SUMMARY OF FEBRUARY 2016 TIER 2 VAPOR INTRUSION ASSESSEMENT SAMPLING EVENT
CHEVRON SERVICE STATION NO. 9-6590
232 East Woodin Avenue
Chelan, Washington

June 06, 2016

Prepared for:
Washington State Department of Ecology
Toxics Cleanup Program / Central Regional Office
1250 West Alder Street
Union Gap, Washington 98903

Prepared by:
Leidos, Inc.
18912 North Creek Parkway, Suite 101
Bothell, Washington 98011

On Behalf of:
Chevron Environmental Management Company
6001 Bollinger Canyon Road
San Ramon, California 94583

leidos

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SUMMARY OF FEBRUARY 2016 TIER 2 VAPOR INTRUSION ASSESSMENT SAMPLING EVENT
CHEVRON SERVICE STATION NO. 9-6590

1. INTRODUCTION

Leidos, Inc. (Leidos) prepared this report on behalf of Chevron Environmental Management Company (Chevron) to summarize the results of Tier 2 vapor intrusion assessment sampling activities performed at the Chelan Chevron Site (the Site) in February 2016. These activities were conducted pursuant to the terms of Agreed Order No. DE 10629, which was entered into by Chevron and the Washington State Department of Ecology (Ecology) in June 2014.

The sampling activities presented in this report were performed to supplement previous Tier 2 vapor intrusion assessment data collected by Leidos in June 2015, which was documented in our *Supplemental Remedial Investigation Report – Phase 1*(SRI Phase 1 Report), dated December 14, 2015. Based on evaluation of the June 2015 data set, Leidos concluded that there did not appear to be a vapor intrusion exposure pathway from petroleum contaminated media at the Site to indoor air, for any of the properties sampled. However, Tier 2 assessment sampling plans for the Site included a follow-up round of sampling to evaluate potential data variability due to seasonal changes, such as building stack effects during the winter heating cycle.

Sampling locations and methods used for the February 2016 sampling event were generally the same as those used during the June 2015 sampling event; therefore, information regarding selection of the vapor sampling locations, sub-slab soil vapor probe construction, and highly detailed descriptions of the sample collection processes are not included in this report. These details can be found in the SRI Phase 1 Report.

A Site map showing all of the Tier 2 sampling locations is included as Figure 1 and detailed maps showing each of the indoor air and sub-slab soil vapor sampling locations are included as Figures 2 through 10.

2. FEBRUARY 2016 VAPOR INTRUSION ASSESSMENT SAMPLING EVENT

2.1 SAMPLING EVENT PLANNING AND SCHEDULING

The February 2016 sampling event was performed as soon as reasonably possible following Ecology approval of the revised sampling scope on February 12, 2016. Changes in the sampling scope were primarily driven by Ecology's request to include petroleum fractionation analysis to assess aliphatic petroleum hydrocarbons at several locations using the Massachusetts Department of Environmental Protection's *Method for the Determination of Air-Phase Petroleum Hydrocarbons* (MA-APH). This request necessitated a change in the subcontracted laboratory for the project, because the laboratory previously used (Eurofins Air Toxics) was not able to perform the MA-APH analyses. Instead, ALS Environmental of Simi Valley, California (ALS) was selected to provide laboratory analytical services for the project.

Following Ecology approval of the revised scope, Leidos began coordinating access to the indoor sampling locations, and notified the City of Chelan regarding plans for collection of outdoor air samples in public areas near the Site. Scheduling of the sampling event was also dependent on weather conditions in order to avoid potential variability in the data that could be caused by

severe weather or rapidly changing weather patterns. Field activities associated with the sampling event were conducted between Sunday, February 21 and Friday, February 26, 2016.

2.2 PRESAMPLING BUILDING SURVEYS

Prior to the start of vapor intrusion assessment sample collection, Leidos conducted presampling surveys at each indoor air sampling location to determine whether there had been any changes to the use of the areas, and to assess whether other potential sources of volatile organic compounds (VOCs) were present within the buildings. The presampling surveys were performed on Monday, February 22, 2016. A parts-per-billion (ppb) range photo-ionization detector (PID) was used to assist in evaluating potential VOC sources identified during the surveys. This section provides a brief description of each indoor air sampling location and summary of the presampling surveys. Additional details regarding each sampling location are provided in the SRI Phase 1 Report. Photographs of each location are presented in Appendix A.

233 East Wapato Avenue – Chelan Auto Parts Inc.

The sampling location is a small unfinished concrete-floored basement (approximately 320 square feet) that underlies the northwest portion of the building at this property (Figure 2). The basement area continues to be used primarily for storage of archived business records and surplus office equipment. The presampling survey identified no change in the use of the basement space and no products or materials that appeared to be potential sources of VOCs in the basement space. Photographs of the property are included in Appendix A (Photos 1 - 5).

222 East Woodin Avenue – Wells Fargo Bank

The sampling area is a partial basement (approximately 2,400 square feet) underlying the north and central portion of the bank building footprint (Figure 3). The basement includes a kitchen/employee break room, mechanical room, records vault, rest rooms, and several rooms used for storage. The presampling survey identified no change in use of the Wells Fargo basement space. Potential sources of background VOCs include a variety of consumer products (e.g., cleaning products, air freshener, paints, and rodent poison). Photographs of the property are included in Appendix A (Photos 6 – 13).

216 East Woodin Avenue – Lake Chelan Chamber of Commerce

The sampling area is the subgrade office space of the Lake Chelan Chamber of Commerce Visitor Center (Figure 4). The basement space is approximately 4,000 square feet and contains several office and conference rooms, a kitchen, bathroom, and storage room. Renovation of the building for use by the Chamber of Commerce was completed in 2015, and a pervasive odor of new construction materials is generally present throughout the space. The presampling survey identified no changes in the use of the space. Potential sources of background VOCs include new construction materials, building products such as paints and stains, and vinyl-like posters present in the basement storage room. Leidos personnel also observed Chamber of Commerce staff burning scented candles within the office space. Photographs of the property are included in Appendix A (Photos 14 – 19).

212 East Woodin Avenue – Rocky Pond Tasting Room (212A) and Re/Max Realty (212B)

The sampling area is a partial basement (approximately 1,100 square feet) underlying the southern portion of the building (Figure 5). The basement is the location for the building mechanical systems, such as the hot water heater and electric furnace units, and was formerly

used for storage by the previous owner of the Memories by the Lake gift shop. However, at the time of the February 2016 sampling event, the area was being remodeled for use as a tasting room for the Rocky Pond Winery.

During the sampling event, construction was primarily focused on the ground floor of the 212A space and appeared to consist of initial installation of new electrical and plumbing systems. Interior walls were framed, but not covered, and the door that previously separated the ground floor and basement spaces had been removed; therefore, the air spaces in these areas were in open communication with each other. In the basement area, several new interior walls had been framed-in and large piles of fiberglass batt insulation were apparently being staged for future use. The cover to a 24-inch diameter conduit, of unknown use, had been removed. The conduit appeared to run approximately to the front (north end) of the building.

Potential VOC sources identified during the presampling survey included various consumer cleaning and maintenance products such as paints, wood finishes, rodent poison, and insect spray. As previously observed during the June 2015 sampling event, elevated PID readings (approximately 4,000 ppb) were again observed in the vicinity of the first floor bathroom of the building, which appear to result from air freshener and cleaning product use in this area. Photographs of the property are included in Appendix A (Photos 20 – 26).

206 East Woodin Avenue – Whaley's General Store

The sampling area is an unfinished basement underlying Whaley's General Store. The basement has a partial concrete floor underlying the northern portion of the building, and a dirt floor to the south (Figure 6). The presampling survey identified no changes to the use of the sampling space. The area remains unused and store personnel typically do not enter the space. No potential VOC sources were identified in the area, except for a single can of marking paint, which was removed from the building with the permission of the store manager. A PID reading of approximately 4,000 ppb was measured from inside the cap of the marking paint can. No photos were taken of this sampling location during the February 2016 sampling event.

204 East Woodin Avenue – Lake Chelan Historical Society

The sampling area is the western portion of the basement area and also includes an adjacent area (within the City of Chelan right-of-way) that lies below the sidewalk east of South Emerson Street (Figure 7). Both areas are used by the Lake Chelan Historical Society for storage of surplus museum display materials. The presampling survey identified no significant change in the use of the space; however, some reorganization and movement of stored materials had obviously occurred since the June 2015 sampling event. Potential VOC sources identified during the survey include an inactive heating oil storage tank, consumer cleaning products, paints, an antique chemical sprayer, and rodent poison; however, elevated PID readings were not observed in the vicinity of these items. Photographs of the property are included in Appendix A (Photos 27 – 33).

113 South Emerson Street – Andante Restaurant

The sampling area is a partial basement (approximately 600 square feet) with a concrete floor, which underlies the eastern portion of the building at this property (Figure 8). The presampling survey identified no change in use of the space, which continues to be used for storage of restaurant equipment and supplies, as well as other miscellaneous storage. A variety of consumer products (e.g., paints, air fresheners, and various cleaners), some of which are likely to

contain VOCs, were present near the basement entrance and in the main basement space. Photographs of the property are included in Appendix A (Photos 34 – 39).

146 East Woodin Avenue – Swim World

The sampling area is a partial basement (approximately 600 square feet) that underlies the southern portion of the building footprint (approximately 2,600 square feet) at this property (Figure 9). The basement is the location of the building mechanical systems (hot water heater, electric furnace, electrical service panels, etc.) and is used for storage of retail store merchandise and other supplies, including pool chemicals, pool toys, and outdoor furniture. The presampling survey identified no change in the use of the space. A shelf located adjacent to the stairwell perimeter contained a variety of maintenance products including paints, thinners, and insect spray. Photographs of the property are included in Appendix A (Photos 40 – 45).

140 East Woodin Avenue – The Shirt Shop

The sampling area is an unfinished basement (approximately 2,600 square feet) that generally underlies the building footprint of the Shirt Shop clothing store (Figure 10). The presampling survey identified no changes in the use of the area. The basement is the location of building mechanical systems (heating/cooling unit, hot water heater, and plumbing drains) and is also used for storage of a variety of surplus objects, including vintage clothing used as costumes by a local theatre group. A heating oil tank (now inactive) remains in the space, and a variety of consumer products (e.g., hair spray and air fresheners) were also observed to be present. Photographs of the property are included in Appendix A (Photos 46 – 50).

2.3 INDOOR AND OUTDOOR SAMPLE COLLECTION

Indoor and outdoor air samples were collected on Tuesday, February 23, 2016. Samples were collected in 6-liter Summa canisters provided by ALS, which were individually certified down to the method reporting limit (MRL) for this project. The locations for all indoor and outdoor air samples were approximately the same as those used during the June 2015 sampling event, in order to maximize consistency between the events.

Similar to the previous sampling event, five outdoor air samples were first set up and sample collection was initiated at approximately 7:30 am. Each of the outdoor air samples was equipped with a flow controller calibrated to provide a sample collection duration time of approximately 12 hours for a 6-liter Summa canister.

Indoor air sampling canisters were started between approximately 7:30 and 9:45 am (due to building access limitations). Indoor air sampling canisters were equipped with flow controllers set to provide a sample collection duration time of approximately 8 hours. Each sampling canister was checked several times throughout the sampling period to ensure that it was filling at the expected rate.

Indoor air samples were shut down and collected between approximately 4:00 pm and 6:00 pm and the outdoor air samples were shut down and collected between approximately 6:30 and 6:45 pm. A QA/QC duplicate sample (Duplicate-022316) was collected concurrently with the indoor air sample at 113 South Emerson Street (IA-113SES-022316). Photographs of the outdoor air sampling locations are included in Appendix A (Photos 51 – 55).

2.4 SUB-SLAB SOIL VAPOR SAMPLE COLLECTION

Sub-slab soil vapor samples were collected from each of the 14 sampling probes between Wednesday, February 24 and Friday, February 26, 2016. The sampling methodology was the same as used during the June 2015 sampling event, which included: an initial vacuum check of the sampling canister; shut-in test; purge of the sampling probe; and collection of each sample within a helium-filled shroud for leak detection purposes. Samples were collected in 1-liter Summa canisters provided by ALS, which were individually certified down to the MRL for this project. Two QA/QC duplicate samples and one equipment blank sample were also collected. Field data sheets are included in Appendix B.

2.5 LABORATORY ANALYSIS AND RESULTS

Vapor intrusion assessment samples were submitted to ALS for the following analyses:

- Benzene, toluene, ethylbenzene, and xylenes (BTEX); methyl tert-butyl ether (MTBE); and naphthalene by Modified EPA Method TO-15 (indoor and outdoor air samples were analyzed in the SIM acquisition mode to achieve lower detection limits for comparison to indoor air cleanup levels);
- Oxygen, nitrogen, carbon dioxide, and methane by ASTM D1946; and
- Helium by EPA 3C Modified.

In addition to these analyses, samples collected from the following locations were also submitted for analysis of C5-C8 aliphatic hydrocarbons, C9-C12 aliphatic hydrocarbons, and C9-C10 aromatic hydrocarbons by the Massachusetts APH method:

- All outdoor air samples;
- All samples collected at 233 East Wapato Avenue;
- All samples collected at 222 East Woodin Avenue;
- All samples collected at 216 East Woodin Avenue;
- All samples collected at 206 East Woodin Avenue;
- All samples collected at 146 East Woodin Avenue; and
- The QA/QC equipment blank sample.

Results of the February 2016 sampling event are summarized in the following tables and laboratory reports are included in Appendix C:

- Table 1 – Summary of February 2016 Indoor and Outdoor Air Sampling Results;
- Table 2 – Summary of February 2016 Sub-Slab Soil Vapor Sampling Results; and
- Table 3 – Summary of February 2016 Summary of Vapor Intrusion Assessment Sampling Results by Location.

A summary of both the June 2015 and February 2016 sampling results is also provided as Table 4.

As indicated in Table 1, results of the indoor and outdoor air sampling indicate that benzene was detected above the MTCA Method B cleanup level for indoor air in nine of the ten indoor air samples and in four of the five outdoor air samples collected. As noted by the data qualifier code "B" that was added to all of the indoor and outdoor air sampling results for benzene, benzene was also detected in the laboratory method blank for the TO-15 SIM analysis at a concentration

of 0.021 micrograms per cubic meter (µg/m3). This detection is just above the laboratory's method detection limit of 0.020 µg/m3. Based on the very low concentration of benzene detected in the method blank, and considering the indoor and outdoor air sampling results of the June 2015 sampling event, Leidos believes that the benzene results presented in Table 1 may be biased high, but are still generally representative of the indoor and outdoor air quality at their respective sampling locations.

Indoor and outdoor air sampling results for toluene, ethylbenzene, m & p–xylenes, o-xylene, and MTBE were all below their respective indoor air cleanup levels, except for one detection of m & p–xylenes at 49 µg/m3 in the indoor air sample collected at 233 East Wapato Avenue. Naphthalene was detected above its indoor air cleanup level in seven of the ten indoor air samples and in two of the five outdoor air samples. Results of the MA-APH analyses indicate the $C_5 – C_8$ aliphatic hydrocarbons, $C_9 – C_{12}$ aliphatic hydrocarbons, and $C_9 – C_{10}$ aromatic hydrocarbons were typically not detected or were detected at relatively low concentrations well below their cleanup levels. Oxygen, nitrogen, carbon dioxide, methane, and helium results for the indoor and outdoor air samples were consistent with expected levels for atmospheric air.

Sub-slab soil vapor sampling results presented in Table 2 indicate that all of these samples were in compliance with MTCA Method B screening levels for sub-slab soil gas. Results for BTEX compounds, MTBE, naphthalene, and the aliphatic/aromatic hydrocarbon ranges were predominantly non-detect, with some low-level detections typically far below their respective screening levels. Results of the ASTM D1946 fixed gases analysis were generally consistent with expected levels for atmospheric air, with high levels of oxygen and low levels of carbon dioxide and methane. These data, in combination with the low levels of helium tracer gas detected in these samples, indicate that sub-slab soil vapor beneath the buildings sampled is highly oxygenated and is not impacted by petroleum degradation by-products such as carbon dioxide or methane.

Table 3 provides a compilation of the data presented in Tables 1 and 2 in order to allow comparison of the sub-slab soil vapor and indoor/outdoor air sampling results by location. A modified version of these data, which compares the sum of the BTEX, MTBE, and naphthalene results for each location, is also presented graphically as Figure 11[1]. As these data indicate, the concentrations of these compounds found in sub-slab soil vapor are typically less than those that have been detected in corresponding samples of indoor air from the same properties.

2.6 METEOROLOGICAL DATA MONITORING

As performed during the June 2015 sampling event, Leidos also monitored local meteorological conditions to assess potential impacts of variable weather conditions on the results of the sampling event. Meteorological data were collected using a temporary weather station (Wireless Vantage Pro® by Davis Instruments) that was installed on the service station property prior to the start of sampling activities. The weather station was mounted with the anemometer vane and

[1] Total BTEX, MTBE, and naphthalene values used to create the graph shown in Figure 11 were created as follows:
1. Non-detect results were assigned a value of half the detection limit;
2. Estimated values (J-flagged) were assigned the estimated value;
3. Where multiple sample results existed (e.g., two sub-slab soil vapor sampling probes in the same building or duplicate sample results) an average value of the results was used; and
4. The individual values for benzene, toluene, ethylbenzene, m & p-xylenes, o-xylene, MTBE, and naphthalene were totaled.

wind cups at a height of approximately 16 feet above the ground surface in order to collect wind speed and direction measurements with interference from the surrounding buildings. Weather data collection was initiated at 4:00 pm on Sunday, February 21, 2016 and readings were collected on a 15 minute monitoring frequency until 1:30 pm on Friday, February 26. During this period, Leidos personnel also routinely checked measurements from the weather station against available data from weather centers located at the Lake Chelan Airport and Pangborn Memorial Airport in Wenatchee.

Figure 12 presents a graph of barometric pressure, temperature, humidity, rainfall, and wind speed data collected during the February 2016 sampling event. As these data indicate, weather conditions during the sampling event were generally fair and stable. Temperature and humidity during this period followed a stable diurnal cycle with temperatures reaching highs of approximately 50 degrees Fahrenheit in the afternoons, and lows of approximately 30 degrees Fahrenheit in the mornings. These temperatures are consistent with the winter heating cycle conditions desired for this sampling event. There was no precipitation during the event, and winds were generally less than five miles per hour. Barometric pressure data indicate generally high pressure conditions throughout the event, with a slight decreasing trend throughout most of the sampling event. These results indicate that meteorological conditions during the sampling were generally ideal for conducting this type of multi-day vapor intrusion sampling event.

3. CONCLUSIONS

Results of the February 2016 vapor intrusion assessment sampling event are generally consistent with the results of the June 2015 sampling event and provide additional weight of evidence to demonstrate that vapor intrusion is not an exposure pathway of concern for the Chelan Chevron Site.

As previously discussed in the SRI Phase 1 Report, for vapor intrusion from a subsurface source to be occurring, the following three conditions must be met at the same time:

1. One or more hazardous substances must be present in indoor air at concentrations greater than those present in outdoor air;
2. One or more hazardous substances must be present in indoor air at concentrations greater than normal chemical background levels; and
3. One or more hazardous substances must be present in sub-slab soil vapor at concentrations significantly greater (approximately 30 times higher for a typical building floor slab in good condition) than those present in indoor air.

Although petroleum constituents, primarily benzene and naphthalene, have been detected in indoor air sampling locations in the vicinity of the Site, sub-slab soil vapor sampling results indicate that the concentrations of these compounds in soil vapor beneath these buildings are not high enough to result in a complete vapor intrusion exposure pathway. In fact, soil vapor from beneath these buildings has generally been found to contain lower levels of petroleum-related compounds than those detected in indoor air.

As discussed in the SRI Phase 1 Report, multiple studies in the United States and Canada have documented the presence of background concentrations of benzene or naphthalene in indoor and/or outdoor air at concentrations exceeding regulatory screening levels, which is attributable to the widespread use of these compounds in everyday consumer products. Based on the

detection of these compounds in both indoor and outdoor air sampling locations at the Chelan Chevron Site, at concentrations which generally exceed those detected in sub-slab soil vapor samples, Leidos believes that vapor intrusion from a sub-surface petroleum source is not occurring. Instead, these data indicate that BTEX and naphthalene detected in indoor air samples is due indoor and outdoor air sources that are not attributable to historical petroleum releases from the Site.

LIMITATIONS

This technical document was prepared on behalf of Chevron and is intended for its sole use and for use by the local, state, or federal regulatory agency that the technical document was sent to by Leidos. Any other person or entity obtaining, using, or relying on this technical document hereby acknowledges that they do so at their own risk, and Leidos shall have no responsibility or liability for the consequences thereof.

Site history and background information provided in this technical document are based on sources that may include interviews with environmental regulatory agencies and property management personnel and a review of acquired environmental regulatory agency documents and property information obtained from Chevron and others. Leidos has not made, nor has it been asked to make, any independent investigation concerning the accuracy, reliability, or completeness of such information beyond that described in this technical document.

Recognizing reasonable limits of time and cost, this technical document cannot wholly eliminate uncertainty regarding the vertical and lateral extent of impacted environmental media.

Opinions and recommendations presented in this technical document apply only to site conditions and features as they existed at the time of Leidos site visits or site work and cannot be applied to conditions and features of which Leidos is unaware and has not had the opportunity to evaluate.

All sources of information on which Leidos has relied in making its conclusions (including direct field observations) are identified by reference in this technical document or in appendices attached to this technical document. Any information not listed by reference or in appendices has not been evaluated or relied on by Leidos in the context of this technical document. The conclusions, therefore, represent our professional opinion based on the identified sources of information.

Tables

Table 1
Summary of February 2016 Indoor and Outdoor Air Sampling Results
Chevron Service Station No. 9-6590
232 East Woodin Avenue
Chelan, Washington

Location	Sample ID[2]	Sample Type	Benzene (µg/m3)	Toluene (µg/m3)	Ethyl-benzene (µg/m3)	m,p - Xylene (µg/m3)	o - Xylene (µg/m3)	MTBE (µg/m3)	Naphthalene (µg/m3)	C_5 - C_8 Aliphatics (µg/m3)	C_9 - C_{12} Aliphatics (µg/m3)	C_9 - C_{10} Aromatics (µg/m3)	Oxygen (%)	Nitrogen (%)	Carbon Dioxide (%)	Methane (%)	Helium (ppmV)	Helium (%)
Sidewalk north of 140 East Woodin Ave	OA-01-022316	Outdoor air	**0.93B**	2.8	0.55	1.9	0.67	< 0.011	**0.080J**	26	< 13	< 3.3	22.2	77.8	< 0.13	< 0.13	< 4.9	< 0.00049
Sidewalk north of 222 East Woodin Ave	OA-02-022316	Outdoor air	**1.1B**	2.2	0.41	1.2	0.46	< 0.012	0.060J	42	< 15	< 3.6	22.2	77.8	< 0.15	< 0.15	88	0.0088
SE corner of E Woodin Ave and S Emerson St	OA-03-022316	Outdoor air	**0.94B**	2.2	0.34	1.1	0.4	< 0.012	**0.14**	31	< 14	< 3.5	22.2	77.8	< 0.14	< 0.14	< 5.2	< 0.00052
Flag pole at Riverfront Park	OA-04-022316	Outdoor air	**0.60B**	0.95	0.13	0.41	0.15	< 0.012	< 0.021	< 30	< 15	< 3.8	22.2	77.7	< 0.15	< 0.15	< 5.7	< 0.00057
In parking lot near MW-30	OA-05-022316	Outdoor air	0.047J,B	< 0.015	< 0.013	< 0.026	< 0.012	< 0.013	< 0.022	< 31	< 16	< 3.9	22.2	77.8	< 0.16	< 0.16	< 5.8	< 0.00058
233 East Wapato Ave	IA-233EWA-022316	Indoor air	**1.3B**	33	20	**49**	11	0.046	< 0.020	270	53	17	22.2	77.8	< 0.14	< 0.14	< 5.0	< 0.00050
222 East Woodin Ave	IA-222EWA-022316	Indoor air	**1.0B**	7.1	0.9	3.3	1.1	< 0.012	**0.077J**	57	18	4.0	22.1	77.8	< 0.15	< 0.15	< 5.6	< 0.00056
216 East Woodin Ave	IA-216EWA-022316	Indoor air	**0.69B**	4.5	0.47	1.4	0.64	0.017J	**0.58**	99	36	5.1	22.2	77.8	< 0.14	< 0.14	< 5.0	< 0.00050
212 East Woodin Ave	IA-212EWA-022316	Indoor air	**1.2B**	12	1.4	4.1	1.5	0.029J	**0.12**	---	---	---	22.2	77.8	< 0.13	< 0.13	< 4.8	< 0.00048
206 East Woodin Ave	IA-206EWA-022316	Indoor air	**0.39B**	11	0.29	0.93	0.4	< 0.012	**0.090J**	44	< 14	< 3.5	22.2	77.8	< 0.14	< 0.14	< 5.2	< 0.00052
204 East Woodin Ave	IA-204EWA-022316	Indoor air	**0.64B**	2.9	0.34	1.1	0.39	< 0.013	**0.47**	---	---	---	22.2	77.8	< 0.16	< 0.16	< 5.7	< 0.00057
113 South Emerson St	IA-113SES-022316	Indoor air	**0.50B**	1.5	0.20	0.61	0.22	< 0.012	**0.23**	---	---	---	22.2	77.8	< 0.14	< 0.14	< 5.2	< 0.00052
	Duplicate-022316	Indoor air	0.047J,B	0.035J	< 0.012	< 0.024	< 0.011	< 0.012	< 0.020	---	---	---	22.2	77.8	< 0.14	< 0.14	< 5.2	< 0.00052
146 East Woodin Ave	IA-146EWA-022316	Indoor air	**0.53B**	4.8	1.4	3.4	1.2	< 0.011	< 0.020	120	27	4.5	22.2	77.8	< 0.14	< 0.14	< 5.1	< 0.00051
140 East Woodin Ave	IA-140EWA-022316	Indoor air	**0.69B**	3.7	0.47	1.7	0.60	< 0.012	**1.1**	---	---	---	22.2	77.8	< 0.14	< 0.14	< 5.4	< 0.00054
MTCA Method B Indoor Air Cleanup Level[1]			**0.321**	**2,290**	**457**	**45.7**	**45.7**	**9.62**	**0.0735**	**2,700**	**140**	**180**	---	---	---	---	---	---

Notes:
1. Based on values presented in Excel spreadsheet, "Vapor Intrusion Table update April 6 2015", available from the Department of Ecology website (http://www.ecy.wa.gov/programs/tcp/policies/VaporIntrusion/vig.html)
2. Sample collection date indicated by last six digits of Sample ID

Bold values represent indoor or outdoor air sampling results which exceed the Method B indoor air cleanup level.
J = The result is an estimated concentration that is less than the Method Reporting Limit but greater than or equal to the Method Detection Limit.
B = Analyte detected in both the sample and associated laboratory method blank.

Table 2
Summary of February 2016 Sub-Slab Soil Vapor Sampling Results
Chevron Service Station No. 9-6590
232 East Woodin Avenue
Chelan, Washington

Location	Sample ID[2]	Sample Type	Benzene (µg/m3)	Toluene (µg/m3)	Ethyl-benzene (µg/m3)	m,p - Xylene (µg/m3)	o - Xylene (µg/m3)	MTBE (µg/m3)	Naphthalene (µg/m3)	C_5 - C_8 Aliphatics (µg/m3)	C_9 - C_{12} Aliphatics (µg/m3)	C_9 - C_{10} Aromatics (µg/m3)	Oxygen (%)	Nitrogen (%)	Carbon Dioxide (%)	Methane (%)	Helium (ppmV)	Helium (%)
233 East Wapato Ave	SSVP-01-022416	Sub-slab	< 0.54	4.5	1.1J	2.7J	0.69J	< 0.57	0.85J	< 68	< 34	< 8.4	21.6	78.0	0.350	< 0.14	3,500	0.35
222 East Woodin Ave	SSVP-02-022416	Sub-slab	1.2J	1.6J	< 0.57	< 1.1	< 0.54	< 0.61	< 0.64	< 72	< 36	< 8.9	22.0	77.9	< 0.14	< 0.14	390	0.039
	SSVP-03-022416	Sub-slab	< 0.56	1.0J	< 0.56	< 1.1	< 0.53	< 0.60	< 0.63	< 71	< 35	< 8.8	21.1	78.0	0.933	< 0.14	430	0.043
216 East Woodin Ave	SSVP-04-022416*	Sub-slab	< 0.57	0.96J	< 0.57	< 1.1	< 0.53	< 0.60	< 0.64	< 71	< 36	< 8.9	22.1	77.8	< 0.14	< 0.14	2,800	0.28
	Duplicate-022416*	Sub-slab	3.7	1.2J	< 0.56	< 1.1	< 0.53	< 0.60	< 0.63	< 71	< 35	< 8.8	22.1	77.8	< 0.14	< 0.14	2,700	0.27
	SSVP-05-022416	Sub-slab	< 0.56	1.3J	< 0.56	< 1.1	< 0.53	< 0.60	< 0.63	140	< 35	< 8.8	22.2	77.8	< 0.14	< 0.14	6,400	0.64
212 East Woodin Ave	SSVP-06-022416	Sub-slab	< 0.57	9.2	< 0.57	1.3J	< 0.54	< 0.61	< 0.64	---	---	---	22.1	77.8	< 0.14	< 0.14	600	0.06
206 East Woodin Ave	SSVP-07-022616	Sub-slab	< 0.56	4.5	< 0.56	< 1.0	< 0.52	< 0.59	< 0.63	< 70	< 35	< 8.7	22.1	77.8	< 0.14	< 0.14	2,800	0.28
	SSVP-08-022616	Sub-slab	< 0.59	7.6	< 0.59	< 1.1	< 0.56	< 0.63	< 0.67	< 74	< 37	< 9.3	22.2	77.8	< 0.14	< 0.14	2,100	0.21
204 East Woodin Ave	SSVP-09-022516*	Sub-slab	< 0.56	< 0.60	< 0.56	< 1.1	< 0.53	< 0.60	< 0.63	---	---	---	22.1	77.8	< 0.14	< 0.14	240	0.024
	Duplicate-022516*	Sub-slab	< 0.55	0.91J	< 0.55	< 1.0	< 0.51	< 0.58	< 0.62	---	---	---	22.1	77.8	< 0.14	< 0.14	260	0.026
	SSVP-10-022516	Sub-slab	< 0.55	0.86J	< 0.55	< 1.0	< 0.51	< 0.58	< 0.62	---	---	---	22.2	77.8	< 0.14	< 0.14	130	0.013
113 South Emerson St	SSVP-11-022516	Sub-slab	< 0.57	3.3	< 0.57	< 1.1	< 0.54	< 0.61	< 0.64	---	---	---	21.5	78.1	0.459	< 0.14	1,500	0.15
146 East Woodin Ave	SSVP-12-022416	Sub-slab	< 0.55	0.87J	< 0.55	< 1.0	< 0.52	< 0.59	< 0.62	260	39	< 8.6	20.0	79.1	0.901	< 0.14	32	0.0032
140 East Woodin Ave	SSVP-13-022516	Sub-slab	< 0.56	1.1J	< 0.56	< 1.1	< 0.53	< 0.60	< 0.63	---	---	---	22.1	77.8	< 0.14	< 0.14	9,300	0.93
	SSVP-14-022516	Sub-slab	< 0.54	1.5J	< 0.54	< 1.0	< 0.51	< 0.57	< 0.61	---	---	---	21.8	78.0	< 0.14	< 0.14	1,900	0.19
QA/QC equipment blank	EB-022516	QA/QC	< 0.57	1.3J	< 0.57	< 1.1	< 0.54	< 0.61	< 0.64	< 72	< 36	< 8.9	20.9	79.1	< 0.14	< 0.14	< 25	< 0.0025
MTCA Method B Sub-Slab Soil Gas Screening Level[1]			**10.7**	**76,200**	**15,200**	**1,520**	**1,520**	**321**	**2.45**	**90,000**	**4,700**	**6,000**	**---**	**---**	**---**	**---**	**---**	**---**

Notes:
1. Based on values presented in Excel spreadsheet, "Vapor Intrusion Table update April 6 2015", available from the Department of Ecology website (http://www.ecy.wa.gov/programs/tcp/policies/VaporIntrusion/vig.html)
2. Sample collection date indicated by last six digits of Sample ID
* = Indicates paired duplicate samples
J = The result is an estimated concentration that is less than the Method Reporting Limit but greater than or equal to the Method Detection Limit.

