thickness (if applicable)	NA	Distance to building (if applicable)	NA
Air Temp (°F)	~40	Potential Vapor Pathways Observed?	floor joints, trenches	Intake Tubing used?	NA
Intake Height Above Ground Level (m)	4'	PID Reading (ppm)?	0	Distance to nearest Roadway (m)	NA
Noticeable Odor?	N	Barometric Pressure ("Hg or mb)		Other	

Interim Monitoring - Check pressure periodically during sampling event and record below:

Initial Sample Purge (soil gas only):	Time:	PID Reading (ppm):	Noticeable Odor? (Y/N)	Summa Pressure (inches Hg):
Reading #1:	1248	0	N	-18.5
Reading #2:				
Reading #3:				
Reading #4:				
Reading #5:				

Sketch of Sample Location:

See map

Comments:

Signature: _____



Project #: 0284652
 Project Name: Joslyn Clark
 Location: Lancaster, SC
 Project Manager: Michael Pressley

Sample Location: _____ Collector(s): GK
 Address: 2013 W. Meeting Street
 PID Meter Used: ppbRAE 10.6 eV lamp Date: 2/18/15
 (Model, Serial #)

Sample ID: ~~AA-1~~ ~~AA-2~~ AA-3
 Duplicate Sample? (Y/N) N Duplicate Sample ID:
 Type of sample (circle one): INDOOR AIR AMBIENT AIR SOIL GAS

Photograph description:

Summa® Information - Sampling Duration: 8 hr

Canister Serial Number: 1032 Flow Controller Number: 303934

Start Date/Time: 2/18/15 0841 Stop Date/Time: 2/18/15

Start Pressure: (inches Hg) -32 Stop Pressure: (inches Hg)

Other Sampling Information:					
Story/Level	1st	Ground Surface (pavement, flooring)	concrete	Depth of Vapor Probe (if applicable)	NA
Room	Storage	Slab thickness (if applicable)	NA	Distance to building (if applicable)	NA
Air Temp (C) °F	~40	Potential Vapor Pathways Observed?	No	Intake Tubing used?	NA
Intake Height Above Ground Level (ft)	5'	PID Reading (ppb)?	0	Distance to nearest Roadway (m)	NA
Noticeable Odor?	N	Barometric Pressure (°Hg or mb)		Other	

Interim Monitoring - Check pressure periodically during sampling event and record below:

Initial Sample Purge (soil gas only):	Time:	PID Reading (ppb):	Noticeable Odor? (Y/N)	Summa Pressure (inches Hg):
Reading #1:	1250	0	N	-21.5
Reading #2:				
Reading #3:				
Reading #4:				
Reading #5:				

Sketch of Sample Location:

See map

Comments:

 Signature: _____



Project #: 0284652
 Project Name: Joslyn Clark
 Location: Lancaster, SC
 Project Manager: Michael Pressley

Sample Location:		Collector(s):	GK
Address:	2013 W. Meeting Street		
PID Meter Used: (Model, Serial #)	ppbRAE 10.6 eV lamp	Date:	2/18/15

Sample ID: ~~AA-4~~ AA-4
 Duplicate Sample? (Y/N) N Duplicate Sample ID:
 Type of sample (circle one): INDOOR AIR AMBIENT AIR SOIL GAS

Photograph description:

Summa® Information - Sampling Duration: 8hr

Canister Serial Number: 1028	Flow Controller Number: 252 293
------------------------------	---------------------------------

Start Date/Time: 8:49	Stop Date/Time: 2/18/15
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Start Pressure: (inches Hg) -30	Stop Pressure: (inches Hg)
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Other Sampling Information:

Story/Level	1st	Ground Surface (pavement, flooring)	Concrete	Depth of Vapor Probe (if applicable)	NA
Room	Production	Slab thickness (if applicable)	NA	Distance to building (if applicable)	NA
Air Temp (°S) of	~40	Potential Vapor Pathways Observed?	floor joints	Intake Tubing used?	NA
Intake Height Above Ground Level (m)/ft	5'	PID Reading (ppm)?		Distance to nearest Roadway (m)	NA
Noticeable Odor?	N	Barometric Pressure (°Hg or mb)		Other	

Interim Monitoring - Check pressure periodically during sampling event and record below:

Initial Sample Purge (soil gas only):	Time:	PID Reading (ppm):	Noticeable Odor? (Y/N)	Summa Pressure (inches Hg):
Reading #1:	12:52	0	N	-19.5
Reading #2:				
Reading #3:				
Reading #4:				
Reading #5:				

Sketch of Sample Location:

See map

Comments:

Signature: _____



Project #: 0284652
 Project Name: Joslyn Clark
 Location: Lancaster, SC
 Project Manager: Michael Pressley

Sample Location:		Collector(s):	GK
Address:	2013 W. Meeting Street		
PID Meter Used: (Model, Serial #)	ppbRAE 10.6 eV lamp	Date:	2/18/15

Sample ID: ~~AA-5~~ AA-5
 Duplicate Sample? (Y/N) N Duplicate Sample ID:
 Type of sample (circle one): INDOOR AIR AMBIENT AIR SOIL GAS

Photograph description:

Summa® Information - Sampling Duration: 4hr

Canister Serial Number: 847	Flow Controller Number: 338070
Start Date/Time: 2/18/15 958	Stop Date/Time: 2/18/15 1700
Start Pressure: (inches Hg) -32	Stop Pressure: (inches Hg) -8

Other Sampling Information:

Story/Level	1st	Ground Surface (pavement, flooring)	concrete	Depth of Vapor Probe (if applicable)	NA
Room	Production	Slab thickness (if applicable)	NA	Distance to building (if applicable)	NA
Air Temp (°F) of	~40	Potential Vapor Pathways Observed?	@ floor joints	Intake Tubing used?	NA
Intake Height Above Ground Level (h) ft	5'	PID Reading (ppm)?	0	Distance to nearest Roadway (m)	NA
Noticeable Odor?	N	Barometric Pressure (°Hg or mb)		Other	

Interim Monitoring - Check pressure periodically during sampling event and record below:

Initial Sample Purge (soil gas only):	Time:	PID Reading (ppm):	Noticeable Odor? (Y/N)	Summa Pressure (inches Hg):
Reading #1:	1254	0	N	-20
Reading #2:				
Reading #3:				
Reading #4:				
Reading #5:				

Sketch of Sample Location:

See map

Comments:

Signature: _____



Project #: 0284652
 Project Name: Joslyn Clark
 Location: Lancaster, SC
 Project Manager: Michael Pressley

Sample Location:		Collector(s):	GK
Address:	2013 W. Meeting Street		
PID Meter Used: (Model, Serial #)	ppbRAE 10.6 eV lamp	Date:	2/18/15

Sample ID: ~~AA-1~~ ~~AA-2~~ ~~AA-3~~ ~~AA-4~~ ~~AA-5~~ AA-6
 Duplicate Sample? (Y/N) N Duplicate Sample ID:
 Type of sample (circle one): INDOOR AIR AMBIENT AIR SOIL GAS

Photograph description:

Summa® Information - Sampling Duration: 8 hr
 Canister Serial Number: 543 Flow Controller Number: 338048
 Start Date/Time: 2/18/15 0900 Stop Date/Time: 2/18/15 1657
 Start Pressure: (inches Hg) -30 Stop Pressure: (inches Hg) -7

Other Sampling Information:					
Story/Level	1st	Ground Surface (pavement, flooring)	concrete	Depth of Vapor Probe (if applicable)	NA
Room	Production	Slab thickness (if applicable)	NA	Distance to building (if applicable)	NA
Air Temp (°C) °F	40	Potential Vapor Pathways Observed?	floor joints	Intake Tubing used?	NA
Intake Height Above Ground Level (m) ft	5'	PID Reading (ppb)?	0	Distance to nearest Roadway (m)	NA
Noticeable Odor?	N	Barometric Pressure (°Hg or mb)		Other	

Interim Monitoring - Check pressure periodically during sampling event and record below:

Initial Sample Purge (soil gas only):	Time:	PID Reading (ppb):	Noticeable Odor? (Y/N)	Summa Pressure (inches Hg):
Reading #1:	1256	0	N	-19
Reading #2:				
Reading #3:				
Reading #4:				
Reading #5:				

Sketch of Sample Location:

See map

Comments:

Signature: _____



Project #: 0284652
 Project Name: Joslyn Clark
 Location: Lancaster, SC
 Project Manager: Michael Pressley

Sample Location: Office Collector(s): GK
 Address: 2013 W. Meeting Street
 PID Meter Used: (Model, Serial #) ppbRAE 10.6 eV lamp Date: 2/18/15

Sample ID: ~~AA-7~~ AA-7
 Duplicate Sample? (Y/N) N Duplicate Sample ID:
 Type of sample (circle one): INDOOR AIR AMBIENT AIR SOIL GAS

Photograph description:

Summa® Information - Sampling Duration: 8hr
 Canister Serial Number: S37 Flow Controller Number: 339291
 Start Date/Time: 2/18/15 806 Stop Date/Time: 2/18/15 1629
 Start Pressure: (inches Hg) -28.5 Stop Pressure: (inches Hg) -5

Other Sampling Information:					
Story/Level	<u>1st</u>	Ground Surface (pavement, flooring)	<u>tile, concrete</u>	Depth of Vapor Probe (if applicable)	<u>NA</u>
Room	<u>office</u>	Slab thickness (if applicable)	<u>NA</u>	Distance to building (if applicable)	<u>NA</u>
Air Temp (°F)	<u>60</u>	Potential Vapor Pathways Observed?	<u>No</u>	Intake Tubing used?	<u>NA</u>
Intake Height Above Ground Level (m)	<u>6'</u>	PID Reading (ppm)?	<u>0.0</u>	Distance to nearest Roadway (m)	<u>NA</u>
Noticeable Odor?	<u>N</u>	Barometric Pressure (°Hg or mb)		Other	

Interim Monitoring - Check pressure periodically during sampling event and record below:

Initial Sample Purge (soil gas only):	Time:	PID Reading (ppm):	Noticeable Odor? (Y/N)	Summa Pressure (inches Hg):
Reading #1:	<u>1243</u>	<u>0</u>	<u>N</u>	<u>-16</u>
Reading #2:				
Reading #3:				
Reading #4:				
Reading #5:				

Sketch of Sample Location:

See map

Comments:

Signature: _____



Project #: 0284652
 Project Name: Joslyn Clark
 Location: Lancaster, SC
 Project Manager: Michael Pressley

Sample Location:	flay yrk	Collector(s):	GK
Address:	2013 W. Meeting Street		
PID Meter Used: (Model, Serial #)	ppbRAE 10.6 eV lamp	Date:	2/18/15

Sample ID: OA-1
 Duplicate Sample? (Y/N) N Duplicate Sample ID:
 Type of sample (circle one): INDOOR AIR AMBIENT AIR SOIL GAS

Photograph description:

Summa® Information - Sampling Duration: 8 hr

Canister Serial Number:	522	Flow Controller Number:	231241
Start Date/Time:	2/18/15 756	Stop Date/Time:	2/18/15 1622
Start Pressure: (inches Hg)	26.5	Stop Pressure: (inches Hg)	-5

Other Sampling Information:

Story/Level	outside	Ground Surface (pavement, flooring)	grass	Depth of Vapor Probe (if applicable)	NA
Room	NA	Slab thickness (if applicable)	NA	Distance to building (if applicable)	NA
Air Temp (°F)	30-40	Potential Vapor Pathways Observed?	NA	Intake Tubing used?	NA
Intake Height Above Ground Level (m)	6'	PID Reading (ppm)?	0.0	Distance to nearest Roadway (m)	NA
Noticeable Odor?	N	Barometric Pressure (°Hg or mb)		Other	

Interim Monitoring - Check pressure periodically during sampling event and record below:

Initial Sample Purge (soil gas only):	Time:	PID Reading (ppm):	Noticeable Odor? (Y/N)	Summa Pressure (inches Hg):
Reading #1:		-	N	-22.5
Reading #2:	12:38	-	N	-15
Reading #3:				
Reading #4:				
Reading #5:				

Sketch of Sample Location:

See map

Comments:

Signature: _____



Project #: 0284652
 Project Name: Joslyn Clark
 Location: Lancaster, SC
 Project Manager: Michael Pressley

Sample Location:	Production near Column I 13	Collector(s):	GK
Address:	2013 W. Meeting Street		
PID Meter Used: (Model, Serial #)	ppbRAE 10.6 eV lamp	Date:	2/19/15

Sample ID: 65-1
 Duplicate Sample? (Y/N) N Duplicate Sample ID:
 Type of sample (circle one): INDOOR AIR AMBIENT AIR SOIL GAS

Photograph description:

Summa® Information - Sampling Duration:

Canister Serial Number: 1208	Flow Controller Number: 303421
Start Date/Time: 2/19/15 1107	Stop Date/Time: 2/19/15 1146
Start Pressure: (inches Hg) -32	Stop Pressure: (inches Hg) -5

Other Sampling Information:

Story/Level	1st	Ground Surface (pavement, flooring)	concrete	Depth of Vapor Probe (if applicable)	5"
Room	Production	Slab thickness (if applicable)	6"	Distance to building (if applicable)	NA
Air Temp (°C)	NA	Potential Vapor Pathways Observed?	Fiber Joints	Intake Tubing used?	Teflon
Intake Height Above Ground Level (m)	NA	PID Reading (ppb)?	34	Distance to nearest Roadway (m)	NA
Noticeable Odor?	No	Barometric Pressure (*Hg or mb)		Other	