Table 3
Summary of February 2016 Vapor Intrusion Assessment Sampling Results by Location
Chevron Service Station No. 9-6590
232 East Woodin Avenue
Chelan, Washington

Location	Sample ID[2]	Sample Type	Benzene (µg/m3)	Toluene (µg/m3)	Ethyl-benzene (µg/m3)	m,p - Xylene (µg/m3)	o - Xylene (µg/m3)	MTBE (µg/m3)	Naphthalene (µg/m3)	C_5 - C_8 Aliphatics (µg/m3)	C_9 - C_{12} Aliphatics (µg/m3)	C_9 - C_{10} Aromatics (µg/m3)	Oxygen (%)	Nitrogen (%)	Carbon Dioxide (%)	Methane (%)	Helium (ppmV)	Helium (%)
Sidewalk north of 140 East Woodin Ave	OA-01-022316	Outdoor air	**0.93B**	2.8	0.55	1.9	0.67	< 0.011	**0.080J**	26	< 13	< 3.3	22.2	77.8	< 0.13	< 0.13	< 4.9	< 0.00049
Sidewalk north of 222 East Woodin Ave	OA-02-022316	Outdoor air	**1.1B**	2.2	0.41	1.2	0.46	< 0.012	0.060J	42	< 15	< 3.6	22.2	77.8	< 0.15	< 0.15	88	0.0088
SE corner of E Woodin Ave and S Emerson St	OA-03-022316	Outdoor air	**0.94B**	2.2	0.34	1.1	0.4	< 0.012	**0.14**	31	< 14	< 3.5	22.2	77.8	< 0.14	< 0.14	< 5.2	< 0.00052
Flag pole at Riverfront Park	OA-04-022316	Outdoor air	**0.60B**	0.95	0.13	0.41	0.15	< 0.012	< 0.021	< 30	< 15	< 3.8	22.2	77.7	< 0.15	< 0.15	< 5.7	< 0.00057
In parking lot near MW-30	OA-05-022316	Outdoor air	0.047J,B	< 0.015	< 0.013	< 0.026	< 0.012	< 0.013	< 0.022	< 31	< 16	< 3.9	22.2	77.8	< 0.16	< 0.16	< 5.8	< 0.00058
233 East Wapato Ave	IA-233EWA-022316	Indoor air	**1.3B**	33	20	**49**	11	0.046	< 0.020	270	53	17	22.2	77.8	< 0.14	< 0.14	< 5.0	< 0.00050
	SSVP-01-022416	Sub-slab	< 0.54	4.5	1.1J	2.7J	0.69J	< 0.57	0.85J	< 68	< 34	< 8.4	21.6	78.0	0.350	< 0.14	3,500	0.35
222 East Woodin Ave	IA-222EWA-022316	Indoor air	**1.0B**	7.1	0.9	3.3	1.1	< 0.012	**0.077J**	57	18	4.0	22.1	77.8	< 0.15	< 0.15	< 5.6	< 0.00056
	SSVP-02-022416	Sub-slab	1.2J	1.6J	< 0.57	< 1.1	< 0.54	< 0.61	< 0.64	< 72	< 36	< 8.9	22.0	77.9	< 0.14	< 0.14	390	0.039
	SSVP-03-022416	Sub-slab	< 0.56	1.0J	< 0.56	< 1.1	< 0.53	< 0.60	< 0.63	< 71	< 35	< 8.8	21.1	78.0	0.933	< 0.14	430	0.043
216 East Woodin Ave	IA-216EWA-022316	Indoor air	**0.69B**	4.5	0.47	1.4	0.64	0.017J	**0.58**	99	36	5.1	22.2	77.8	< 0.14	< 0.14	< 5.0	< 0.00050
	SSVP-04-022416	Sub-slab	< 0.57	0.96J	< 0.57	< 1.1	< 0.53	< 0.60	< 0.64	< 71	< 36	< 8.9	22.1	77.8	< 0.14	< 0.14	2,800	0.28
	Duplicate-022416	Sub-slab	3.7	1.2J	< 0.56	< 1.1	< 0.53	< 0.60	< 0.63	< 71	< 35	< 8.8	22.1	77.8	< 0.14	< 0.14	2,700	0.27
	SSVP-05-022416	Sub-slab	< 0.56	1.3J	< 0.56	< 1.1	< 0.53	< 0.60	< 0.63	140	< 35	< 8.8	22.2	77.8	< 0.14	< 0.14	6,400	0.64
212 East Woodin Ave	IA-212EWA-022316	Indoor air	**1.2B**	12	1.4	4.1	1.5	0.029J	**0.12**	---	---	---	22.2	77.8	< 0.13	< 0.13	< 4.8	< 0.00048
	SSVP-06-022416	Sub-slab	< 0.57	9.2	< 0.57	1.3J	< 0.54	< 0.61	< 0.64	---	---	---	22.1	77.8	< 0.14	< 0.14	600	0.06
206 East Woodin Ave	IA-206EWA-022316	Indoor air	**0.39B**	11	0.29	0.93	0.4	< 0.012	**0.090J**	44	< 14	< 3.5	22.2	77.8	< 0.14	< 0.14	< 5.2	< 0.00052
	SSVP-07-022616	Sub-slab	< 0.56	4.5	< 0.56	< 1.0	< 0.52	< 0.59	< 0.63	< 70	< 35	< 8.7	22.1	77.8	< 0.14	< 0.14	2,800	0.28
	SSVP-08-022616	Sub-slab	< 0.59	7.6	< 0.59	< 1.1	< 0.56	< 0.63	< 0.67	< 74	< 37	< 9.3	22.2	77.8	< 0.14	< 0.14	2,100	0.21
204 East Woodin Ave	IA-204EWA-022316	Indoor air	**0.64B**	2.9	0.34	1.1	0.39	< 0.013	**0.47**	---	---	---	22.2	77.8	< 0.16	< 0.16	< 5.7	< 0.00057
	SSVP-09-022516	Sub-slab	< 0.56	< 0.60	< 0.56	< 1.1	< 0.53	< 0.60	< 0.63	---	---	---	22.1	77.8	< 0.14	< 0.14	240	0.024
	Duplicate-022516	Sub-slab	< 0.55	0.91J	< 0.55	< 1.0	< 0.51	< 0.58	< 0.62	---	---	---	22.1	77.8	< 0.14	< 0.14	260	0.026
	SSVP-10-022516	Sub-slab	< 0.55	0.86J	< 0.55	< 1.0	< 0.51	< 0.58	< 0.62	---	---	---	22.2	77.8	< 0.14	< 0.14	130	0.013
113 South Emerson St	IA-113SES-022316	Indoor air	**0.50B**	1.5	0.20	0.61	0.22	< 0.012	**0.23**	---	---	---	22.2	77.8	< 0.14	< 0.14	< 5.2	< 0.00052
	Duplicate-022316	Indoor air	0.047J,B	0.035J	< 0.012	< 0.024	< 0.011	< 0.012	< 0.020	---	---	---	22.2	77.8	< 0.14	< 0.14	< 5.2	< 0.00052
	SSVP-11-022516	Sub-slab	< 0.57	3.3	< 0.57	< 1.1	< 0.54	< 0.61	< 0.64	---	---	---	21.5	78.1	0.459	< 0.14	1,500	0.15
146 East Woodin Ave	IA-146EWA-022316	Indoor air	**0.53B**	4.8	1.4	3.4	1.2	< 0.011	< 0.020	120	27	4.5	22.2	77.8	< 0.14	< 0.14	< 5.1	< 0.00051
	SSVP-12-022416	Sub-slab	< 0.55	0.87J	< 0.55	< 1.0	< 0.52	< 0.59	< 0.62	260	39	< 8.6	20.0	79.1	0.901	< 0.14	32	0.0032
140 East Woodin Ave	IA-140EWA-022316	Indoor air	**0.69B**	3.7	0.47	1.7	0.60	< 0.012	**1.1**	---	---	---	22.2	77.8	< 0.14	< 0.14	< 5.4	< 0.00054
	SSVP-13-022516	Sub-slab	< 0.56	1.1J	< 0.56	< 1.1	< 0.53	< 0.60	< 0.63	---	---	---	22.1	77.8	< 0.14	< 0.14	9,300	0.93
	SSVP-14-022516	Sub-slab	< 0.54	1.5J	< 0.54	< 1.0	< 0.51	< 0.57	< 0.61	---	---	---	21.8	78.0	< 0.14	< 0.14	1,900	0.19
QA/QC equipment blank	EB-022516	QA/QC	< 0.57	1.3J	< 0.57	< 1.1	< 0.54	< 0.61	< 0.64	< 72	< 36	< 8.9	20.9	79.1	< 0.14	< 0.14	< 25	< 0.0025
MTCA Method B Indoor Air CUL[1]			**0.321**	**2,290**	**457**	**45.7**	**45.7**	**9.62**	**0.0735**	**2,700**	**140**	**180**	**---**	**---**	**---**	**---**	**---**	**---**
MTCA Method B Sub-Slab Soil Gas Screening Level[1]			**10.7**	**76,200**	**15,200**	**1,520**	**1,520**	**321**	**2.45**	**90,000**	**4,700**	**6,000**	---	---	---	---	---	---

Notes:
1. Based on values presented in Excel spreadsheet, "Vapor Intrusion Table update April 6 2015", available from the Department of Ecology website (http://www.ecy.wa.gov/programs/tcp/policies/VaporIntrusion/vig.html)
2. Sample collection date indicated by last six digits of Sample ID
* = Indicates paired duplicate samples
Bold values represent indoor or outdoor air sampling results which exceed the Method B indoor air cleanup level.
J = Data qualifier indicating an estimated value less than the reporting limit but greater than the method detection limit.
B = Analyte detected in both the sample and associated method blank.

Table 4
Summary of June 2015 and February 2016 Vapor Intrusion Assessment Sampling Results by Location
Chevron Service Station No. 9-6590
232 East Woodin Avenue
Chelan, Washington

Location	Sample ID[2]	Sample Type	Benzene (µg/m3)	Toluene (µg/m3)	Ethyl-benzene (µg/m3)	m,p - Xylene (µg/m3)	o - Xylene (µg/m3)	MTBE (µg/m3)	Naphthalene (µg/m3)	C_5 - C_8 Aliphatics (µg/m3)	C_9 - C_{12} Aliphatics (µg/m3)	C_9 - C_{10} Aromatics (µg/m3)	Oxygen (%)	Nitrogen (%)	Carbon Dioxide (%)	Methane (%)	Helium (ppmV)	Helium (%)
Sidewalk north of 140 East Woodin Ave	OA-01-062315	Outdoor air	**0.77**	2.0	0.36	1.3	0.46	< 0.036	< 0.068	---	---	---	22	78	0.040	0.00020	---	< 0.094
	OA-01-022316	Outdoor air	**0.93B**	2.8	0.55	1.9	0.67	< 0.011	**0.080J**	26	< 13	< 3.3	22.2	77.8	< 0.13	< 0.13	< 4.9	< 0.00049
Sidewalk north of 222 East Woodin Ave	OA-02-062315	Outdoor air	**0.43**	1.4	0.27	0.96	0.35	< 0.035	< 0.066	---	---	---	21	79	0.039	0.00019	---	< 0.091
	OA-02-022316	Outdoor air	**1.1B**	2.2	0.41	1.2	0.46	< 0.012	0.060J	42	< 15	< 3.6	22.2	77.8	< 0.15	< 0.15	88	0.0088
SE corner of E Woodin Ave and S Emerson St	OA-03-062315	Outdoor air	**0.52**	1.4	0.26	0.91	0.32	< 0.035	< 0.066	---	---	---	21	79	0.039	0.00019	---	< 0.092
	OA-03-022316	Outdoor air	**0.94B**	2.2	0.34	1.1	0.4	< 0.012	**0.14**	31	< 14	< 3.5	22.2	77.8	< 0.14	< 0.14	< 5.2	< 0.00052
Flag pole at Riverfront Park	OA-04-062315[3]	Outdoor air	~~0.14J~~	~~0.40~~	~~0.071J~~	~~0.24J~~	~~0.084J~~	~~< 0.028~~	~~< 0.052~~	---	---	---	16	84	0.030	0.00014	---	< 0.072
	OA-04-022316	Outdoor air	**0.60B**	0.95	0.13	0.41	0.15	< 0.012	< 0.021	< 30	< 15	< 3.8	22.2	77.7	< 0.15	< 0.15	< 5.7	< 0.00057
In parking lot near MW-30	OA-05-062315	Outdoor air	**0.42**	1.8	0.28	1.0	0.34	< 0.037	**0.081J**	---	---	---	21	79	0.039	0.00022	---	< 0.096
	OA-05-022316	Outdoor air	0.047J,B	< 0.015	< 0.013	< 0.026	< 0.012	< 0.013	< 0.022	< 31	< 16	< 3.9	22.2	77.8	< 0.16	< 0.16	< 5.8	< 0.00058
233 East Wapato Ave	IA-233EWA-062315	Indoor air	**1.0**	17	10	22	5.2	< 0.029	**1.4**	---	---	---	21	79	0.044	0.00019	---	< 0.075
	IA-233EWA-022316	Indoor air	**1.3B**	33	20	**49**	11	0.046	< 0.020	270	53	17	22.2	77.8	< 0.14	< 0.14	< 5.0	< 0.00050
	SSVP-01-062415	Sub-slab	0.19J	.70J	0.48J	1.1	0.24J	< 0.19	< 0.68	---	---	---	21	78	0.32	< 0.00021	---	0.29
	SSVP-01-022416	Sub-slab	< 0.54	4.5	1.1J	2.7J	0.69J	< 0.57	0.85J	< 68	< 34	< 8.4	21.6	78.0	0.350	< 0.14	3,500	0.35
222 East Woodin Ave	IA-222EWA-062315	Indoor air	0.27	1.1	0.23	0.60	0.23	< 0.032	< 0.060	---	---	---	22	78	0.065	0.00020	---	< 0.083
	IA-222EWA-022316	Indoor air	**1.0B**	7.1	0.9	3.3	1.1	< 0.012	**0.077J**	57	18	4.0	22.1	77.8	< 0.15	< 0.15	< 5.6	< 0.00056
	SSVP-02-062415	Sub-slab	0.22J	0.18J	< 0.34	< 0.23	< 0.19	< 0.20	< 0.72	---	---	---	21	78	0.56	< 0.00022	---	< 0.11
	SSVP-02-022416	Sub-slab	1.2J	1.6J	< 0.57	< 1.1	< 0.54	< 0.61	< 0.64	< 72	< 36	< 8.9	22.0	77.9	< 0.14	< 0.14	390	0.039
	SSVP-03-062415	Sub-slab	< 0.17	0.12J	< 0.33	< 0.22	< 0.18	< 0.19	< 0.68	---	---	---	20	79	1.0	< 0.00021	---	< 0.10
	SSVP-03-022416	Sub-slab	< 0.56	1.0J	< 0.56	< 1.1	< 0.53	< 0.60	< 0.63	< 71	< 35	< 8.8	21.1	78.0	0.933	< 0.14	430	0.043
216 East Woodin Ave	IA-216EWA-062315	Indoor air	0.29	4.7	1.1	3.2	1.7	0.032J	**1.1**	---	---	---	21	79	0.048	0.00021	---	< 0.080
	IA-216EWA-022316	Indoor air	**0.69B**	4.5	0.47	1.4	0.64	0.017J	**0.58**	99	36	5.1	22.2	77.8	< 0.14	< 0.14	< 5.0	< 0.00050
	SSVP-04-062415	Sub-slab	0.24J	3.2	1.8	12	5.8	< 0.18	**13**	---	---	---	21	78	0.14	< 0.00020	---	0.32
	SSVP-04-022416*	Sub-slab	< 0.57	0.96J	< 0.57	< 1.1	< 0.53	< 0.60	< 0.64	< 71	< 36	< 8.9	22.1	77.8	< 0.14	< 0.14	2,800	0.28
	Duplicate-022416*	Sub-slab	3.7	1.2J	< 0.56	< 1.1	< 0.53	< 0.60	< 0.63	< 71	< 35	< 8.8	22.1	77.8	< 0.14	< 0.14	2,700	0.27
	SSVP-05-062415	Sub-slab	0.19J	1.3	0.52J	1.5	1.1	< 0.19	< 0.68	---	---	---	21	78	0.050	< 0.00021	---	0.67
	SSVP-05-022416	Sub-slab	< 0.56	1.3J	< 0.56	< 1.1	< 0.53	< 0.60	< 0.63	140	< 35	< 8.8	22.2	77.8	< 0.14	< 0.14	6,400	0.64
212 East Woodin Ave	IA-212EWA-062315	Indoor air	**0.64**	7.1	0.88	1.6	0.73	< 0.030	**0.80**	---	---	---	22	78	0.069	0.00022	---	< 0.078
	IA-212EWA-022316	Indoor air	**1.2B**	12	1.4	4.1	1.5	0.029J	**0.12**	---	---	---	22.2	77.8	< 0.13	< 0.13	< 4.8	< 0.00048
	SSVP-06-062515*	Sub-slab	< 0.17	0.37J	< 0.32	< 0.22	< 0.18	< 0.18	< 0.68	---	---	---	21	79	0.18	< 0.00021	---	0.12
	Duplicate-062515*	Sub-slab	0.30J	0.26J	< 0.32	< 0.22	< 0.18	< 0.18	< 0.67	---	---	---	21	79	0.18	< 0.00020	---	0.12
	SSVP-06-022416	Sub-slab	< 0.57	9.2	< 0.57	1.3J	< 0.54	< 0.61	< 0.64	---	---	---	22.1	77.8	< 0.14	< 0.14	600	0.06
206 East Woodin Ave	IA-206EWA-062315	Indoor air	**2.5**	21	3.3	11	4.6	6.5	**7.8**	---	---	---	21	79	0.069	0.00020	---	< 0.079
	IA-206EWA-022316	Indoor air	**0.39B**	11	0.29	0.93	0.4	< 0.012	**0.090J**	44	< 14	< 3.5	22.2	77.8	< 0.14	< 0.14	< 5.2	< 0.00052
	SSVP-07-062515	Sub-slab	< 0.16	0.59J	< 0.31	< 0.21	< 0.18	< 0.18	< 0.66	---	---	---	21	78	0.088	< 0.00020	---	0.62
	SSVP-07-022616	Sub-slab	< 0.56	4.5	< 0.56	< 1.0	< 0.52	< 0.59	< 0.63	< 70	< 35	< 8.7	22.1	77.8	< 0.14	< 0.14	2,800	0.28
	SSVP-08-062515	Sub-slab	< 0.17	0.21J	< 0.32	< 0.22	< 0.18	< 0.18	< 0.67	---	---	---	21	79	0.073	< 0.00020	---	0.25
	SSVP-08-022616	Sub-slab	< 0.59	7.6	< 0.59	< 1.1	< 0.56	< 0.63	< 0.67	< 74	< 37	< 9.3	22.2	77.8	< 0.14	< 0.14	2,100	0.21

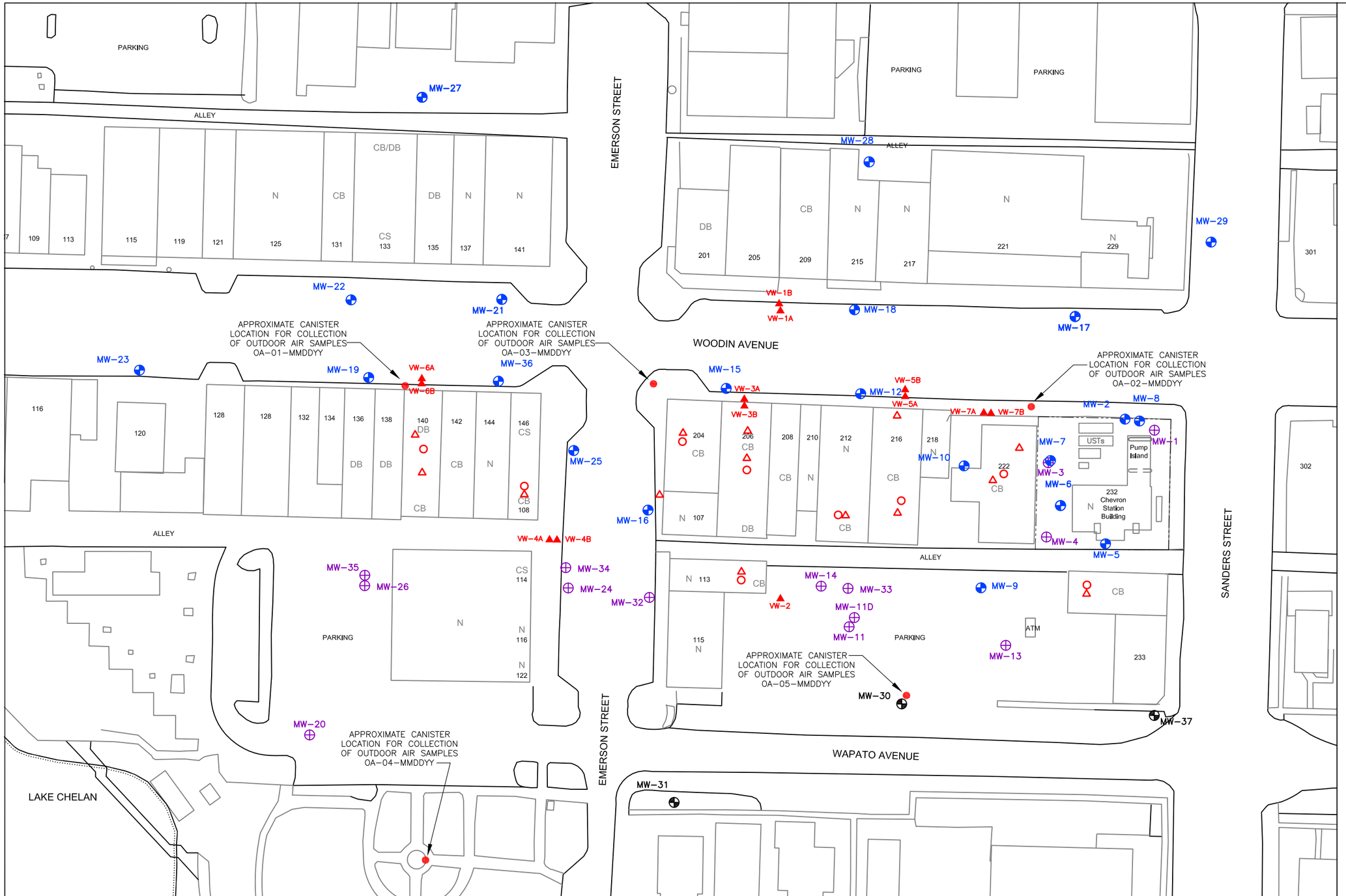
Table 4
Summary of June 2015 and February 2016 Vapor Intrusion Assessment Sampling Results by Location
Chevron Service Station No. 9-6590
232 East Woodin Avenue
Chelan, Washington

Location	Sample ID[2]	Sample Type	Benzene (µg/m3)	Toluene (µg/m3)	Ethyl-benzene (µg/m3)	m,p - Xylene (µg/m3)	o - Xylene (µg/m3)	MTBE (µg/m3)	Naphthalene (µg/m3)	C_5 - C_8 Aliphatics (µg/m3)	C_9 - C_{12} Aliphatics (µg/m3)	C_9 - C_{10} Aromatics (µg/m3)	Oxygen (%)	Nitrogen (%)	Carbon Dioxide (%)	Methane (%)	Helium (ppmV)	Helium (%)
204 East Woodin Ave	IA-204EWA-062315	Indoor air	0.28	2.1	0.35	1.1	0.35	< 0.032	**2.4**	---	---	---	21	79	0.052	0.00021	---	< 0.084
	IA-204EWA-022316	Indoor air	**0.64B**	2.9	0.34	1.1	0.39	< 0.013	**0.47**	---	---	---	22.2	77.8	< 0.16	< 0.16	< 5.7	< 0.00057
	SSVP-09-062415	Sub-slab	0.19J	1.1	0.57J	1.0	0.43J	< 0.19	1.8J	---	---	---	21	79	0.23	< 0.00021	---	< 0.11
	SSVP-09-022516*	Sub-slab	< 0.56	< 0.60	< 0.56	< 1.1	< 0.53	< 0.60	< 0.63	---	---	---	22.1	77.8	< 0.14	< 0.14	240	0.024
	Duplicate-022516*	Sub-slab	< 0.55	0.91J	< 0.55	< 1.0	< 0.51	< 0.58	< 0.62	---	---	---	22.1	77.8	< 0.14	< 0.14	260	0.026
	SSVP-10-062515	Sub-slab	0.24J	3.5	0.40J	1.0	0.48J	< 0.19	< 0.69	---	---	---	21	79	0.10	< 0.00021	---	< 0.11
	SSVP-10-022516	Sub-slab	< 0.55	0.86J	< 0.55	< 1.0	< 0.51	< 0.58	< 0.62	---	---	---	22.2	77.8	< 0.14	< 0.14	130	0.013
113 South Emerson St	IA-113SES-062315	Indoor air	0.30	2.4	0.31	0.66	0.25	< 0.029	**0.21J**	---	---	---	21	79	0.056	0.00019	---	< 0.076
	IA-113SES-022316*	Indoor air	**0.50B**	1.5	0.20	0.61	0.22	< 0.012	**0.23**	---	---	---	22.2	77.8	< 0.14	< 0.14	< 5.2	< 0.00052
	Duplicate-022316*	Indoor air	0.047J,B	0.035J	< 0.012	< 0.024	< 0.011	< 0.012	< 0.020	---	---	---	22.2	77.8	< 0.14	< 0.14	< 5.2	< 0.00052
	SSVP-11-062515	Sub-slab	0.30J	0.28J	< 0.33	< 0.22	< 0.18	< 0.19	< 0.69	---	---	---	20	79	0.69	< 0.00021	---	0.20
	SSVP-11-022516	Sub-slab	< 0.57	3.3	< 0.57	< 1.1	< 0.54	< 0.61	< 0.64	---	---	---	21.5	78.1	0.459	< 0.14	1,500	0.15
146 East Woodin Ave	IA-146EWA-062315	Indoor air	**0.64**	7.9	4.3	11	3.7	< 0.032	**0.69**	---	---	---	21	79	0.066	0.00022	< 0.082	< 0.082
	IA-146EWA-022316	Indoor air	**0.53B**	4.8	1.4	3.4	1.2	< 0.011	< 0.020	120	27	4.5	22.2	77.8	< 0.14	< 0.14	< 5.1	< 0.00051
	SSVP-12-062415*	Sub-slab	< 0.17	< 0.096	< 0.32	< 0.22	< 0.18	< 0.19	< 0.68	---	---	---	20	79	0.57	< 0.00021	---	< 0.10
	Duplicate-062415*	Sub-slab	< 0.17	0.11J	< 0.33	< 0.22	< 0.18	< 0.19	< 0.69	---	---	---	20	79	0.57	< 0.00021	---	< 0.11
	SSVP-12-022416	Sub-slab	< 0.55	0.87J	< 0.55	< 1.0	< 0.52	< 0.59	< 0.62	260	39	< 8.6	20.0	79.1	0.901	< 0.14	32	0.0032
140 East Woodin Ave	IA-140EWA-062315	Indoor air	**0.56**	2.9	0.56	1.8	0.73	< 0.031	**0.17J**	---	---	---	21	79	0.053	0.00020	---	< 0.080
	IA-140EWA-022316	Indoor air	**0.69B**	3.7	0.47	1.7	0.60	< 0.012	**1.1**	---	---	---	22.2	77.8	< 0.14	< 0.14	< 5.4	< 0.00054
	SSVP-13-062515	Sub-slab	0.32J	0.70J	< 0.31	0.46J	< 0.18	< 0.18	< 0.66	---	---	---	21	79	0.087	< 0.00020	---	< 0.10
	SSVP-13-022516	Sub-slab	< 0.56	1.1J	< 0.56	< 1.1	< 0.53	< 0.60	< 0.63	---	---	---	22.1	77.8	< 0.14	< 0.14	9,300	0.93
	SSVP-14-062515	Sub-slab	0.20J	0.29J	< 0.33	< 0.22	< 0.18	< 0.19	< 0.68	---	---	---	21	79	0.12	< 0.00021	---	0.19
	SSVP-14-022516	Sub-slab	< 0.54	1.5J	< 0.54	< 1.0	< 0.51	< 0.57	< 0.61	---	---	---	21.8	78.0	< 0.14	< 0.14	1,900	0.19
QA/QC equipment blank	EB-062915	QA/QC	< 0.19	0.30J	< 0.36	< 0.24	< 0.20	< 0.21	< 0.75	---	---	---	1.1	98	< 0.023	< 0.00023	---	0.33
	EB-022516	QA/QC	< 0.57	1.3J	< 0.57	< 1.1	< 0.54	< 0.61	< 0.64	< 72	< 36	< 8.9	20.9	79.1	< 0.14	< 0.14	< 25	< 0.0025
MTCA Method B Indoor Air CUL[1]			**0.321**	**2,290**	**457**	**45.7**	**45.7**	**9.62**	**0.0735**	**2,700**	**140**	**180**	---	---	---	---	---	---
MTCA Method B Sub-Slab Soil Gas Screening Level[1]			**10.7**	**76,200**	**15,200**	**1,520**	**1,520**	**321**	**2.45**	**90,000**	**4,700**	**6,000**	---	---	---	---	---	---

Notes:
1. Based on values presented in Excel spreadsheet, "Vapor Intrusion Table update April 6 2015", available from the Department of Ecology website (http://www.ecy.wa.gov/programs/tcp/policies/VaporIntrusion/vig.html)
2. Sample collection date indicated by last six digits of Sample ID
3. Sample considered invalid based on oxygen and nitrogen results which indicate that the sample was compromised prior to analysis.

* = Indicates paired duplicate samples
Bold values represent indoor or outdoor air sampling results which exceed the Method B indoor air cleanup level.
Bold value in orange shaded cell represents sub-slab soil vapor sampling result which exceeds the Method B sub-slab soil gas screening level.
J = Data qualifier indicating an estimated value less than the reporting limit but greater than the method detection limit.
B = Analyte detected in both the sample and associated method blank.

Figures



LEGEND

MW-2	PERCHED GROUNDWATER MONITORING WELL
MW-30	DEEP GROUNDWATER MONITORING WELL
MW-1	ABANDONED DRY MONITORING WELL
VW-1A	EXISTING SOIL VAPOR MONITORING WELL
△	APPROXIMATE SUB-SLAB SOIL VAPOR PROBE LOCATION
○	APPROXIMATE INDOOR AIR SAMPLING LOCATION
●	APPROXIMATE OUTDOOR AIR SAMPLING LOCATION
N	NO BASEMENT
CB	CONCRETE-FLOORED BASEMENT
DB	DIRT-FLOORED BASEMENT
CS	CRAWL SPACE (DIRT)
204	STREET ADDRESS

N

NOTES

Base Map from City of Chelan, 1994

Additional Reference Material:
Aerial Photograph from September 1991
(Washington State Department of Natural Resources)

0 80' 160'

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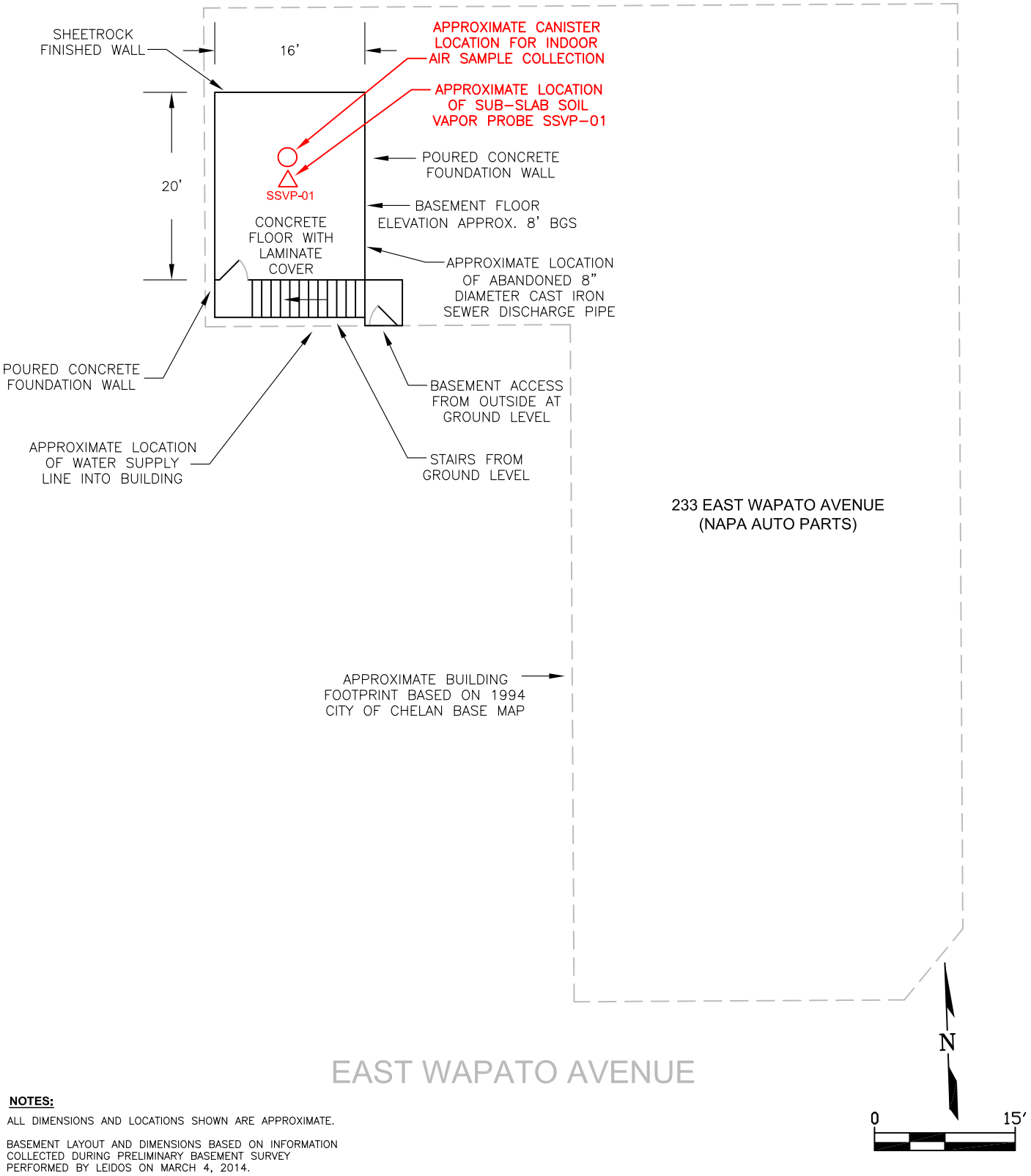
Chevron Service Station No. 96590
232 East Woodin Avenue
Chelan, Washington

FIGURE 1
Site Map

FILE NAME: 96590_Site Map.dwg

DATE: 05/30/2016



NOTES:

ALL DIMENSIONS AND LOCATIONS SHOWN ARE APPROXIMATE.

BASEMENT LAYOUT AND DIMENSIONS BASED ON INFORMATION COLLECTED DURING PRELIMINARY BASEMENT SURVEY PERFORMED BY LEIDOS ON MARCH 4, 2014.

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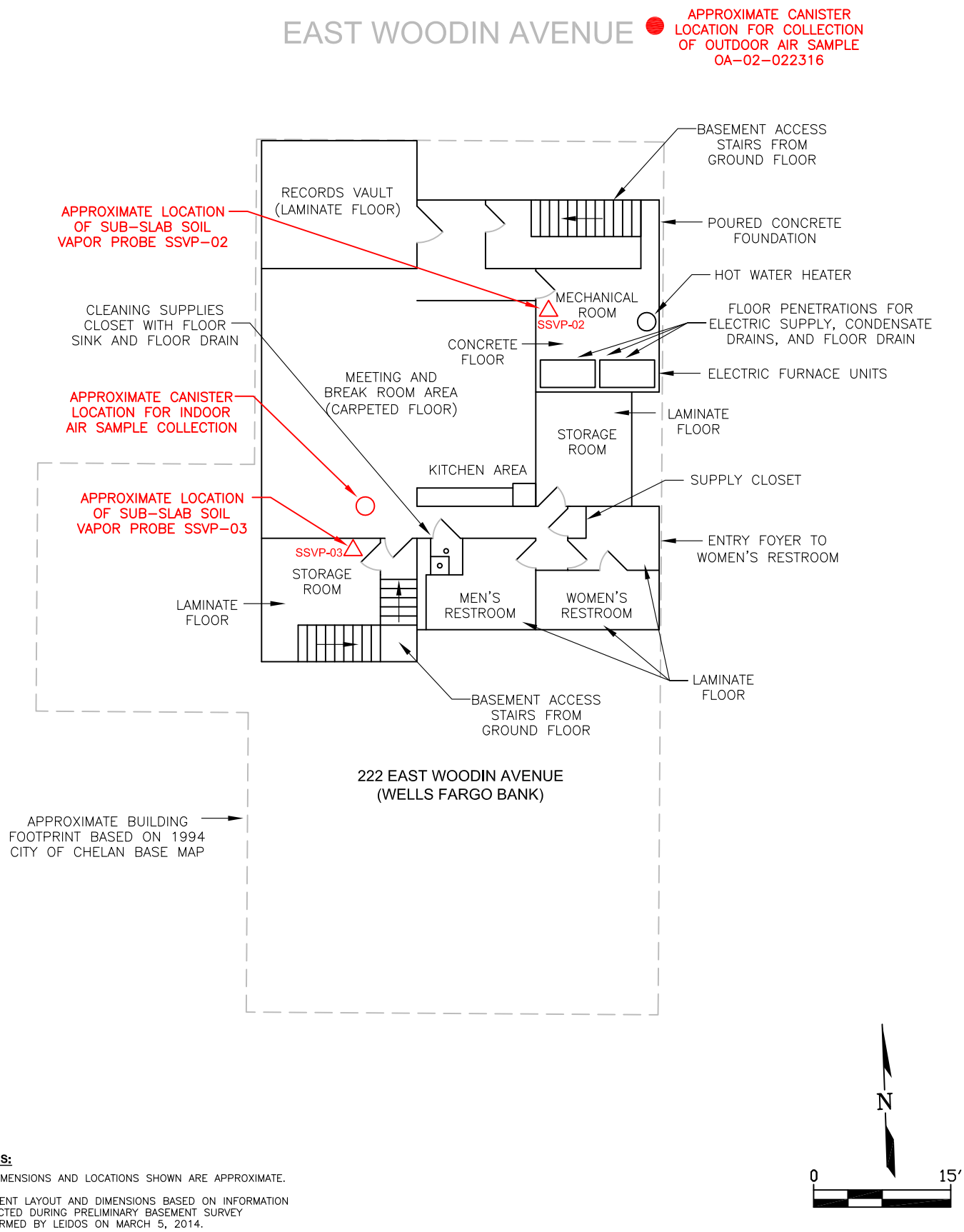
Chevron Service Station No. 9-6590
232 East Woodin Avenue
Chelan, Washington

FIGURE 2

Tier 2 Sampling Locations -
233 East Wapato Avenue

FILE NAME:	DATE:
96590_BLOD_053116.dwg	05/31/2016



NOTES:

ALL DIMENSIONS AND LOCATIONS SHOWN ARE APPROXIMATE.

BASEMENT LAYOUT AND DIMENSIONS BASED ON INFORMATION COLLECTED DURING PRELIMINARY BASEMENT SURVEY PERFORMED BY LEIDOS ON MARCH 5, 2014.

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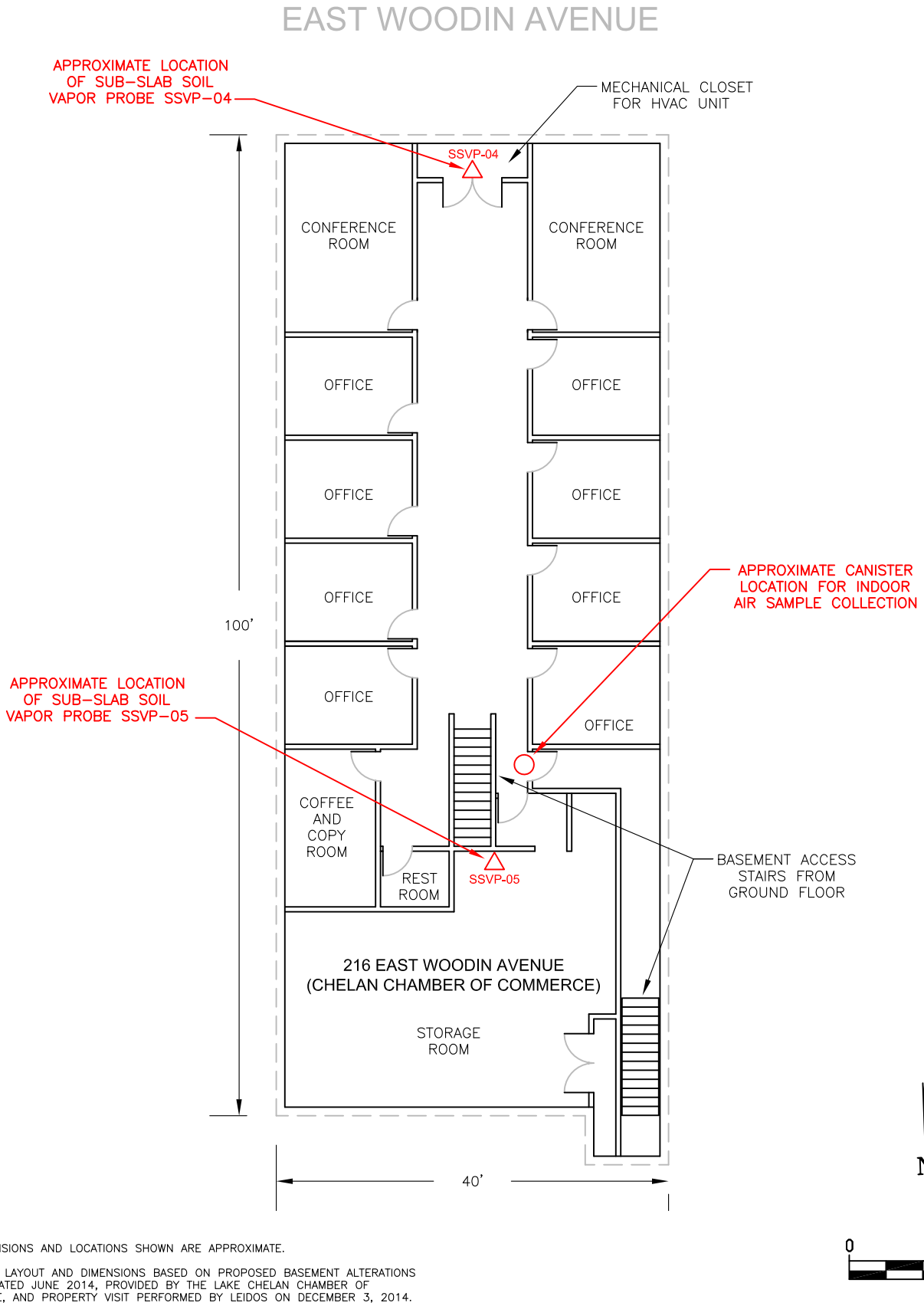
Chevron Service Station No. 9-6590
232 East Woodin Avenue
Chelan, Washington

FIGURE 3

Tier 2 Sampling Locations - 222 East Woodin Avenue

FILE NAME:	DATE:
96590_BLOD_053116.dwg	05/31/2016



NOTES:

ALL DIMENSIONS AND LOCATIONS SHOWN ARE APPROXIMATE.

BASEMENT LAYOUT AND DIMENSIONS BASED ON PROPOSED BASEMENT ALTERATIONS FIGURE, DATED JUNE 2014, PROVIDED BY THE LAKE CHELAN CHAMBER OF COMMERCE, AND PROPERTY VISIT PERFORMED BY LEIDOS ON DECEMBER 3, 2014.

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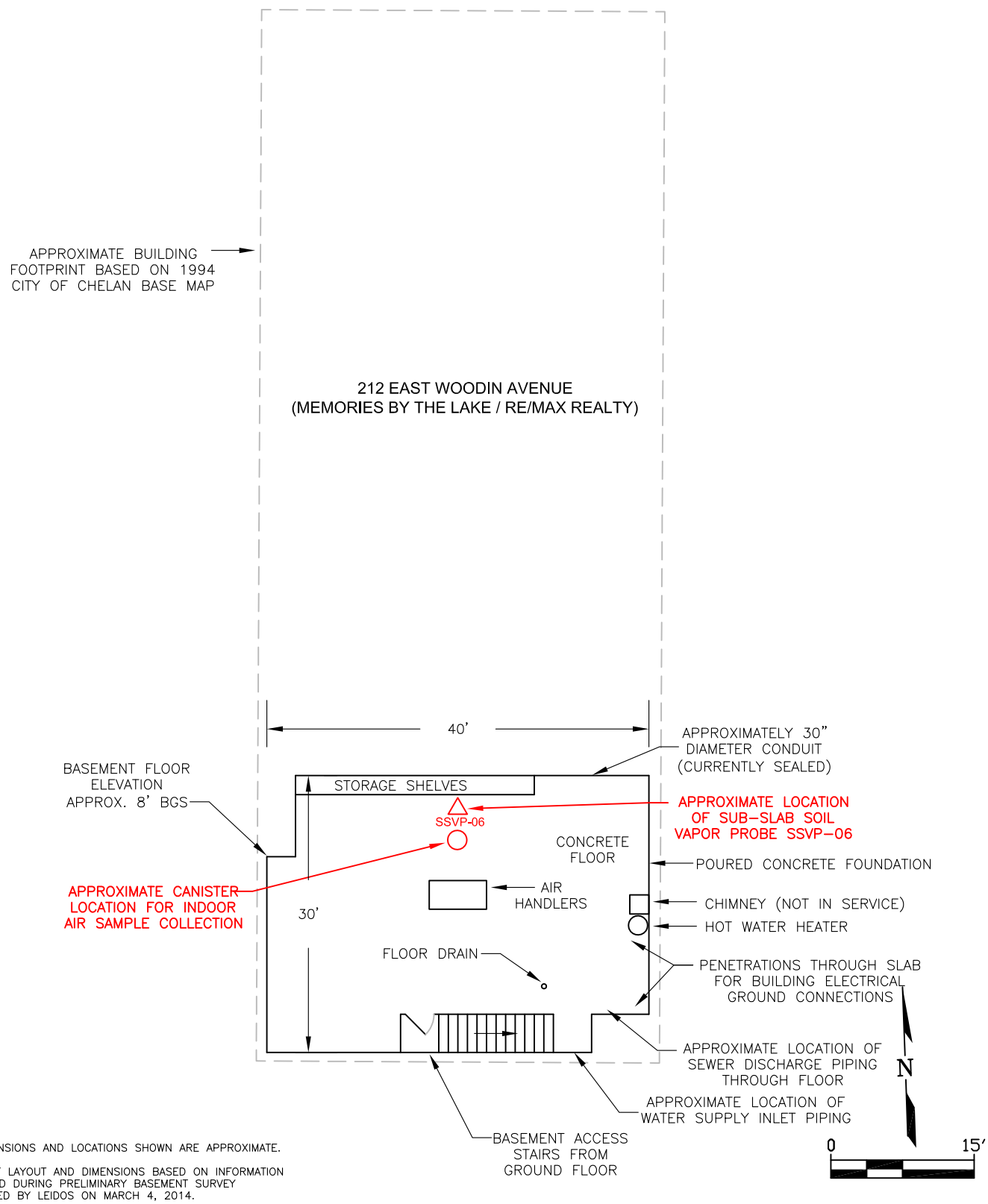
Chevron Service Station No. 9-6590
232 East Woodin Avenue
Chelan, Washington

FIGURE 4

Tier 2 Sampling Locations - 216 East Woodin Avenue

FILE NAME:	DATE:
96590_BLOD_053116.dwg	05/31/2016



NOTES:

ALL DIMENSIONS AND LOCATIONS SHOWN ARE APPROXIMATE.

BASEMENT LAYOUT AND DIMENSIONS BASED ON INFORMATION COLLECTED DURING PRELIMINARY BASEMENT SURVEY PERFORMED BY LEIDOS ON MARCH 4, 2014.

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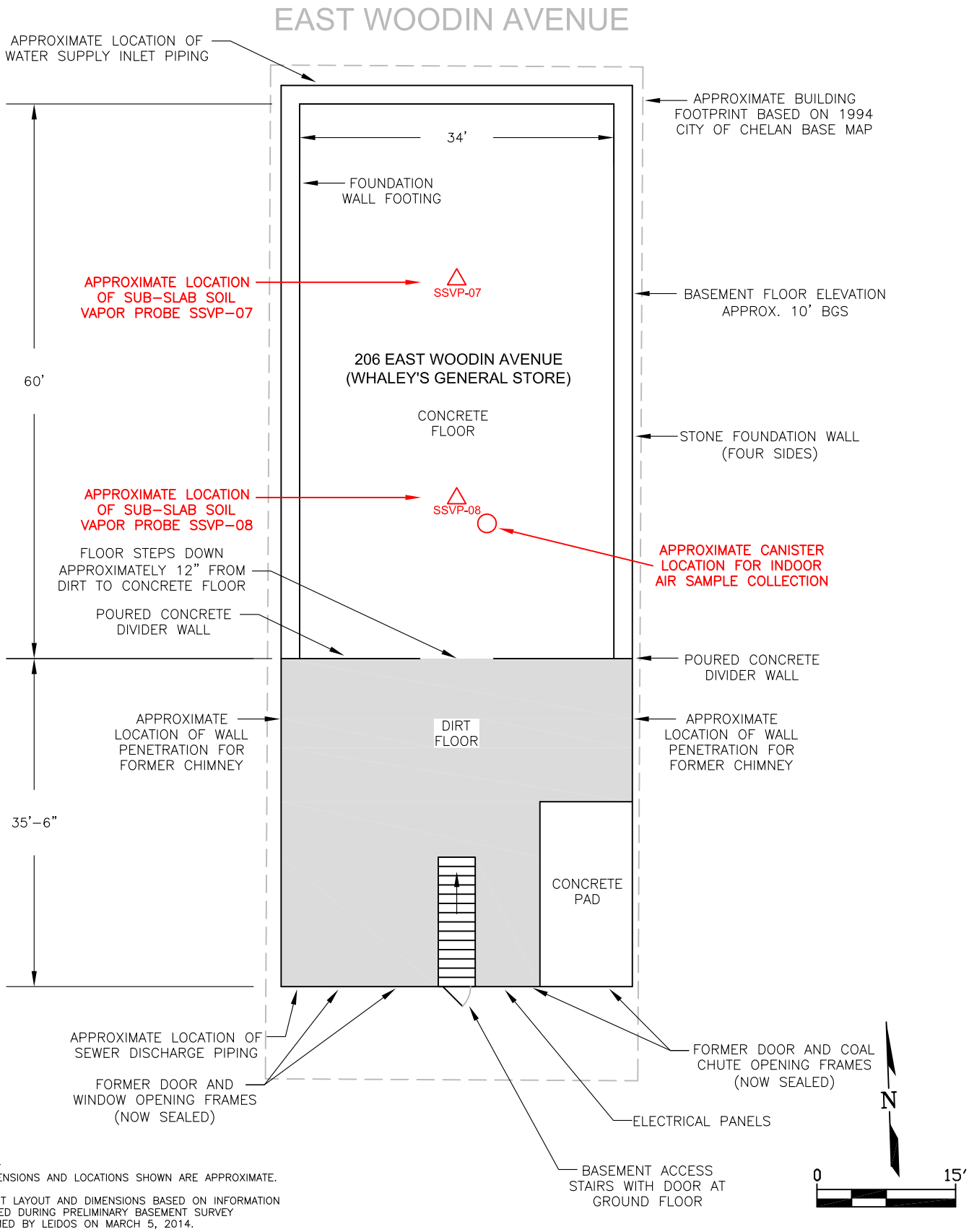
Chevron Service Station No. 9-6590
232 East Woodin Avenue
Chelan, Washington

FIGURE 5

Tier 2 Sampling Locations - 212 East Woodin Avenue

FILE NAME:	DATE:
96590_BLOD_053116.dwg	05/31/2016



NOTES:

ALL DIMENSIONS AND LOCATIONS SHOWN ARE APPROXIMATE.

BASEMENT LAYOUT AND DIMENSIONS BASED ON INFORMATION COLLECTED DURING PRELIMINARY BASEMENT SURVEY PERFORMED BY LEIDOS ON MARCH 5, 2014.

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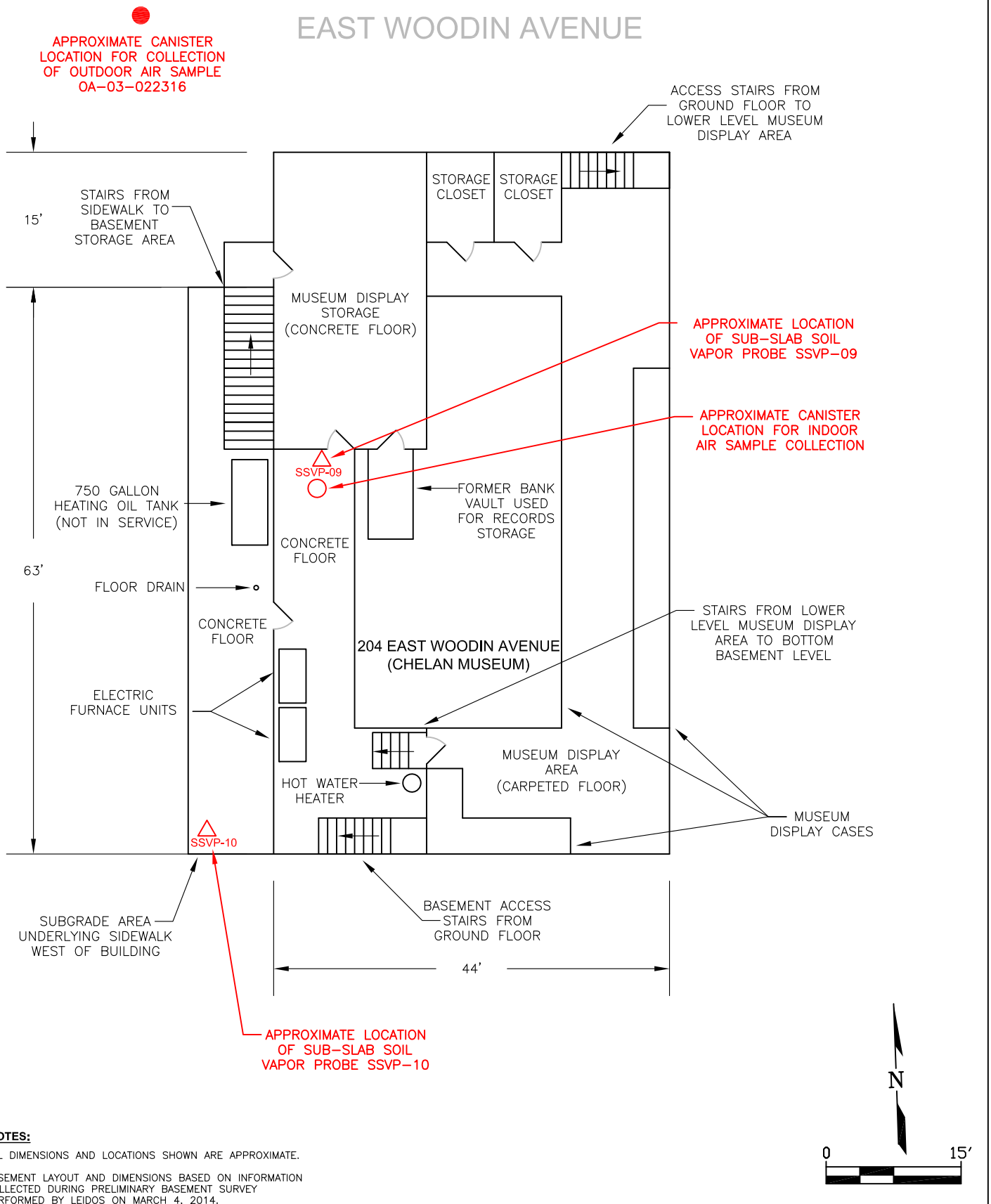
Chevron Service Station No. 9-6590
232 East Woodin Avenue
Chelan, Washington

FIGURE 6

Tier 2 Sampling Locations - 206 East Woodin Avenue

FILE NAME:	DATE:
96590_BLOD_053116.dwg	05/31/2016



NOTES:

ALL DIMENSIONS AND LOCATIONS SHOWN ARE APPROXIMATE.

BASEMENT LAYOUT AND DIMENSIONS BASED ON INFORMATION COLLECTED DURING PRELIMINARY BASEMENT SURVEY PERFORMED BY LEIDOS ON MARCH 4, 2014.

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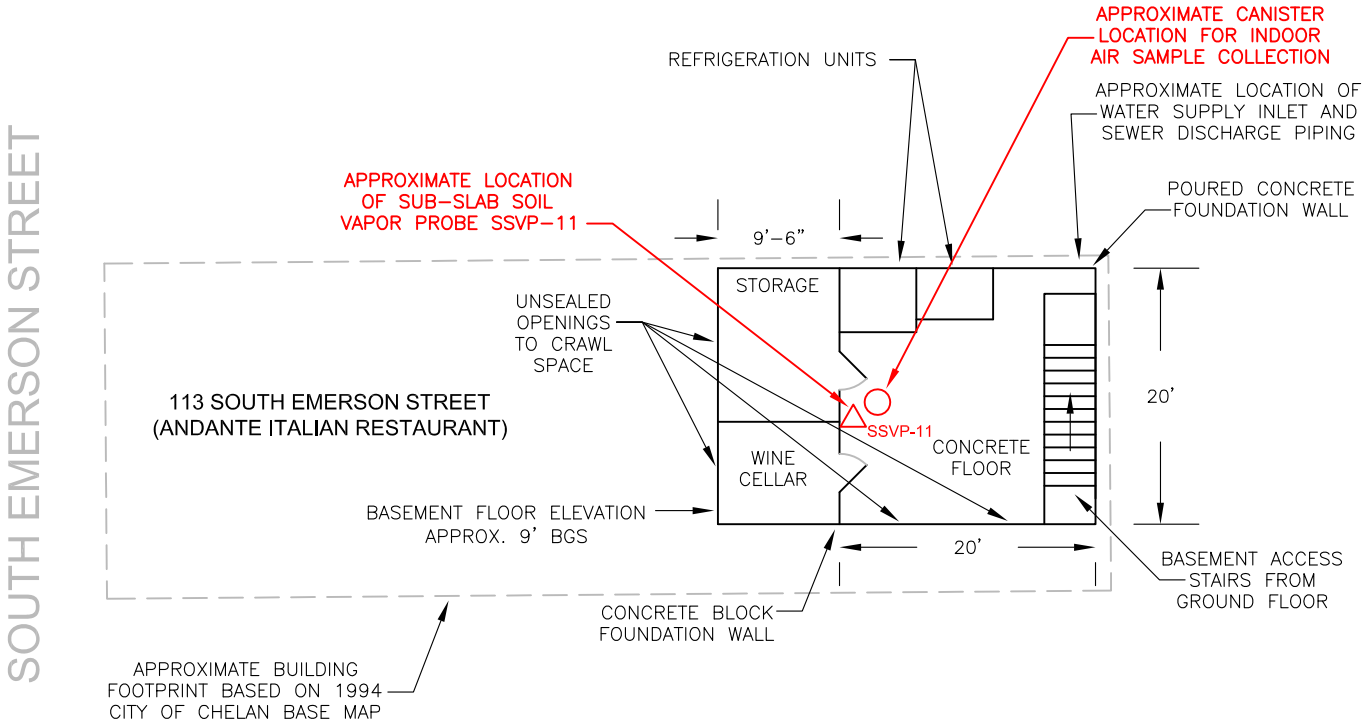
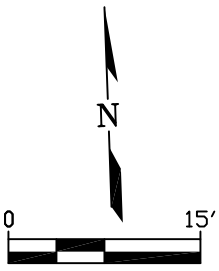
Chevron Service Station No. 9-6590
232 East Woodin Avenue
Chelan, Washington

FIGURE 7

Tier 2 Sampling Locations - 204 East Woodin Avenue

FILE NAME:	DATE:
96590_BLOD_053116.dwg	05/31/2016





NOTES:

ALL DIMENSIONS AND LOCATIONS SHOWN ARE APPROXIMATE.

BASEMENT LAYOUT AND DIMENSIONS BASED ON INFORMATION COLLECTED DURING PRELIMINARY BASEMENT SURVEY PERFORMED BY LEIDOS ON MARCH 5, 2014.

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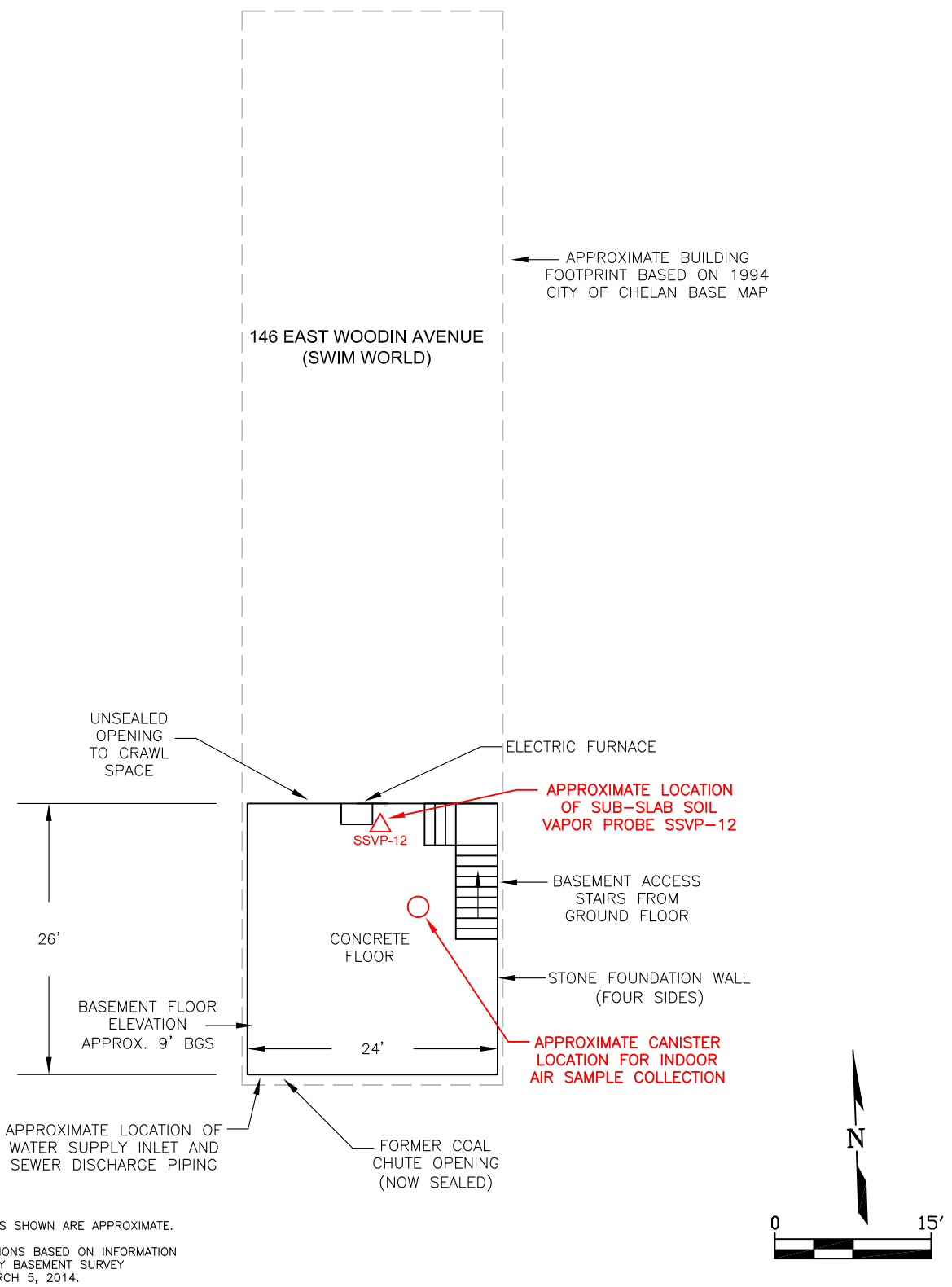
Chevron Service Station No. 9-6590
232 East Woodin Avenue
Chelan, Washington

FIGURE 8

Tier 2 Sampling Locations -
113 South Emerson Street

FILE NAME:	DATE:
96590_BLOD_053116.dwg	05/31/2016



NOTES:

ALL DIMENSIONS AND LOCATIONS SHOWN ARE APPROXIMATE.

BASEMENT LAYOUT AND DIMENSIONS BASED ON INFORMATION COLLECTED DURING PRELIMINARY BASEMENT SURVEY PERFORMED BY LEIDOS ON MARCH 5, 2014.

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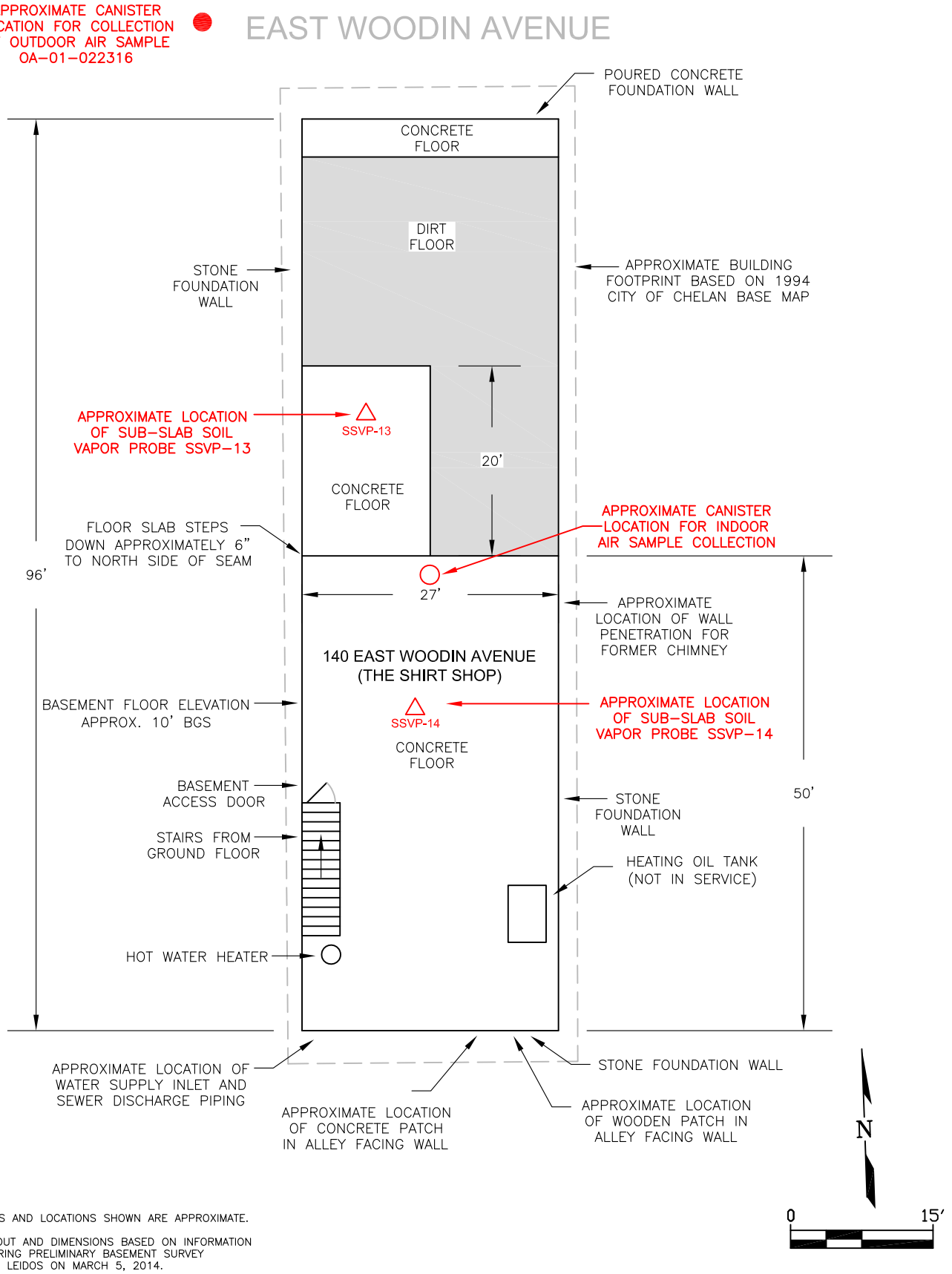
Chevron Service Station No. 9-6590
232 East Woodin Avenue
Chelan, Washington

FIGURE 9

Tier 2 Sampling Locations - 146 East Woodin Avenue

FILE NAME:	DATE:
96590_BLOD_053116.dwg	05/31/2016



NOTES:

ALL DIMENSIONS AND LOCATIONS SHOWN ARE APPROXIMATE.

BASEMENT LAYOUT AND DIMENSIONS BASED ON INFORMATION COLLECTED DURING PRELIMINARY BASEMENT SURVEY PERFORMED BY LEIDOS ON MARCH 5, 2014.