Interim Monitoring - Check pressure periodically during sampling event and record below:

Initial Sample Purge (soil gas only):	Time:	PID Reading (ppm):	Noticeable Odor? (Y/N)	Summa Pressure (inches Hg):
Reading #1:				
Reading #2:				
Reading #3:				
Reading #4:				
Reading #5:				

Sketch of Sample Location:

See map

Comments: Helium Tracer Test: 25% in shroud; 0 ppm in Tedlar = passed

Signature: _____



Project #: 0284652
 Project Name: Joslyn Clark
 Location: Lancaster, SC
 Project Manager: Michael Pressley

Sample Location:	Plating	Collector(s):	GK
Address:	2013 W. Meeting Street		
PID Meter Used: (Model, Serial #)	ppbRAE 10.6 eV lamp	Date:	2/19/15

Sample ID: 55-2

Duplicate Sample? (Y/N) N Duplicate Sample ID:

Type of sample (circle one): INDOOR AIR AMBIENT AIR SOIL GAS

Photograph description:

Summa® Information - Sampling Duration: 30 min

Canister Serial Number: 1049	Flow Controller Number: 339163
Start Date/Time: 2/19/15 1109	Stop Date/Time: 2/19/15 1154
Start Pressure: (inches Hg) -30	Stop Pressure: (inches Hg) -5.5

Other Sampling Information:

Story/Level	1st	Ground Surface (pavement, flooring)	Concrete	Depth of Vapor Probe (if applicable)	5"
Room	Plating	Slab thickness (if applicable)	6"	Distance to building (if applicable)	NA
Air Temp (°C)	NA	Potential Vapor Pathways Observed?	Sumps	Intake Tubing used?	Teflon
Intake Height Above Ground Level (m)	NA	PID Reading (ppm)?	1775	Distance to nearest Roadway (m)	
Noticeable Odor?	No	Barometric Pressure (°Hg or mb)		Other	

Interim Monitoring - Check pressure periodically during sampling event and record below:

Initial Sample Purge (soil gas only):	Time:	PID Reading (ppm):	Noticeable Odor? (Y/N)	Summa Pressure (inches Hg):
Reading #1:				
Reading #2:				
Reading #3:				
Reading #4:				
Reading #5:				

Sketch of Sample Location:

See map

Comments: Helium Tracer; 30' in strand; 75 ppm in Teflon = passed

Signature: _____



Project #: 0284652
 Project Name: Joslyn Clark
 Location: Lancaster, SC
 Project Manager: Michael Pressley

Sample Location:	storage room	Collector(s):	GK
Address:	2013 W. Meeting Street		
PID Meter Used: (Model, Serial #)	ppbRAE 10.6 eV lamp	Date:	2/19/15

Sample ID: 55-3

Duplicate Sample? (Y/N) N Duplicate Sample ID:

Type of sample (circle one): INDOOR AIR AMBIENT AIR SOIL GAS

Photograph description:

Summa® Information - Sampling Duration: 30 min

Canister Serial Number: 1162	Flow Controller Number: 329137
Start Date/Time: 2/19/15 1112	Stop Date/Time: 2/19/15 1154
Start Pressure: (inches Hg) -2.8	Stop Pressure: (inches Hg) -5

Other Sampling Information:

Story/Level	1st	Ground Surface (pavement, flooring)	concrete	Depth of Vapor Probe (if applicable)	5"
Room	storage	Slab thickness (if applicable)	6"	Distance to building (if applicable)	NA
Air Temp (°C)	NA	Potential Vapor Pathways Observed?	No	Intake Tubing used?	Teflon
Intake Height Above Ground Level (m)	NA	PID Reading (ppm)?	26	Distance to nearest Roadway (m)	NA
Noticeable Odor?	No	Barometric Pressure (°Hg or mb)		Other	

Interim Monitoring - Check pressure periodically during sampling event and record below:

Initial Sample Purge (soil gas only):	Time:	PID Reading (ppm):	Noticeable Odor? (Y/N)	Summa Pressure (inches Hg):
Reading #1:				
Reading #2:				
Reading #3:				
Reading #4:				
Reading #5:				

Sketch of Sample Location:

See map

Comments: Helium Tracer Test: 30% in strand; 0 ppm in Tedlar = passed

Signature: _____



Project #: 0284652
 Project Name: Joslyn Clark
 Location: Lancaster, SC
 Project Manager: Michael Pressley

Sample Location:	Near column C1	Collector(s):	GK
Address:	2013 W. Meeting Street		
PID Meter Used: (Model, Serial #)	ppBRAE 10.6 eV lamp	Date:	2/19/15

Sample ID: 55-4
 Duplicate Sample? (Y/N) N Duplicate Sample ID:
 Type of sample (circle one): INDOOR AIR AMBIENT AIR SOIL GAS

Photograph description:

Summa® Information - Sampling Duration: 30 min

Canister Serial Number: 1167	Flow Controller Number: 301070
Start Date/Time: 2/19/15 113	Stop Date/Time: 2/19/15 1143
Start Pressure: (inches Hg) -30	Stop Pressure: (inches Hg) -5

Other Sampling Information:

Story/Level	1st	Ground Surface (pavement, flooring)	Concrete	Depth of Vapor Probe (if applicable)	5"
Room	production	Slab thickness (if applicable)	6"	Distance to building (if applicable)	NA
Air Temp (°C)	NA	Potential Vapor Pathways Observed?	floor joints	Intake Tubing used?	Teflon
Intake Height Above Ground Level (m)	NA	PID Reading (ppm)?	22	Distance to nearest Roadway (m)	NA
Noticeable Odor?	No	Barometric Pressure (°Hg or mb)		Other	

Interim Monitoring - Check pressure periodically during sampling event and record below:

Initial Sample Purge (soil gas only):	Time:	PID Reading (ppm):	Noticeable Odor? (Y/N)	Summa Pressure (inches Hg):
Reading #1:				
Reading #2:				
Reading #3:				
Reading #4:				
Reading #5:				

Sketch of Sample Location:

See map

Comments: Helium Tracer Test: 20% Helium in shroud; 50 ppm in Tedlar = passed

Signature: _____



Project #: 0284652
 Project Name: Joslyn Clark
 Location: Lancaster, SC
 Project Manager: Michael Pressley

Sample Location:	Neor column E7	Collector(s):	GK
Address:	2013 W. Meeting Street		
PID Meter Used: (Model, Serial #)	ppBRAE 10.6 eV lamp	Date:	2/19/15

Sample ID: SS-5

Duplicate Sample? (Y/N) N Duplicate Sample ID: _____

Type of sample (circle one): INDOOR AIR AMBIENT AIR SOIL GAS

Photograph description: _____

Summa® Information - Sampling Duration: 30 min

Canister Serial Number: <u>975</u>	Flow Controller Number: <u>316944</u>
Start Date/Time: <u>2/19/15 1115</u>	Stop Date/Time: <u>2/19/15 1155</u>
Start Pressure: (inches Hg) <u>-28</u>	Stop Pressure: (inches Hg) <u>-5</u>

Other Sampling Information:					
Story/Level	<u>1st</u>	Ground Surface (pavement, flooring)	<u>concrete</u>	Depth of Vapor Probe (if applicable)	<u>5"</u>
Room	<u>Production</u>	Slab thickness (if applicable)	<u>6"</u>	Distance to building (if applicable)	<u>NA</u>
Air Temp (°C)	<u>NA</u>	Potential Vapor Pathways Observed?	<u>slab joints</u>	Intake Tubing used?	<u>Teflon</u>
Intake Height Above Ground Level (m)	<u>NA</u>	PID Reading (ppm)?	<u>as</u>	Distance to nearest Roadway (m)	<u>NA</u>
Noticeable Odor?	<u>N</u>	Barometric Pressure (Hg or mb)		Other	

Interim Monitoring - Check pressure periodically during sampling event and record below:

Initial Sample Purge (soil gas only):	Time:	PID Reading (ppm):	Noticeable Odor? (Y/N)	Summa Pressure (inches Hg):
Reading #1:				
Reading #2:				
Reading #3:				
Reading #4:				
Reading #5:				

Sketch of Sample Location: _____

See map

Comments: Helium tracer test: 25% in strand; 0 ppm in testar = passed

Signature: _____



Project #: 0284652
 Project Name: Joslyn Clark
 Location: Lancaster, SC
 Project Manager: Michael Pressley

Sample Location:	Production Near Column E2	Collector(s):	GK
Address:	2013 W. Meeting Street		
PID Meter Used: (Model, Serial #)	ppBRAE 10.6 eV lamp	Date:	2/19/15

Sample ID: SS-6

Duplicate Sample? (Y/N) Duplicate Sample ID:

Type of sample (circle one): INDOOR AIR AMBIENT AIR SOIL GAS

Photograph description:

Summa® Information - Sampling Duration: 30 min

Canister Serial Number: 970	Flow Controller Number: 337358
Start Date/Time: 2/19/15 1117	Stop Date/Time: 2/19/15 1156
Start Pressure: (inches Hg) -27.5	Stop Pressure: (inches Hg) 0

Other Sampling Information:

Story/Level	1st	Ground Surface (pavement, flooring)	Concrete	Depth of Vapor Probe (if applicable)	5"
Room	Production	Slab thickness (if applicable)	6"	Distance to building (if applicable)	NA
Air Temp (°C)	NA	Potential Vapor Pathways Observed?	floor joints	Intake Tubing used?	Teflon
Intake Height Above Ground Level (m)	NA	PID Reading (ppm)?	19	Distance to nearest Roadway (m)	NA
Noticeable Odor?	No	Barometric Pressure (°Hg or mb)		Other	

Interim Monitoring - Check pressure periodically during sampling event and record below:

Initial Sample Purge (soil gas only):	Time:	PID Reading (ppm):	Noticeable Odor? (Y/N)	Summa Pressure (inches Hg):
Reading #1:				
Reading #2:				
Reading #3:				
Reading #4:				
Reading #5:				

Sketch of Sample Location:

See map

Comments: Helium Tracer test: 25% in shroud; 50ppm in Tedlar = Passed

Signature: _____

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

April 16, 2015

Project: Joslyn Clark 0284652

Submittal Date: 02/23/2015

Group Number: 1540449

PO Number: 0284652

State of Sample Origin: NC

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
SS-6 Air	7781500
SS-5 Air	7781501
SS-2 Air	7781502
SS-3 Air	7781503
SS-4 Air	7781504
SS-1 Air	7781505

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>.

ELECTRONIC COPY TO ERM

Attn: Michael Pressley

Respectfully Submitted,



Megan A. Moeller
Senior Specialist

(717) 556-7261

Sample Description: SS-6 Air
Joslyn Clark 0284652

LL Sample # AQ 7781500
LL Group # 1540449
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/19/2015 11:17 by GK
through 02/19/2015 11:56
Submitted: 02/23/2015 11:16
Reported: 04/16/2015 11:28

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

970--

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air		EPA TO-15	ppb (v)	ppb (v)	ug/m3	ug/m3	
05298	Acetone	67-64-1	23	0.50	54	1.2	1
05298	Benzene	71-43-2	N.D.	0.20	N.D.	0.64	1
05298	Benzyl Chloride	100-44-7	N.D.	0.50	N.D.	2.6	1
05298	Bromodichloromethane	75-27-4	N.D.	0.20	N.D.	1.3	1
05298	Bromoform	75-25-2	N.D.	0.20	N.D.	2.1	1
05298	Bromomethane	74-83-9	N.D.	0.20	N.D.	0.78	1
05298	1,3-Butadiene	106-99-0	N.D.	0.40	N.D.	0.88	1
05298	2-Butanone	78-93-3	2.3	0.50	6.9	1.5	1
05298	Carbon Disulfide	75-15-0	1.6	0.50	4.9	1.6	1
05298	Carbon Tetrachloride	56-23-5	N.D.	0.20	N.D.	1.3	1
05298	Chlorobenzene	108-90-7	N.D.	0.20	N.D.	0.92	1
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	Chloroform	67-66-3	N.D.	0.20	N.D.	0.98	1
05298	Chloromethane	74-87-3	N.D.	0.20	N.D.	0.41	1
05298	3-Chloropropene	107-05-1	N.D.	0.20	N.D.	0.63	1
05298	Cumene	98-82-8	N.D.	0.20	N.D.	0.98	1
05298	Cyclohexane	110-82-7	N.D.	0.20	N.D.	0.69	1
05298	Dibromochloromethane	124-48-1	N.D.	0.20	N.D.	1.7	1
05298	1,2-Dibromoethane	106-93-4	N.D.	0.20	N.D.	1.5	1
05298	1,2-Dichlorobenzene	95-50-1	N.D.	0.20	N.D.	1.2	1
05298	1,3-Dichlorobenzene	541-73-1	N.D.	0.20	N.D.	1.2	1
05298	1,4-Dichlorobenzene	106-46-7	N.D.	0.20	N.D.	1.2	1
05298	Dichlorodifluoromethane	75-71-8	0.55 J	0.50	2.7 J	2.5	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,2-Dichloroethane	107-06-2	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	0.20 J	0.20	0.80 J	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	1,2-Dichloropropane	78-87-5	N.D.	0.20	N.D.	0.92	1
05298	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.20	N.D.	0.91	1
05298	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.20	N.D.	0.91	1
05298	1,4-Dioxane	123-91-1	N.D.	0.50	N.D.	1.8	1
05298	Ethanol	64-17-5	14	0.50	26	0.94	1
05298	Ethylbenzene	100-41-4	1.1	0.20	4.9	0.87	1
05298	4-Ethyltoluene	622-96-8	N.D.	0.20	N.D.	0.98	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Freon 114	76-14-2	N.D.	0.20	N.D.	1.4	1
05298	Heptane	142-82-5	N.D.	0.20	N.D.	0.82	1
05298	Hexachlorobutadiene	87-68-3	N.D.	0.40	N.D.	4.3	1
05298	Hexane	110-54-3	N.D.	0.20	N.D.	0.70	1
05298	2-Hexanone	591-78-6	N.D.	0.50	N.D.	2.0	1
05298	Isooctane	540-84-1	N.D.	0.20	N.D.	0.93	1
05298	Isopropanol	67-63-0	5.8	0.50	14	1.2	1
05298	Methyl t-Butyl Ether	1634-04-4	N.D.	0.20	N.D.	0.72	1
05298	4-Methyl-2-pentanone	108-10-1	N.D.	0.50	N.D.	2.0	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	n-Propylbenzene	103-65-1	N.D.	0.20	N.D.	0.98	1
05298	Styrene	100-42-5	N.D.	0.20	N.D.	0.85	1
05298	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.20	N.D.	1.4	1
05298	Tetrachloroethene	127-18-4	7.9	0.20	54	1.4	1
05298	Tetrahydrofuran	109-99-9	N.D.	0.20	N.D.	0.59	1
05298	Toluene	108-88-3	0.43 J	0.20	1.6 J	0.75	1