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Chevron Service Station No. 9-6590
232 East Woodin Avenue
Chelan, Washington

FIGURE 10

Tier 2 Sampling Locations - 140 East Woodin Avenue

FILE NAME:	DATE:
96590_BLOD_053116.dwg	05/31/2016

Figure 11: Indoor and Outdoor Air vs. Sub-Slab Soil Vapor Sampling Results - February 2016
Chevron Service Station No. 9-6590
232 East Woodin Avenue
Chelan, Washington

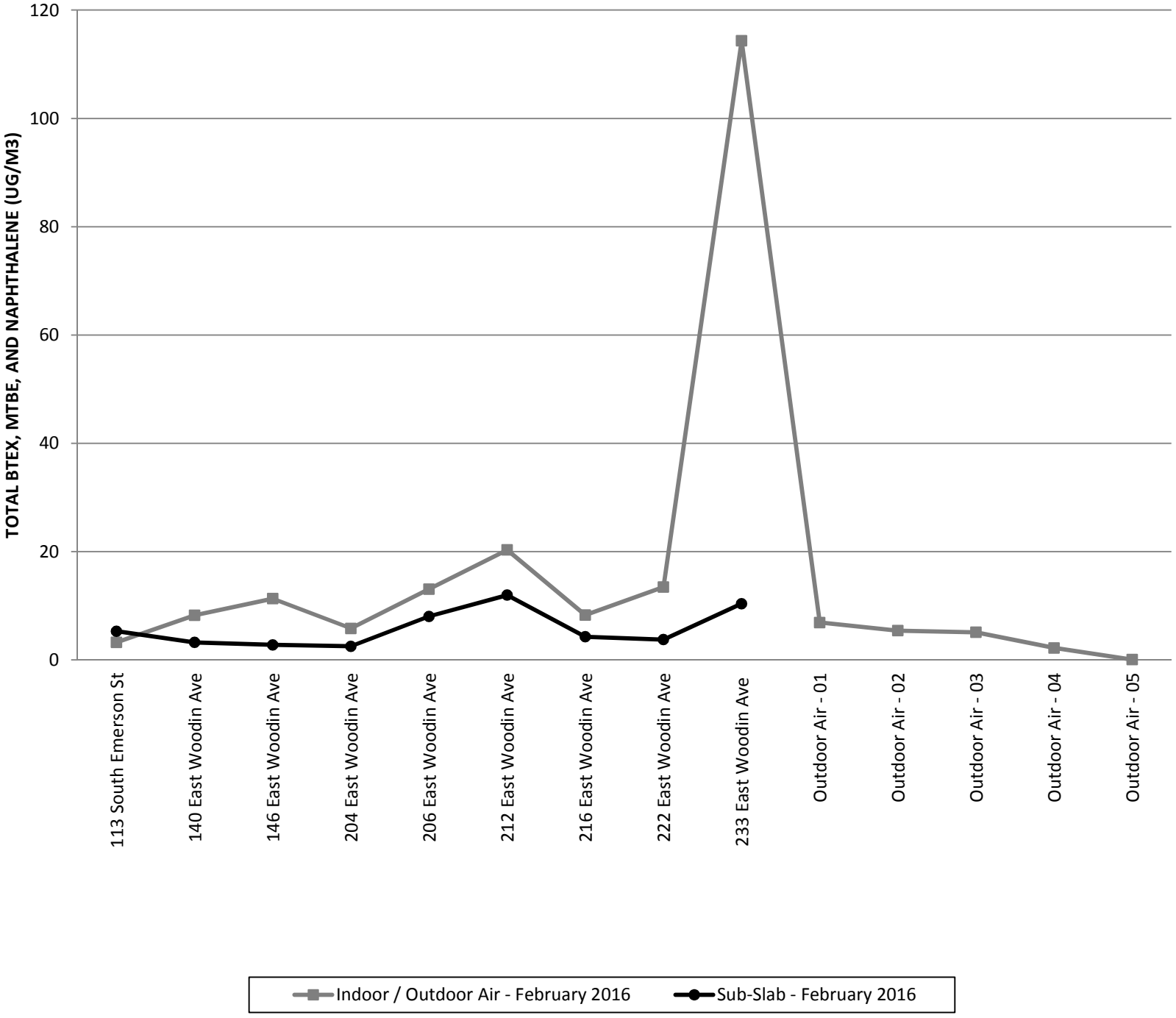
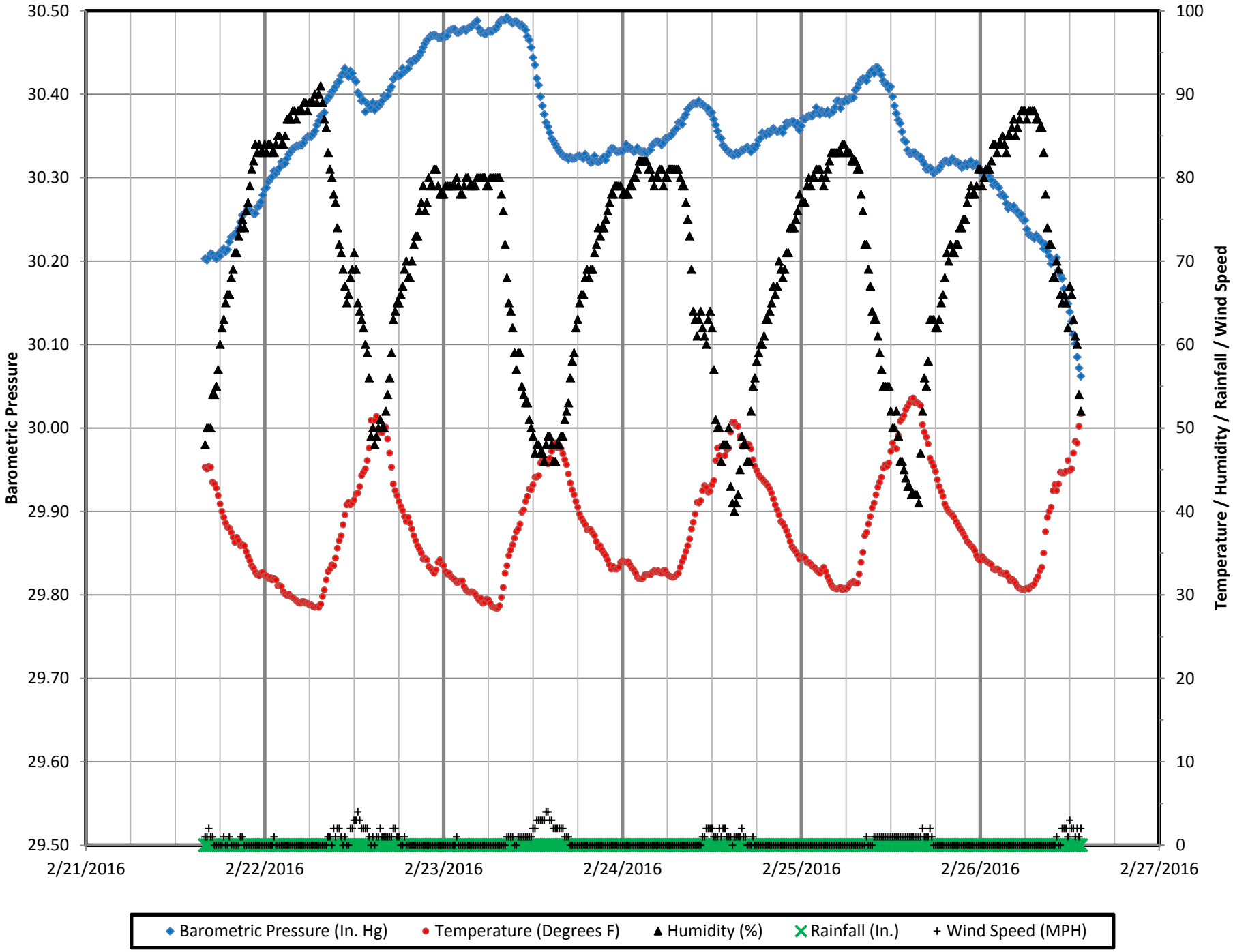


Figure 12: Tier 2 Assessment Weather Station Data Plot - February 2016

Chevron Service Station No. 9-6590
232 East Woodin Avenue
Chelan, Washington



Appendix A:
Photographs

Photo No: 1
Location: 233 East Wapato Avenue - NAPA Auto Parts
Date: February 22, 2016

Photo No: 2
Location: 233 East Wapato Avenue - NAPA Auto Parts
Date: February 22, 2016

Photo No: 3
Location: 233 East Wapato Avenue - NAPA Auto Parts
Date: February 22, 2016

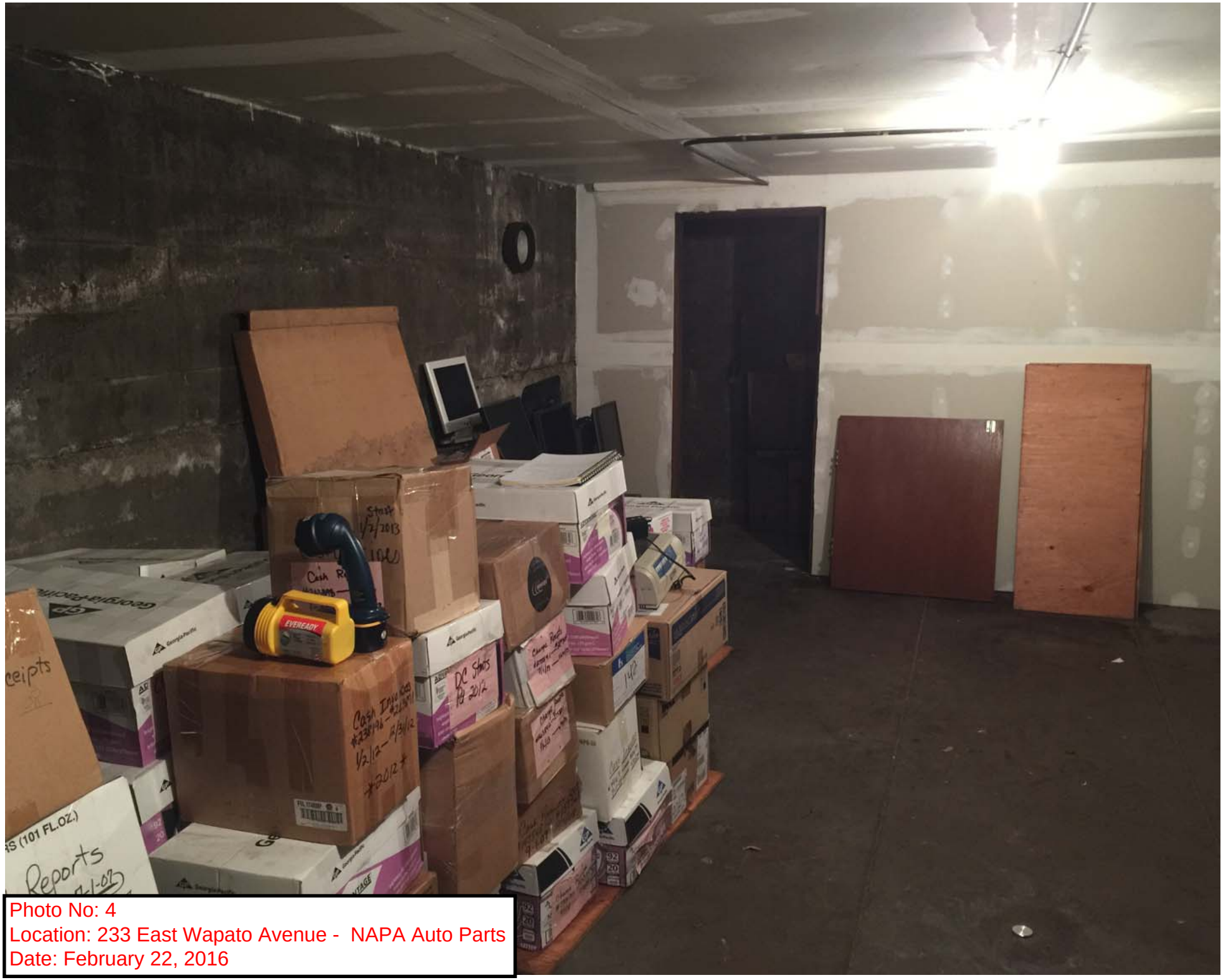
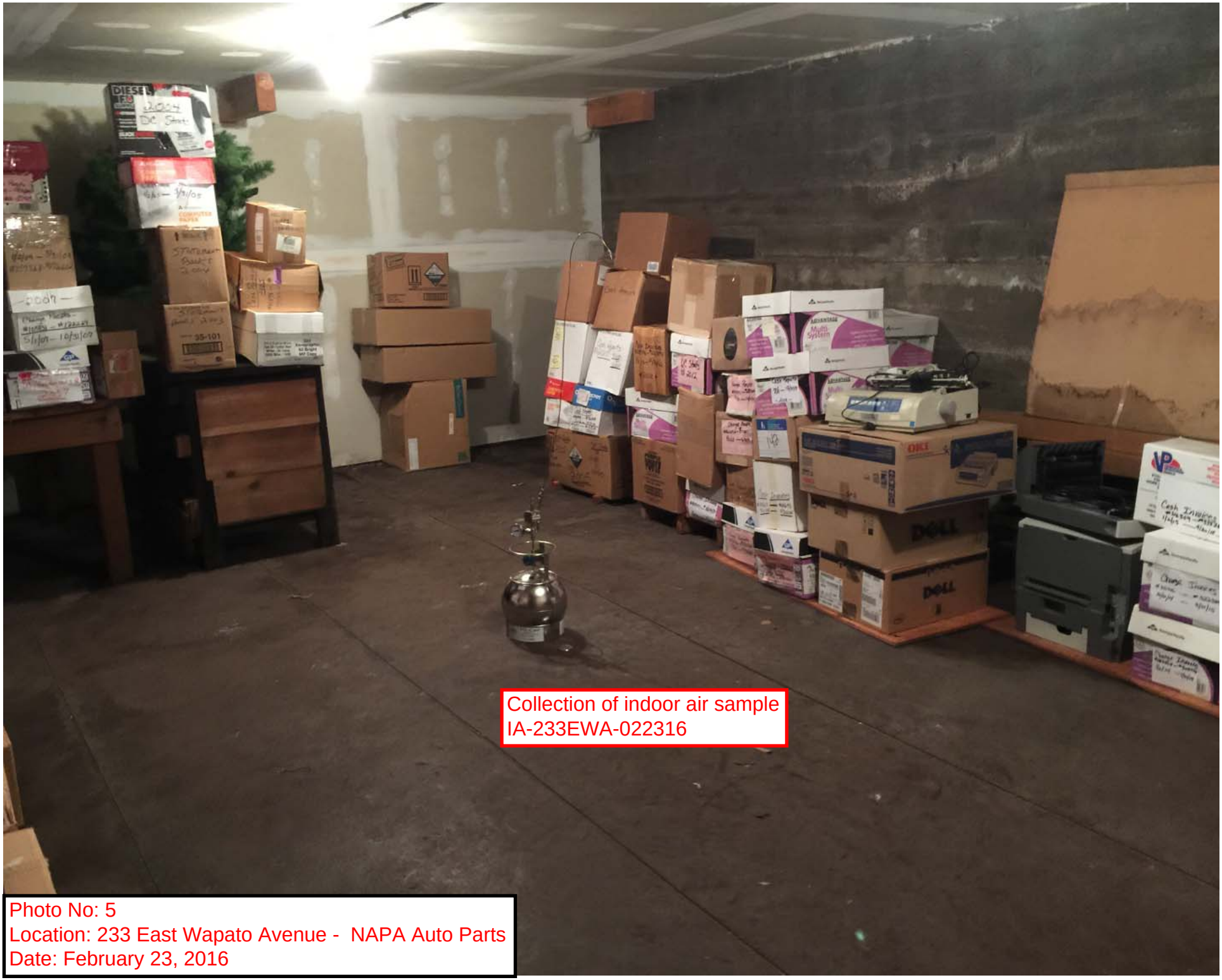


Photo No: 4
Location: 233 East Wapato Avenue - NAPA Auto Parts
Date: February 22, 2016



Collection of indoor air sample
IA-233EWA-022316

Photo No: 5
Location: 233 East Wapato Avenue - NAPA Auto Parts
Date: February 23, 2016

Photo No: 6
Location: 222 East Woodin Avenue - Wells Fargo Bank
Date: February 22, 2016

Photo No: 7
Location: 222 East Woodin Avenue - Wells Fargo Bank
Date: February 22, 2016

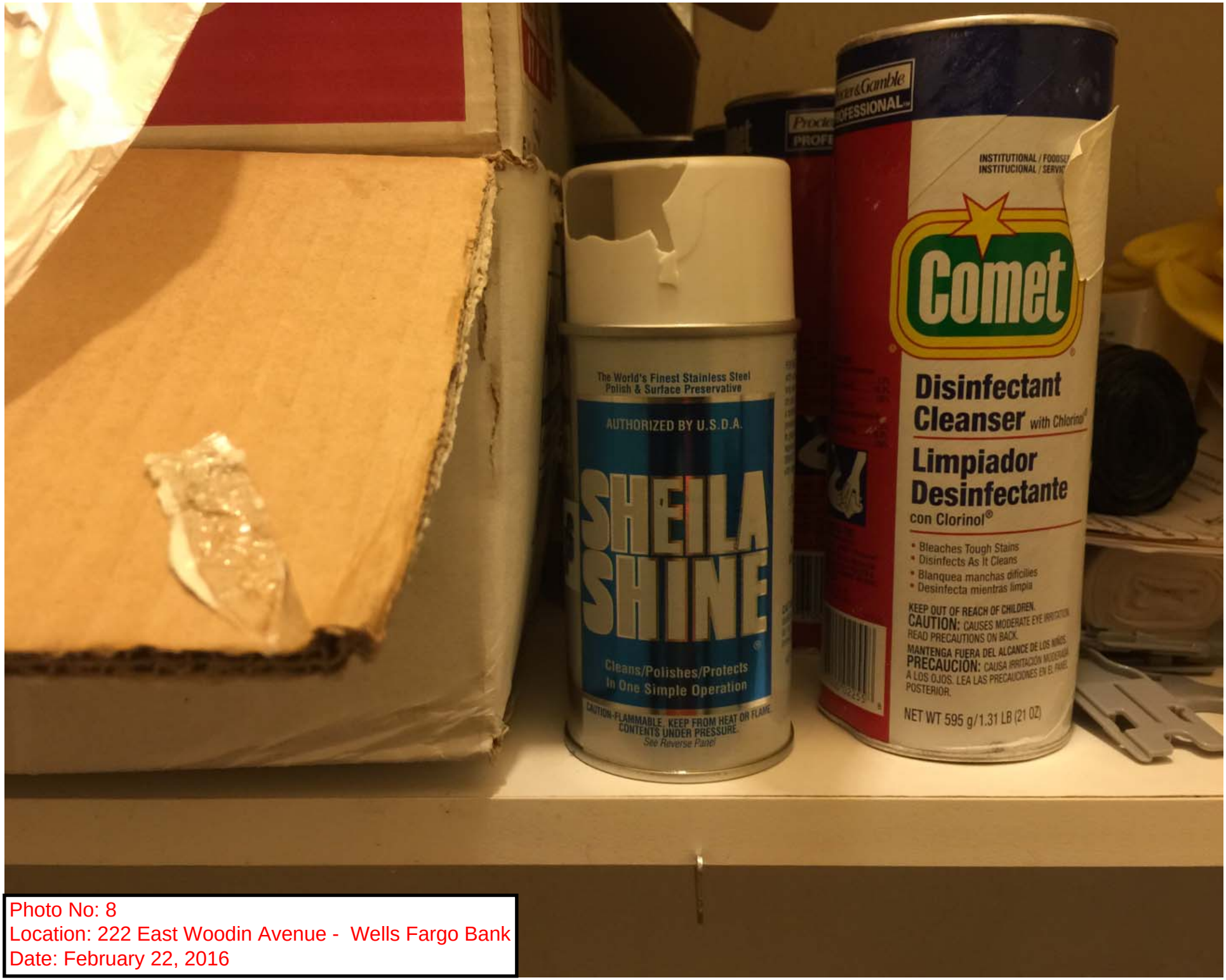


Photo No: 8
Location: 222 East Woodin Avenue - Wells Fargo Bank
Date: February 22, 2016

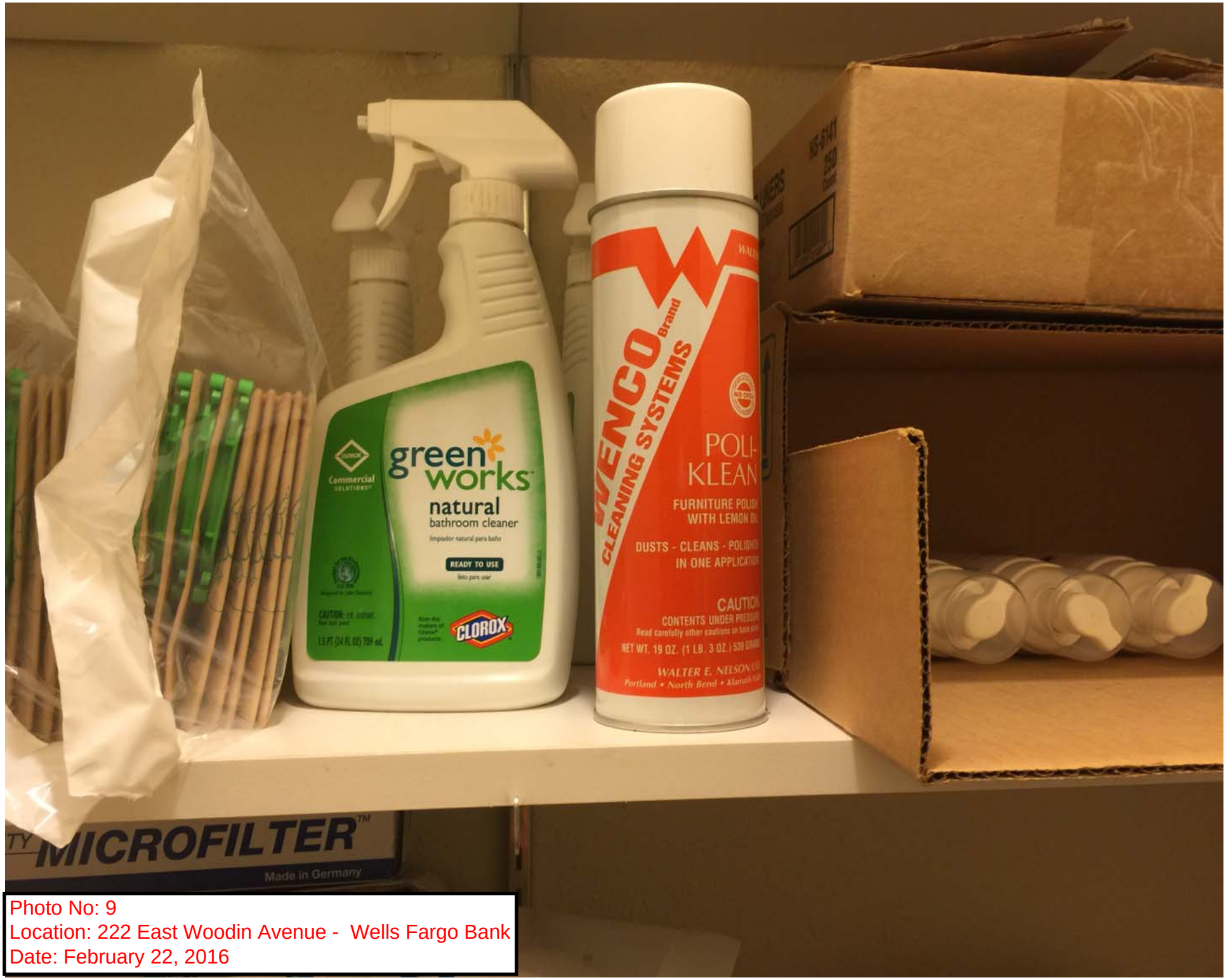


Photo No: 9
Location: 222 East Woodin Avenue - Wells Fargo Bank
Date: February 22, 2016

Photo No: 10
Location: 222 East Woodin Avenue - Wells Fargo Bank
Date: February 22, 2016

Photo No: 11
Location: 222 East Woodin Avenue - Wells Fargo Bank
Date: February 22, 2016

Photo No: 12
Location: 222 East Woodin Avenue - Wells Fargo Bank
Date: February 22, 2016

Photo No: 13
Location: 222 East Woodin Avenue - Wells Fargo Bank
Date: February 23, 2016

Photo No: 14
Location: 216 East Woodin Avenue - Lake Chelan Chamber of Commerce
Date: February 22, 2016

Photo No: 15
Location: 216 East Woodin Avenue - Lake Chelan Chamber of Commerce
Date: February 22, 2016

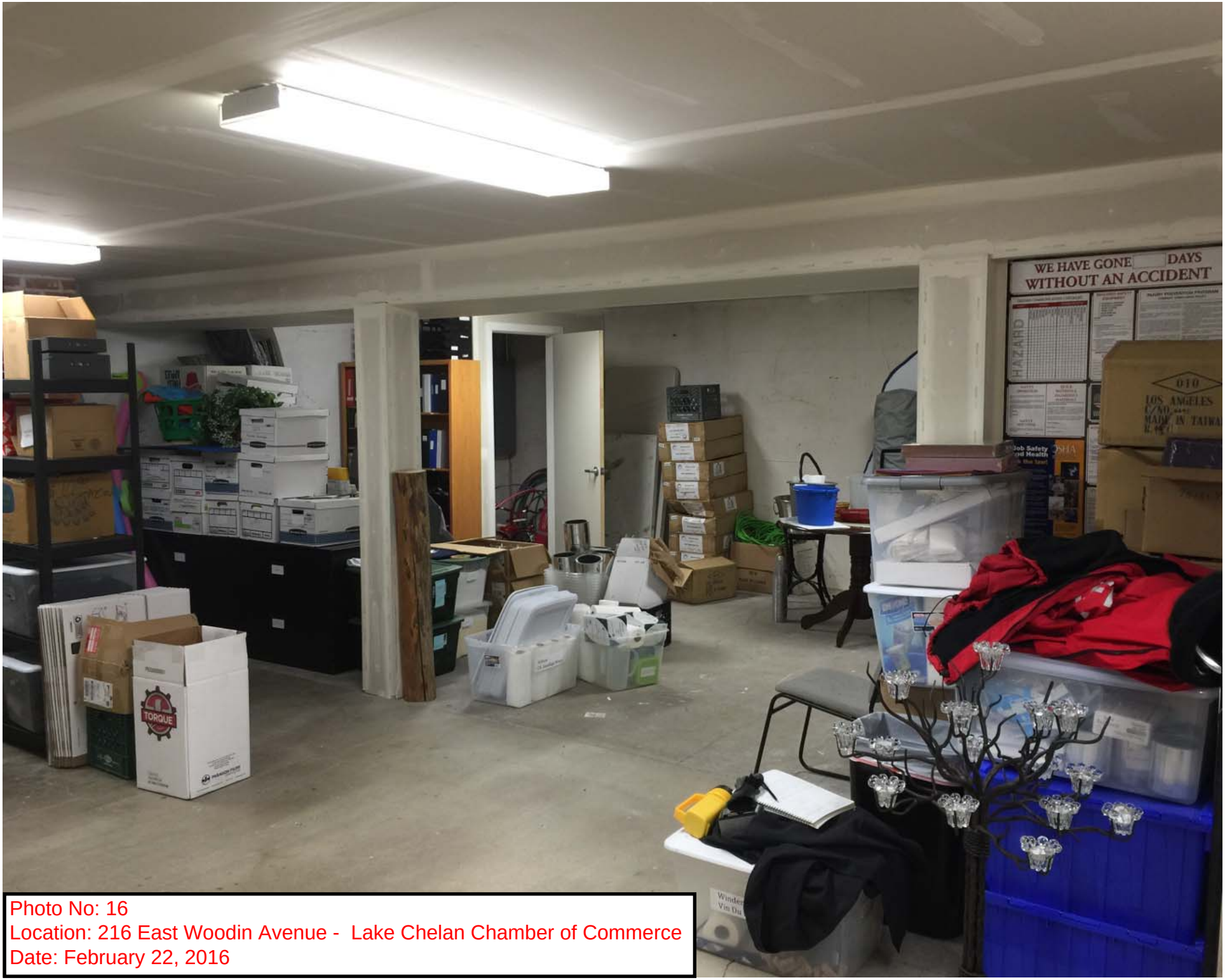


Photo No: 16
Location: 216 East Woodin Avenue - Lake Chelan Chamber of Commerce
Date: February 22, 2016

Photo No: 17
Location: 216 East Woodin Avenue - Lake Chelan Chamber of Commerce
Date: February 22, 2016

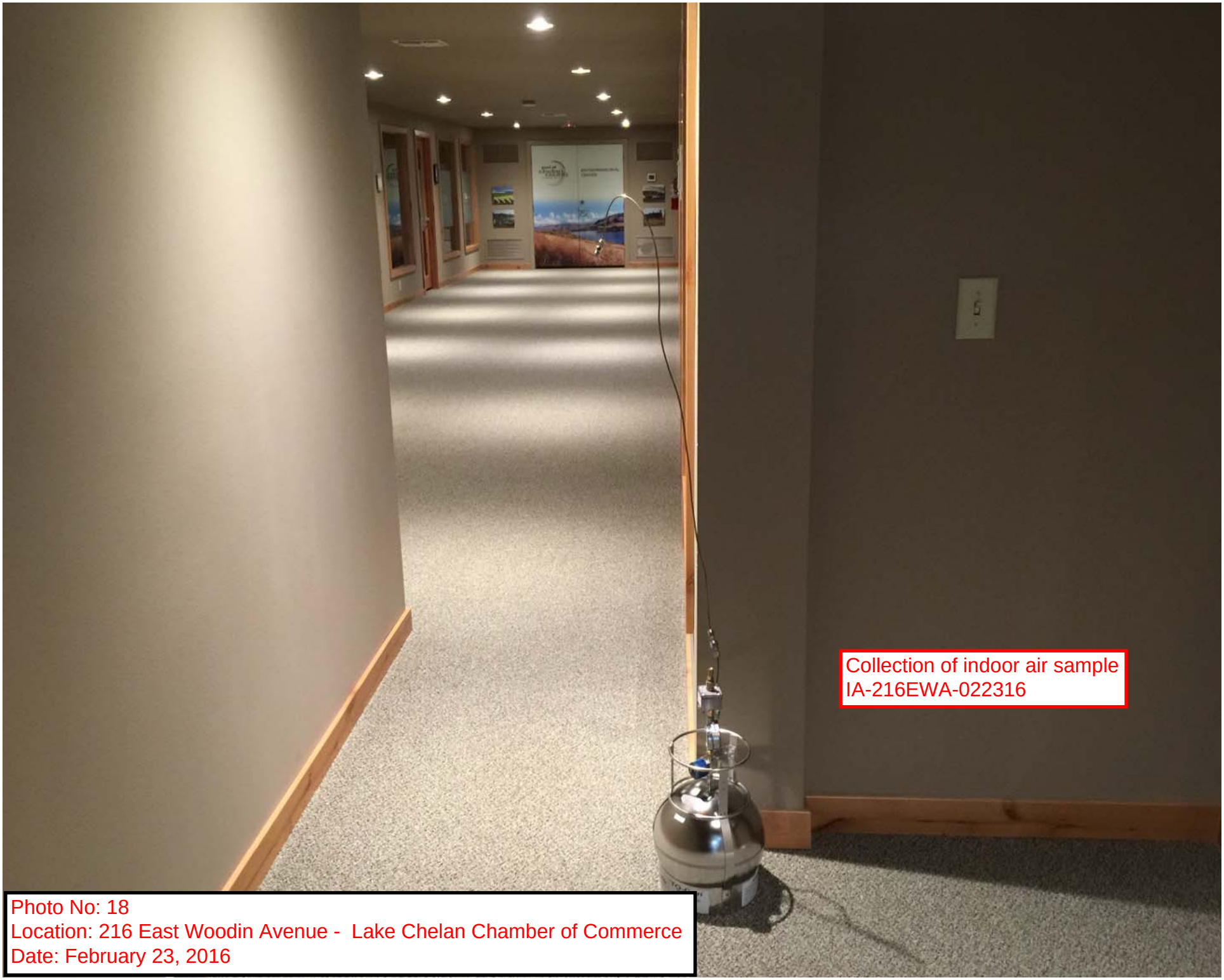


Photo No: 18
Location: 216 East Woodin Avenue - Lake Chelan Chamber of Commerce
Date: February 23, 2016

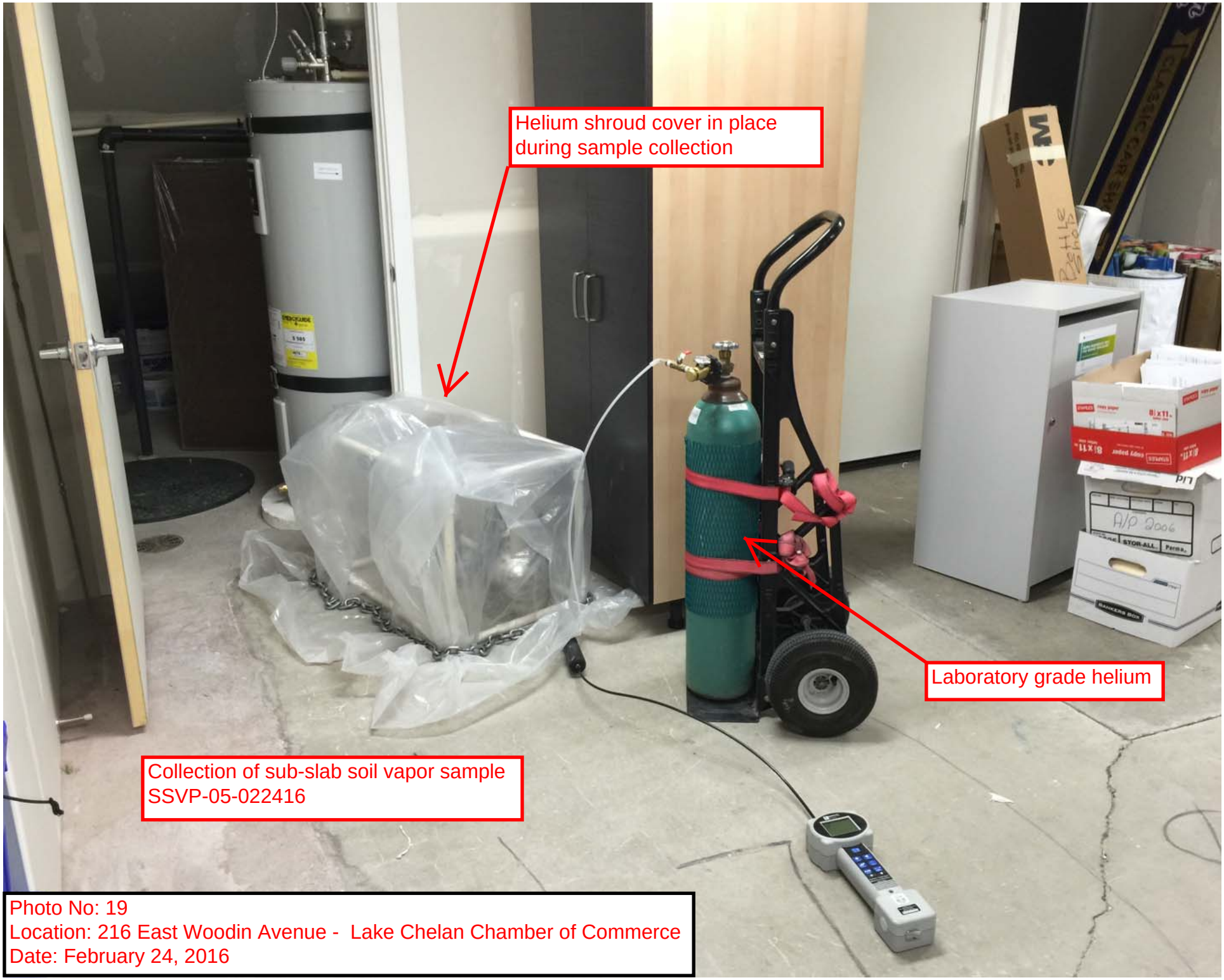


Photo No: 19
Location: 216 East Woodin Avenue - Lake Chelan Chamber of Commerce
Date: February 24, 2016

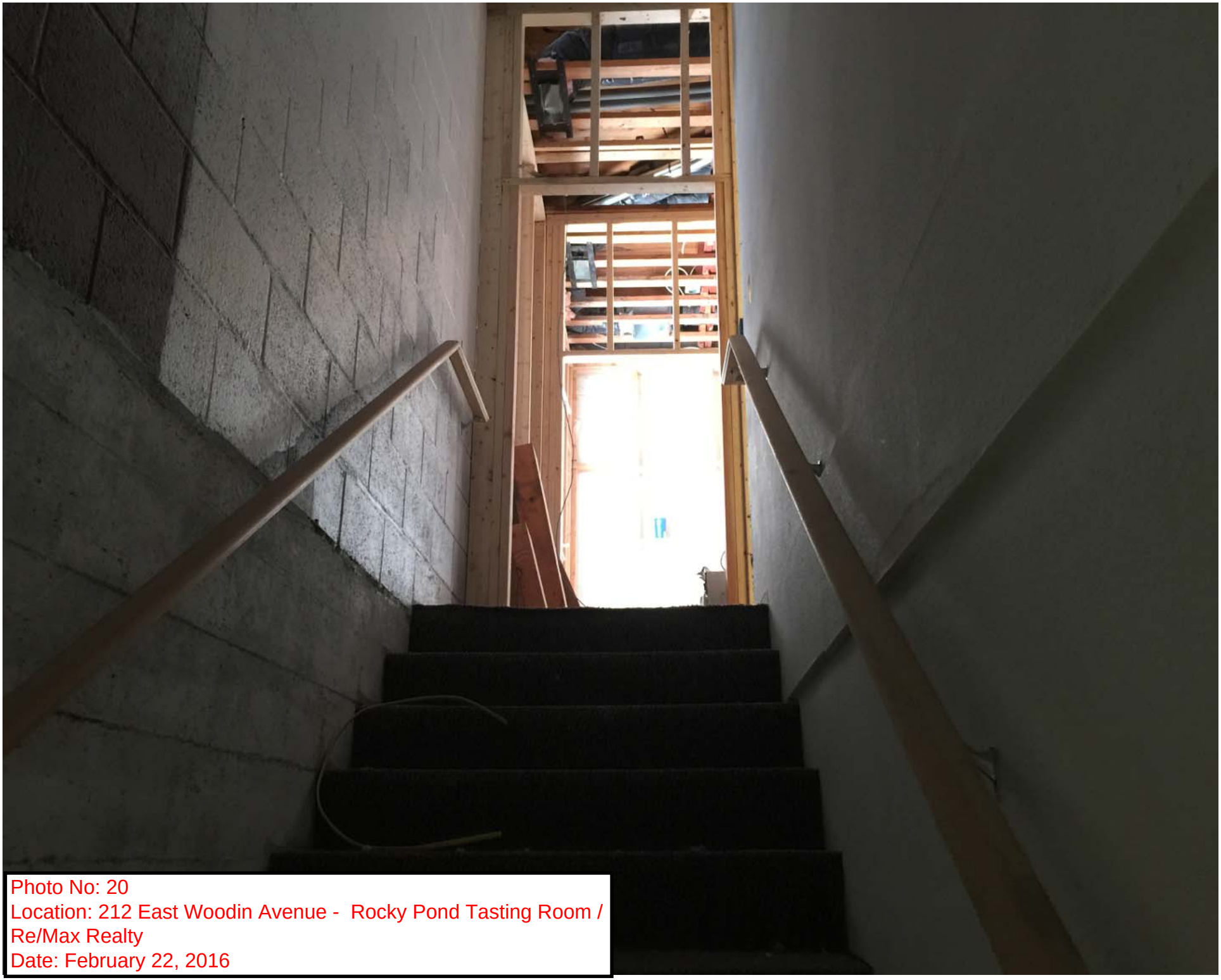


Photo No: 20
Location: 212 East Woodin Avenue - Rocky Pond Tasting Room / Re/Max Realty
Date: February 22, 2016

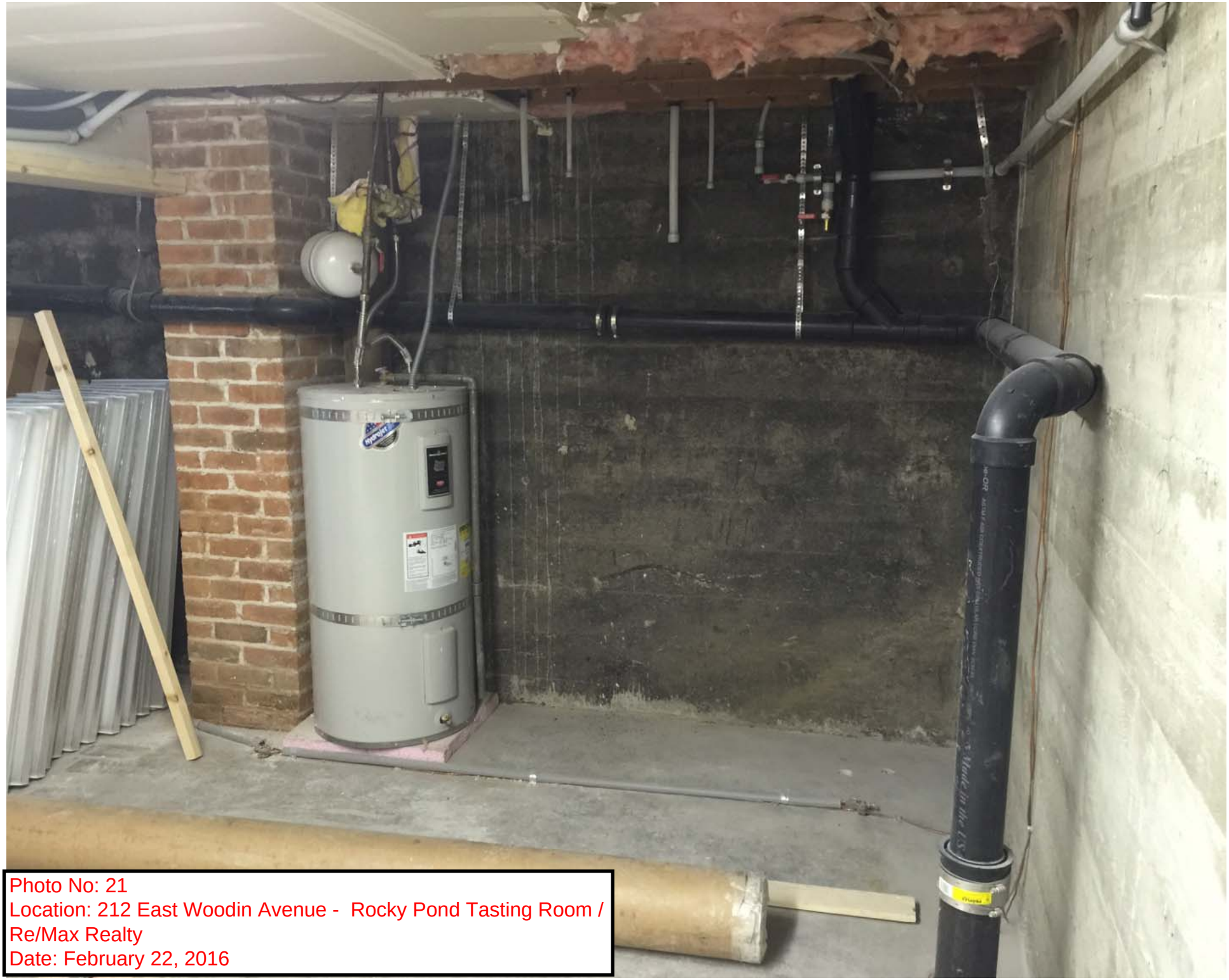


Photo No: 21
Location: 212 East Woodin Avenue - Rocky Pond Tasting Room / Re/Max Realty
Date: February 22, 2016

Photo No: 22
Location: 212 East Woodin Avenue - Rocky Pond Tasting Room / Re/Max Realty
Date: February 22, 2016

Photo No: 23
Location: 212 East Woodin Avenue - Rocky Pond Tasting Room / Re/Max Realty
Date: February 22, 2016

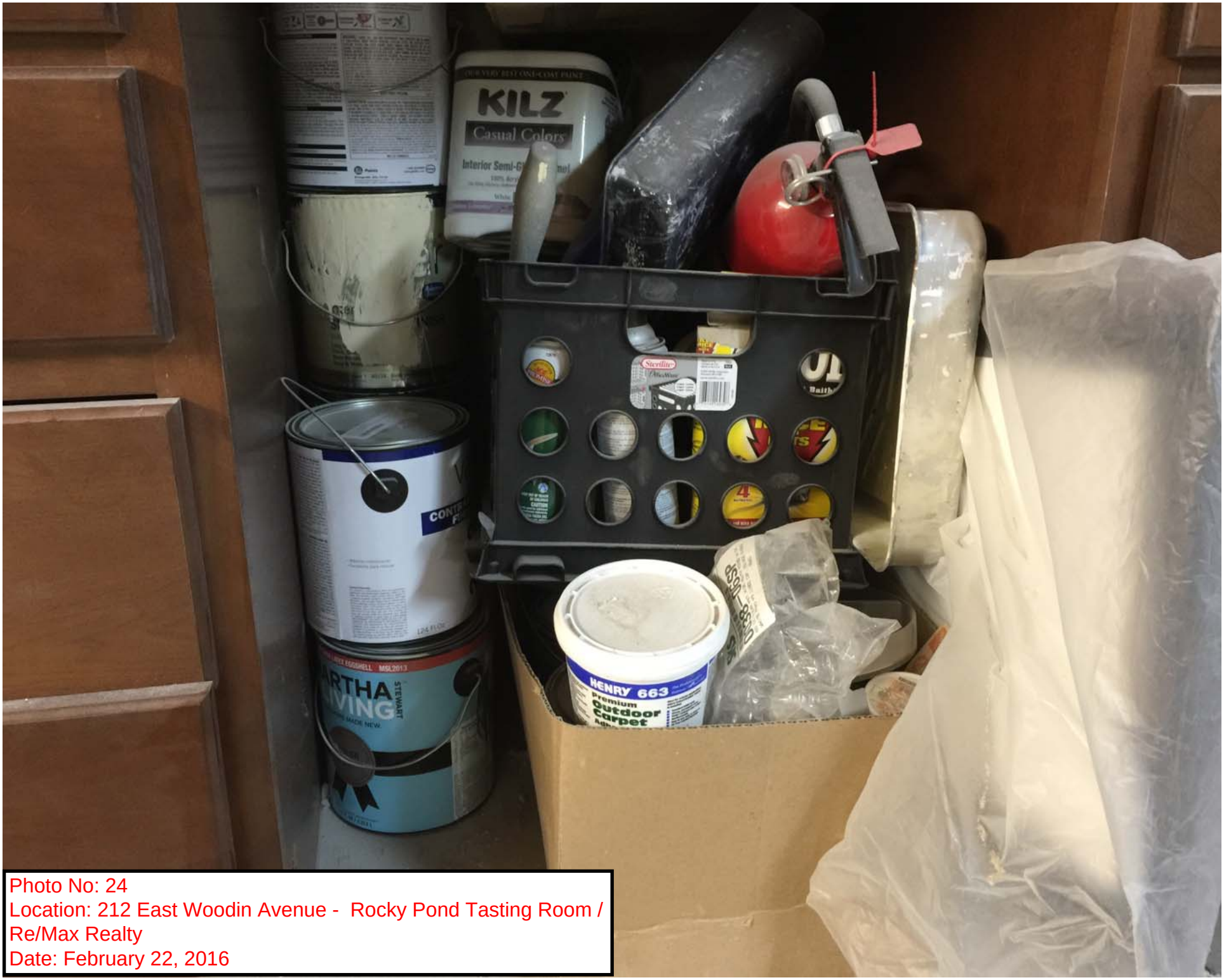


Photo No: 24
Location: 212 East Woodin Avenue - Rocky Pond Tasting Room / Re/Max Realty
Date: February 22, 2016

Photo No: 25
Location: 212 East Woodin Avenue - Rocky Pond Tasting Room / Re/Max Realty
Date: February 22, 2016

Photo No: 26
Location: 212 East Woodin Avenue - Rocky Pond Tasting Room / Re/Max Realty
Date: February 23, 2016

Photo No: 27
Location: 204 East Woodin Avenue - Lake Chelan Historical Society
Date: February 22, 2016

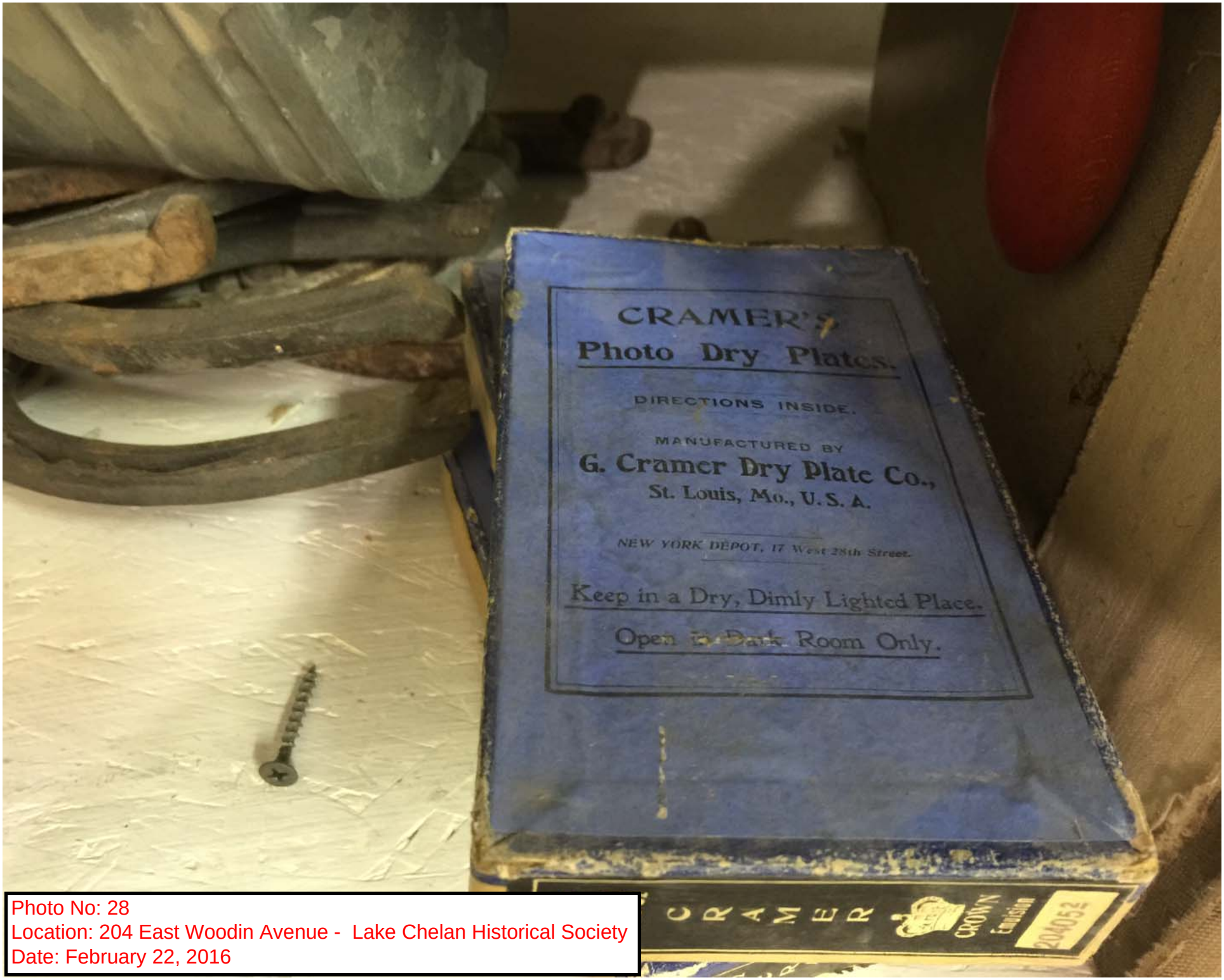


Photo No: 28
Location: 204 East Woodin Avenue - Lake Chelan Historical Society
Date: February 22, 2016

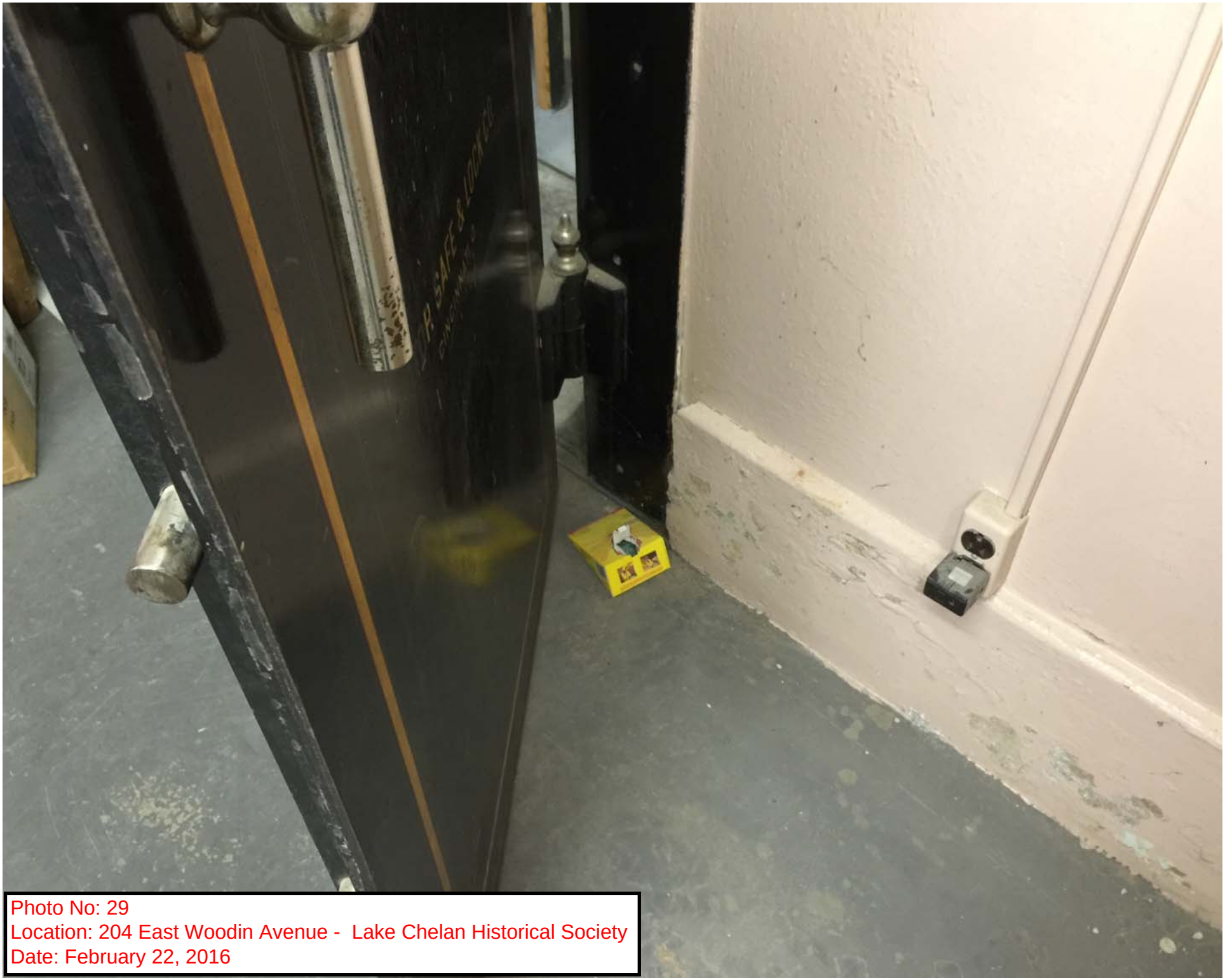


Photo No: 29
Location: 204 East Woodin Avenue - Lake Chelan Historical Society
Date: February 22, 2016

Photo No: 30
Location: 204 East Woodin Avenue - Lake Chelan Historical Society
Date: February 22, 2016

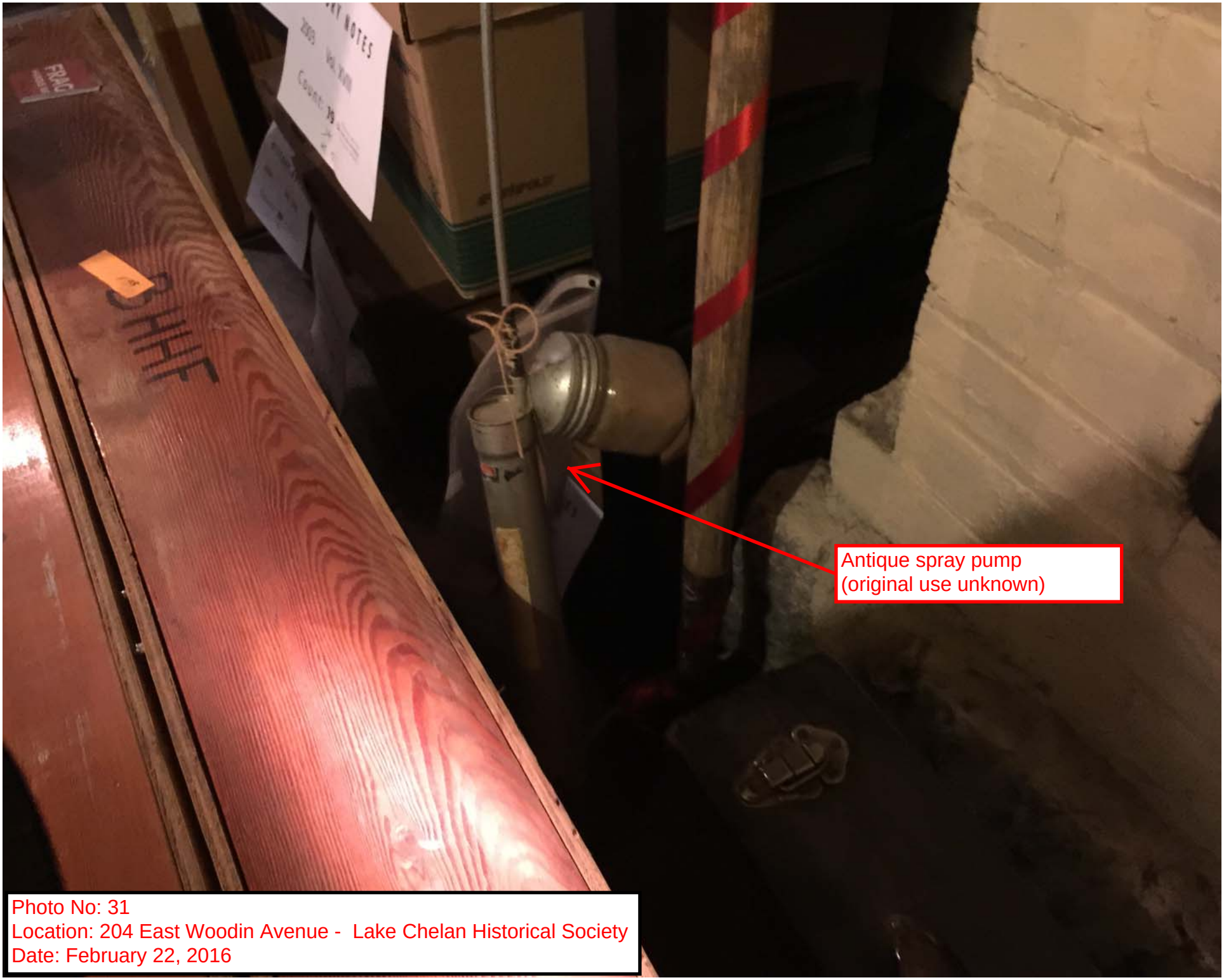


Photo No: 31
Location: 204 East Woodin Avenue - Lake Chelan Historical Society
Date: February 22, 2016

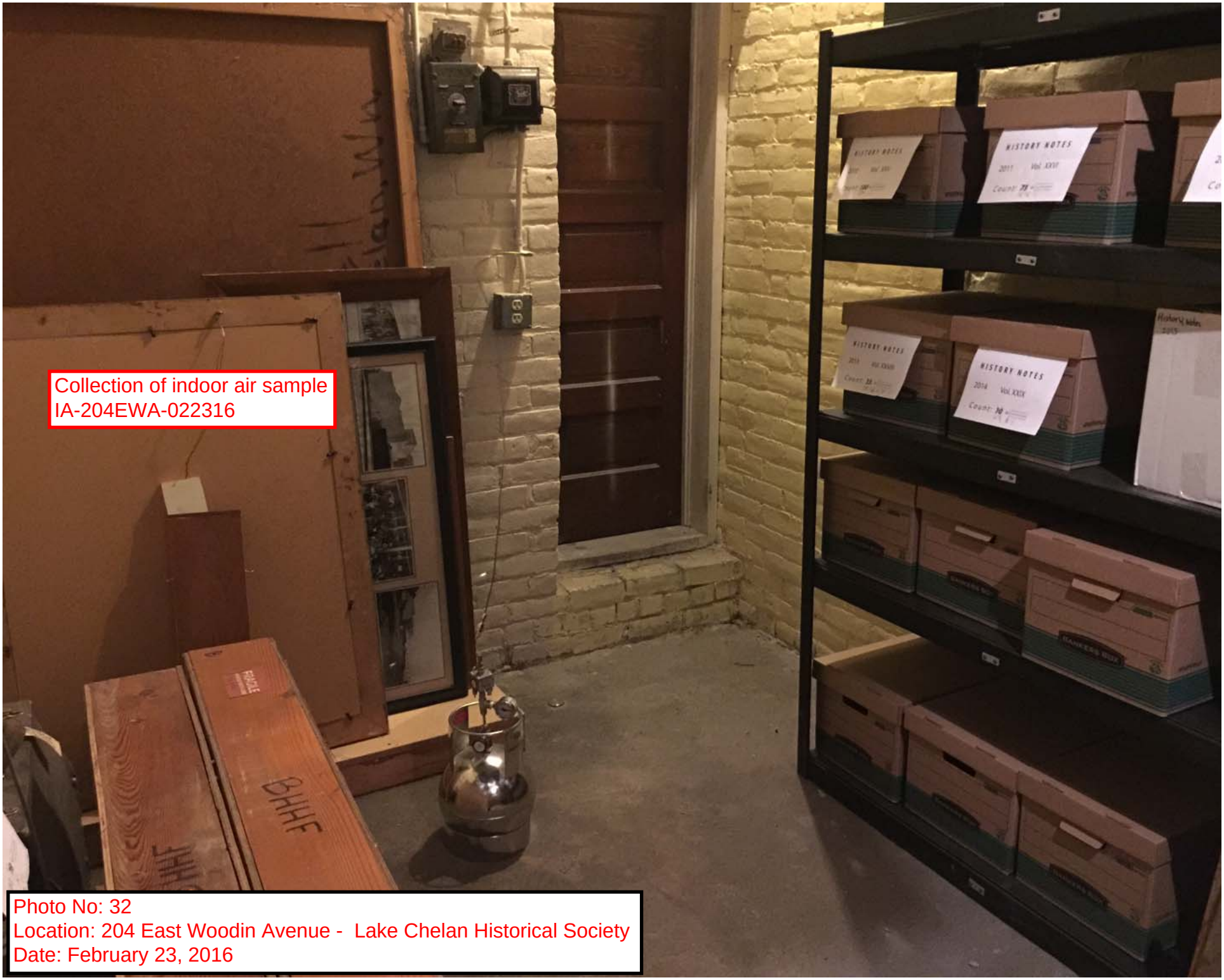


Photo No: 32
Location: 204 East Woodin Avenue - Lake Chelan Historical Society
Date: February 23, 2016

Photo No: 33
Location: 204 East Woodin Avenue - Lake Chelan Historical Society
Date: February 25, 2016

Photo No: 34
Location: 113 South Emerson Street - Andante Restaurant
Date: February 22, 2016

Photo No: 35
Location: 113 South Emerson Street - Andante Restaurant
Date: February 22, 2016

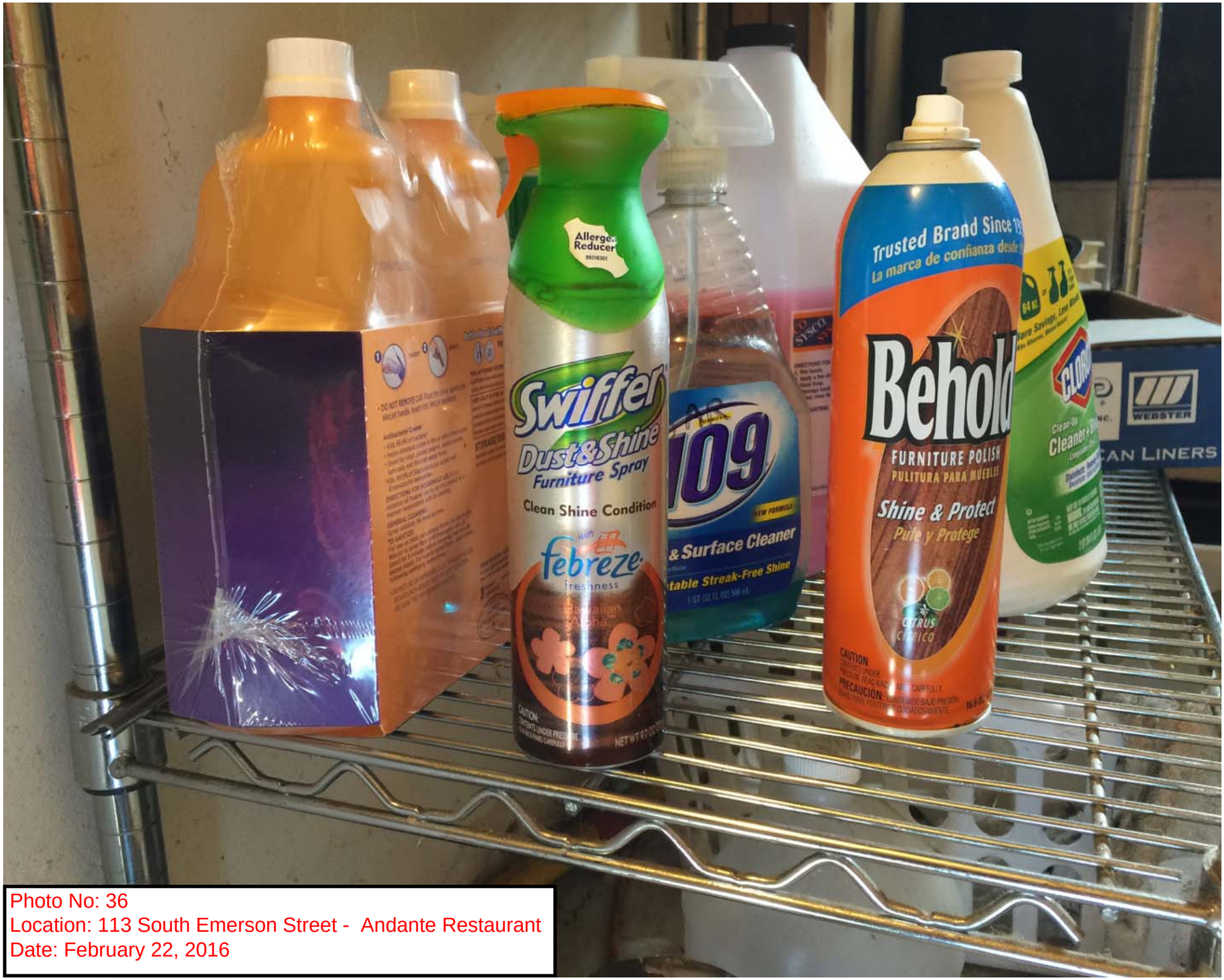


Photo No: 36
Location: 113 South Emerson Street - Andante Restaurant
Date: February 22, 2016

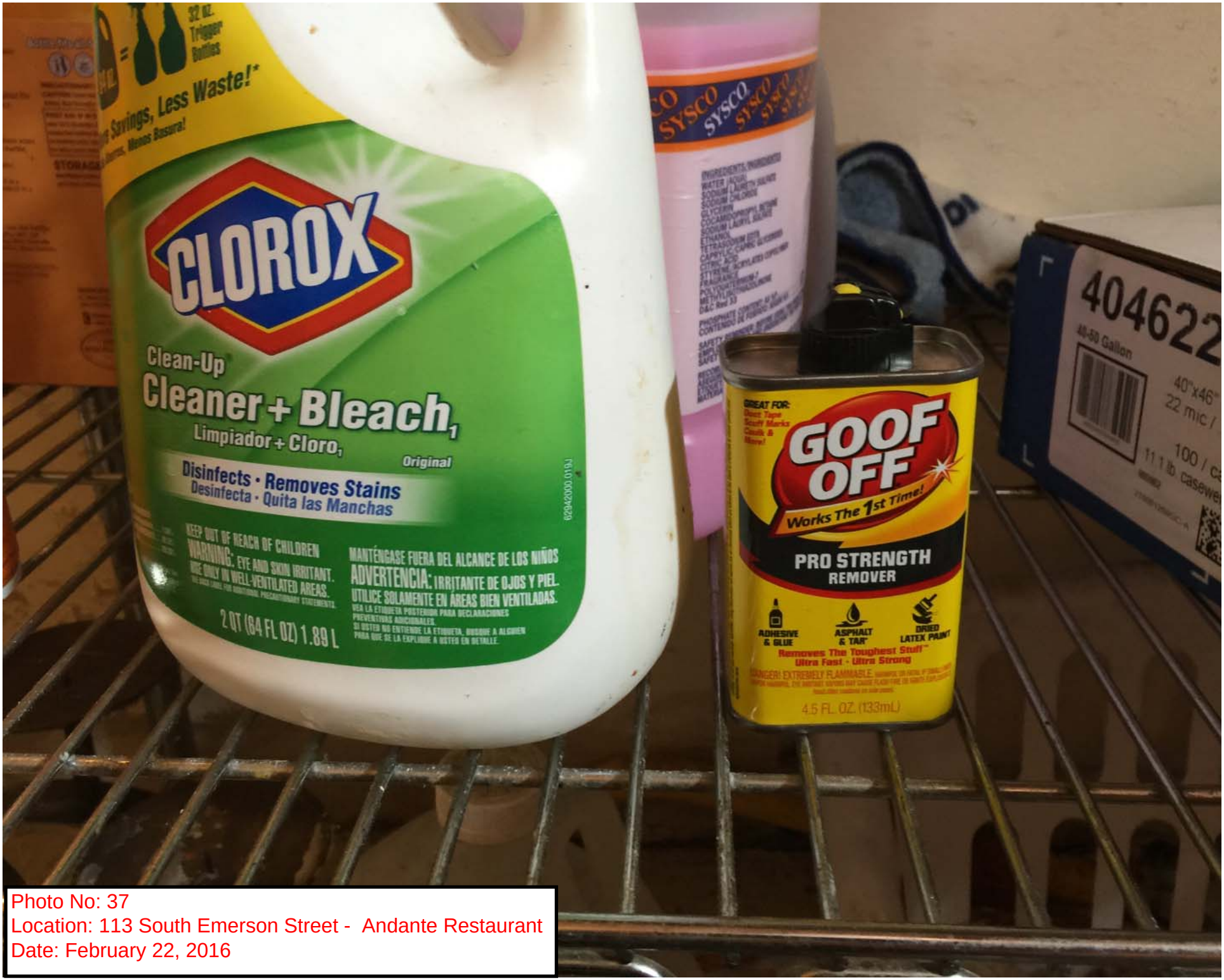


Photo No: 37
Location: 113 South Emerson Street - Andante Restaurant
Date: February 22, 2016