Sample Description: SS-6 Air
Joslyn Clark 0284652

LL Sample # AQ 7781500
LL Group # 1540449
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/19/2015 11:17 by GK
through 02/19/2015 11:56
Submitted: 02/23/2015 11:16
Reported: 04/16/2015 11:28

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

970--

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air		EPA TO-15	ppb (v)	ppb (v)	ug/m3	ug/m3	
05298	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.50	N.D.	3.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	1,1,2-Trichloroethane	79-00-5	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	0.27 J	0.20	1.4 J	1.1	1
05298	Trichlorofluoromethane	75-69-4	0.24 J	0.20	1.3 J	1.1	1
05298	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.20	N.D.	0.98	1
05298	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.20	N.D.	0.98	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1
05298	m/p-Xylene	179601-23-1	4.3	0.20	19	0.87	1
05298	o-Xylene	95-47-6	1.3	0.20	5.7	0.87	1

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	TO 15 VOA Ext. List	EPA TO-15	1	D1506230AA	03/03/2015 20:36	Michael A Ziegler	1

Sample Description: SS-5 Air
Joslyn Clark 0284652

LL Sample # AQ 7781501
LL Group # 1540449
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/19/2015 11:15 by GK
through 02/19/2015 11:55
Submitted: 02/23/2015 11:16
Reported: 04/16/2015 11:28

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

975--

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air		EPA TO-15	ppb (v)	ppb (v)	ug/m3	ug/m3	
05298	Acetone	67-64-1	47	0.50	110	1.2	1
05298	Benzene	71-43-2	0.50 J	0.20	1.6 J	0.64	1
05298	Benzyl Chloride	100-44-7	N.D.	0.50	N.D.	2.6	1
05298	Bromodichloromethane	75-27-4	N.D.	0.20	N.D.	1.3	1
05298	Bromoform	75-25-2	N.D.	0.20	N.D.	2.1	1
05298	Bromomethane	74-83-9	N.D.	0.20	N.D.	0.78	1
05298	1,3-Butadiene	106-99-0	N.D.	0.40	N.D.	0.88	1
05298	2-Butanone	78-93-3	7.4	0.50	22	1.5	1
05298	Carbon Disulfide	75-15-0	N.D.	0.50	N.D.	1.6	1
05298	Carbon Tetrachloride	56-23-5	N.D.	0.20	N.D.	1.3	1
05298	Chlorobenzene	108-90-7	N.D.	0.20	N.D.	0.92	1
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	Chloroform	67-66-3	N.D.	0.20	N.D.	0.98	1
05298	Chloromethane	74-87-3	0.51 J	0.20	1.1 J	0.41	1
05298	3-Chloropropene	107-05-1	N.D.	0.20	N.D.	0.63	1
05298	Cumene	98-82-8	N.D.	0.20	N.D.	0.98	1
05298	Cyclohexane	110-82-7	N.D.	0.20	N.D.	0.69	1
05298	Dibromochloromethane	124-48-1	N.D.	0.20	N.D.	1.7	1
05298	1,2-Dibromoethane	106-93-4	N.D.	0.20	N.D.	1.5	1
05298	1,2-Dichlorobenzene	95-50-1	N.D.	0.20	N.D.	1.2	1
05298	1,3-Dichlorobenzene	541-73-1	N.D.	0.20	N.D.	1.2	1
05298	1,4-Dichlorobenzene	106-46-7	N.D.	0.20	N.D.	1.2	1
05298	Dichlorodifluoromethane	75-71-8	0.55 J	0.50	2.7 J	2.5	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,2-Dichloroethane	107-06-2	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	1,2-Dichloropropane	78-87-5	N.D.	0.20	N.D.	0.92	1
05298	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.20	N.D.	0.91	1
05298	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.20	N.D.	0.91	1
05298	1,4-Dioxane	123-91-1	N.D.	0.50	N.D.	1.8	1
05298	Ethanol	64-17-5	17	0.50	32	0.94	1
05298	Ethylbenzene	100-41-4	0.20 J	0.20	0.88 J	0.87	1
05298	4-Ethyltoluene	622-96-8	N.D.	0.20	N.D.	0.98	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Freon 114	76-14-2	N.D.	0.20	N.D.	1.4	1
05298	Heptane	142-82-5	N.D.	0.20	N.D.	0.82	1
05298	Hexachlorobutadiene	87-68-3	N.D.	0.40	N.D.	4.3	1
05298	Hexane	110-54-3	N.D.	0.20	N.D.	0.70	1
05298	2-Hexanone	591-78-6	0.51 J	0.50	2.1 J	2.0	1
05298	Isooctane	540-84-1	N.D.	0.20	N.D.	0.93	1
05298	Isopropanol	67-63-0	6.4	0.50	16	1.2	1
05298	Methyl t-Butyl Ether	1634-04-4	N.D.	0.20	N.D.	0.72	1
05298	4-Methyl-2-pentanone	108-10-1	N.D.	0.50	N.D.	2.0	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	n-Propylbenzene	103-65-1	N.D.	0.20	N.D.	0.98	1
05298	Styrene	100-42-5	N.D.	0.20	N.D.	0.85	1
05298	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.20	N.D.	1.4	1
05298	Tetrachloroethene	127-18-4	0.35 J	0.20	2.4 J	1.4	1
05298	Tetrahydrofuran	109-99-9	N.D.	0.20	N.D.	0.59	1
05298	Toluene	108-88-3	3.6	0.20	13	0.75	1

Sample Description: SS-5 Air
Joslyn Clark 0284652

LL Sample # AQ 7781501
LL Group # 1540449
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/19/2015 11:15 by GK
through 02/19/2015 11:55
Submitted: 02/23/2015 11:16
Reported: 04/16/2015 11:28

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

975--

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air		EPA TO-15	ppb (v)	ppb (v)	ug/m3	ug/m3	
05298	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.50	N.D.	3.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	1,1,2-Trichloroethane	79-00-5	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	5.5	0.20	29	1.1	1
05298	Trichlorofluoromethane	75-69-4	0.23 J	0.20	1.3 J	1.1	1
05298	1,2,4-Trimethylbenzene	95-63-6	0.77 J	0.20	3.8 J	0.98	1
05298	1,3,5-Trimethylbenzene	108-67-8	0.27 J	0.20	1.4 J	0.98	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1
05298	m/p-Xylene	179601-23-1	1.7	0.20	7.5	0.87	1
05298	o-Xylene	95-47-6	0.59 J	0.20	2.6 J	0.87	1

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	TO 15 VOA Ext. List	EPA TO-15	1	D1506230AA	03/03/2015 21:24	Michael A Ziegler	1

Sample Description: SS-2 Air
Joslyn Clark 0284652

LL Sample # AQ 7781502
LL Group # 1540449
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/19/2015 11:09 by GK
through 02/19/2015 11:54
Submitted: 02/23/2015 11:16
Reported: 04/16/2015 11:28

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

1049-

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air		EPA TO-15	ppb (v)	ppb (v)	ug/m3	ug/m3	
05298	Acetone	67-64-1	390 J	100	940 J	240	200
05298	Benzene	71-43-2	N.D.	40	N.D.	130	200
05298	Benzyl Chloride	100-44-7	N.D.	100	N.D.	520	200
05298	Bromodichloromethane	75-27-4	N.D.	40	N.D.	270	200
05298	Bromoform	75-25-2	N.D.	40	N.D.	410	200
05298	Bromomethane	74-83-9	N.D.	40	N.D.	160	200
05298	1,3-Butadiene	106-99-0	N.D.	80	N.D.	180	200
05298	2-Butanone	78-93-3	N.D.	100	N.D.	290	200
05298	Carbon Disulfide	75-15-0	200 J	100	620 J	310	200
05298	Carbon Tetrachloride	56-23-5	N.D.	40	N.D.	250	200
05298	Chlorobenzene	108-90-7	N.D.	40	N.D.	180	200
05298	Chloroethane	75-00-3	N.D.	40	N.D.	110	200
05298	Chloroform	67-66-3	N.D.	40	N.D.	200	200
05298	Chloromethane	74-87-3	N.D.	40	N.D.	83	200
05298	3-Chloropropene	107-05-1	N.D.	40	N.D.	130	200
05298	Cumene	98-82-8	N.D.	40	N.D.	200	200
05298	Cyclohexane	110-82-7	N.D.	40	N.D.	140	200
05298	Dibromochloromethane	124-48-1	N.D.	40	N.D.	340	200
05298	1,2-Dibromoethane	106-93-4	N.D.	40	N.D.	310	200
05298	1,2-Dichlorobenzene	95-50-1	N.D.	40	N.D.	240	200
05298	1,3-Dichlorobenzene	541-73-1	N.D.	40	N.D.	240	200
05298	1,4-Dichlorobenzene	106-46-7	N.D.	40	N.D.	240	200
05298	Dichlorodifluoromethane	75-71-8	N.D.	100	N.D.	490	200
05298	1,1-Dichloroethane	75-34-3	N.D.	40	N.D.	160	200
05298	1,2-Dichloroethane	107-06-2	N.D.	40	N.D.	160	200
05298	1,1-Dichloroethene	75-35-4	87 J	40	350 J	160	200
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	40	N.D.	160	200
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	40	N.D.	160	200
05298	1,2-Dichloropropane	78-87-5	N.D.	40	N.D.	180	200
05298	cis-1,3-Dichloropropene	10061-01-5	N.D.	40	N.D.	180	200
05298	trans-1,3-Dichloropropene	10061-02-6	N.D.	40	N.D.	180	200
05298	1,4-Dioxane	123-91-1	N.D.	100	N.D.	360	200
05298	Ethanol	64-17-5	590	100	1,100	190	200
05298	Ethylbenzene	100-41-4	N.D.	40	N.D.	170	200
05298	4-Ethyltoluene	622-96-8	N.D.	40	N.D.	200	200
05298	Freon 113	76-13-1	N.D.	100	N.D.	770	200
05298	Freon 114	76-14-2	N.D.	40	N.D.	280	200
05298	Heptane	142-82-5	N.D.	40	N.D.	160	200
05298	Hexachlorobutadiene	87-68-3	N.D.	80	N.D.	850	200
05298	Hexane	110-54-3	410	40	1,400	140	200
05298	2-Hexanone	591-78-6	N.D.	100	N.D.	410	200
05298	Isooctane	540-84-1	N.D.	40	N.D.	190	200
05298	Isopropanol	67-63-0	N.D.	100	N.D.	250	200
05298	Methyl t-Butyl Ether	1634-04-4	N.D.	40	N.D.	140	200
05298	4-Methyl-2-pentanone	108-10-1	N.D.	100	N.D.	410	200
05298	Methylene Chloride	75-09-2	130 J	40	450 J	140	200
05298	n-Propylbenzene	103-65-1	N.D.	40	N.D.	200	200
05298	Styrene	100-42-5	N.D.	40	N.D.	170	200
05298	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	40	N.D.	270	200
05298	Tetrachloroethene	127-18-4	61 J	40	410 J	270	200
05298	Tetrahydrofuran	109-99-9	N.D.	40	N.D.	120	200
05298	Toluene	108-88-3	96 J	40	360 J	150	200

Sample Description: SS-2 Air
Joslyn Clark 0284652

LL Sample # AQ 7781502
LL Group # 1540449
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/19/2015 11:09 by GK
through 02/19/2015 11:54
Submitted: 02/23/2015 11:16
Reported: 04/16/2015 11:28

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

1049-

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air		EPA TO-15	ppb (v)	ppb (v)	ug/m3	ug/m3	
05298	1,2,4-Trichlorobenzene	120-82-1	N.D.	100	N.D.	740	200
05298	1,1,1-Trichloroethane	71-55-6	N.D.	40	N.D.	220	200
05298	1,1,2-Trichloroethane	79-00-5	N.D.	40	N.D.	220	200
05298	Trichloroethene	79-01-6	2,800	40	15,000	210	200
05298	Trichlorofluoromethane	75-69-4	N.D.	40	N.D.	220	200
05298	1,2,4-Trimethylbenzene	95-63-6	N.D.	40	N.D.	200	200
05298	1,3,5-Trimethylbenzene	108-67-8	N.D.	40	N.D.	200	200
05298	Vinyl Chloride	75-01-4	N.D.	40	N.D.	100	200
05298	m/p-Xylene	179601-23-1	N.D.	40	N.D.	170	200
05298	o-Xylene	95-47-6	N.D.	40	N.D.	170	200