Photo No: 38
Location: 113 South Emerson Street - Andante Restaurant
Date: February 22, 2016

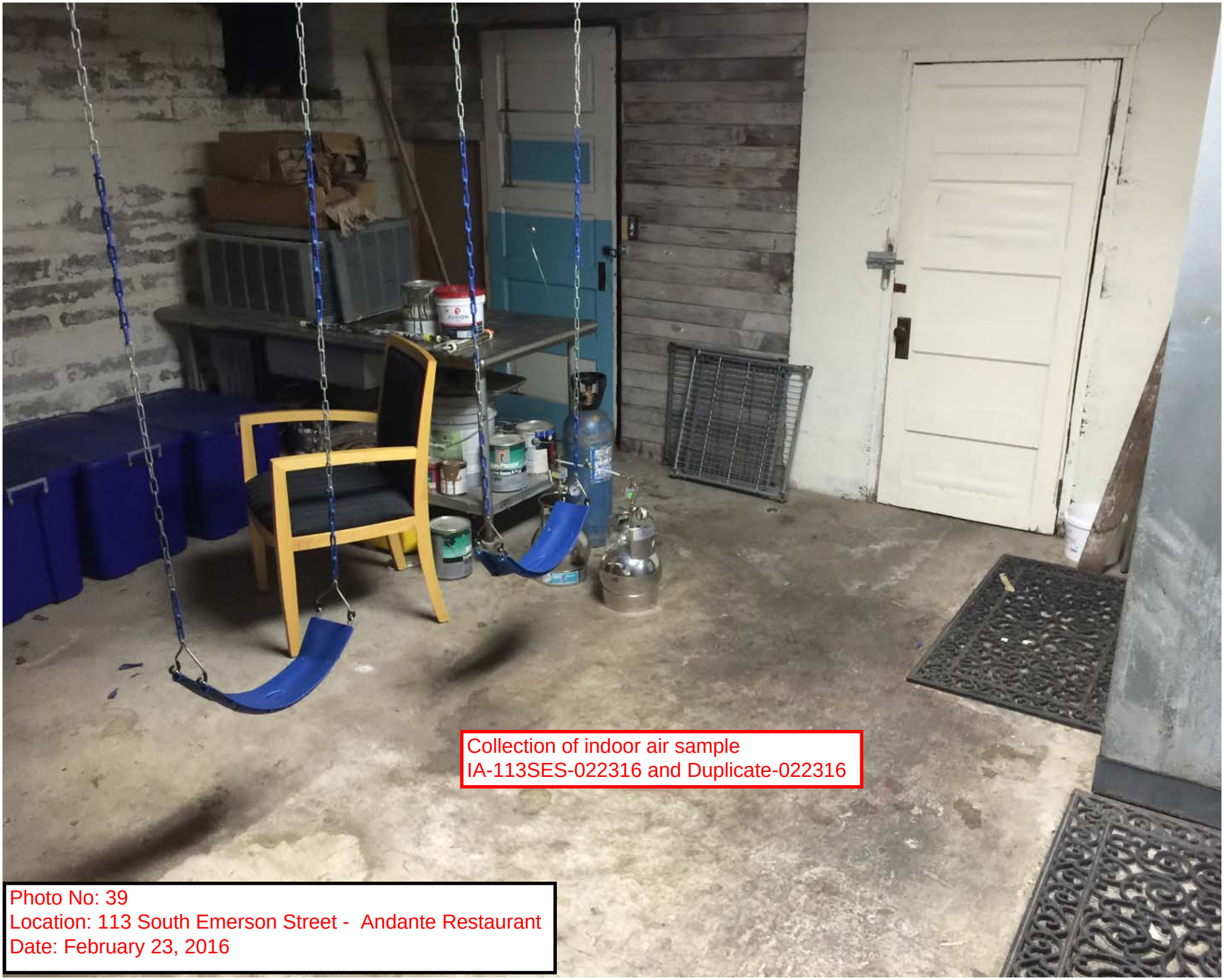


Photo No: 39
Location: 113 South Emerson Street - Andante Restaurant
Date: February 23, 2016

Photo No: 40
Location: 146 East Woodin Avenue - Swim World
Date: February 22, 2016

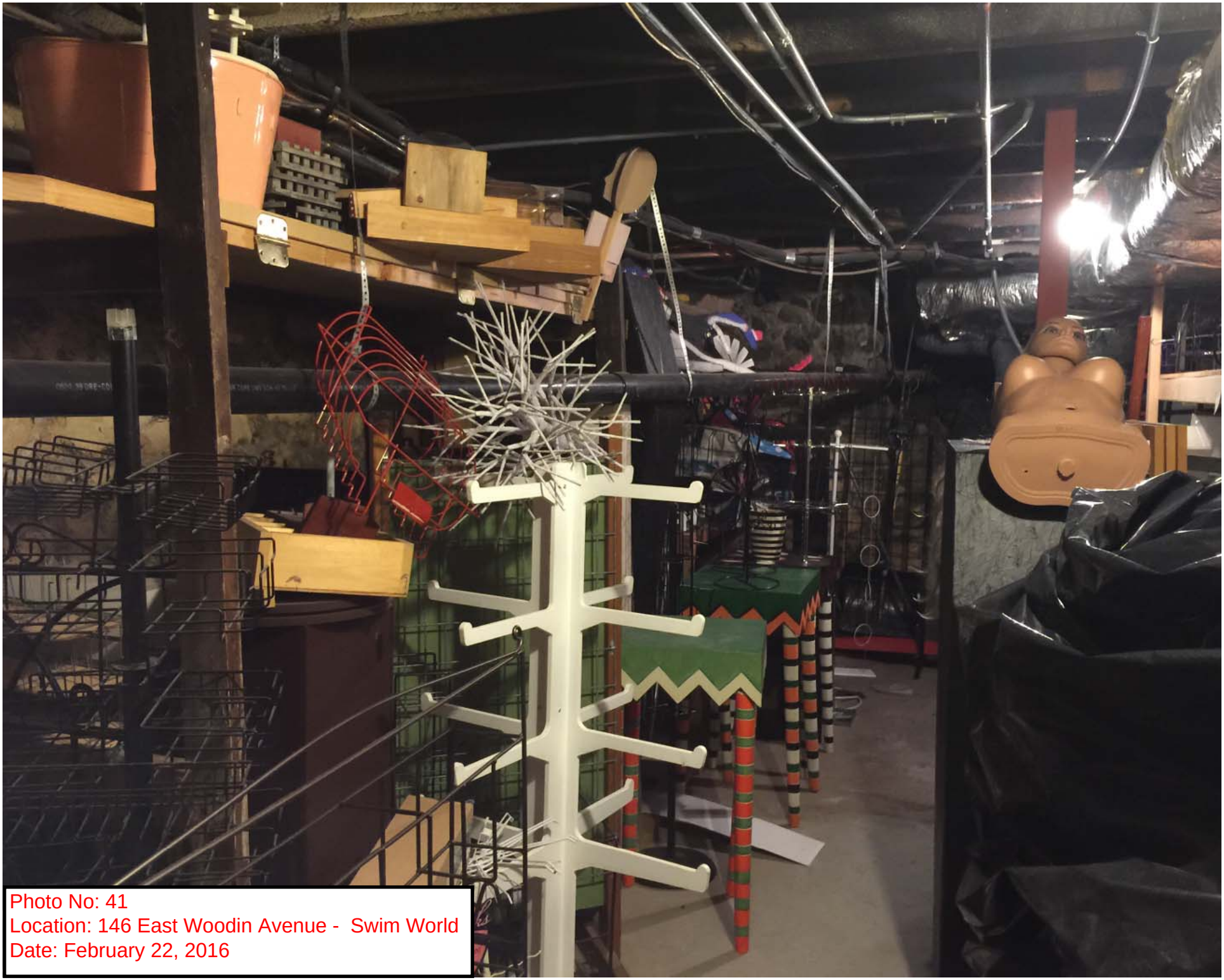


Photo No: 41
Location: 146 East Woodin Avenue - Swim World
Date: February 22, 2016

Photo No: 42
Location: 146 East Woodin Avenue - Swim World
Date: February 22, 2016

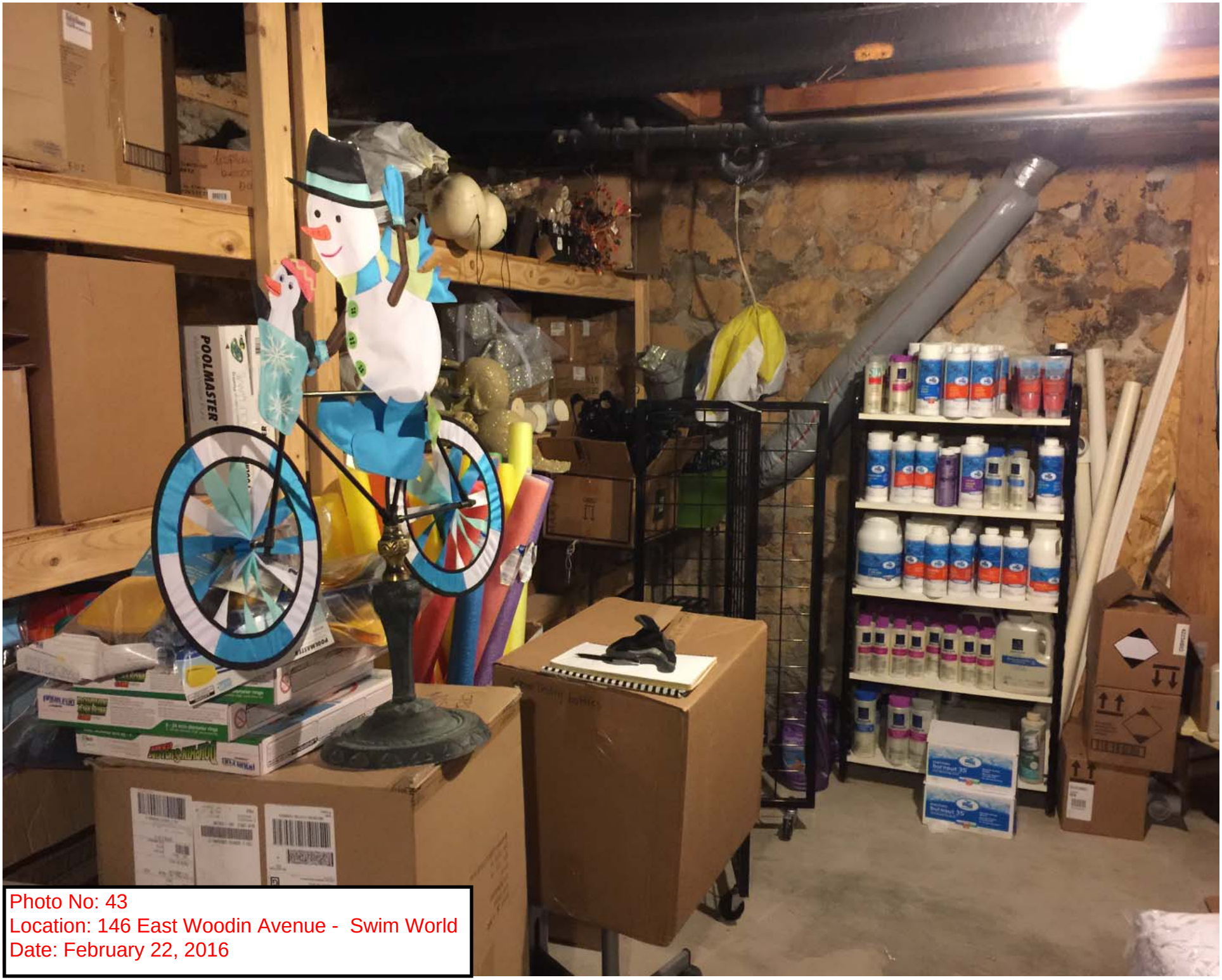


Photo No: 43
Location: 146 East Woodin Avenue - Swim World
Date: February 22, 2016

Photo No: 44
Location: 146 East Woodin Avenue - Swim World
Date: February 22, 2016

Photo No: 45
Location: 146 East Woodin Avenue - Swim World
Date: February 23, 2016

Photo No: 46
Location: 140 East Woodin Avenue - The Shirt Shop
Date: February 22, 2016

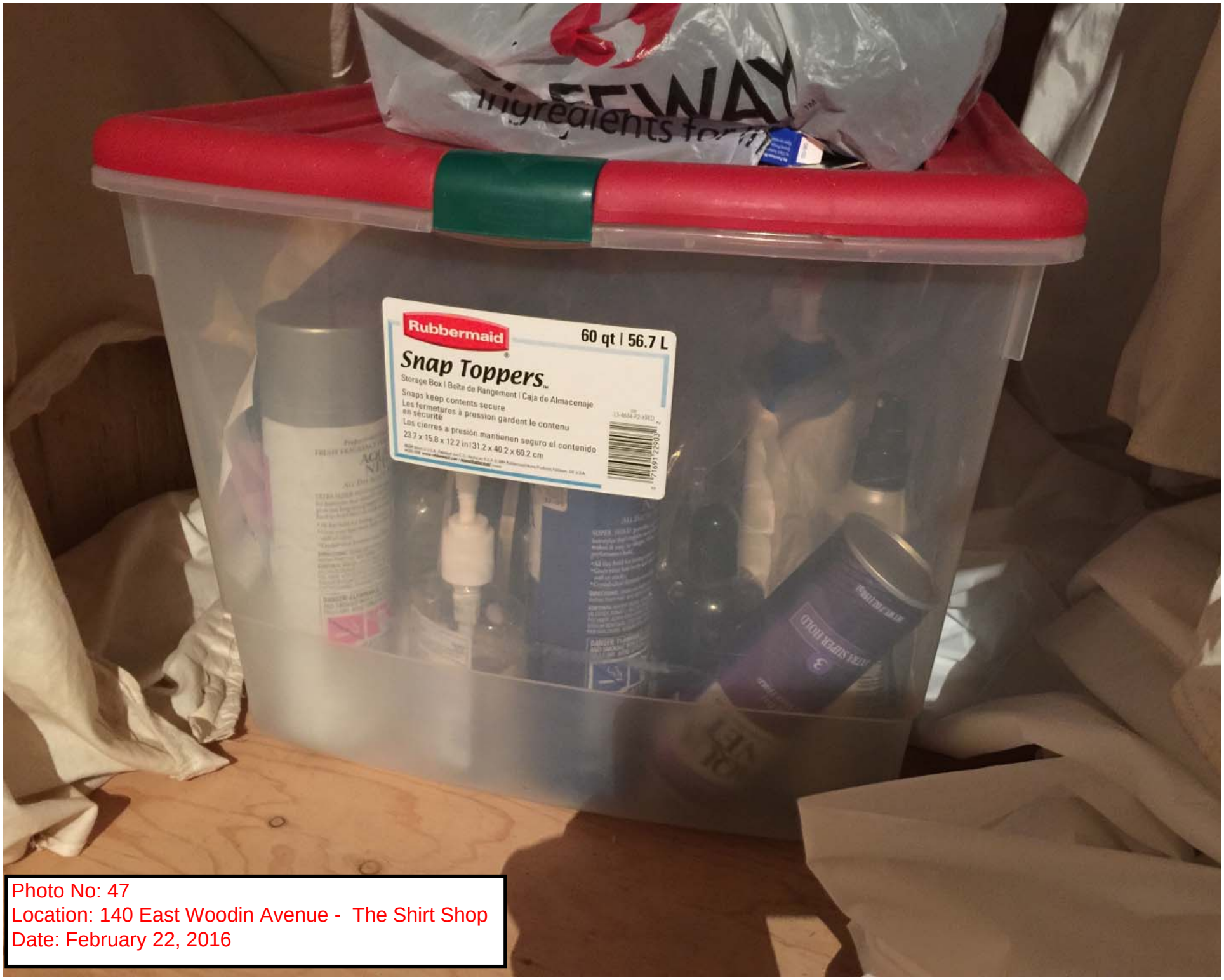


Photo No: 47
Location: 140 East Woodin Avenue - The Shirt Shop
Date: February 22, 2016

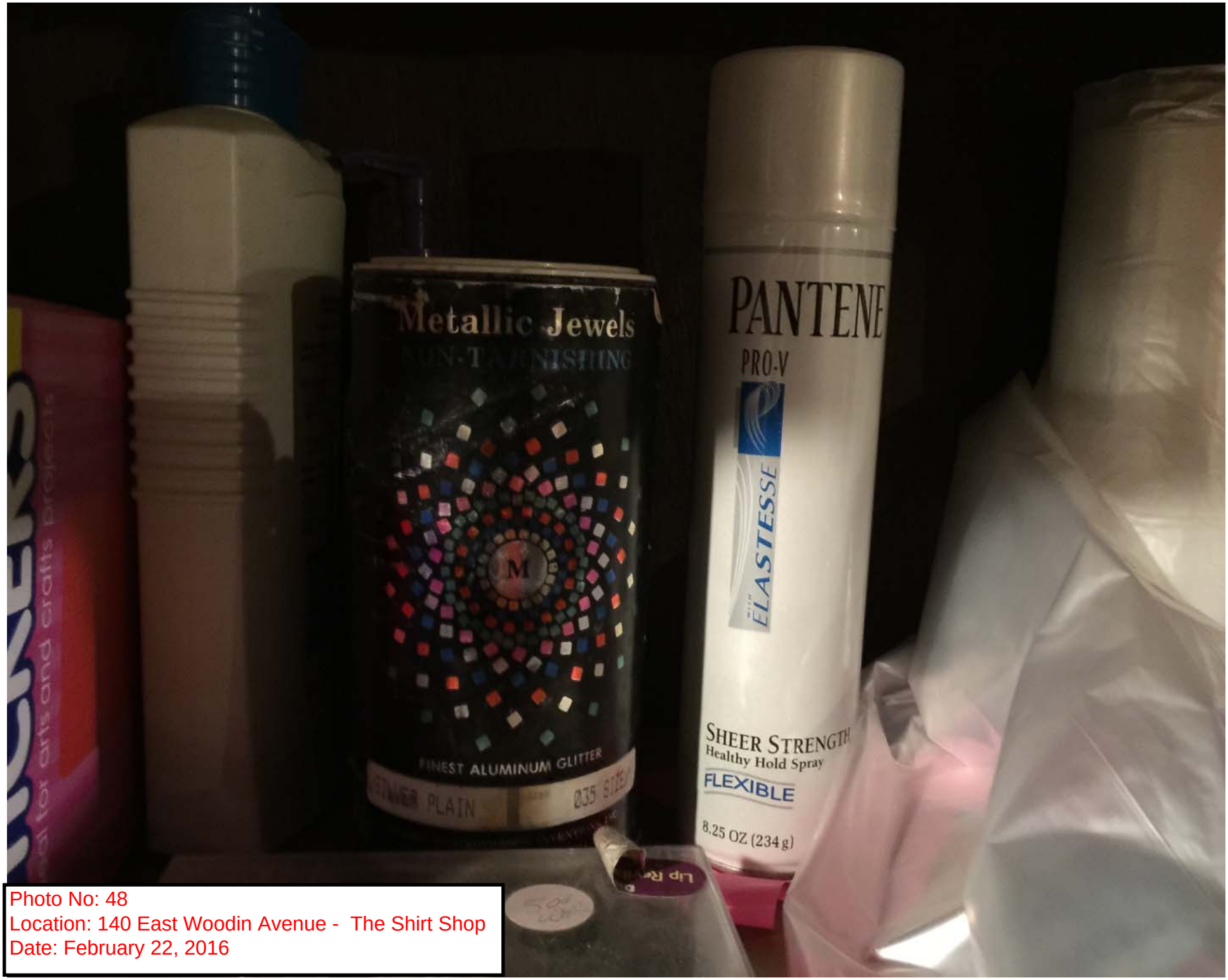


Photo No: 48
Location: 140 East Woodin Avenue - The Shirt Shop
Date: February 22, 2016

Photo No: 49
Location: 140 East Woodin Avenue - The Shirt Shop
Date: February 22, 2016

Photo No: 50
Location: 140 East Woodin Avenue - The Shirt Shop
Date: February 23, 2016

View showing location of outdoor air sample OA-01-022316

Photo No: 51
Location: Sidewalk in front of 140 East Woodin Avenue
Date: February 23, 2016

View showing location of outdoor air sample OA-02-022316

Photo No: 52
Location: Sidewalk in front of 222 East Woodin Avenue
Date: February 23, 2016

View showing location of outdoor air sample OA-03-022316

Photo No: 53
Location: Sidewalk in front of 204 East Woodin Avenue
Date: February 23, 2016

Photo No: 54
Location: Flag pole at Riverfront Park
Date: February 23, 2016


View showing location of outdoor air sample OA-05-022316
Monitoring well MW-30
Photo No: 55
Location: Parking lot SW of service station property
Date: February 23, 2016

Appendix B:
Sub-Slab Soil Vapor Sampling Field Data Sheets

Soil Vapor Sample Collection
Field Data Sheet

Interior Temp = 49°
Humidity = 55%

Chevron Service Station No. 96590
232 E. Woodin Avenue, Chelan, WA

SSVP-01-022416

Sample Loc. ID: NAPA
Sampler: RSS / SMB
Date: 2-24-2016
Start Time: 09:00
Notes:

15500059

Canister Information	Canister ID #	Initial Vacuum	Final Vacuum
Sample Canister	~~SN 1350~~	28.90	0.50" Hg
Duplicate Canister	—	—	
Sampling Manifold	SM 00010		
Purge Canister	CAS2709	29.41	29.01"

Notes:

Initial Leak Check	Time	Vacuum - Inlet Gauge	Vacuum -Canister Gauge
Start	~~0920~~ 0922	9"	28.5"
End		9"	28.5"

Notes:

Vapor Probe Purge

Purge Rate: 200 ml/min
Purge Time:
Note: For 0.15" ID tubing, 3X purge volume = approx. 10 ml/foot of tubing.

Vapor Sample Collection

Time	Vacuum - Vapor Probe	Vacuum - Canister	Helium Concentration - Shroud	Comments
0947	2"	26"	16.6%	start of sample collection
0950	2"	11	15.8%	
0952	2"	4.5	15.3%	
0955		21"	14.5%	End of sample

Notes: AP gauge indicates slightly negative relative to indoor air pressure.

Wells Fargo
Mechanical Room

Soil Vapor Sample Collection
Field Data Sheet
Chevron Service Station No. 96590
232 E. Woodin Avenue, Chelan, WA

Interior Temp = 64°F
Humidity = 50%

Sample Loc. ID: SSVP-02-022416 **Sampler:** RSS / SMJ
Date: 2-24-2016 **Start Time:** 1035
Notes:

Canister Information	Canister ID #	Initial Vacuum	Final Vacuum
Sample Canister	15500128	29.39	0.70
Duplicate Canister	—		
Sampling Manifold	~~SM00041~~ SM00027	—	—
Purge Canister	CAS2709	29.01"	~28.41

Notes:

Initial Leak Check	Time	Vacuum - Inlet Gauge	Vacuum -Canister Gauge
Start	1050	30"	30"
End			

Notes: 1102 - Second leak test start 30"/30". ~~1102~~ 1109 Third leak test SM00041 failed 3 leak tests. 11:15 switching to new manifold SM00027 11:20 29"/+30" Leak check OK.

Vapor Probe Purge
Purge Rate 200 ml/min **Purge Time** 10 seconds
Note: For 0.15" ID tubing, 3X purge volume = approx. 10 ml/foot of tubing.

Vapor Sample Collection

Time	Vacuum - Vapor Probe	Vacuum - Canister	Helium Concentration - Shroud	Comments
1137	8"	30"	17.2	Start of sampling
1139	8"	19"	15.6%	
1141	8"	12"	14.8%	
1143	8"	7"	14.5%	
1146	—	<5"	14.1%	End of sample.

Notes: Gauge not reading correctly

Wells Fargo
Shroud Room

Interior Temp = 72°F
Humidity = 40%

Soil Vapor Sample Collection Field Data Sheet

Chevron Service Station No. 96590
232 E. Woodin Avenue, Chelan, WA

Sample Loc. ID: SSVP-03-022416 **Sampler:** RSS/SMB
Date: 2-24-2016 **Start Time:**
Notes:

Canister Information	Canister ID #	Initial Vacuum	Final Vacuum
Sample Canister	15500004	29.34	-0.75"
Duplicate Canister	—	—	
Sampling Manifold	~~SM00032~~ SM00038		
Purge Canister	CAS2709	28.41	

Notes:

Initial Leak Check	Time	Vacuum - Inlet Gauge	Vacuum -Canister Gauge
Start	1304	27.5"	29"
End			

Notes: Second leak test 1312 - 28.5"/30", Third leak test 1320 28"/29"
SM00032 Failed 3 shut-in tests.
SM00038 13:29 28"/28" 1334 28"/28" 1339 shut-in test ok for

Vapor Probe Purge

SM00038

Purge Rate 200 ml/min **Purge Time** 10 seconds

Note: For 0.15" ID tubing, 3X purge volume = approx. 10 ml/foot of tubing.

Vapor Sample Collection

Time	Vacuum - Vapor Probe	Vacuum - Canister	Helium Concentration - Shroud	Comments
1346	5"	29"	16.7%	Start of sampling
1348	5"	23"	15.9%	
1350	5"	10"	15.5%	
1352	4"	6"	15.3%	
1354	<5"	<5"	15.1%	End of sample

Notes:

Double D Winery 212 E Woodin

Soil Vapor Sample Collection
Field Data Sheet
Chevron Service Station No. 96590
232 E. Woodin Avenue, Chelan, WA

Sample Loc. ID: SSVP-06-022416 **Sampler:** RSS / SMB
Date: 2-24-2016 **Start Time:** 1420
Notes:

Canister Information	Canister ID #	Initial Vacuum	Final Vacuum
Sample Canister	15C00794	28.01	1.32
Duplicate Canister	—		
Sampling Manifold	SM00044		
Purge Canister	CAS2709	-27.28	

Notes:

Initial Leak Check	Time	Vacuum - Inlet Gauge	Vacuum -Canister Gauge
Start	~~1433~~ 1437	~~24"~~ 26"	25"
End			

Notes: 1447 Second leak test 25"/25"

Vapor Probe Purge
Purge Rate 200 ml/min **Purge Time** 10 count
Note: For 0.15" ID tubing, 3X purge volume = approx. 10 ml/foot of tubing.

Vapor Sample Collection

Time	Vacuum - Vapor Probe	Vacuum - Canister	Helium Concentration - Shroud	Comments
1500	<5"	25"	16.6%	Start of sampling
1502	<5"	16"	17.4%	Added helium
1504	<5"	7"	16.1%	
1506	<5"	<5"	15.3%	End of sample collection

Notes:

Swim World

Soil Vapor Sample Collection Field Data Sheet

Chevron Service Station No. 96590
232 E. Woodin Avenue, Chelan, WA

Interior Temp = 64°F
Humidity = 55%

Sample Loc. ID: SSVP-12-~~062416~~ 022416 **Sampler:** RSS/SMB
Date: 2-24-2016 **Start Time:** 1530
Notes:

Canister Information	Canister ID #	Initial Vacuum	Final Vacuum
Sample Canister	15C00778	29.01	
Duplicate Canister	—		
Sampling Manifold	~~SM00075~~ SM00016	—	—
Purge Canister	CAS2709	26.75	

Notes:

Initial Leak Check	Time	Vacuum - Inlet Gauge	Vacuum -Canister Gauge
Start	1546	25"	29"
End			

Notes: Second leak test 1558 25"/30"
SM00016 leak test 1608 26.5"/28.5" 1613 - Leak test OK

Vapor Probe Purge

Purge Rate 200 ml/min **Purge Time** 10 count
Note: For 0.15" ID tubing, 3X purge volume = approx. 10 ml/foot of tubing.

Vapor Sample Collection

Time	Vacuum - Vapor Probe	Vacuum - Canister	Helium Concentration - Shroud	Comments
1621	<5"	29"	14.8%	Start of sampling
1623	<5"	19"	14.0%	
1625	<5"	9"	13.7%	
1627	<5"	4"	13.3%	
1629	<5"	<4"	13.1%	End of sample collection

Notes:

216 EWA
Storage Room

Soil Vapor Sample Collection
Field Data Sheet
Chevron Service Station No. 96590
232 E. Woodin Avenue, Chelan, WA

Interior Temp = 64°F
& Humidity = 50%

Sample Loc. ID: SSVP-05-022416 **Sampler:** RSS/SMB
Date: 2-24-2016 **Start Time:** 1700
Notes: Confirmed w/ Mike Steele that we could remain in buildings for sampling after hours

Canister Information	Canister ID #	Initial Vacuum	Final Vacuum
Sample Canister	15C01222	29.27	0.74
Duplicate Canister	NA	NA	NA
Sampling Manifold	SM00024		
Purge Canister	CAS002709	25.53	

Notes:

Initial Leak Check	Time	Vacuum - Inlet Gauge	Vacuum -Canister Gauge
Start	1723	23"	24"
End	1732	23"	24"

Notes:

Vapor Probe Purge
Purge Rate 200 ml/min **Purge Time** 10 count
Note: For 0.15" ID tubing, 3X purge volume = approx. 10 ml/foot of tubing.

Vapor Sample Collection

Time	Vacuum - Vapor Probe	Vacuum - Canister	Helium Concentration - Shroud	Comments
1741	0"	25"	16.0%	start of sampling
1743	0"	16"	14.5%	
1745	0"	7"	14.3%	
1747	0"	3"	13.9%	
1749	0"	<3"	13.7%	End of sample collection

Notes: Differential pressure gauge indicated very slight gauge response of sub slab of positive pressure relative to indoor air.

216 EWA
Hall closet

Soil Vapor Sample Collection Field Data Sheet

Chevron Service Station No. 96590
232 E. Woodin Avenue, Chelan, WA

Interior Temp = 66°F
Humidity = 40%

Sample Loc. ID:	SSVP-04-022416	**Sampler:**	RSI/SMS
Date:	2-24-2016	**Start Time:**	1800

Notes: Duplicate -022416

Canister Information	Canister ID #	Initial Vacuum	Final Vacuum
Sample Canister	1SC00947	29.21	0.50
Duplicate Canister	1SC01269	29.20	0.57
Sampling Manifold	~~SM000048~~		
Purge Canister	CAS002709	24.52	

Notes:

Initial Leak Check	Time	Vacuum - Inlet Gauge	Vacuum -Canister Gauge
Start	1825	20"	~~22~~ 22.5"
End			

Notes: 1834 Second leak test 20"/22"
1912 25"/25" SM000089 ~~Re~~ Leak test OK

Vapor Probe Purge

Purge Rate _____ **Purge Time** _____

Note: For 0.15" ID tubing, 3X purge volume = approx. 10 ml/foot of tubing.

Vapor Sample Collection

Time	Vacuum - Vapor Probe	Vacuum - Canister	Helium Concentration - Shroud	Comments
1924	<5" ~~<50~~	30"	10.8%	Start sample collection
1926	<5"	25"	16.6%	
1928	<5"	19"	16.2%	
1932	<5"	10"	14.8%	
1934	<5"	8"	15.0%	
1936	<5"	5"	14.2%	
1938	<5"	3.5"	13.5%	
1940	<5"	3"	13.0%	
1942	<5"	<3"	12.8%	

Notes:

Andante

Soil Vapor Sample Collection Field Data Sheet

Interior Temp = 58°F
Humidity = 56%

Chevron Service Station No. 96590
232 E. Woodin Avenue, Chelan, WA

Sample Loc. ID:	SSVP-11-022516	**Sampler:**	RSS/SMB
Date:	2-25-2016	**Start Time:**	0825

Notes:

Canister Information	Canister ID #	Initial Vacuum	Final Vacuum
Sample Canister	15C00353	29.01	1.92
Duplicate Canister	—		
Sampling Manifold	SM00012		
Purge Canister	CAS 002709	21.74	

Notes:

Initial Leak Check	Time	Vacuum - Inlet Gauge	Vacuum -Canister Gauge
Start	0838	25.5"	20.5"
End			

Notes: Second leak test 0846 25.5"/21" 0851 - Leak test for SM00012 ok

Vapor Probe Purge

Purge Rate _____ **Purge Time** _____

Note: For 0.15" ID tubing, 3X purge volume = approx. 10 ml/foot of tubing.

Vapor Sample Collection

Time	Vacuum - Vapor Probe	Vacuum - Canister	Helium Concentration - Shroud	Comments
0859	< 5"	28"	10.2 %	start of sampling - Added helium
0901	< 5"	18"	15.4%	
0903	< 5"	8"	15.3%	
0905	< "	≈ 1"	15.0%	End of sample collection

Notes: ΔP gauge indicate very slight positive pressure ~~relative~~ below slab relative to indoor air.

Shirt Shop South

Soil Vapor Sample Collection Field Data Sheet

Chevron Service Station No. 96590
232 E. Woodin Avenue, Chelan, WA

Interior Temp 62°F
Humidity = 50%

Sample Loc. ID: SSVP-14-022516 **Sampler:** RSS/SMB
Date: 2-25-2016 **Start Time:** 0940
Notes:

Canister Information	Canister ID #	Initial Vacuum	Final Vacuum
Sample Canister	1SC00220	29.35	0.47
Duplicate Canister	—		
Sampling Manifold	SM00014		
Purge Canister	CAS002709	21.30	

Notes:

Initial Leak Check	Time	Vacuum - Inlet Gauge	Vacuum -Canister Gauge
Start	1001	21"	22"
End	1001	21"	22"

Notes: Leak test OK.

Vapor Probe Purge

Purge Rate ≈200 ml/min **Purge Time** 10 seconds
Note: For 0.15" ID tubing, 3X purge volume = approx. 10 ml/foot of tubing.

Vapor Sample Collection

Time	Vacuum - Vapor Probe	Vacuum - Canister	Helium Concentration - Shroud	Comments
1015	< 5"	30"	10.9%	Start of sampling. Added Helium
1017	0"	19"	13.6%	
1019	0"	9"	13.7%	
1021	0"	5"	13.3%	
1023	0"	<5"	13.2%	
1024	0"	<5"	13.4%	End of sample collection

Notes: No pressure differential measured across slab.