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	TO 15 VOA Ext. List	EPA TO-15	1	D1506230AA	03/04/2015 10:14	Michael A Ziegler	200

Sample Description: SS-3 Air
Joslyn Clark 0284652

LL Sample # AQ 7781503
LL Group # 1540449
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/19/2015 11:12 by GK
through 02/19/2015 11:54
Submitted: 02/23/2015 11:16
Reported: 04/16/2015 11:28

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

1162-

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air		EPA TO-15	ppb (v)	ppb (v)	ug/m3	ug/m3	
05298	Acetone	67-64-1	26	5.0	62	12	10
05298	Benzene	71-43-2	N.D.	2.0	N.D.	6.4	10
05298	Benzyl Chloride	100-44-7	N.D.	5.0	N.D.	26	10
05298	Bromodichloromethane	75-27-4	N.D.	2.0	N.D.	13	10
05298	Bromoform	75-25-2	N.D.	2.0	N.D.	21	10
05298	Bromomethane	74-83-9	N.D.	2.0	N.D.	7.8	10
05298	1,3-Butadiene	106-99-0	N.D.	4.0	N.D.	8.8	10
05298	2-Butanone	78-93-3	N.D.	5.0	N.D.	15	10
05298	Carbon Disulfide	75-15-0	N.D.	5.0	N.D.	16	10
05298	Carbon Tetrachloride	56-23-5	N.D.	2.0	N.D.	13	10
05298	Chlorobenzene	108-90-7	N.D.	2.0	N.D.	9.2	10
05298	Chloroethane	75-00-3	N.D.	2.0	N.D.	5.3	10
05298	Chloroform	67-66-3	35	2.0	170	9.8	10
05298	Chloromethane	74-87-3	N.D.	2.0	N.D.	4.1	10
05298	3-Chloropropene	107-05-1	N.D.	2.0	N.D.	6.3	10
05298	Cumene	98-82-8	N.D.	2.0	N.D.	9.8	10
05298	Cyclohexane	110-82-7	N.D.	2.0	N.D.	6.9	10
05298	Dibromochloromethane	124-48-1	N.D.	2.0	N.D.	17	10
05298	1,2-Dibromoethane	106-93-4	N.D.	2.0	N.D.	15	10
05298	1,2-Dichlorobenzene	95-50-1	N.D.	2.0	N.D.	12	10
05298	1,3-Dichlorobenzene	541-73-1	N.D.	2.0	N.D.	12	10
05298	1,4-Dichlorobenzene	106-46-7	N.D.	2.0	N.D.	12	10
05298	Dichlorodifluoromethane	75-71-8	N.D.	5.0	N.D.	25	10
05298	1,1-Dichloroethane	75-34-3	11	2.0	44	8.1	10
05298	1,2-Dichloroethane	107-06-2	N.D.	2.0	N.D.	8.1	10
05298	1,1-Dichloroethene	75-35-4	17	2.0	67	7.9	10
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	2.0	N.D.	7.9	10
05298	trans-1,2-Dichloroethene	156-60-5	2.2 J	2.0	8.7 J	7.9	10
05298	1,2-Dichloropropane	78-87-5	N.D.	2.0	N.D.	9.2	10
05298	cis-1,3-Dichloropropene	10061-01-5	N.D.	2.0	N.D.	9.1	10
05298	trans-1,3-Dichloropropene	10061-02-6	N.D.	2.0	N.D.	9.1	10
05298	1,4-Dioxane	123-91-1	N.D.	5.0	N.D.	18	10
05298	Ethanol	64-17-5	9.6 J	5.0	18 J	9.4	10
05298	Ethylbenzene	100-41-4	N.D.	2.0	N.D.	8.7	10
05298	4-Ethyltoluene	622-96-8	N.D.	2.0	N.D.	9.8	10
05298	Freon 113	76-13-1	N.D.	5.0	N.D.	38	10
05298	Freon 114	76-14-2	N.D.	2.0	N.D.	14	10
05298	Heptane	142-82-5	N.D.	2.0	N.D.	8.2	10
05298	Hexachlorobutadiene	87-68-3	N.D.	4.0	N.D.	43	10
05298	Hexane	110-54-3	N.D.	2.0	N.D.	7.0	10
05298	2-Hexanone	591-78-6	N.D.	5.0	N.D.	20	10
05298	Isooctane	540-84-1	N.D.	2.0	N.D.	9.3	10
05298	Isopropanol	67-63-0	N.D.	5.0	N.D.	12	10
05298	Methyl t-Butyl Ether	1634-04-4	N.D.	2.0	N.D.	7.2	10
05298	4-Methyl-2-pentanone	108-10-1	N.D.	5.0	N.D.	20	10
05298	Methylene Chloride	75-09-2	N.D.	2.0	N.D.	6.9	10
05298	n-Propylbenzene	103-65-1	N.D.	2.0	N.D.	9.8	10
05298	Styrene	100-42-5	N.D.	2.0	N.D.	8.5	10
05298	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	2.0	N.D.	14	10
05298	Tetrachloroethene	127-18-4	6.7 J	2.0	46 J	14	10
05298	Tetrahydrofuran	109-99-9	N.D.	2.0	N.D.	5.9	10
05298	Toluene	108-88-3	N.D.	2.0	N.D.	7.5	10

REVISED

Sample Description: SS-3 Air
Joslyn Clark 0284652

LL Sample # AQ 7781503
LL Group # 1540449
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/19/2015 11:12 by GK
through 02/19/2015 11:54
Submitted: 02/23/2015 11:16
Reported: 04/16/2015 11:28

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

1162-

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air		EPA TO-15	ppb (v)	ppb (v)	ug/m3	ug/m3	
05298	1,2,4-Trichlorobenzene	120-82-1	N.D.	5.0	N.D.	37	10
05298	1,1,1-Trichloroethane	71-55-6	23	2.0	130	11	10
05298	1,1,2-Trichloroethane	79-00-5	N.D.	2.0	N.D.	11	10
05298	Trichloroethene	79-01-6	580	2.0	3,100	11	10
05298	Trichlorofluoromethane	75-69-4	N.D.	2.0	N.D.	11	10
05298	1,2,4-Trimethylbenzene	95-63-6	N.D.	2.0	N.D.	9.8	10
05298	1,3,5-Trimethylbenzene	108-67-8	N.D.	2.0	N.D.	9.8	10
05298	Vinyl Chloride	75-01-4	N.D.	2.0	N.D.	5.1	10
05298	m/p-Xylene	179601-23-1	N.D.	2.0	N.D.	8.7	10
05298	o-Xylene	95-47-6	3.2 J	2.0	14 J	8.7	10

Reporting limits were raised due to interference from the sample matrix.

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	TO 15 VOA Ext. List	EPA TO-15	1	D1506230AA	03/03/2015 22:51	Michael A Ziegler	10

Sample Description: SS-4 Air
Joslyn Clark 0284652

LL Sample # AQ 7781504
LL Group # 1540449
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/19/2015 11:13 by GK
through 02/19/2015 11:43
Submitted: 02/23/2015 11:16
Reported: 04/16/2015 11:28

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

1167-

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air		EPA TO-15	ppb (v)	ppb (v)	ug/m3	ug/m3	
05298	Acetone	67-64-1	20	5.0	48	12	10
05298	Benzene	71-43-2	N.D.	2.0	N.D.	6.4	10
05298	Benzyl Chloride	100-44-7	N.D.	5.0	N.D.	26	10
05298	Bromodichloromethane	75-27-4	N.D.	2.0	N.D.	13	10
05298	Bromoform	75-25-2	N.D.	2.0	N.D.	21	10
05298	Bromomethane	74-83-9	N.D.	2.0	N.D.	7.8	10
05298	1,3-Butadiene	106-99-0	N.D.	4.0	N.D.	8.8	10
05298	2-Butanone	78-93-3	N.D.	5.0	N.D.	15	10
05298	Carbon Disulfide	75-15-0	N.D.	5.0	N.D.	16	10
05298	Carbon Tetrachloride	56-23-5	N.D.	2.0	N.D.	13	10
05298	Chlorobenzene	108-90-7	N.D.	2.0	N.D.	9.2	10
05298	Chloroethane	75-00-3	N.D.	2.0	N.D.	5.3	10
05298	Chloroform	67-66-3	N.D.	2.0	N.D.	9.8	10
05298	Chloromethane	74-87-3	N.D.	2.0	N.D.	4.1	10
05298	3-Chloropropene	107-05-1	N.D.	2.0	N.D.	6.3	10
05298	Cumene	98-82-8	N.D.	2.0	N.D.	9.8	10
05298	Cyclohexane	110-82-7	N.D.	2.0	N.D.	6.9	10
05298	Dibromochloromethane	124-48-1	N.D.	2.0	N.D.	17	10
05298	1,2-Dibromoethane	106-93-4	N.D.	2.0	N.D.	15	10
05298	1,2-Dichlorobenzene	95-50-1	N.D.	2.0	N.D.	12	10
05298	1,3-Dichlorobenzene	541-73-1	N.D.	2.0	N.D.	12	10
05298	1,4-Dichlorobenzene	106-46-7	N.D.	2.0	N.D.	12	10
05298	Dichlorodifluoromethane	75-71-8	N.D.	5.0	N.D.	25	10
05298	1,1-Dichloroethane	75-34-3	N.D.	2.0	N.D.	8.1	10
05298	1,2-Dichloroethane	107-06-2	N.D.	2.0	N.D.	8.1	10
05298	1,1-Dichloroethene	75-35-4	N.D.	2.0	N.D.	7.9	10
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	2.0	N.D.	7.9	10
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	2.0	N.D.	7.9	10
05298	1,2-Dichloropropane	78-87-5	N.D.	2.0	N.D.	9.2	10
05298	cis-1,3-Dichloropropene	10061-01-5	N.D.	2.0	N.D.	9.1	10
05298	trans-1,3-Dichloropropene	10061-02-6	N.D.	2.0	N.D.	9.1	10
05298	1,4-Dioxane	123-91-1	N.D.	5.0	N.D.	18	10
05298	Ethanol	64-17-5	10	5.0	19	9.4	10
05298	Ethylbenzene	100-41-4	N.D.	2.0	N.D.	8.7	10
05298	4-Ethyltoluene	622-96-8	N.D.	2.0	N.D.	9.8	10
05298	Freon 113	76-13-1	N.D.	5.0	N.D.	38	10
05298	Freon 114	76-14-2	N.D.	2.0	N.D.	14	10
05298	Heptane	142-82-5	N.D.	2.0	N.D.	8.2	10
05298	Hexachlorobutadiene	87-68-3	N.D.	4.0	N.D.	43	10
05298	Hexane	110-54-3	N.D.	2.0	N.D.	7.0	10
05298	2-Hexanone	591-78-6	N.D.	5.0	N.D.	20	10
05298	Isooctane	540-84-1	N.D.	2.0	N.D.	9.3	10
05298	Isopropanol	67-63-0	N.D.	5.0	N.D.	12	10
05298	Methyl t-Butyl Ether	1634-04-4	N.D.	2.0	N.D.	7.2	10
05298	4-Methyl-2-pentanone	108-10-1	N.D.	5.0	N.D.	20	10
05298	Methylene Chloride	75-09-2	N.D.	2.0	N.D.	6.9	10
05298	n-Propylbenzene	103-65-1	N.D.	2.0	N.D.	9.8	10
05298	Styrene	100-42-5	N.D.	2.0	N.D.	8.5	10
05298	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	2.0	N.D.	14	10
05298	Tetrachloroethene	127-18-4	3.6 J	2.0	24 J	14	10
05298	Tetrahydrofuran	109-99-9	N.D.	2.0	N.D.	5.9	10
05298	Toluene	108-88-3	N.D.	2.0	N.D.	7.5	10

REVISED

Sample Description: SS-4 Air
Joslyn Clark 0284652

LL Sample # AQ 7781504
LL Group # 1540449
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/19/2015 11:13 by GK
through 02/19/2015 11:43
Submitted: 02/23/2015 11:16
Reported: 04/16/2015 11:28

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

1167-

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air		EPA TO-15	ppb (v)	ppb (v)	ug/m3	ug/m3	
05298	1,2,4-Trichlorobenzene	120-82-1	N.D.	5.0	N.D.	37	10
05298	1,1,1-Trichloroethane	71-55-6	N.D.	2.0	N.D.	11	10
05298	1,1,2-Trichloroethane	79-00-5	N.D.	2.0	N.D.	11	10
05298	Trichloroethene	79-01-6	110	2.0	580	11	10
05298	Trichlorofluoromethane	75-69-4	N.D.	2.0	N.D.	11	10
05298	1,2,4-Trimethylbenzene	95-63-6	N.D.	2.0	N.D.	9.8	10
05298	1,3,5-Trimethylbenzene	108-67-8	N.D.	2.0	N.D.	9.8	10
05298	Vinyl Chloride	75-01-4	N.D.	2.0	N.D.	5.1	10
05298	m/p-Xylene	179601-23-1	N.D.	2.0	N.D.	8.7	10
05298	o-Xylene	95-47-6	N.D.	2.0	N.D.	8.7	10

Reporting limits were raised due to interference from the sample matrix.

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	TO 15 VOA Ext. List	EPA TO-15	1	D1506230AA	03/04/2015 10:58	Michael A Ziegler	10

Sample Description: SS-1 Air
Joslyn Clark 0284652

LL Sample # AQ 7781505
LL Group # 1540449
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/19/2015 11:07 by GK
through 02/19/2015 11:47
Submitted: 02/23/2015 11:16
Reported: 04/16/2015 11:28

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

1208-

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air		EPA TO-15	ppb (v)	ppb (v)	ug/m3	ug/m3	
05298	Acetone	67-64-1	13 J	10	31 J	24	20
05298	Benzene	71-43-2	N.D.	4.0	N.D.	13	20
05298	Benzyl Chloride	100-44-7	N.D.	10	N.D.	52	20
05298	Bromodichloromethane	75-27-4	N.D.	4.0	N.D.	27	20
05298	Bromoform	75-25-2	N.D.	4.0	N.D.	41	20
05298	Bromomethane	74-83-9	N.D.	4.0	N.D.	16	20
05298	1,3-Butadiene	106-99-0	N.D.	8.0	N.D.	18	20
05298	2-Butanone	78-93-3	N.D.	10	N.D.	29	20
05298	Carbon Disulfide	75-15-0	N.D.	10	N.D.	31	20
05298	Carbon Tetrachloride	56-23-5	N.D.	4.0	N.D.	25	20
05298	Chlorobenzene	108-90-7	N.D.	4.0	N.D.	18	20
05298	Chloroethane	75-00-3	N.D.	4.0	N.D.	11	20
05298	Chloroform	67-66-3	N.D.	4.0	N.D.	20	20
05298	Chloromethane	74-87-3	N.D.	4.0	N.D.	8.3	20
05298	3-Chloropropene	107-05-1	N.D.	4.0	N.D.	13	20
05298	Cumene	98-82-8	N.D.	4.0	N.D.	20	20
05298	Cyclohexane	110-82-7	N.D.	4.0	N.D.	14	20
05298	Dibromochloromethane	124-48-1	N.D.	4.0	N.D.	34	20
05298	1,2-Dibromoethane	106-93-4	N.D.	4.0	N.D.	31	20
05298	1,2-Dichlorobenzene	95-50-1	N.D.	4.0	N.D.	24	20
05298	1,3-Dichlorobenzene	541-73-1	N.D.	4.0	N.D.	24	20
05298	1,4-Dichlorobenzene	106-46-7	N.D.	4.0	N.D.	24	20
05298	Dichlorodifluoromethane	75-71-8	N.D.	10	N.D.	49	20
05298	1,1-Dichloroethane	75-34-3	N.D.	4.0	N.D.	16	20
05298	1,2-Dichloroethane	107-06-2	N.D.	4.0	N.D.	16	20
05298	1,1-Dichloroethene	75-35-4	6.0 J	4.0	24 J	16	20
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	4.0	N.D.	16	20
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	4.0	N.D.	16	20
05298	1,2-Dichloropropane	78-87-5	N.D.	4.0	N.D.	18	20
05298	cis-1,3-Dichloropropene	10061-01-5	N.D.	4.0	N.D.	18	20
05298	trans-1,3-Dichloropropene	10061-02-6	N.D.	4.0	N.D.	18	20
05298	1,4-Dioxane	123-91-1	N.D.	10	N.D.	36	20
05298	Ethanol	64-17-5	16 J	10	30 J	19	20
05298	Ethylbenzene	100-41-4	N.D.	4.0	N.D.	17	20
05298	4-Ethyltoluene	622-96-8	N.D.	4.0	N.D.	20	20
05298	Freon 113	76-13-1	N.D.	10	N.D.	77	20
05298	Freon 114	76-14-2	N.D.	4.0	N.D.	28	20
05298	Heptane	142-82-5	N.D.	4.0	N.D.	16	20
05298	Hexachlorobutadiene	87-68-3	N.D.	8.0	N.D.	85	20
05298	Hexane	110-54-3	N.D.	4.0	N.D.	14	20
05298	2-Hexanone	591-78-6	N.D.	10	N.D.	41	20
05298	Isooctane	540-84-1	N.D.	4.0	N.D.	19	20
05298	Isopropanol	67-63-0	N.D.	10	N.D.	25	20
05298	Methyl t-Butyl Ether	1634-04-4	N.D.	4.0	N.D.	14	20
05298	4-Methyl-2-pentanone	108-10-1	N.D.	10	N.D.	41	20
05298	Methylene Chloride	75-09-2	N.D.	4.0	N.D.	14	20
05298	n-Propylbenzene	103-65-1	N.D.	4.0	N.D.	20	20
05298	Styrene	100-42-5	N.D.	4.0	N.D.	17	20
05298	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	4.0	N.D.	27	20
05298	Tetrachloroethene	127-18-4	4.1 J	4.0	28 J	27	20
05298	Tetrahydrofuran	109-99-9	N.D.	4.0	N.D.	12	20
05298	Toluene	108-88-3	N.D.	4.0	N.D.	15	20

Sample Description: SS-1 Air
Joslyn Clark 0284652

LL Sample # AQ 7781505
LL Group # 1540449
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/19/2015 11:07 by GK
through 02/19/2015 11:47
Submitted: 02/23/2015 11:16
Reported: 04/16/2015 11:28

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

1208-

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air		EPA TO-15	ppb (v)	ppb (v)	ug/m3	ug/m3	
05298	1,2,4-Trichlorobenzene	120-82-1	N.D.	10	N.D.	74	20
05298	1,1,1-Trichloroethane	71-55-6	N.D.	4.0	N.D.	22	20
05298	1,1,2-Trichloroethane	79-00-5	N.D.	4.0	N.D.	22	20
05298	Trichloroethene	79-01-6	390	4.0	2,100	21	20
05298	Trichlorofluoromethane	75-69-4	N.D.	4.0	N.D.	22	20
05298	1,2,4-Trimethylbenzene	95-63-6	N.D.	4.0	N.D.	20	20
05298	1,3,5-Trimethylbenzene	108-67-8	N.D.	4.0	N.D.	20	20
05298	Vinyl Chloride	75-01-4	N.D.	4.0	N.D.	10	20
05298	m/p-Xylene	179601-23-1	N.D.	4.0	N.D.	17	20
05298	o-Xylene	95-47-6	N.D.	4.0	N.D.	17	20

Reporting limits were raised due to interference from the sample matrix.

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	TO 15 VOA Ext. List	EPA TO-15	1	D1506230AB	03/04/2015 19:28	Jeffrey B Smith	20

REVISED

Quality Control Summary

Client Name: ERM
Reported: 04/16/2015 11:28

Group Number: 1540449

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: D1506230AA	Sample number(s): 7781500-7781504							
Acetone	N.D.	0.50	ppb (v)	89	90	61-134	0	25
Benzene	N.D.	0.20	ppb (v)	101	96	70-130	5	25
Benzyl Chloride	N.D.	0.50	ppb (v)	94	92	50-160	2	25
Bromodichloromethane	N.D.	0.20	ppb (v)	97	94	62-129	3	25
Bromoform	N.D.	0.20	ppb (v)	80	80	64-141	0	25
Bromomethane	N.D.	0.20	ppb (v)	110	109	70-130	1	25
1,3-Butadiene	N.D.	0.40	ppb (v)	91	90	57-138	1	25
2-Butanone	N.D.	0.50	ppb (v)	107	106	60-135	1	25
Carbon Disulfide	N.D.	0.50	ppb (v)	116	116	55-121	0	25
Carbon Tetrachloride	N.D.	0.20	ppb (v)	96	91	70-130	5	25
Chlorobenzene	N.D.	0.20	ppb (v)	81	81	70-130	1	25
Chloroethane	N.D.	0.20	ppb (v)	110	105	63-119	4	25
Chloroform	N.D.	0.20	ppb (v)	98	93	70-130	5	25
Chloromethane	N.D.	0.20	ppb (v)	84	83	54-118	0	25
3-Chloropropene	N.D.	0.20	ppb (v)					
Cumene	N.D.	0.20	ppb (v)					
Cyclohexane	N.D.	0.20	ppb (v)	90	87	63-123	3	25
Dibromochloromethane	N.D.	0.20	ppb (v)	83	82	65-127	0	25
1,2-Dibromoethane	N.D.	0.20	ppb (v)	87	87	65-126	0	25
1,2-Dichlorobenzene	N.D.	0.20	ppb (v)	79	78	62-132	1	25
1,3-Dichlorobenzene	N.D.	0.20	ppb (v)	77	76	63-125	1	25
1,4-Dichlorobenzene	N.D.	0.20	ppb (v)	78	77	63-127	1	25
Dichlorodifluoromethane	N.D.	0.50	ppb (v)	108	105	61-149	2	25
1,1-Dichloroethane	N.D.	0.20	ppb (v)	101	96	67-124	6	25
1,2-Dichloroethane	N.D.	0.20	ppb (v)	93	90	70-130	4	25
1,1-Dichloroethene	N.D.	0.20	ppb (v)	103	101	61-128	2	25
cis-1,2-Dichloroethene	N.D.	0.20	ppb (v)	90	85	65-121	6	25
trans-1,2-Dichloroethene	N.D.	0.20	ppb (v)	101	98	66-121	4	25
1,2-Dichloropropane	N.D.	0.20	ppb (v)	95	93	70-130	3	25
cis-1,3-Dichloropropene	N.D.	0.20	ppb (v)	111	109	64-136	1	25
trans-1,3-Dichloropropene	N.D.	0.20	ppb (v)	93	94	61-126	0	25
1,4-Dioxane	N.D.	0.50	ppb (v)	97	95	43-149	2	25
Ethanol	N.D.	0.50	ppb (v)	81	80	10-175	1	25
Ethylbenzene	N.D.	0.20	ppb (v)	84	84	70-130	1	25
4-Ethyltoluene	N.D.	0.20	ppb (v)	81	79	59-126	1	25
Freon 113	N.D.	0.50	ppb (v)	101	97	63-114	4	25
Freon 114	N.D.	0.20	ppb (v)	100	100	63-123	0	25
Heptane	N.D.	0.20	ppb (v)	82	78	56-123	4	25
Hexachlorobutadiene	N.D.	0.40	ppb (v)	73	71	43-120	2	25
Hexane	N.D.	0.20	ppb (v)	91	87	63-117	4	25
2-Hexanone	N.D.	0.50	ppb (v)	80	77	47-150	4	25
Isooctane	N.D.	0.20	ppb (v)					
Isopropanol	N.D.	0.50	ppb (v)	80	78	55-152	2	25

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

REVISED

Quality Control Summary

Client Name: ERM

Group Number: 1540449

Reported: 04/16/2015 11:28

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Methyl t-Butyl Ether	N.D.	0.20	ppb (v)	95	93	52-129	2	25
4-Methyl-2-pentanone	N.D.	0.50	ppb (v)	78	74	53-140	5	25
Methylene Chloride	N.D.	0.20	ppb (v)	122	118	70-130	4	25
n-Propylbenzene	N.D.	0.20	ppb (v)					
Styrene	N.D.	0.20	ppb (v)	81	81	64-130	1	25
1,1,2,2-Tetrachloroethane	N.D.	0.20	ppb (v)	87	85	58-133	2	25
Tetrachloroethene	N.D.	0.20	ppb (v)	75	74	70-130	1	25
Tetrahydrofuran	N.D.	0.20	ppb (v)	81	80	53-134	1	25
Toluene	N.D.	0.20	ppb (v)	86	86	70-130	1	25
1,2,4-Trichlorobenzene	N.D.	0.50	ppb (v)	64	61	37-119	5	25
1,1,1-Trichloroethane	N.D.	0.20	ppb (v)	93	88	70-130	6	25
1,1,2-Trichloroethane	N.D.	0.20	ppb (v)	89	90	59-131	1	25
Trichloroethene	N.D.	0.20	ppb (v)	89	86	70-130	3	25
Trichlorofluoromethane	N.D.	0.20	ppb (v)	101	99	70-130	2	25
1,2,4-Trimethylbenzene	N.D.	0.20	ppb (v)	78	77	60-128	1	25
1,3,5-Trimethylbenzene	N.D.	0.20	ppb (v)	82	81	61-132	1	25
Vinyl Chloride	N.D.	0.20	ppb (v)	108	108	70-130	1	25
m/p-Xylene	N.D.	0.20	ppb (v)	79	80	70-130	1	25
o-Xylene	N.D.	0.20	ppb (v)	85	86	70-130	1	25