Shirt Shop North

Soil Vapor Sample Collection
Field Data Sheet
Chevron Service Station No. 96590
232 E. Woodin Avenue, Chelan, WA

Interior Temp = 62°F
Humidity = 50%

Sample Loc. ID: SSVP 13 - 022516 **Sampler:** RSS / SM 13
Date: 2-25-2016 **Start Time:** 1030
Notes: Broken vacuum gauge on SM 00043.

15C01317 → SM00030

Canister Information	Canister ID #	Initial Vacuum	Final Vacuum
Sample Canister	~~15500103~~	29.36"	0.42
Duplicate Canister	—		
Sampling Manifold	~~SM00043~~		19.42
Purge Canister	CAS002709		

Notes: Canister 15500103 did not contain sufficient vacuum for sample collection.

Initial Leak Check	Time	Vacuum - Inlet Gauge	Vacuum -Canister Gauge
Start	1047	0"	21"
End	1052	0"	21"

Notes: inlet gauge broken
Initial leak test for SM00030 OK.

Vapor Probe Purge
Purge Rate ≈ 200 ml/min **Purge Time** 10 seconds
Note: For 0.15" ID tubing, 3X purge volume = approx. 10 ml/foot of tubing.

Vapor Sample Collection

Time	Vacuum - Vapor Probe	Vacuum - Canister	Helium Concentration - Shroud	Comments
1102	NA	28"	15.1%	Start of sampling. Added Helium.
1104	NA	22"	16.5%	
1106	NA	14"	16.2	
1108	NA	9"	16.0%	
1110	NA	6"	16.0%	
1112	NA	3"	15.8%	
~~1114~~ 1115	NA	<3"	15.4%	End of sample collection

Notes:

Chelan Museum

Soil Vapor Sample Collection Field Data Sheet

Chevron Service Station No. 96590
232 E. Woodin Avenue, Chelan, WA

Interior Temp = 54 °F
Humidity = 60%

Sample Loc. ID: SSVP-09-022516 Sampler: RSS/SMB
Date: 2-25-2016 Start Time: 1220
Notes: Duplicate sample collected - Duplicate 022516

Canister Information	Canister ID #	Initial Vacuum	Final Vacuum
Sample Canister	15C01306	29.36"	0.66
Duplicate Canister	15500042	29.32"	0.65
Sampling Manifold	SM00047		
Purge Canister	CAS002709		18.64

Notes:

Initial Leak Check	Time	Vacuum - Inlet Gauge	Vacuum -Canister Gauge
Start	1248	25.5"	19"
End	1254	25.5"	19"

Notes: Initial leak check for SM00047 -OK.

Vapor Probe Purge

Purge Rate: ~200ml/min Purge Time: 10 seconds.
Note: For 0.15" ID tubing, 3X purge volume = approx. 10 ml/foot of tubing.

Vapor Sample Collection

Time	Vacuum - Vapor Probe	Vacuum - Canister	Helium Concentration - Shroud	Comments
1306	~~8~~ 8"	28"	10.4%	start of sample collection
1309	8"	21"	12.8%	
1312	8"	15"	13.7%	
1314	8"	12"	13.6%	
1316	8"	8"	13.5%	
1318	8"	6"	13.1%	
1320	8"	4"	12.8%	
1322	8"	<4"	12.7%	
1324	8"	+0"	11.9%	
1326	8"	+0"	13.3%	

Notes: Inlet vacuum gauge or manifold not reading correctly.

Sidewalk
City of Chelan
Right of Way

Soil Vapor Sample Collection
Field Data Sheet
Chevron Service Station No. 96590
232 E. Woodin Avenue, Chelan, WA

Interior Temp = 48°
Humidity = ~~90%~~ 74%

Sample Loc. ID:	55 VP-10-022516	**Sampler:**	RSS / SMD
Date:	2-25-2016	**Start Time:**	1340

Notes:

Canister Information	Canister ID #	Initial Vacuum	Final Vacuum
Sample Canister	ISC00450	29.25"	0.37
Duplicate Canister	—	—	—
Sampling Manifold	SM00034		
Purge Canister	CAS 002709	19"	-17.76

Notes:

Initial Leak Check	Time	Vacuum - Inlet Gauge	Vacuum -Canister Gauge
Start	1349	23"	19"
End	1356	23"	19"

Notes: Initial Leak Check on SM00034 - OK

Vapor Probe Purge

Purge Rate ≈ 200ml/min **Purge Time** 10 seconds

Note: For 0.15" ID tubing, 3X purge volume = approx. 10 ml/foot of tubing.

Vapor Sample Collection

Time	Vacuum - Vapor Probe	Vacuum - Canister	Helium Concentration - Shroud	Comments
1407	<10"	28"	16.7%	Start of sampling
1409	<10"	13"	16.4%	
1411	<10"	9"	16.0%	
1413	<10"	5"	15.0%	
1415	<10"	<5"	14.1%	End of sample collection

Notes: Inlet vacuum gauge not functioning properly.

Equipment Blank

Soil Vapor Sample Collection Field Data Sheet

Chevron Service Station No. 96590
232 E. Woodin Avenue, Chelan, WA

In Chelan Museum
Temp = 54°F
Humidity = 70%

Sample Loc. ID: EB-022516 **Sampler:** RSS/SMD
Date: 2-25-2016 **Start Time:** 1434
Notes:

Canister Information	Canister ID #	Initial Vacuum	Final Vacuum
Sample Canister	15C00724	28.97	1.01
Duplicate Canister	—	—	—
Sampling Manifold	SM00043		
Purge Canister	CAS 002709		

Notes:

Initial Leak Check	Time	Vacuum - Inlet Gauge	Vacuum -Canister Gauge
Start	1502	15"	20"
End	1510	15"	20"

Notes: Used gauge from SM00032 on canister side of flow controller because original gauge would not zero.

Vapor Probe Purge

Purge Rate _____ **Purge Time** _____

Note: For 0.15" ID tubing, 3X purge volume = approx. 10 ml/foot of tubing.

Vapor Sample Collection

Time	Vacuum - Vapor Probe	Vacuum - Canister	Helium Concentration - Shroud	Comments
1520	10 psi	25" Hg	10.2	
1522	0 psi	12"	23%	
1523	0	7"	17.6%	
1524	0	5"	10.4%	
1525	0	<5"	15.0%	End of sample collection

Notes:

Walker's South

Interior Temp = 60°F
Humidity = 70%

Soil Vapor Sample Collection Field Data Sheet

Chevron Service Station No. 96590
232 E. Woodin Avenue, Chelan, WA

Sample Loc. ID:	SSVP-08-022616	**Sampler:**	RSS / SMD
Date:	2-26-2016	**Start Time:**	1200

Notes:

Canister Information	Canister ID #	Initial Vacuum	Final Vacuum
Sample Canister	1SC00876	-29.02"	2.50"
Duplicate Canister	—		
Sampling Manifold	SM000051		
Purge Canister	CAS002709 / SC01625		

Notes:

Initial Leak Check	Time	Vacuum - Inlet Gauge	Vacuum -Canister Gauge
Start	1210	15"	15"
End	1215	15"	15"

Notes: Initial leak test for SM000051

Vapor Probe Purge

Purge Rate _____ **Purge Time** _____

Note: For 0.15" ID tubing, 3X purge volume = approx. 10 ml/foot of tubing.

Vapor Sample Collection

Time	Vacuum - Vapor Probe	Vacuum - Canister	Helium Concentration - Shroud	Comments
1223	0"	26"	10.9%	Start of sample collection
1225	0"	14"	17.0%	
1229	0"	4"	16.9%	
1228	0"	1"	16.9%	End of sample collection

Notes: No pressure differential measured across slab

Whaley North

Soil Vapor Sample Collection Field Data Sheet

Temp = 62°F
Humidity = 76%

Chevron Service Station No. 96590
232 E. Woodin Avenue, Chelan, WA

Sample Loc. ID:	SSVP-07-022616	**Sampler:**	RSS/SMB
Date:	2-26-2016	**Start Time:**	1237

Notes:

Canister Information	Canister ID #	Initial Vacuum	Final Vacuum
Sample Canister	15C00759	-28.95	-0.31
Duplicate Canister	—		
Sampling Manifold	SM00057		
Purge Canister	SC01625		

Notes:

Initial Leak Check	Time	Vacuum - Inlet Gauge	Vacuum -Canister Gauge
Start	1243	15.5"	15.5"
End	1248		

Notes: Initial leak test of SM00057 - OK

Vapor Probe Purge

Purge Rate ≈ 200 ml/min **Purge Time** 10 seconds

Note: For 0.15" ID tubing, 3X purge volume = approx. 10 ml/foot of tubing.

Vapor Sample Collection

Time	Vacuum - Vapor Probe	Vacuum - Canister	Helium Concentration - Shroud	Comments
1254	0"	28"	15.4%	Start of sample collection
1256	0"	15"	14.0%	
1257	0"	9.5"	13.6%	
1258	0"	5"	13.4%	
1259	0"	3"	13.3%	
1300	0"	1"	13.2%	
1301	0"	<1"	13.0%	
1302	0"	<1"	12.9%	End of sample collection

Notes: Gauge response suggests slight positive pressure below slab relative to indoor air

Appendix C:
Tier 2 Assessment Laboratory Analytical Reports

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

LABORATORY REPORT

March 22, 2016

Russell Shropshire, PE
Leidos
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Chelan Chevron / 96590

Dear Russell:

Enclosed are the results of the samples submitted to our laboratory on March 3, 2016. For your reference, these analyses have been assigned our service request number P1601131.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Sue Anderson at 11:07 am, Mar 22, 2016

Sue Anderson
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
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F: +1 805 526 7270
www.alsglobal.com

Client: Leidos
Project: Chelan Chevron / 96590

Service Request No: P1601131

CASE NARRATIVE

The samples were received intact under chain of custody on March 3, 2016 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Fixed Gases Analysis

All of the samples were analyzed for fixed gases (hydrogen, oxygen, nitrogen, carbon monoxide, methane and carbon dioxide) according to ASTMD 1946 (single injection) using a gas chromatograph equipped with a thermal conductivity detector (TCD). This procedure is described in laboratory SOP VOA-EPA3C. This method is included on the laboratory's DoD-ELAP scope of accreditation, however it is not part of the NELAP or AIHA-LAP accreditation.

Helium Analysis

All of the samples were also analyzed for helium prior to pressurization according to modified EPA Method 3C (single injection) using a gas chromatograph equipped with a thermal conductivity detector (TCD). This method is not included on the laboratory's NELAP, DoD-ELAP, or AIHA-LAP scope of accreditation.

Air-Phase Petroleum Hydrocarbons (APH) Analysis

Ten of the samples were also analyzed for C5-C8 & C9-C12 aliphatic hydrocarbons by gas chromatography/mass spectrometry according to the Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), Massachusetts Department of Environmental Protection, Revision 1, December, 2009. This method is included on the laboratory's NELAP scope of accreditation, however it is not part of the DoD-ELAP or AIHA-LAP accreditation.

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present. Any internal/tuning standards and target APH analytes eluting in the hydrocarbon ranges are also subtracted. Additionally, C_9-C_{10} Aromatic Hydrocarbons are excluded from the C_9-C_{12} Aliphatic Hydrocarbon range.

Volatile Organic Compound Analysis

The samples were also analyzed for selected volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This

2655 Park Center Dr., Suite A
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Client: Leidos
Project: Chelan Chevron / 96590

Service Request No: P1601131

CASE NARRATIVE

procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. The method was modified to include the use of helium as a diluent gas in place of zero-grade air for container pressurization. When necessary, analytical sample volumes were adjusted by a correction factor for containers pressurized with helium. A summary sheet has been included listing the affected samples. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation, however it is not part of the AIHA-LAP accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

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Simi Valley, CA 93065
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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
AIHA	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
DoD ELAP	http://www.pjlabs.com/search-accredited-labs	L15-398
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2014025
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	977273
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-001
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-15-6
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA016272015-5
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Leidos
Project ID: Chelan Chevron / 96590

Service Request: P1601131

Date Received: 3/3/2016
Time Received: 09:35

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	ASTM D1946-90(2006) - Fxd Gases Can	3C Modified - Helium Can	MA APH 1.0 - MA VOC PH Can	TO-15 Modified - VOC SIM	
OA-01-022316	P1601131-001	Air	2/23/2016	18:45	AS00464	-0.81	3.48	X	X	X	X	
OA-02-022316	P1601131-002	Air	2/23/2016	18:38	AS00831	-2.10	3.55	X	X	X	X	
OA-03-022316	P1601131-003	Air	2/23/2016	18:41	AS00853	-1.72	3.66	X	X	X	X	
OA-04-022316	P1601131-004	Air	2/23/2016	18:35	AS00770	-2.71	3.43	X	X	X	X	
OA-05-022316	P1601131-005	Air	2/23/2016	18:33	AS00745	-3.10	3.47	X	X	X	X	
IA-233 EWA-022316	P1601131-006	Air	2/23/2016	17:16	AC02135	-1.18	3.90	X	X	X	X	
IA-222 EWA-022316	P1601131-007	Air	2/23/2016	17:17	AC01590	-2.56	3.51	X	X	X	X	
IA-216 EWA-022316	P1601131-008	Air	2/23/2016	16:56	AC02112	-1.22	3.92	X	X	X	X	
IA-212 EWA-022316	P1601131-009	Air	2/23/2016	16:47	AC02053	-0.78	3.65	X	X		X	
IA-206 EWA-022316	P1601131-010	Air	2/23/2016	16:56	AC01642	-1.67	3.22	X	X	X	X	
IA-204 EWA-022316	P1601131-011	Air	2/23/2016	15:53	AC00138	-2.92	3.75	X	X		X	
IA-146 EWA-022316	P1601131-012	Air	2/23/2016	17:04	AS00503	-1.30	3.48	X	X	X	X	
IA-140 EWA-022316	P1601131-013	Air	2/23/2016	17:23	AC00677	-2.14	3.42	X	X		X	
IA-113 SES-022316	P1601131-014	Air	2/23/2016	17:57	AS00837	-1.81	3.53	X	X		X	
Duplicate-022316	P1601131-015	Air	2/23/2016	00:00	AC01365	-1.77	3.58	X	X		X	

ALS ENVIRONMENTAL
Sample Volume Correction for Helium Pressurization for SCAN Analysis

Sample ID	Pi	Pf	Sample Volume (L)	Adjusted Volume (L)
P1601131-001	-0.81	3.48	0.912	1.00
P1601131-002	-2.10	3.55	0.893	1.00
P1601131-003	-1.72	3.66	0.897	1.00
P1601131-004	-2.71	3.43	0.885	1.00
P1601131-005	-3.10	3.47	0.880	1.00
P1601131-006	-1.18	3.90	0.902	1.00
P1601131-007	-2.56	3.51	0.887	1.00
P1601131-008	-1.22	3.92	0.901	1.00
P1601131-010	-1.67	3.22	0.902	1.00
P1601131-012	-1.30	3.48	0.905	1.00

ALS ENVIRONMENTAL
Sample Volume Correction for Helium Pressurization for SCAN Analysis

Sample ID	Pi	Pf	Sample Volume (L)	Adjusted Volume (L)
P1601131-001	-0.81	3.48	1.00	1.10
P1601131-002	-2.10	3.55	1.00	1.12
P1601131-003	-1.72	3.66	1.00	1.11
P1601131-004	-2.71	3.43	1.00	1.13
P1601131-005	-3.10	3.47	1.00	1.14
P1601131-006	-1.18	3.90	1.00	1.11
P1601131-007	-2.56	3.51	1.00	1.13
P1601131-008	-1.22	3.92	1.00	1.11
P1601131-009	-0.78	3.65	1.00	1.10
P1601131-010	-1.67	3.22	1.00	1.11
P1601131-011	-2.92	3.75	1.00	1.14
P1601131-012	-1.30	3.48	1.00	1.11
P1601131-013	-2.14	3.42	1.00	1.12
P1601131-014	-1.81	3.53	1.00	1.11
P1601131-015	-1.77	3.58	1.00	1.11

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) (10-Day-Standard)

ALS Project No: P160 1131

Company Name & Address (Reporting Information)
Leidos
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

Project Name: Chelan Chevron
Project Number: 96590
P.O. # / Billing Information: Work Authorization No. P010180946 to BOA No. 46000060251

Project Manager: Russ Shropshire
Phone: 425-482-3323
Fax:
Email Address for Result Reporting: Shropshirer@leidos.com

Sampler (Print & Sign): Russ Shropshire 2-29-2016

ALS Contact:

Analysis Method

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	H2, CO, CO2, N2, CH4 and O2 by ASTM D1946	Helium by 3c Modified	BTEX, MTBE and Naphthalene by TO-15 SIM	C5-C8 and C9-C12 Aliphatics by MA APH	Comments e.g. Actual Preservative or specific instructions
OA-01-022316	(1)	02-23-16	1845	AS00464	FCA00042	-29.21	-3.58	6L	X	X	X	X	TO-15: Report only BTEX, MTBE and C5-C8 and C9-C12 aliphatics. MA APH: Report only C9-C12 aliphatics.
OA-02-022316	(2)		1838	AS00831	FCA00524	-29.41	-6.00					X	
OA-03-022316	(3)		1841	AS00853	FCA00641	-29.14	-5.31					X	
OA-04-022316	(4)		1835	AS00770	FCA00823	-29.23	-7.2					X	
OA-05-022316	(5)		1833	AS00745	FCA00895	-29.35	-7.99					X	
IA-233EWA-022316	(6)		1716	AC02135	FCA00932	-29.93	-4.03					X	
IA-222EWA-022316	(7)		1717	AC01590	FCA00732	-29.72	-6.45					X	
IA-216EWA-022316	(8)		~~1553~~ 1656 DSS	AC02112	FCA00960	-29.73	-4.02					X	
IA-212EWA-022316	(9)		1647	AC02053	FCA00952	-28.94	-3.15						
IA-206EWA-022316	(10)		1656	AC01642	FCA00846	-29.70	-5.01					X	
IA-204EWA-022316	(11)		1553	AC00138	FCA00747	-29.67	-7.39						
IA-146EWA-022316	(12)		1704	AS00503	FCA00919	~~-29.75~~ -29.70	~~5.85~~ -4.22 DSS					X	
IA-140EWA-022316	(13)		1723	AC00677	FCA00299	-29.75	-5.85						
IA-1135ES-022316	(14)	↓	1757	AS00837	FCA00491	-29.74	-4.75	↓	↓	↓	↓	↓	

Report Tier Levels - please select
Tier I - Results (Default if not specified) ____
Tier II (Results + QC Summaries ____
Tier III (Results + QC & Calibration Summaries) X
Tier IV (Date Validation Package) 10% Surcharge ____

EDD required (YES) / No
Type: ____ Units: ug/m3

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
R Shropshire	2-29-16	17:00	FedEx 6492 1123 7058		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature) 6492 1123 6669	Date:	Time:
			6492 1123 6670		
			6492 1123 6680	Date:	Time:

Cooler / Blank Temperature ____ °C

RECEIVED BY: 3/3/16 0935

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) (10-Day-Standard)

ALS Project No. PC01131

Company Name & Address (Reporting Information)
Leidos
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

Project Name: Chelan Chevron
Project Number: 96590
ALS Contact:

Project Manager: Russ Shropshire
Phone: 425-482-3323
Fax:
P.O. # / Billing Information: Work authorization No. P0101809 46 to BOA No. 460000060251

Email Address for Result Reporting: Shropshirer@leidos.com
Sampler (Print & Sign): Russ Shropshire 2-29-2016

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure (Hg) psig	Sample Volume	Analysis Method: H2, CO, CO2, N2, CH4, and O2 by ASTM D1946	Analysis Method: Helium by 3C modified	Analysis Method: BTEX, MTBE, and Naphthalene by TO-15 SIM	Analysis Method: C5-C8 and C9-C12 aliphatics by MA APH	Comments e.g. Actual Preservative or specific instructions
Duplicate - 022316	(16)	02-23-16	—	AC01365	FCA00124	-29.77	-4.73	6L	X	X	X		

Comments: TO-15: Report only BTEX, MTBE and Naphthalene
MA APH: Report only C5 - C8 and C9 - C12 aliphatics

2/29/2016

Report Tier Levels - please select
Tier I - Results (Default if not specified) ____ Tier III (Results + QC & Calibration Summaries) X
Tier II (Results + QC Summaries ____ Tier IV (Date Validation Package) 10% Surcharge ____

EDD required (YES) / No
Type: ____ Units: ug/m3

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
R. Shropshire	2-29-16	17:00	FedEx 6492 1123 7058 FedEx 6492 1123 6669		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature) 6492 1123 6670 6492 1123 6680	Date:	Time:

Cooler / Blank Temperature ____ °C

RECEIVED BY 3/3/16 0932

9 of 76

ALS Environmental
Sample Acceptance Check Form

Client: Leidos Work order: P1601131

Project: Chelan Chevron / 96590

Sample(s) received on: 3/3/16 Date opened: 3/3/16 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1601131-001.01	6.0 L Silonite Can					
P1601131-002.01	6.0 L Silonite Can					
P1601131-003.01	6.0 L Silonite Can					
P1601131-004.01	6.0 L Silonite Can					
P1601131-005.01	6.0 L Silonite Can					
P1601131-006.01	6.0 L Ambient Can					
P1601131-007.01	6.0 L Ambient Can					
P1601131-008.01	6.0 L Ambient Can					
P1601131-009.01	6.0 L Ambient Can					
P1601131-010.01	6.0 L Ambient Can					
P1601131-011.01	6.0 L Ambient Can					
P1601131-012.01	6.0 L Silonite Can					
P1601131-013.01	6.0 L Ambient Can					
P1601131-014.01	6.0 L Silonite Can					
P1601131-015.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental
Sample Acceptance Check Form

Client: Leidos Work order: P1601131

Project: Chelan Chevron / 96590

Sample(s) received on: 3/3/16 Date opened: 3/3/16 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1601131-016.01	6.0 L Source Can					
P1601131-017.01	6.0 L Source Can					
P1601131-018.01	6.0 L Ambient Can					
P1601131-019.01	6.0 L Ambient Can					
P1601131-020.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **OA-01-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-001

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00464

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.81 Final Pressure (psig): 3.48

Canister Dilution Factor: 1.31

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.13	
7782-44-7	**Oxygen***	**22.2**	0.13	
7727-37-9	**Nitrogen**	**77.8**	0.13	
630-08-0	Carbon Monoxide	ND	0.13	
74-82-8	Methane	ND	0.13	
124-38-9	Carbon Dioxide	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **OA-02-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-002

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00831

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -2.10 Final Pressure (psig): 3.55

Canister Dilution Factor: 1.45

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.15	
7782-44-7	**Oxygen***	**22.2**	0.15	
7727-37-9	**Nitrogen**	**77.8**	0.15	
630-08-0	Carbon Monoxide	ND	0.15	
74-82-8	Methane	ND	0.15	
124-38-9	Carbon Dioxide	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **OA-03-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-003

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00853

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -1.72 Final Pressure (psig): 3.66

Canister Dilution Factor: 1.41

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.2**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **OA-04-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-004

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00770

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -2.71 Final Pressure (psig): 3.43

Canister Dilution Factor: 1.51

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.15	
7782-44-7	**Oxygen***	**22.2**	0.15	
7727-37-9	**Nitrogen**	**77.7**	0.15	
630-08-0	Carbon Monoxide	ND	0.15	
74-82-8	Methane	ND	0.15	
124-38-9	Carbon Dioxide	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **OA-05-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-005

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00745

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -3.10 Final Pressure (psig): 3.47

Canister Dilution Factor: 1.57

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.16	
7782-44-7	**Oxygen***	**22.2**	0.16	
7727-37-9	**Nitrogen**	**77.8**	0.16	
630-08-0	Carbon Monoxide	ND	0.16	
74-82-8	Methane	ND	0.16	
124-38-9	Carbon Dioxide	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-233 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-006

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC02135

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -1.18 Final Pressure (psig): 3.90

Canister Dilution Factor: 1.38

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.2**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-222 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-007

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01590

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -2.56 Final Pressure (psig): 3.51

Canister Dilution Factor: 1.50

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.15	
7782-44-7	**Oxygen***	**22.1**	0.15	
7727-37-9	**Nitrogen**	**77.8**	0.15	
630-08-0	Carbon Monoxide	ND	0.15	
74-82-8	Methane	ND	0.15	
124-38-9	Carbon Dioxide	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-216 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-008

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC02112

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -1.22 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.38

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.2**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-212 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-009

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC02053

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.78 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.32

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.13	
7782-44-7	**Oxygen***	**22.2**	0.13	
7727-37-9	**Nitrogen**	**77.8**	0.13	
630-08-0	Carbon Monoxide	ND	0.13	
74-82-8	Methane	ND	0.13	
124-38-9	Carbon Dioxide	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-206 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-010

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01642

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -1.67 Final Pressure (psig): 3.22

Canister Dilution Factor: 1.38

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.2**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-204 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-011

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC00138

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -2.92 Final Pressure (psig): 3.75

Canister Dilution Factor: 1.57

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.16	
7782-44-7	**Oxygen***	**22.2**	0.16	
7727-37-9	**Nitrogen**	**77.8**	0.16	
630-08-0	Carbon Monoxide	ND	0.16	
74-82-8	Methane	ND	0.16	
124-38-9	Carbon Dioxide	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-146 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-012

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00503

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -1.30 Final Pressure (psig): 3.48

Canister Dilution Factor: 1.36

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.2**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-140 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-013

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC00677

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -2.14 Final Pressure (psig): 3.42

Canister Dilution Factor: 1.44

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.2**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-113 SES-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-014

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00837

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -1.81 Final Pressure (psig): 3.53

Canister Dilution Factor: 1.41

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.2**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **Duplicate-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-015

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01365

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -1.77 Final Pressure (psig): 3.58

Canister Dilution Factor: 1.41

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.2**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **Method Blank**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P160311-MB

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.10	
7782-44-7	Oxygen*	ND	0.10	
7727-37-9	Nitrogen	ND	0.10	
630-08-0	Carbon Monoxide	ND	0.10	
74-82-8	Methane	ND	0.10	
124-38-9	Carbon Dioxide	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **Method Blank** ALS Project ID: P1601131
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P160311-MB

Test Code: ASTM D1946 Date Collected: NA
Instrument ID: HP5890 II/GC1/TCD Date Received: NA
Analyst: Mike Conejo Date Analyzed: 3/11/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.10 ml(s)
Test Notes:

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.10	
7782-44-7	Oxygen*	ND	0.10	
7727-37-9	Nitrogen	ND	0.10	
630-08-0	Carbon Monoxide	ND	0.10	
74-82-8	Methane	ND	0.10	
124-38-9	Carbon Dioxide	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Leidos**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1601131
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P160311-LCS

Test Code: ASTM D1946 Date Collected: NA
Instrument ID: HP5890 II/GC1/TCD Date Received: NA
Analyst: Mike Conejo Date Analyzed: 3/11/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: NA ml(s)
Test Notes:

CAS #	Compound	Spike Amount ppmV	Result ppmV	% Recovery	ALS Acceptance Limits	Data Qualifier
1333-74-0	Hydrogen	40,000	**38,600**	**97**	83-114	
7782-44-7	Oxygen*	40,000	**40,800**	**102**	84-121	
7727-37-9	Nitrogen	40,000	**39,200**	**98**	88-122	
630-08-0	Carbon Monoxide	40,000	**40,500**	**101**	87-118	
74-82-8	Methane	40,000	**40,900**	**102**	85-116	
124-38-9	Carbon Dioxide	40,000	**40,800**	**102**	84-117	

* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Leidos**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1601131
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P160311-LCS

Test Code: ASTM D1946 Date Collected: NA
Instrument ID: HP5890 II/GC1/TCD Date Received: NA
Analyst: Mike Conejo Date Analyzed: 3/11/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: NA ml(s)
Test Notes:

CAS #	Compound	Spike Amount ppmV	**Result ppmV**	**% Recovery**	ALS Acceptance Limits	Data Qualifier
1333-74-0	Hydrogen	40,000	**38,900**	**97**	83-114	
7782-44-7	Oxygen*	40,000	**40,800**	**102**	84-121	
7727-37-9	Nitrogen	40,000	**39,300**	**98**	88-122	
630-08-0	Carbon Monoxide	40,000	**40,400**	**101**	87-118	
74-82-8	Methane	40,000	**40,700**	**102**	85-116	
124-38-9	Carbon Dioxide	40,000	**40,900**	**102**	84-117	

* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

Method Path : I:\GC01\METHODS\
Method File : 3C012416.M
Title : EPA 3C, ASTM D 1946-90, VOA-EPA3C
Last Update : Sun Jan 24 22:12:55 2016
Response Via : Initial Calibration

Calibration Files
0.1 =01241627.D 0.5 =01241628.D 1 =01241629.D
4 =01241631.D 16 =01241632.D CO2 =01241633.D

	Compound	0.1	0.5	1	4	16	CO2	Avg	%RSD
1)	Hydrogen	1.295	1.311	1.271	1.247	1.260		1.317 E1	7.72
2)	Oxygen	1.471	1.599	1.556	1.522	1.454		1.513 E1	3.72
3)	Nitrogen	1.968	1.935	1.742	1.703	1.632		1.753 E1	9.60
4)	Carbon Monoxide	1.656	1.801	1.725	1.689	1.616		1.697 E1	4.15
5)	Methane	1.200	1.368	1.293	1.263	1.198		1.259 E1	5.14
6)	Carbon Dioxide	2.060	2.178	2.092	2.038	1.929	1.879	2.029 E1	5.38

(#) = Out of Range ### Number of calibration levels exceeded format ###

Modified EPA Method 3C Daily QC Summary

Client : Leidos
Analyst : MC
Method Name : EPA 3C, ASTM D 1946-90, VOA-EPA3C

Instrument : [GC]
Date Analyzed : 3/11/2016

RT Summaries and QC Check (minutes)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time
ICAL Mean RT	**0.708**	**2.188**	**2.368**	**3.076**	**5.045**	**6.707**		
RT Windows (+/- min)	**0.072**	**0.133**	**0.146**	**0.034**	**0.130**	**0.145**		
std s30-03041604	0.712	2.234	2.410	3.097	5.087	6.747	03111601.D	08:35
+/- 0.33min of ICAL Mean RT	Pass	Pass	Pass	Pass	Pass	Pass		
mb							03111602.D	09:02
lab air		2.183 Pass	2.321 Pass			6.763 Pass	03111603.D	09:22
lcs s11-12041501	0.713 Pass	2.235 Pass	2.413 Pass	3.101 Pass	5.089 Pass	6.750 Pass	03111604.D	09:55
lcsd s11-12041501	0.711 Pass	2.232 Pass	2.409 Pass	3.096 Pass	5.085 Pass	6.746 Pass	03111605.D	10:15
1131-001		2.184 Pass	2.329 Pass			6.740 Pass	03111619.D	15:00
1131-002		2.193 Pass	2.341 Pass			6.760 Pass	03111620.D	15:19
1131-003		2.190 Pass	2.336 Pass			6.744 Pass	03111621.D	15:36
1131-004		2.194 Pass	2.342 Pass				03111622.D	15:53
1131-005		2.192 Pass	2.340 Pass			6.741 Pass	03111623.D	16:09
1131-006		2.185 Pass	2.331 Pass			6.747 Pass	03111624.D	16:25
1131-007		2.185 Pass	2.333 Pass			6.749 Pass	03111625.D	16:41
1131-008		2.175 Pass	2.321 Pass			6.742 Pass	03111626.D	16:57
std s30-03041604	0.706 Pass	2.217 Pass	2.393 Pass	3.081 Pass	5.074 Pass	6.737 Pass	03111627.D	17:13

Continuing Calibration Standards Summary (ppm)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time
ACTUAL	39980.0	40030.0	50000.0	49990.0	40020.0	50040.0		
CCV Criteria (+/- %D)	**15.0%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**		
std s30-03041604	40074.9 0.2%	41437.8 3.5%	50661.3 1.3%	51921.8 3.9%	42161.3 5.4%	50023.6 0.0%	03111601.D	08:35
std s30-03041604	40430.1 1.1%	41590.2 3.9%	50868.5 1.7%	51965.0 4.0%	42169.4 5.4%	50309.7 0.5%	03111627.D	17:13
	#####	#####	#####	#####	#####	#####		
	#####	#####	#####	#####	#####	#####		

Lab Dup Summary (ppm, without DF correction and nomalization)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time

LCS / LCS Dup Summary (ppm, without DF correction)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time
LCS Actual Conc. (ppm)	40000.0	40000.0	40000.0	40000.0	40000.0	40000.0		
LCS Criteria (% Range)	**83%-114%**	**84%-121%**	**88%-122%**	**87%-118%**	**85%-116%**	**84%-117%**		
lcs s11-12041501	38570.4	40827.2	39222.2	40461.8	40853.4	40811.3	03111604.D	09:55
LCS % Recovery	96% Pass	102% Pass	98% Pass	101% Pass	102% Pass	102% Pass		
lcsd s11-12041501	39060.3	41095.6	39529.8	40967.7	41214.5	41253.1	03111605.D	10:15
LCS % Recovery	98% Pass	103% Pass	99% Pass	102% Pass	103% Pass	103% Pass		
Duplicate % RPD	1.3%	0.7%	0.8%	1.2%	0.9%	1.1%		
Duplicate Criteria % RPD	**16%** Pass	**16%** Pass	**21%** Pass	**16%** Pass	**16%** Pass	**16%** Pass		

Lab Air QC Summary

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxid	Methane	Carbon Dioxide	Lab Air Criteria Total (90%-110%)
lab air		216351.5	766123.3			440.3	98.3% Pass
Lab Air Normalized (%)		22.01%	77.94%			0.04%	100.0%

Modified EPA Method 3C Daily QC Summary

Client : Leidos
Analyst : MC
Method Name : EPA 3C, ASTM D 1946-90, VOA-EPA3C

Instrument : [GC]
Date Analyzed : 3/11/2016

RT Summaries and QC Check (minutes)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time
ICAL Mean RT	**0.708**	**2.188**	**2.368**	**3.076**	**5.045**	**6.707**		
RT Windows (+/- min)	**0.072**	**0.133**	**0.146**	**0.034**	**0.130**	**0.145**		
std s30-03041604	0.706	2.217	2.393	3.081	5.074	6.737	03111627.D	17:13
+/- 0.33min of ICAL Mean RT	Pass	Pass	Pass	Pass	Pass	Pass		
mb							03111628.D	17:30
lab air		2.174 Pass	2.312 Pass			6.757 Pass	03111629.D	17:49
lcs s11-12041501	0.707 Pass	2.218 Pass	2.395 Pass	3.083 Pass	5.074 Pass	6.739 Pass	03111630.D	18:05
lcsd s11-12041501	0.703 Pass	2.215 Pass	2.393 Pass	3.082 Pass	5.075 Pass	6.740 Pass	03111631.D	18:21
1131-009		2.184 Pass	2.329 Pass			6.737 Pass	03111632.D	18:37
1131-010		2.186 Pass	2.332 Pass			6.737 Pass	03111633.D	18:54
1131-011		2.190 Pass	2.338 Pass			6.745 Pass	03111634.D	19:10
1131-012		2.191 Pass	2.337 Pass			6.743 Pass	03111635.D	19:27
1131-013		2.185 Pass	2.332 Pass			6.755 Pass	03111636.D	19:43
1131-014		2.186 Pass	2.332 Pass			6.736 Pass	03111637.D	19:59
1131-015		2.182 Pass	2.328 Pass			6.745 Pass	03111638.D	20:31
std s30-03041604	0.700 Pass	2.216 Pass	2.392 Pass	3.081 Pass	5.076 Pass	6.738 Pass	03111639.D	20:48