Batch number: D1506230AB

Sample number(s): 7781505

Acetone	N.D.	0.50	ppb (v)	89	90	61-134	0	25
Benzene	N.D.	0.20	ppb (v)	101	96	70-130	5	25
Benzyl Chloride	N.D.	0.50	ppb (v)	94	92	50-160	2	25
Bromodichloromethane	N.D.	0.20	ppb (v)	97	94	62-129	3	25
Bromoform	N.D.	0.20	ppb (v)	80	80	64-141	0	25
Bromomethane	N.D.	0.20	ppb (v)	110	109	70-130	1	25
1,3-Butadiene	N.D.	0.40	ppb (v)	91	90	57-138	1	25
2-Butanone	N.D.	0.50	ppb (v)	107	106	60-135	1	25
Carbon Disulfide	N.D.	0.50	ppb (v)	116	116	55-121	0	25
Carbon Tetrachloride	N.D.	0.20	ppb (v)	96	91	70-130	5	25
Chlorobenzene	N.D.	0.20	ppb (v)	81	81	70-130	1	25
Chloroethane	N.D.	0.20	ppb (v)	110	105	63-119	4	25
Chloroform	N.D.	0.20	ppb (v)	98	93	70-130	5	25
Chloromethane	N.D.	0.20	ppb (v)	84	83	54-118	0	25
3-Chloropropene	N.D.	0.20	ppb (v)					
Cumene	N.D.	0.20	ppb (v)					
Cyclohexane	N.D.	0.20	ppb (v)	90	87	63-123	3	25
Dibromochloromethane	N.D.	0.20	ppb (v)	83	82	65-127	0	25
1,2-Dibromoethane	N.D.	0.20	ppb (v)	87	87	65-126	0	25
1,2-Dichlorobenzene	N.D.	0.20	ppb (v)	79	78	62-132	1	25
1,3-Dichlorobenzene	N.D.	0.20	ppb (v)	77	76	63-125	1	25
1,4-Dichlorobenzene	N.D.	0.20	ppb (v)	78	77	63-127	1	25
Dichlorodifluoromethane	N.D.	0.50	ppb (v)	108	105	61-149	2	25
1,1-Dichloroethane	N.D.	0.20	ppb (v)	101	96	67-124	6	25
1,2-Dichloroethane	N.D.	0.20	ppb (v)	93	90	70-130	4	25
1,1-Dichloroethene	N.D.	0.20	ppb (v)	103	101	61-128	2	25
cis-1,2-Dichloroethene	N.D.	0.20	ppb (v)	90	85	65-121	6	25
trans-1,2-Dichloroethene	N.D.	0.20	ppb (v)	101	98	66-121	4	25
1,2-Dichloropropane	N.D.	0.20	ppb (v)	95	93	70-130	3	25
cis-1,3-Dichloropropene	N.D.	0.20	ppb (v)	111	109	64-136	1	25
trans-1,3-Dichloropropene	N.D.	0.20	ppb (v)	93	94	61-126	0	25
1,4-Dioxane	N.D.	0.50	ppb (v)	97	95	43-149	2	25
Ethanol	N.D.	0.50	ppb (v)	81	80	10-175	1	25
Ethylbenzene	N.D.	0.20	ppb (v)	84	84	70-130	1	25
4-Ethyltoluene	N.D.	0.20	ppb (v)	81	79	59-126	1	25

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

REVISED

Quality Control Summary

Client Name: ERM

Group Number: 1540449

Reported: 04/16/2015 11:28

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Freon 113	N.D.	0.50	ppb (v)	101	97	63-114	4	25
Freon 114	N.D.	0.20	ppb (v)	100	100	63-123	0	25
Heptane	N.D.	0.20	ppb (v)	82	78	56-123	4	25
Hexachlorobutadiene	N.D.	0.40	ppb (v)	73	71	43-120	2	25
Hexane	N.D.	0.20	ppb (v)	91	87	63-117	4	25
2-Hexanone	N.D.	0.50	ppb (v)	80	77	47-150	4	25
Isooctane	N.D.	0.20	ppb (v)					
Isopropanol	N.D.	0.50	ppb (v)	80	78	55-152	2	25
Methyl t-Butyl Ether	N.D.	0.20	ppb (v)	95	93	52-129	2	25
4-Methyl-2-pentanone	N.D.	0.50	ppb (v)	78	74	53-140	5	25
Methylene Chloride	N.D.	0.20	ppb (v)	122	118	70-130	4	25
n-Propylbenzene	N.D.	0.20	ppb (v)					
Styrene	N.D.	0.20	ppb (v)	81	81	64-130	1	25
1,1,2,2-Tetrachloroethane	N.D.	0.20	ppb (v)	87	85	58-133	2	25
Tetrachloroethene	N.D.	0.20	ppb (v)	75	74	70-130	1	25
Tetrahydrofuran	N.D.	0.20	ppb (v)	81	80	53-134	1	25
Toluene	N.D.	0.20	ppb (v)	86	86	70-130	1	25
1,2,4-Trichlorobenzene	N.D.	0.50	ppb (v)	64	61	37-119	5	25
1,1,1-Trichloroethane	N.D.	0.20	ppb (v)	93	88	70-130	6	25
1,1,2-Trichloroethane	N.D.	0.20	ppb (v)	89	90	59-131	1	25
Trichloroethene	N.D.	0.20	ppb (v)	89	86	70-130	3	25
Trichlorofluoromethane	N.D.	0.20	ppb (v)	101	99	70-130	2	25
1,2,4-Trimethylbenzene	N.D.	0.20	ppb (v)	78	77	60-128	1	25
1,3,5-Trimethylbenzene	N.D.	0.20	ppb (v)	82	81	61-132	1	25
Vinyl Chloride	N.D.	0.20	ppb (v)	108	108	70-130	1	25
m/p-Xylene	N.D.	0.20	ppb (v)	79	80	70-130	1	25
o-Xylene	N.D.	0.20	ppb (v)	85	86	70-130	1	25

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Summa Canister Field Test Data/Chain of Custody



Lancaster Laboratories Environmental

Acct. # 12417 Group # 1540449 Sample # 7781500-05 Bottle Order (SCR) # 167246
 For Eurofins Lancaster Laboratories Environmental use only
 Instructions on reverse side correspond with circled numbers.

1 Client Information		3 Turnaround Time Requested (TAT) (circle one)		6 Analyses Requested	
Client: <u>ERM</u> Account #		Standard <input checked="" type="radio"/> Rush (specify) _____		<input type="checkbox"/> EPA TO - 15 <input type="checkbox"/> EPA 18 <input type="checkbox"/> MTBE <input type="checkbox"/> BTEX <input type="checkbox"/> EPA 25 (select range below) Helium as tracer <input type="checkbox"/> O2/CO2 Library Search	
Project Name/#: <u>Jedyn Clark 0284652</u>		4 Data Package Required? <input checked="" type="radio"/> Yes <input type="radio"/> No			
Project Manager: <u>Michael.Pressley@erm.com</u> P.O. #		5 EDD Required? <input type="radio"/> Yes <input type="radio"/> No			
Sampler: <u>G. Kanelis</u> Quote #		Temperature (F) Pressure ("Hg) Start Stop Start Stop			
Name of state where samples were collected: <u>NC</u>		Ambient: 40 40 Maximum: Minimum:			

Sample Identification	Start Date/Time (24-hour clock)	Stop Date/Time (24-hour clock)	Canister Pressure in Field ("Hg) (Start)	Canister Pressure in Field ("Hg) (Stop)	Interior Temp. (F) (Start)	Interior Temp. (F) (Stop)	Flow Reg. ID	Can ID	Can Size (L)	Controller Flowrate (mL/min)	EPA TO - 15	EPA 18	EPA 25 (select range below)	Helium as tracer	O2/CO2	Library Search
SS-6	2/19/15 1117	2/19/15 1156	-27.5	0	40	40	337358	970	1	27.9	X					
SS-5	2/19/15 1115	2/19/15 1155	-28	-5	40	40	316944	975	1	26.8	X					
SS-2	2/19/15 1109	2/19/15 1154	-30	-5.5	40	40	339163	1049	1	26.8	X					
SS-3	2/19/15 1112	2/19/15 1154	-28	-5	40	40	329137	1162	1	26.5	X					
SS-4	2/19/15 1113	2/19/15 1143	-30	-5	40	40	301070	1167	1	27.7	X					
SS-1	2/19/15 1107	2/19/15 1147	-32	-5	40	40	303421	1208	1	26.8	X					
							342153	1209	1	28.5						

7 Instructions/QC Requirements & Comments	EPA 25 (check one) <input type="checkbox"/> C1 - C4 <input type="checkbox"/> C2 - C10 <input type="checkbox"/> C1 - C10 <input type="checkbox"/> C4 - C10 (GRO) <input type="checkbox"/> C2 - C4
--	--

Canisters Shipped by: <u>[Signature]</u>	Date/Time: <u>2/10/15 1611</u>	Canisters Received by: <u>[Signature]</u>	Date/Time: <u>2/19/15 1800</u>	Relinquished by: <u>[Signature]</u>	Date/Time: <u>2/19/15 1700</u>	Received by: <u>[Signature]</u>	Date/Time: <u>[Signature]</u>
Relinquished by: <u>[Signature]</u>	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by: <u>[Signature]</u>	Date/Time: <u>2/23/15 1116</u>

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Laboratory Data Qualifiers:

- B - Analyte detected in the blank
- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and the $<$ Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

February 27, 2015

Project: Joslyn Clark 0284652

Submittal Date: 02/23/2015

Group Number: 1540452

PO Number: 0284652

State of Sample Origin: NC

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
AA-3 Air	7781533
AA-2 Air	7781534
AA-6 Air	7781535
OA-1 Air	7781536
AA-4 Air	7781537
AA-5 Air	7781538
AA-7 Air	7781539
AA-1 Air	7781540

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>.

ELECTRONIC COPY TO ERM

Attn: Michael Pressley

Respectfully Submitted,



Megan A. Moeller
Senior Specialist

(717) 556-7261

Sample Description: AA-3 Air
Joslyn Clark / 0284652

LL Sample # AQ 7781533
LL Group # 1540452
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/18/2015 08:41 by GK

ERM

15720 Brixham Hill Avenue

Submitted: 02/23/2015 11:16

Suite 120

Reported: 02/27/2015 14:10

Charlotte NC 28277

-1032

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
Volatiles in Air		EPA TO-15 using SIM	ppb(v)	ppb(v)	ug/m3	ug/m3	
07345	Benzene	71-43-2	N.D.	0.0200	N.D.	0.0639	1
07345	Carbon Tetrachloride	56-23-5	N.D.	0.0200	N.D.	0.126	1
07345	Chloroethane	75-00-3	N.D.	0.0200	N.D.	0.0528	1
07345	Chloroform	67-66-3	N.D.	0.0200	N.D.	0.0977	1
07345	1,2-Dibromoethane	106-93-4	N.D.	0.0200	N.D.	0.154	1
07345	1,2-Dichlorobenzene	95-50-1	N.D.	0.0200	N.D.	0.120	1
07345	1,3-Dichlorobenzene	541-73-1	N.D.	0.0200	N.D.	0.120	1
07345	1,4-Dichlorobenzene	106-46-7	N.D.	0.0200	N.D.	0.120	1
07345	1,1-Dichloroethane	75-34-3	N.D.	0.0200	N.D.	0.0809	1
07345	1,2-Dichloroethane	107-06-2	N.D.	0.0200	N.D.	0.0809	1
07345	1,1-Dichloroethene	75-35-4	N.D.	0.0200	N.D.	0.0793	1
07345	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0200	N.D.	0.0793	1
07345	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0200	N.D.	0.0793	1
07345	1,2-Dichloropropane	78-87-5	N.D.	0.0200	N.D.	0.0924	1
07345	Ethylbenzene	100-41-4	N.D.	0.0200	N.D.	0.0868	1
07345	Freon 113	76-13-1	N.D.	0.0200	N.D.	0.153	1
07345	Methyl t-Butyl Ether	1634-04-4	N.D.	0.0200	N.D.	0.0721	1
07345	Methylene Chloride	75-09-2	N.D.	0.100	N.D.	0.347	1
07345	Tetrachloroethene	127-18-4	N.D.	0.0200	N.D.	0.136	1
07345	Toluene	108-88-3	N.D.	0.0200	N.D.	0.0754	1
07345	1,1,1-Trichloroethane	71-55-6	N.D.	0.0200	N.D.	0.109	1
07345	1,1,2-Trichloroethane	79-00-5	N.D.	0.0200	N.D.	0.109	1
07345	Trichloroethene	79-01-6	N.D.	0.0200	N.D.	0.107	1
07345	Vinyl Chloride	75-01-4	N.D.	0.0200	N.D.	0.0511	1
07345	m/p-Xylene	179601-23-1	N.D.	0.0200	N.D.	0.0868	1
07345	o-Xylene	95-47-6	N.D.	0.0200	N.D.	0.0868	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
1,2-dichlorobenzene

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07345	TO-15 by SIM	EPA TO-15 using SIM	1	C1505730AA	02/26/2015 23:51	Michael A Ziegler	1

Sample Description: AA-2 Air
Joslyn Clark / 0284652

LL Sample # AQ 7781534
LL Group # 1540452
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/18/2015 08:34 by GK
through 02/18/2015 16:53
Submitted: 02/23/2015 11:16
Reported: 02/27/2015 14:10

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

-1176

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
Volatiles in Air		EPA TO-15 using SIM	ppb (v)	ppb (v)	ug/m3	ug/m3	
07345	Benzene	71-43-2	0.400	0.0200	1.28	0.0639	1
07345	Carbon Tetrachloride	56-23-5	0.0650	0.0200	0.409	0.126	1
07345	Chloroethane	75-00-3	N.D.	0.0200	N.D.	0.0528	1
07345	Chloroform	67-66-3	N.D.	0.0200	N.D.	0.0977	1
07345	1,2-Dibromoethane	106-93-4	N.D.	0.0200	N.D.	0.154	1
07345	1,2-Dichlorobenzene	95-50-1	0.0701	0.0200	0.421	0.120	1
07345	1,3-Dichlorobenzene	541-73-1	0.0613	0.0200	0.368	0.120	1
07345	1,4-Dichlorobenzene	106-46-7	0.0655	0.0200	0.394	0.120	1
07345	1,1-Dichloroethane	75-34-3	N.D.	0.0200	N.D.	0.0809	1
07345	1,2-Dichloroethane	107-06-2	0.143	0.0200	0.581	0.0809	1
07345	1,1-Dichloroethene	75-35-4	N.D.	0.0200	N.D.	0.0793	1
07345	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0200	N.D.	0.0793	1
07345	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0200	N.D.	0.0793	1
07345	1,2-Dichloropropane	78-87-5	N.D.	0.0200	N.D.	0.0924	1
07345	Ethylbenzene	100-41-4	0.561	0.0200	2.44	0.0868	1
07345	Freon 113	76-13-1	0.0651	0.0200	0.499	0.153	1
07345	Methyl t-Butyl Ether	1634-04-4	N.D.	0.0200	N.D.	0.0721	1
07345	Methylene Chloride	75-09-2	0.116 J	0.100	0.403 J	0.347	1
07345	Tetrachloroethene	127-18-4	0.0537	0.0200	0.364	0.136	1
07345	Toluene	108-88-3	0.380	0.0200	1.43	0.0754	1
07345	1,1,1-Trichloroethane	71-55-6	N.D.	0.0200	N.D.	0.109	1
07345	1,1,2-Trichloroethane	79-00-5	N.D.	0.0200	N.D.	0.109	1
07345	Trichloroethene	79-01-6	0.472	0.0200	2.54	0.107	1
07345	Vinyl Chloride	75-01-4	N.D.	0.0200	N.D.	0.0511	1
07345	m/p-Xylene	179601-23-1	1.21	0.0400	5.26	0.174	2
07345	o-Xylene	95-47-6	0.829	0.0200	3.60	0.0868	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
1,2-dichlorobenzene

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07345	TO-15 by SIM	EPA TO-15 using SIM	1	C1505730AA	02/27/2015 00:38	Michael A Ziegler	1
07345	TO-15 by SIM	EPA TO-15 using SIM	1	C1505730AA	02/27/2015 10:30	Michael A Ziegler	2

Sample Description: AA-6 Air
Joslyn Clark / 0284652

LL Sample # AQ 7781535
LL Group # 1540452
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/18/2015 09:00 by GK

ERM

15720 Brixham Hill Avenue

Submitted: 02/23/2015 11:16

Suite 120

Reported: 02/27/2015 14:10

Charlotte NC 28277

--543

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
Volatiles in Air		EPA TO-15 using SIM	ppb (v)	ppb (v)	ug/m3	ug/m3	
07345	Benzene	71-43-2	0.241	0.0200	0.770	0.0639	1
07345	Carbon Tetrachloride	56-23-5	0.0610	0.0200	0.384	0.126	1
07345	Chloroethane	75-00-3	N.D.	0.0200	N.D.	0.0528	1
07345	Chloroform	67-66-3	N.D.	0.0200	N.D.	0.0977	1
07345	1,2-Dibromoethane	106-93-4	N.D.	0.0200	N.D.	0.154	1
07345	1,2-Dichlorobenzene	95-50-1	0.0276 J	0.0200	0.166 J	0.120	1
07345	1,3-Dichlorobenzene	541-73-1	0.0245 J	0.0200	0.147 J	0.120	1
07345	1,4-Dichlorobenzene	106-46-7	0.0283 J	0.0200	0.170 J	0.120	1
07345	1,1-Dichloroethane	75-34-3	N.D.	0.0200	N.D.	0.0809	1
07345	1,2-Dichloroethane	107-06-2	0.0624	0.0200	0.252	0.0809	1
07345	1,1-Dichloroethene	75-35-4	N.D.	0.0200	N.D.	0.0793	1
07345	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0200	N.D.	0.0793	1
07345	trans-1,2-Dichloroethene	156-60-5	0.0897	0.0200	0.356	0.0793	1
07345	1,2-Dichloropropane	78-87-5	N.D.	0.0200	N.D.	0.0924	1
07345	Ethylbenzene	100-41-4	0.214	0.0200	0.931	0.0868	1
07345	Freon 113	76-13-1	0.0624	0.0200	0.478	0.153	1
07345	Methyl t-Butyl Ether	1634-04-4	N.D.	0.0200	N.D.	0.0721	1
07345	Methylene Chloride	75-09-2	N.D.	0.100	N.D.	0.347	1
07345	Tetrachloroethene	127-18-4	N.D.	0.0200	N.D.	0.136	1
07345	Toluene	108-88-3	0.211	0.0200	0.795	0.0754	1
07345	1,1,1-Trichloroethane	71-55-6	N.D.	0.0200	N.D.	0.109	1
07345	1,1,2-Trichloroethane	79-00-5	N.D.	0.0200	N.D.	0.109	1
07345	Trichloroethene	79-01-6	0.138	0.0200	0.740	0.107	1
07345	Vinyl Chloride	75-01-4	N.D.	0.0200	N.D.	0.0511	1
07345	m/p-Xylene	179601-23-1	0.608	0.0200	2.64	0.0868	1
07345	o-Xylene	95-47-6	0.296	0.0200	1.28	0.0868	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
1,2-dichlorobenzene

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07345	TO-15 by SIM	EPA TO-15 using SIM	1	C1505730AA	02/27/2015 01:25	Michael A Ziegler	1

Sample Description: OA-1 Air
Joslyn Clark / 0284652

LL Sample # AQ 7781536
LL Group # 1540452
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/18/2015 07:56 by GK
through 02/18/2015 16:22
Submitted: 02/23/2015 11:16
Reported: 02/27/2015 14:10

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

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CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
Volatiles in Air		EPA TO-15 using SIM	ppb (v)	ppb (v)	ug/m3	ug/m3	
07345	Benzene	71-43-2	0.133	0.0200	0.425	0.0639	1
07345	Carbon Tetrachloride	56-23-5	0.0599	0.0200	0.377	0.126	1
07345	Chloroethane	75-00-3	N.D.	0.0200	N.D.	0.0528	1
07345	Chloroform	67-66-3	N.D.	0.0200	N.D.	0.0977	1
07345	1,2-Dibromoethane	106-93-4	N.D.	0.0200	N.D.	0.154	1
07345	1,2-Dichlorobenzene	95-50-1	N.D.	0.0200	N.D.	0.120	1
07345	1,3-Dichlorobenzene	541-73-1	N.D.	0.0200	N.D.	0.120	1
07345	1,4-Dichlorobenzene	106-46-7	N.D.	0.0200	N.D.	0.120	1
07345	1,1-Dichloroethane	75-34-3	N.D.	0.0200	N.D.	0.0809	1
07345	1,2-Dichloroethane	107-06-2	N.D.	0.0200	N.D.	0.0809	1
07345	1,1-Dichloroethene	75-35-4	N.D.	0.0200	N.D.	0.0793	1
07345	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0200	N.D.	0.0793	1
07345	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0200	N.D.	0.0793	1
07345	1,2-Dichloropropane	78-87-5	N.D.	0.0200	N.D.	0.0924	1
07345	Ethylbenzene	100-41-4	0.0249 J	0.0200	0.108 J	0.0868	1
07345	Freon 113	76-13-1	0.0612	0.0200	0.469	0.153	1
07345	Methyl t-Butyl Ether	1634-04-4	N.D.	0.0200	N.D.	0.0721	1
07345	Methylene Chloride	75-09-2	N.D.	0.100	N.D.	0.347	1
07345	Tetrachloroethene	127-18-4	N.D.	0.0200	N.D.	0.136	1
07345	Toluene	108-88-3	0.0667	0.0200	0.251	0.0754	1
07345	1,1,1-Trichloroethane	71-55-6	N.D.	0.0200	N.D.	0.109	1
07345	1,1,2-Trichloroethane	79-00-5	N.D.	0.0200	N.D.	0.109	1
07345	Trichloroethene	79-01-6	N.D.	0.0200	N.D.	0.107	1
07345	Vinyl Chloride	75-01-4	N.D.	0.0200	N.D.	0.0511	1
07345	m/p-Xylene	179601-23-1	0.0530 J	0.0200	0.230 J	0.0868	1
07345	o-Xylene	95-47-6	0.0289 J	0.0200	0.126 J	0.0868	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
1,2-dichlorobenzene

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07345	TO-15 by SIM	EPA TO-15 using SIM	1	C1505730AA	02/27/2015 02:13	Michael A Ziegler	1

Sample Description: AA-4 Air
Joslyn Clark / 0284652

LL Sample # AQ 7781537
LL Group # 1540452
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/18/2015 08:49 by GK

ERM

15720 Brixham Hill Avenue

Submitted: 02/23/2015 11:16

Suite 120

Reported: 02/27/2015 14:10

Charlotte NC 28277

-1028

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
Volatiles in Air		EPA TO-15 using SIM	ppb (v)	ppb (v)	ug/m3	ug/m3	
07345	Benzene	71-43-2	0.278	0.0200	0.890	0.0639	1
07345	Carbon Tetrachloride	56-23-5	0.0582	0.0200	0.366	0.126	1
07345	Chloroethane	75-00-3	N.D.	0.0200	N.D.	0.0528	1
07345	Chloroform	67-66-3	N.D.	0.0200	N.D.	0.0977	1
07345	1,2-Dibromoethane	106-93-4	N.D.	0.0200	N.D.	0.154	1
07345	1,2-Dichlorobenzene	95-50-1	N.D.	0.0200	N.D.	0.120	1
07345	1,3-Dichlorobenzene	541-73-1	N.D.	0.0200	N.D.	0.120	1
07345	1,4-Dichlorobenzene	106-46-7	N.D.	0.0200	N.D.	0.120	1
07345	1,1-Dichloroethane	75-34-3	N.D.	0.0200	N.D.	0.0809	1
07345	1,2-Dichloroethane	107-06-2	0.113	0.0200	0.456	0.0809	1
07345	1,1-Dichloroethene	75-35-4	N.D.	0.0200	N.D.	0.0793	1
07345	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0200	N.D.	0.0793	1
07345	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0200	N.D.	0.0793	1
07345	1,2-Dichloropropane	78-87-5	N.D.	0.0200	N.D.	0.0924	1
07345	Ethylbenzene	100-41-4	0.0691	0.0200	0.300	0.0868	1
07345	Freon 113	76-13-1	0.0595	0.0200	0.456	0.153	1
07345	Methyl t-Butyl Ether	1634-04-4	N.D.	0.0200	N.D.	0.0721	1
07345	Methylene Chloride	75-09-2	N.D.	0.100	N.D.	0.347	1
07345	Tetrachloroethene	127-18-4	N.D.	0.0200	N.D.	0.136	1
07345	Toluene	108-88-3	0.153	0.0200	0.576	0.0754	1
07345	1,1,1-Trichloroethane	71-55-6	N.D.	0.0200	N.D.	0.109	1
07345	1,1,2-Trichloroethane	79-00-5	N.D.	0.0200	N.D.	0.109	1
07345	Trichloroethene	79-01-6	0.262	0.0200	1.41	0.107	1
07345	Vinyl Chloride	75-01-4	N.D.	0.0200	N.D.	0.0511	1
07345	m/p-Xylene	179601-23-1	0.182	0.0200	0.791	0.0868	1
07345	o-Xylene	95-47-6	0.0994	0.0200	0.432	0.0868	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
1,2-dichlorobenzene

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07345	TO-15 by SIM	EPA TO-15 using SIM	1	C1505730AA	02/27/2015 03:00	Michael A Ziegler	1

Sample Description: AA-5 Air
Joslyn Clark / 0284652

LL Sample # AQ 7781538
LL Group # 1540452
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/18/2015 08:58 by GK

ERM

15720 Brixham Hill Avenue

Submitted: 02/23/2015 11:16

Suite 120

Reported: 02/27/2015 14:10

Charlotte NC 28277

--847

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
Volatiles in Air		EPA TO-15 using SIM	ppb (v)	ppb (v)	ug/m3	ug/m3	
07345	Benzene	71-43-2	0.312	0.0200	0.998	0.0639	1
07345	Carbon Tetrachloride	56-23-5	0.0608	0.0200	0.382	0.126	1
07345	Chloroethane	75-00-3	N.D.	0.0200	N.D.	0.0528	1
07345	Chloroform	67-66-3	N.D.	0.0200	N.D.	0.0977	1
07345	1,2-Dibromoethane	106-93-4	N.D.	0.0200	N.D.	0.154	1
07345	1,2-Dichlorobenzene	95-50-1	N.D.	0.0200	N.D.	0.120	1
07345	1,3-Dichlorobenzene	541-73-1	N.D.	0.0200	N.D.	0.120	1
07345	1,4-Dichlorobenzene	106-46-7	0.0225 J	0.0200	0.135 J	0.120	1
07345	1,1-Dichloroethane	75-34-3	N.D.	0.0200	N.D.	0.0809	1
07345	1,2-Dichloroethane	107-06-2	0.109	0.0200	0.442	0.0809	1
07345	1,1-Dichloroethene	75-35-4	N.D.	0.0200	N.D.	0.0793	1
07345	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0200	N.D.	0.0793	1
07345	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0200	N.D.	0.0793	1
07345	1,2-Dichloropropane	78-87-5	N.D.	0.0200	N.D.	0.0924	1
07345	Ethylbenzene	100-41-4	0.190	0.0200	0.827	0.0868	1
07345	Freon 113	76-13-1	0.0623	0.0200	0.477	0.153	1
07345	Methyl t-Butyl Ether	1634-04-4	N.D.	0.0200	N.D.	0.0721	1
07345	Methylene Chloride	75-09-2	N.D.	0.100	N.D.	0.347	1
07345	Tetrachloroethene	127-18-4	0.0209 J	0.0200	0.141 J	0.136	1
07345	Toluene	108-88-3	0.225	0.0200	0.847	0.0754	1
07345	1,1,1-Trichloroethane	71-55-6	N.D.	0.0200	N.D.	0.109	1
07345	1,1,2-Trichloroethane	79-00-5	N.D.	0.0200	N.D.	0.109	1
07345	Trichloroethene	79-01-6	0.266	0.0200	1.43	0.107	1
07345	Vinyl Chloride	75-01-4	N.D.	0.0200	N.D.	0.0511	1
07345	m/p-Xylene	179601-23-1	0.533	0.0200	2.32	0.0868	1
07345	o-Xylene	95-47-6	0.269	0.0200	1.17	0.0868	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
1,2-dichlorobenzene

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07345	TO-15 by SIM	EPA TO-15 using SIM	1	C1505730AA	02/27/2015 03:47	Michael A Ziegler	1

Sample Description: AA-7 Air
Joslyn Clark / 0284652

LL Sample # AQ 7781539
LL Group # 1540452
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/18/2015 08:06 by GK
through 02/18/2015 16:29
Submitted: 02/23/2015 11:16
Reported: 02/27/2015 14:10

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

--537

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
Volatiles in Air		EPA TO-15 using SIM	ppb (v)	ppb (v)	ug/m3	ug/m3	
07345	Benzene	71-43-2	0.260	0.0200	0.831	0.0639	1
07345	Carbon Tetrachloride	56-23-5	0.0624	0.0200	0.392	0.126	1
07345	Chloroethane	75-00-3	N.D.	0.0200	N.D.	0.0528	1
07345	Chloroform	67-66-3	N.D.	0.0200	N.D.	0.0977	1
07345	1,2-Dibromoethane	106-93-4	N.D.	0.0200	N.D.	0.154	1
07345	1,2-Dichlorobenzene	95-50-1	N.D.	0.0200	N.D.	0.120	1
07345	1,3-Dichlorobenzene	541-73-1	N.D.	0.0200	N.D.	0.120	1
07345	1,4-Dichlorobenzene	106-46-7	N.D.	0.0200	N.D.	0.120	1
07345	1,1-Dichloroethane	75-34-3	N.D.	0.0200	N.D.	0.0809	1
07345	1,2-Dichloroethane	107-06-2	0.0511	0.0200	0.207	0.0809	1
07345	1,1-Dichloroethene	75-35-4	N.D.	0.0200	N.D.	0.0793	1
07345	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0200	N.D.	0.0793	1
07345	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0200	N.D.	0.0793	1
07345	1,2-Dichloropropane	78-87-5	N.D.	0.0200	N.D.	0.0924	1
07345	Ethylbenzene	100-41-4	0.0345 J	0.0200	0.150 J	0.0868	1
07345	Freon 113	76-13-1	0.0658	0.0200	0.504	0.153	1
07345	Methyl t-Butyl Ether	1634-04-4	N.D.	0.0200	N.D.	0.0721	1
07345	Methylene Chloride	75-09-2	N.D.	0.100	N.D.	0.347	1
07345	Tetrachloroethene	127-18-4	N.D.	0.0200	N.D.	0.136	1
07345	Toluene	108-88-3	0.134	0.0200	0.504	0.0754	1
07345	1,1,1-Trichloroethane	71-55-6	N.D.	0.0200	N.D.	0.109	1
07345	1,1,2-Trichloroethane	79-00-5	N.D.	0.0200	N.D.	0.109	1
07345	Trichloroethene	79-01-6	0.125	0.0200	0.672	0.107	1
07345	Vinyl Chloride	75-01-4	N.D.	0.0200	N.D.	0.0511	1
07345	m/p-Xylene	179601-23-1	0.0940 J	0.0200	0.408 J	0.0868	1
07345	o-Xylene	95-47-6	0.0439 J	0.0200	0.191 J	0.0868	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
1,2-dichlorobenzene

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07345	TO-15 by SIM	EPA TO-15 using SIM	1	C1505730AA	02/27/2015 04:35	Michael A Ziegler	1

Sample Description: AA-1 Air
Joslyn Clark / 0284652

LL Sample # AQ 7781540
LL Group # 1540452
Account # 12417

Project Name: Joslyn Clark 0284652

Collected: 02/18/2015 08:27 by GK
through 02/18/2015 16:41
Submitted: 02/23/2015 11:16
Reported: 02/27/2015 14:10

ERM
15720 Brixham Hill Avenue
Suite 120
Charlotte NC 28277

-1193

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	As Received Final Result	MDL	DF
Volatiles in Air		EPA TO-15 using SIM	ppb (v)	ppb (v)	ug/m3	ug/m3	
07345	Benzene	71-43-2	0.339	0.0200	1.08	0.0639	1
07345	Carbon Tetrachloride	56-23-5	0.0622	0.0200	0.391	0.126	1
07345	Chloroethane	75-00-3	N.D.	0.0200	N.D.	0.0528	1
07345	Chloroform	67-66-3	N.D.	0.0200	N.D.	0.0977	1
07345	1,2-Dibromoethane	106-93-4	N.D.	0.0200	N.D.	0.154	1
07345	1,2-Dichlorobenzene	95-50-1	N.D.	0.0200	N.D.	0.120	1
07345	1,3-Dichlorobenzene	541-73-1	N.D.	0.0200	N.D.	0.120	1
07345	1,4-Dichlorobenzene	106-46-7	N.D.	0.0200	N.D.	0.120	1
07345	1,1-Dichloroethane	75-34-3	N.D.	0.0200	N.D.	0.0809	1
07345	1,2-Dichloroethane	107-06-2	0.136	0.0200	0.552	0.0809	1
07345	1,1-Dichloroethene	75-35-4	N.D.	0.0200	N.D.	0.0793	1
07345	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0200	N.D.	0.0793	1
07345	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0200	N.D.	0.0793	1
07345	1,2-Dichloropropane	78-87-5	N.D.	0.0200	N.D.	0.0924	1
07345	Ethylbenzene	100-41-4	0.0216 J	0.0200	0.0939 J	0.0868	1
07345	Freon 113	76-13-1	0.0644	0.0200	0.493	0.153	1
07345	Methyl t-Butyl Ether	1634-04-4	N.D.	0.0200	N.D.	0.0721	1
07345	Methylene Chloride	75-09-2	N.D.	0.100	N.D.	0.347	1
07345	Tetrachloroethene	127-18-4	N.D.	0.0200	N.D.	0.136	1
07345	Toluene	108-88-3	0.150	0.0200	0.567	0.0754	1
07345	1,1,1-Trichloroethane	71-55-6	N.D.	0.0200	N.D.	0.109	1
07345	1,1,2-Trichloroethane	79-00-5	N.D.	0.0200	N.D.	0.109	1
07345	Trichloroethene	79-01-6	0.236	0.0200	1.27	0.107	1
07345	Vinyl Chloride	75-01-4	N.D.	0.0200	N.D.	0.0511	1
07345	m/p-Xylene	179601-23-1	0.0539 J	0.0200	0.234 J	0.0868	1
07345	o-Xylene	95-47-6	0.0289 J	0.0200	0.125 J	0.0868	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
1,2-dichlorobenzene

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07345	TO-15 by SIM	EPA TO-15 using SIM	1	C1505730AA	02/27/2015 05:23	Michael A Ziegler	1

Quality Control Summary

Client Name: ERM
Reported: 02/27/15 at 02:10 PM

Group Number: 1540452

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: C1505730AA	Sample number(s): 7781533-7781540							
Benzene	N.D.	0.0200	ppb (v)	97	107	70-130	10	25
Carbon Tetrachloride	N.D.	0.0200	ppb (v)	89	94	70-130	5	25
Chloroethane	N.D.	0.0200	ppb (v)	92	100	70-130	8	25
Chloroform	N.D.	0.0200	ppb (v)	86	91	70-130	6	25
1,2-Dibromoethane	N.D.	0.0200	ppb (v)	103	126	70-130	20	25
1,2-Dichlorobenzene	N.D.	0.0200	ppb (v)	104	138*	70-130	28*	25
1,3-Dichlorobenzene	N.D.	0.0200	ppb (v)	96	124	70-130	25	25
1,4-Dichlorobenzene	N.D.	0.0200	ppb (v)	94	123	70-130	27*	25
1,1-Dichloroethane	N.D.	0.0200	ppb (v)	86	91	70-130	6	25
1,2-Dichloroethane	N.D.	0.0200	ppb (v)	103	115	70-130	11	25
1,1-Dichloroethene	N.D.	0.0200	ppb (v)	86	92	70-130	7	25
cis-1,2-Dichloroethene	N.D.	0.0200	ppb (v)	74	77	70-130	4	25
trans-1,2-Dichloroethene	N.D.	0.0200	ppb (v)	85	94	70-130	10	25
1,2-Dichloropropane	N.D.	0.0200	ppb (v)	96	102	70-130	6	25
Ethylbenzene	N.D.	0.0200	ppb (v)	81	93	70-130	13	25
Freon 113	N.D.	0.0200	ppb (v)	94	100	70-130	7	25
Methyl t-Butyl Ether	N.D.	0.0200	ppb (v)	82	83	70-130	1	25
Methylene Chloride	N.D.	0.100	ppb (v)	87	95	70-130	9	25
Tetrachloroethene	N.D.	0.0200	ppb (v)	89	103	70-130	15	25
Toluene	N.D.	0.0200	ppb (v)	90	102	70-130	13	25
1,1,1-Trichloroethane	N.D.	0.0200	ppb (v)	84	88	70-130	5	25
1,1,2-Trichloroethane	N.D.	0.0200	ppb (v)	93	111	70-130	17	25
Trichloroethene	N.D.	0.0200	ppb (v)	97	106	70-130	9	25
Vinyl Chloride	N.D.	0.0200	ppb (v)	88	95	70-130	8	25
m/p-Xylene	N.D.	0.0200	ppb (v)	93	108	70-130	15	25
o-Xylene	N.D.	0.0200	ppb (v)	80	89	70-130	11	25

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Summa Canister Field Test Data/Chain of Custody



Lancaster Laboratories Environmental

Acct. # 12417 Group # 1540452 Sample # 7781533-40 Bottle Order (SCR) # 167246
 For Eurofins Lancaster Laboratories Environmental use only
 Instructions on reverse side correspond with circled numbers.

1 Client Information					3 Turnaround Time Requested (TAT) (circle one)					6 Analyses Requested									
Client: <u>ERM</u> Account #					Standard <input checked="" type="radio"/> Rush (specify) _____					EPA TO - 15 <input checked="" type="checkbox"/> SIM EPA 18 <input type="checkbox"/> MTBE EPA 25 (select range below) <input type="checkbox"/> BTEX Helium as tracer O2/CO2 Library Search									
Project Name/#: <u>Joslyn Clark / 0284652</u>					4 Data Package Required?										5 EDD Required?				
Project Manager: <u>Michael.Pressley@erm.com</u> P.O. #					Yes <input checked="" type="radio"/> No <input type="radio"/>										Yes <input type="radio"/> No <input type="radio"/>				
Sampler: <u>G. Kanellis</u> Quote #					Temperature (F) Pressure ("Hg) Start Stop Start Stop Ambient 30 43 29.9 29.9 Maximum 29.9 29.9 Minimum 29.9 29.9														
Name of state where samples were collected: <u>NC</u>																			
2																			
Sample Identification	Can ID	Date/Time (24-hour clock)	Date/Time (24-hour clock)	Canister Pressure in Field ("Hg) (Start)	Canister Pressure in Field ("Hg) (Stop)	Interior Temp. (F) (Start)	Interior Temp. (F) (Stop)	Flow Reg. ID	Can ID	Can Size (L)	Controller Flowrate (mL/min)	EPA TO - 15	EPA 18	EPA 25	Helium as tracer				
AA-3	1032	0841		-32		40	40	303934	522	6	10.1	X							
AA-2	1176	0834	1653	-30	-6.5	40	40	236795	537	6	10.6	X							
AA-6	543	0900		-30		40	40	338048	543	6	10.1	X							
								338027	897	6	10.7								
OA-1	522	0756	1622	-26.5	-5	30	43	239241	1028	6	10.0	X							
AA-4	1028	0849		-30		40	40	252293	1032	6	10.2	X							
AA-5	847	0858		-32		40	40	338070	1118	6	10.4	X							
AA-7	537	0806	1629	-28.5	-5	60	60	339291	1176	6	10.6	X							
AA-1	1193	0827	1641	-28.5	-5	40	40	339183	1193	6	10.5	X							
7 Instructions/QC Requirements & Comments										EPA 25 (check one) <input type="checkbox"/> C1 - C4 <input type="checkbox"/> C2 - C10 <input type="checkbox"/> C1 - C10 <input type="checkbox"/> C4 - C10 (GRO) <input type="checkbox"/> C2 - C4									
Canisters Shipped by: <u>Ann Lee</u>		Date/Time: <u>2/10/15 1609</u>		Canisters Received by: <u>Ann Kanellis</u>		Date/Time: <u>2/17/15 1500</u>		Relinquished by: <u>Greg Kanellis</u>		Date/Time: <u>2/19/15 1700</u>		Received by: <u>FX</u>		Date/Time: <u>2/23/15 1116</u>					
Relinquished by: <u>FX</u>		Date/Time:		Received by:		Date/Time:		Relinquished by:		Date/Time:		Received by:		Date/Time:					
Relinquished by:		Date/Time:		Received by:		Date/Time:		Relinquished by:		Date/Time:		Received by:		Date/Time:					

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Laboratory Data Qualifiers:

- B - Analyte detected in the blank
- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and the $<$ Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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