Continuing Calibration Standards Summary (ppm)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time
ACTUAL	39980.0	40030.0	50000.0	49990.0	40020.0	50040.0		
CCV Criteria (+/- %D)	**15.0%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**	**10.0%**		
std s30-03041604	40430.1 1.1%	41590.2 3.9%	50868.5 1.7%	51965.0 4.0%	42169.4 5.4%	50309.7 0.5%	03111627.D	17:13
std s30-03041604	40629.4 1.6%	41949.4 4.8%	51164.1 2.3%	52445.8 4.9%	42502.9 6.2%	50599.3 1.1%	03111639.D	20:48
	#####	#####	#####	#####	#####	#####		
	#####	#####	#####	#####	#####	#####		

Lab Dup Summary (ppm, without DF correction and nomalization)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time

LCS / LCS Dup Summary (ppm, without DF correction)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time
LCS Actual Conc. (ppm)	40000.0	40000.0	40000.0	40000.0	40000.0	40000.0		
LCS Criteria (% Range)	**83%-114%**	**84%-121%**	**88%-122%**	**87%-118%**	**85%-116%**	**84%-117%**		
lcs s11-12041501	38898.4	40849.9	39295.9	40438.3	40742.6	40918.4	03111630.D	18:05
LCS % Recovery	97% Pass	102% Pass	98% Pass	101% Pass	102% Pass	102% Pass		
lcsd s11-12041501	38671.2	40657.9	38910.8	40400.0	40449.1	40729.5	03111631.D	18:21
LCS % Recovery	97% Pass	102% Pass	97% Pass	101% Pass	101% Pass	102% Pass		
Duplicate % RPD	0.6%	0.5%	1.0%	0.1%	0.7%	0.5%		
Duplicate Criteria % RPD	**16%** Pass	**16%** Pass	**21%** Pass	**16%** Pass	**16%** Pass	**16%** Pass		

Lab Air QC Summary

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxid	Methane	Carbon Dioxide	Lab Air Criteria Total (90%-110%)
lab air		214655.6	773162.3			393.8	98.8% Pass
Lab Air Normalized (%)		21.72%	78.23%			0.04%	100.0%

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Project ID: **Chelan Chevron / 96590** ALS Project ID: P1601131

Helium

Test Code: EPA 3C Modified
Instrument ID: HP5890 II/GC8/TCD Date(s) Collected: 2/23/16
Analyst: Wade Henton Date Received: 3/3/16
Sample Type: 6.0 L Silonite Canister(s) Date Analyzed: 3/8/16
Test Notes:

Client Sample ID	ALS Sample ID	Injection Volume ml(s)	Canister Dilution Factor	Result ppmV	MRL ppmV	MDL ppmV	Data Qualifier
OA-01-022316	P1601131-001	1.00	1.06	ND	27	4.9	
OA-02-022316	P1601131-002	1.00	1.16	**88**	29	5.3	
OA-03-022316	P1601131-003	1.00	1.13	ND	28	5.2	
OA-04-022316	P1601131-004	1.00	1.23	ND	31	5.7	
OA-05-022316	P1601131-005	1.00	1.27	ND	32	5.8	
IA-233 EWA-022316	P1601131-006	1.00	1.09	ND	27	5.0	
IA-222 EWA-022316	P1601131-007	1.00	1.21	ND	30	5.6	
IA-216 EWA-022316	P1601131-008	1.00	1.09	ND	27	5.0	
IA-212 EWA-022316	P1601131-009	1.00	1.05	ND	26	4.8	
IA-206 EWA-022316	P1601131-010	1.00	1.13	ND	28	5.2	
IA-204 EWA-022316	P1601131-011	1.00	1.24	ND	31	5.7	
IA-146 EWA-022316	P1601131-012	1.00	1.10	ND	28	5.1	
IA-140 EWA-022316	P1601131-013	1.00	1.17	ND	29	5.4	
IA-113 SES-022316	P1601131-014	1.00	1.14	ND	29	5.2	
Duplicate-022316	P1601131-015	1.00	1.14	ND	29	5.2	
Method Blank	P160308-MB	1.00	1.00	ND	25	4.6	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Leidos**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1601131
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P160308-LCS

Test Code: EPA 3C Modified Date Collected: NA
Instrument ID: HP5890 II/GC8/TCD Date Received: NA
Analyst: Wade Henton Date Analyzed: 3/08/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: NA ml(s)
Test Notes:

CAS #	Compound	Spike Amount ppmV	**Result ppmV**	**% Recovery**	ALS Acceptance Limits	Data Qualifier
7440-59-7	Helium	10,000	**10,200**	**102**	63-131	

Method Path : J:\GC08\METHODS\
Method File : H2HE092115.M
Title : Hydrogen and Helium by EPA Method 3C
Last Update : Mon Sep 21 15:38:09 2015
Response Via : Initial Calibration

Calibration Files
1 =09211503.D 2 =09211504.D 3 =09211505.D
4 =09211506.D 5 =09211507.D

	Compound	1	2	3	4	5	Avg		%RSD
1)	Helium	4.469	3.893	4.413	4.592	4.499	4.373	E1	6.31
2)	Hydrogen	6.889	6.046	6.764	7.103	6.992	6.759	E1	6.18

(#) = Out of Range

H2HE092115.M Mon Sep 21 15:38:20 2015

ALS Enviromental

REPORT SUMMARY

Method : Helium by modified EPA 3C
Client : Leidos
Analyst : am

Instrument : Instrument #8 / TCD #8
Date Acquired : 3/8/2016
Sample Amount : 1 mL

Opening CCV[1]		
std s30-03071602		He
Sample result (ppm)	inj vol.	9445.30
ACTUAL	0.10	10000.00
%Difference		5.55%

Opening CCV[1]		
		He
Sample result (ppm)	inj vol.	
ACTUAL	0.10	10000.00
%Difference		

Laboratory Control Spike[2]	
lcs s30-03071603	He
sample result ppm	10230.7
spike amount	10000
% recovery	102.31%

Closing CCV[1]		
std s30-03071602		He
Sample result (ppm)	inj vol.	9604.80
ACTUAL	0.10	10000.00
%Difference		3.95%

Closing CCV[1]		
		He
Sample result (ppm)	inj vol.	
ACTUAL	0.10	10000.00
%Difference		

Laboratory Control Spike[2]	
lcsds30-03071603	He
sample result ppm	10944.2
spike amount	10000
% recovery	109.44%
% RPD	6.74%

FINAL SAMPLE RESULT SUMMARIES

Sample ID	Inject. Vol(ml)	Dilution DF	Pi	Pf	PiPf DF	He Result (ppm)	H2 Result (ppm)	FINAL HELIUM RESULT ppm	FINAL HELIUM RESULT mg/M3	File ID	Acq time
Reporting Limit								25.0	4.09		
mb 1ml	1.000	1.0			1.00	0.00	0.00	ND	ND		
1131-001 1ml	1.00	1.0	-0.79	0.00	1.06	15.26	0.00	ND	ND	03081608.D	16:58:53
1131-002 1ml	1.00	1.0	-2.06	0.00	1.16	76.01	0.00	**88.398**	**14.465**	03081609.D	17:05:58
1131-003 1ml	1.00	1.0	-1.74	0.00	1.13	14.17	0.00	ND	ND	03081610.D	17:13:12
1131-004 1ml	1.00	1.0	-2.70	0.00	1.23	15.18	0.00	ND	ND	03081611.D	17:19:30
1131-005 1ml	1.00	1.0	-3.11	0.00	1.27	10.96	0.00	ND	ND	03081612.D	17:26:50
1131-006 1ml	1.00	1.0	-1.22	0.00	1.09	15.33	0.00	ND	ND	03081614.D	17:54:22
1131-007 1ml	1.00	1.0	-2.58	0.00	1.21	17.15	0.00	ND	ND	03081615.D	18:00:37
1131-008 1ml	1.00	1.0	-1.20	0.00	1.09	17.17	0.00	ND	ND	03081616.D	18:06:43
1131-009 1ml	1.00	1.0	-0.75	0.00	1.05	15.01	0.00	ND	ND	03081617.D	18:13:59
1131-010 1ml	1.00	1.0	-1.70	0.00	1.13	21.83	0.00	ND	ND	03081618.D	18:21:10
1131-011 1ml	1.00	1.0	-2.89	0.00	1.24	18.96	0.00	ND	ND	03081619.D	18:27:23
1131-012 1ml	1.00	1.0	-1.31	0.00	1.10	11.82	0.00	ND	ND	03081620.D	18:34:44
1131-013 1ml	1.00	1.0	-2.13	0.00	1.17	16.95	0.00	ND	ND	03081621.D	18:43:07
1131-014 1ml	1.00	1.0	-1.79	0.00	1.14	0.00	0.00	ND	ND	03081622.D	18:49:18
1131-015 1ml	1.00	1.0	-1.75	0.00	1.14	17.11	0.00	ND	ND	03081623.D	18:56:34

3/10/16

1. 15% difference allowed for the opening and closing standards.
2. 63-131% helium recovery for the lab control spike.
3. 18% helium RPD allowed between duplicate samples.

J:\EXCEL\REPORT\helium\2016\P1601131_Leidos_Chelan Chevron _ 96590_HE_1603101243_AD

Printed: 3/10/2016 12:46 PM

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **OA-01-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-001

Test Code: Massachusetts APH, Revision 1, December 2009
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00464

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/12/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.81 Final Pressure (psig): 3.48

Canister Dilution Factor: 1.31

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	**26**	26	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	13	
C_9 - C_{10} Aromatic Hydrocarbons	ND	3.3	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **OA-02-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-002

Test Code: Massachusetts APH, Revision 1, December 2009
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00831

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/12/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.10 Final Pressure (psig): 3.55

Canister Dilution Factor: 1.45

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	**42**	29	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	15	
C_9 - C_{10} Aromatic Hydrocarbons	ND	3.6	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **OA-03-022316** ALS Project ID: P1601131
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601131-003

Test Code: Massachusetts APH, Revision 1, December 2009 Date Collected: 2/23/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/12/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00853

Initial Pressure (psig): -1.72 Final Pressure (psig): 3.66

Canister Dilution Factor: 1.41

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	**31**	28	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	14	
C_9 - C_{10} Aromatic Hydrocarbons	ND	3.5	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **OA-04-022316** ALS Project ID: P1601131
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601131-004

Test Code: Massachusetts APH, Revision 1, December 2009 Date Collected: 2/23/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/12/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00770

Initial Pressure (psig): -2.71 Final Pressure (psig): 3.43

Canister Dilution Factor: 1.51

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	30	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	15	
C_9 - C_{10} Aromatic Hydrocarbons	ND	3.8	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **OA-05-022316** ALS Project ID: P1601131
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601131-005

Test Code: Massachusetts APH, Revision 1, December 2009 Date Collected: 2/23/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/12/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AS00745

Initial Pressure (psig): -3.10 Final Pressure (psig): 3.47

Canister Dilution Factor: 1.57

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	31	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	16	
C_9 - C_{10} Aromatic Hydrocarbons	ND	3.9	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-233 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-006

Test Code: Massachusetts APH, Revision 1, December 2009
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC02135

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/12/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.18 Final Pressure (psig): 3.90

Canister Dilution Factor: 1.38

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	**270**	28	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	**53**	14	
C_9 - C_{10} Aromatic Hydrocarbons	**17**	3.5	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-222 EWA-022316** ALS Project ID: P1601131
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601131-007

Test Code: Massachusetts APH, Revision 1, December 2009 Date Collected: 2/23/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/12/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC01590

Initial Pressure (psig): -2.56 Final Pressure (psig): 3.51

Canister Dilution Factor: 1.50

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	**57**	30	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	**18**	15	
C_9 - C_{10} Aromatic Hydrocarbons	**4.0**	3.8	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-216 EWA-022316** ALS Project ID: P1601131
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601131-008

Test Code: Massachusetts APH, Revision 1, December 2009 Date Collected: 2/23/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/12/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: AC02112

Initial Pressure (psig): -1.22 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.38

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	**99**	28	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	**36**	14	
C_9 - C_{10} Aromatic Hydrocarbons	**5.1**	3.5	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-206 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-010

Test Code: Massachusetts APH, Revision 1, December 2009
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01642

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/12/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.67 Final Pressure (psig): 3.22

Canister Dilution Factor: 1.38

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	**44**	28	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	14	
C_9 - C_{10} Aromatic Hydrocarbons	ND	3.5	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-146 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-012

Test Code: Massachusetts APH, Revision 1, December 2009
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00503

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/12/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.30 Final Pressure (psig): 3.48

Canister Dilution Factor: 1.36

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	**120**	27	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	**27**	14	
C_9 - C_{10} Aromatic Hydrocarbons	**4.5**	3.4	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **Method Blank**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P160311-MB

Test Code: Massachusetts APH, Revision 1, December 2009
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 3/11/16
Volume(s) Analyzed: 1.00 Liter(s)

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	20	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	10	
C_9 - C_{10} Aromatic Hydrocarbons	ND	2.5	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Leidos**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1601131
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P160311-LCS

Test Code: Massachusetts APH, Revision 1, December 2009 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 3/11/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
C5 - C8 Aliphatic Hydrocarbons	216	**224**	**104**	70-130	
C9 - C12 Aliphatic Hydrocarbons	202	**235**	**116**	70-130	
C9 - C10 Aromatic Hydrocarbons	422	**457**	**108**	70-130	

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Leidos**
Client Sample ID: **IA-222 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-007DUP

Test Code: Massachusetts APH, Revision 1, December 2009
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01590

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/12/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.56 Final Pressure (psig): 3.51

Canister Dilution Factor: 1.50

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	**% RPD**	RPD Limit	**Data Qualifier**
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	57.4	56.5	56.95	**2**	30	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	18.4	16.3	17.35	**12**	30	
C_9 - C_{10} Aromatic Hydrocarbons	3.98	ND	-	**-**	30	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected.

Massachusetts APH ICAL Method: M16012016.M ICAL Date: 1/20/16 Instrument ID: MS16

Hydrocarbon Ranges

	areas							masses					
C5-C8 Aliphatics	**0.5**	**1**	**5**	**25**	**50**	**100**		**0.5**	**1**	**5**	**25**	**50**	**100**
Isopentane	101730	172632	761646	3894028	7288675	13621322		0.535	1.07	5.35	26.75	53.5	107
n-Hexane	143449	206994	777500	3952846	7252482	13425316		0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	113537	196504	883795	4794986	8920870	16428383		0.530	1.06	5.30	26.50	53.0	106
2,3-Dimethylpentane	122141	207788	901706	4829849	8884536	15993761		0.575	1.15	5.75	28.75	57.5	115
n-Heptane	104300	180340	818660	4381197	8026628	14651762		0.535	1.07	5.35	26.75	53.5	107
n-Octane	118476	204020	930816	5031994	9185731	16462013		0.545	1.09	5.45	27.25	54.5	109
area sum:	**703633**	**1168278**	**5074123**	**26884900**	**49558922**	**90582557**	**sum:**	**3.245**	**6.490**	**32.45**	**162.25**	**324.50**	**649.00**
C9-C12 Aliphatics	**0.5**	**1**	**5**	**25**	**50**	**100**		**0.5**	**1**	**5**	**25**	**50**	**100**
2,3-Dimethylheptane	131666	225786	1023771	5501206	9913500	17270945		0.530	1.06	5.30	26.50	53.0	106
n-Nonane	121934	219139	986026	5272807	9485730	16370379		0.525	1.05	5.25	26.25	52.5	105
n-Decane	131588	236442	1090310	5586044	9830291	16561556		0.515	1.03	5.15	25.75	51.5	103
Butylcyclohexane	163915	290570	1282825	6540121	11612190	19704773		0.525	1.05	5.25	26.25	52.5	105
n-Undecane	133188	250259	1153804	5816618	10263166	16977345		0.500	1.00	5.00	25.00	50.0	100
n-Dodecane	128801	246755	1224130	6044898	10794434	18026592		0.505	1.01	5.05	25.25	50.5	101
area sum:	**811092**	**1468951**	**6760866**	**34761694**	**61899311**	**104911590**	**sum:**	**3.100**	**6.200**	**31.00**	**155.00**	**310.00**	**620.00**
C9-C10 Aromatics	**0.5**	**1**	**5**	**25**	**50**	**100**		**0.5**	**1**	**5**	**25**	**50**	**100**
Isopropylbenzene	19804	35681	157407	847616	1527732	2658934		0.525	1.05	5.25	26.25	52.5	105
3-Ethyltoluene	20700	37937	178034	938242	1697414	2949955		0.500	1.00	5.00	25.00	50.0	100
1,3,5-Trimethylbenzene	30700	54503	245869	1272489	2288461	3932751		0.515	1.03	5.15	25.75	51.5	103
1,2,3-Trimethylbenzene	31866	58094	263947	1292402	2188718	3498962		0.495	0.99	4.95	24.75	49.5	99
p-Isopropyltoluene	17860	32287	147408	744168	1257110	2020220		0.500	1.00	5.00	25.00	50.0	100
area sum:	**120930**	**218502**	**992665**	**5094917**	**8959435**	**15060822**	**sum:**	**2.535**	**5.070**	**25.35**	**126.75**	**253.50**	**507.00**

LH 1/22/16

Massachusetts APH ICAL: M16012016.M ICAL Date: 1/20/16 Instrument ID: MS16

Hydrocarbon Ranges

areas

Internal Standards (TIC)	0.5	1	5	25	50	100
Bromochloromethane (IS1)	1203770	1200364	1161592	1121737	1136116	1172182
1,4-Difluorobenzene (IS2)	2734881	2682881	2622242	2532391	2537699	2609634
Chlorobenzene-d5 (IS3)	2890805	2852803	2783793	2717158	2742964	2817936
Internal Standards (EIC)						
Bromochloromethane (IS1)	260713	260353	252664	247887	250170	254211
1,4-Difluorobenzene (IS2)	1339124	1316073	1290365	1249077	1246763	1282084
Chlorobenzene-d5 (IS3)	1066960	1055253	1030089	1002467	1002606	1024981
Surrogates (TIC)	**0.5**	**1**	**5**	**25**	**50**	**100**
1,2-Dichloroethane-d4	1051210	1035583	1013697	981697	987809	1012084
Toluene-d8	3327862	3250716	3182092	3095160	3106141	3196029
p-Bromofluorobenzene	2646086	2630390	2602330	2537977	2552714	2598792

RRFs

C5-C8 Aliphatics	0.5	1	5	25	50	100	RRF_{avg}	%RSD
	2.0240	1.7097	1.5148	1.6582	1.5312	1.3608	1.633	13.91
C9-C12 Aliphatics	**0.5**	**1**	**5**	**25**	**50**	**100**	RRF_{avg}	%RSD
	3.0653	2.8065	2.6465	2.7965	2.4895	2.0636	2.645	12.97
C9-C10 Aromatics	**0.5**	**1**	**5**	**25**	**50**	**100**	RRF_{avg}	%RSD
	0.5589	0.5105	0.4752	0.5012	0.4406	0.3623	0.475	14.25

LH 1/22/16

Massachusetts APH

Continuing Calibration Verification Check Sheet

Data File Name: **03111627.D**
Data File Path: **I:\MS16\DATA\2016_03\11**
Operator: **LH**
Date Acquired: **3/11/16 21:43**
Acq. Method File: **TO15.M**
Sample Name: **CCV2 M16031116_25ng**
Misc Info: **S29-03111601/S29-03031605 (4/30)**
Instrument Name: **GCMS-16**

Enter RRFs from current ICAL!

	Internal Standards	RT	Area
7)	1,4-Difluorobenzene (IS2)	13.30	1527809
16)	Chlorobenzene-d5 (IS3)	17.61	1162107

	C5-C8 Aliphatics	RT	Area	RRF	ng	% D	LCL	UCL	Pass/Fai
3)	Isopentane	7.04	5459251	1.903	189.0	**16.51**	**-30**	**30**	Pass
4)	n-Hexane	11.28	5667822						
9)	Cyclohexane	13.19	6625104						
10)	2,3-Dimethylpentane	13.48	6688637	**Spike**	**ICAL**				
11)	n-Heptane	14.34	6243744	**Amt (ng)**	**RRF**				
14)	n-Octane	16.86	7047216	162.25	1.633				
			37731774						

	C9-C12 Aliphatics	RT	Area	RRF	ng	% D			
18)	2,3-Dimethylheptane	18.09	7556860	3.313	194.1	**25.26**	**-30**	**30**	Pass
19)	n-Nonane	18.81	7271499						
25)	n-Decane	20.23	7693260						
28)	Butylcyclohexane	20.74	8900438	**Spike**	**ICAL**				
29)	n-Undecane	21.33	7913260	**Amt (ng)**	**RRF**				
30)	n-Dodecane	22.24	8406239	155.00	2.645				
			47741556						

	C9-C10 Aromatics	RT	Area	RRF	ng	% D			
22)	Isopropylbenzene	19.13	1139229	0.584	156.0	**23.05**	**-30**	**30**	Pass
23)	1-Methyl-3-ethylbenzene	19.68	1283463						
24)	1,3,5-Trimethylbenzene	19.78	1722032						
26)	p-Isopropyltoluene	20.52	996995	**Spike**	**ICAL**				
27)	1,2,3-Trimethylbenzene	20.52	1745619	**Amt (ng)**	**RRF**				
			6887338	126.75	0.475				

LH 3/12/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **OA-01-022316** ALS Project ID: P1601131
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601131-001

Test Code: EPA TO-15 SIM Modified Date Collected: 2/23/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 3/3/16
Analyst: Wida Ang Date Analyzed: 3/14/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.1 Liter(s)
Test Notes:

Initial Pressure (psig): -0.81 Final Pressure (psig): 3.48

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	0.030	0.011	ND	0.0083	0.0031	
71-43-2	Benzene	**0.93**	0.089	0.024	**0.29**	0.028	0.0075	**B**
108-88-3	Toluene	**2.8**	0.12	0.013	**0.74**	0.032	0.0035	
100-41-4	Ethylbenzene	**0.55**	0.12	0.012	**0.13**	0.027	0.0027	
179601-23-1	m,p-Xylenes	**1.9**	0.12	0.023	**0.43**	0.027	0.0052	
95-47-6	o-Xylene	**0.67**	0.12	0.011	**0.15**	0.027	0.0024	
91-20-3	Naphthalene	**0.080**	0.12	0.019	**0.015**	0.023	0.0036	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **OA-02-022316** ALS Project ID: P1601131
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601131-002

Test Code: EPA TO-15 SIM Modified Date Collected: 2/23/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 3/3/16
Analyst: Wida Ang Date Analyzed: 3/14/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.12 Liter(s)
Test Notes:

Initial Pressure (psig): -2.10 Final Pressure (psig): 3.55

Canister Dilution Factor: 1.45

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	0.032	0.012	ND	0.0090	0.0033	
71-43-2	Benzene	**1.1**	0.097	0.026	**0.36**	0.030	0.0081	**B**
108-88-3	Toluene	**2.2**	0.13	0.014	**0.59**	0.034	0.0038	
100-41-4	Ethylbenzene	**0.41**	0.13	0.013	**0.094**	0.030	0.0029	
179601-23-1	m,p-Xylenes	**1.2**	0.13	0.025	**0.29**	0.030	0.0057	
95-47-6	o-Xylene	**0.46**	0.13	0.012	**0.11**	0.030	0.0027	
91-20-3	Naphthalene	**0.060**	0.13	0.021	**0.011**	0.025	0.0040	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **OA-03-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-003

Test Code: EPA TO-15 SIM Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/14/16
Volume(s) Analyzed: 1.11 Liter(s)

Initial Pressure (psig): -1.72 Final Pressure (psig): 3.66

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	0.032	0.012	ND	0.0088	0.0033	
71-43-2	Benzene	**0.94**	0.095	0.025	**0.29**	0.030	0.0080	**B**
108-88-3	Toluene	**2.2**	0.13	0.014	**0.57**	0.034	0.0037	
100-41-4	Ethylbenzene	**0.34**	0.13	0.012	**0.078**	0.029	0.0028	
179601-23-1	m,p-Xylenes	**1.1**	0.13	0.024	**0.26**	0.029	0.0056	
95-47-6	o-Xylene	**0.40**	0.13	0.011	**0.093**	0.029	0.0026	
91-20-3	Naphthalene	**0.14**	0.13	0.020	**0.026**	0.024	0.0039	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **OA-04-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-004

Test Code: EPA TO-15 SIM Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/14/16
Volume(s) Analyzed: 1.13 Liter(s)

Initial Pressure (psig): -2.71 Final Pressure (psig): 3.43

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	0.033	0.012	ND	0.0093	0.0034	
71-43-2	Benzene	**0.60**	0.10	0.027	**0.19**	0.031	0.0084	**B**
108-88-3	Toluene	**0.95**	0.13	0.015	**0.25**	0.035	0.0039	
100-41-4	Ethylbenzene	**0.13**	0.13	0.013	**0.031**	0.031	0.0030	
179601-23-1	m,p-Xylenes	**0.41**	0.13	0.025	**0.095**	0.031	0.0058	
95-47-6	o-Xylene	**0.15**	0.13	0.012	**0.035**	0.031	0.0027	
91-20-3	Naphthalene	ND	0.13	0.021	ND	0.026	0.0041	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **OA-05-022316** ALS Project ID: P1601131
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601131-005

Test Code: EPA TO-15 SIM Modified Date Collected: 2/23/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 3/3/16
Analyst: Wida Ang Date Analyzed: 3/14/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.14 Liter(s)
Test Notes:

Initial Pressure (psig): -3.10 Final Pressure (psig): 3.47

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	0.034	0.013	ND	0.0096	0.0036	
71-43-2	Benzene	**0.047**	0.10	0.028	**0.015**	0.032	0.0086	**J, B**
108-88-3	Toluene	ND	0.14	0.015	ND	0.037	0.0040	
100-41-4	Ethylbenzene	ND	0.14	0.013	ND	0.032	0.0031	
179601-23-1	m,p-Xylenes	ND	0.14	0.026	ND	0.032	0.0060	
95-47-6	o-Xylene	ND	0.14	0.012	ND	0.032	0.0028	
91-20-3	Naphthalene	ND	0.14	0.022	ND	0.026	0.0042	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-233 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-006

Test Code: EPA TO-15 SIM Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/14/16
Volume(s) Analyzed: 1.11 Liter(s)

Initial Pressure (psig): -1.18 Final Pressure (psig): 3.90

Canister Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	**0.046**	0.031	0.012	**0.013**	0.0086	0.0032	
71-43-2	Benzene	**1.3**	0.093	0.025	**0.42**	0.029	0.0078	**B**
108-88-3	Toluene	**33**	0.12	0.014	**8.8**	0.033	0.0036	
100-41-4	Ethylbenzene	**20**	0.12	0.012	**4.5**	0.029	0.0028	
179601-23-1	m,p-Xylenes	**49**	0.12	0.024	**11**	0.029	0.0054	
95-47-6	o-Xylene	**11**	0.12	0.011	**2.4**	0.029	0.0025	
91-20-3	Naphthalene	ND	0.12	0.020	ND	0.024	0.0038	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-222 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-007

Test Code: EPA TO-15 SIM Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/14/16
Volume(s) Analyzed: 1.13 Liter(s)

Initial Pressure (psig): -2.56 Final Pressure (psig): 3.51

Canister Dilution Factor: 1.50

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	0.033	0.012	ND	0.0092	0.0034	
71-43-2	Benzene	**1.0**	0.10	0.027	**0.32**	0.031	0.0083	**B**
108-88-3	Toluene	**7.1**	0.13	0.015	**1.9**	0.035	0.0039	
100-41-4	Ethylbenzene	**0.90**	0.13	0.013	**0.21**	0.031	0.0030	
179601-23-1	m,p-Xylenes	**3.3**	0.13	0.025	**0.75**	0.031	0.0058	
95-47-6	o-Xylene	**1.1**	0.13	0.012	**0.25**	0.031	0.0027	
91-20-3	Naphthalene	**0.077**	0.13	0.021	**0.015**	0.025	0.0041	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-216 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-008

Test Code: EPA TO-15 SIM Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/14/16
Volume(s) Analyzed: 1.11 Liter(s)

Initial Pressure (psig): -1.22 Final Pressure (psig): 3.92

Canister Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	**0.017**	0.031	0.012	**0.0047**	0.0086	0.0032	**J**
71-43-2	Benzene	**0.69**	0.093	0.025	**0.22**	0.029	0.0078	**B**
108-88-3	Toluene	**4.5**	0.12	0.014	**1.2**	0.033	0.0036	
100-41-4	Ethylbenzene	**0.47**	0.12	0.012	**0.11**	0.029	0.0028	
179601-23-1	m,p-Xylenes	**1.4**	0.12	0.024	**0.32**	0.029	0.0054	
95-47-6	o-Xylene	**0.64**	0.12	0.011	**0.15**	0.029	0.0025	
91-20-3	Naphthalene	**0.58**	0.12	0.020	**0.11**	0.024	0.0038	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-212 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-009

Test Code: EPA TO-15 SIM Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/14/16
Volume(s) Analyzed: 1.1 Liter(s)

Initial Pressure (psig): -0.78 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.32

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	**0.029**	0.030	0.011	**0.0079**	0.0083	0.0031	**J**
71-43-2	Benzene	**1.2**	0.090	0.024	**0.37**	0.028	0.0075	**B**
108-88-3	Toluene	**12**	0.12	0.013	**3.1**	0.032	0.0035	
100-41-4	Ethylbenzene	**1.4**	0.12	0.012	**0.33**	0.028	0.0027	
179601-23-1	m,p-Xylenes	**4.1**	0.12	0.023	**0.95**	0.028	0.0053	
95-47-6	o-Xylene	**1.5**	0.12	0.011	**0.34**	0.028	0.0025	
91-20-3	Naphthalene	**0.12**	0.12	0.019	**0.023**	0.023	0.0037	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-206 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-010

Test Code: EPA TO-15 SIM Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/14/16
Volume(s) Analyzed: 1.11 Liter(s)

Initial Pressure (psig): -1.67 Final Pressure (psig): 3.22

Canister Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	0.031	0.012	ND	0.0086	0.0032	
71-43-2	Benzene	**0.39**	0.093	0.025	**0.12**	0.029	0.0078	**B**
108-88-3	Toluene	**11**	0.12	0.014	**3.0**	0.033	0.0036	
100-41-4	Ethylbenzene	**0.29**	0.12	0.012	**0.067**	0.029	0.0028	
179601-23-1	m,p-Xylenes	**0.93**	0.12	0.024	**0.21**	0.029	0.0054	
95-47-6	o-Xylene	**0.40**	0.12	0.011	**0.093**	0.029	0.0025	
91-20-3	Naphthalene	**0.090**	0.12	0.020	**0.017**	0.024	0.0038	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-204 EWA-022316** ALS Project ID: P1601131
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601131-011

Test Code: EPA TO-15 SIM Modified Date Collected: 2/23/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 3/3/16
Analyst: Wida Ang Date Analyzed: 3/14/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.14 Liter(s)
Test Notes:

Initial Pressure (psig): -2.92 Final Pressure (psig): 3.75

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	0.034	0.013	ND	0.0096	0.0036	
71-43-2	Benzene	**0.64**	0.10	0.028	**0.20**	0.032	0.0086	**B**
108-88-3	Toluene	**2.9**	0.14	0.015	**0.77**	0.037	0.0040	
100-41-4	Ethylbenzene	**0.34**	0.14	0.013	**0.079**	0.032	0.0031	
179601-23-1	m,p-Xylenes	**1.1**	0.14	0.026	**0.26**	0.032	0.0060	
95-47-6	o-Xylene	**0.39**	0.14	0.012	**0.089**	0.032	0.0028	
91-20-3	Naphthalene	**0.47**	0.14	0.022	**0.089**	0.026	0.0042	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-146 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-012

Test Code: EPA TO-15 SIM Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/14/16
Volume(s) Analyzed: 1.11 Liter(s)

Initial Pressure (psig): -1.30 Final Pressure (psig): 3.48

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	0.031	0.011	ND	0.0085	0.0032	
71-43-2	Benzene	**0.53**	0.092	0.025	**0.17**	0.029	0.0077	**B**
108-88-3	Toluene	**4.8**	0.12	0.013	**1.3**	0.033	0.0036	
100-41-4	Ethylbenzene	**1.4**	0.12	0.012	**0.31**	0.028	0.0027	
179601-23-1	m,p-Xylenes	**3.4**	0.12	0.023	**0.78**	0.028	0.0054	
95-47-6	o-Xylene	**1.2**	0.12	0.011	**0.27**	0.028	0.0025	
91-20-3	Naphthalene	ND	0.12	0.020	ND	0.023	0.0037	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-140 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-013

Test Code: EPA TO-15 SIM Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/14/16
Volume(s) Analyzed: 1.12 Liter(s)

Initial Pressure (psig): -2.14 Final Pressure (psig): 3.42

Canister Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	0.032	0.012	ND	0.0089	0.0033	
71-43-2	Benzene	**0.69**	0.096	0.026	**0.22**	0.030	0.0081	**B**
108-88-3	Toluene	**3.7**	0.13	0.014	**0.98**	0.034	0.0038	
100-41-4	Ethylbenzene	**0.47**	0.13	0.012	**0.11**	0.030	0.0029	
179601-23-1	m,p-Xylenes	**1.7**	0.13	0.024	**0.40**	0.030	0.0056	
95-47-6	o-Xylene	**0.60**	0.13	0.011	**0.14**	0.030	0.0026	
91-20-3	Naphthalene	**1.1**	0.13	0.021	**0.21**	0.025	0.0039	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **IA-113 SES-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-014

Test Code: EPA TO-15 SIM Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/14/16
Volume(s) Analyzed: 1.11 Liter(s)

Initial Pressure (psig): -1.81 Final Pressure (psig): 3.53

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	0.032	0.012	ND	0.0088	0.0033	
71-43-2	Benzene	**0.50**	0.095	0.025	**0.16**	0.030	0.0080	**B**
108-88-3	Toluene	**1.5**	0.13	0.014	**0.40**	0.034	0.0037	
100-41-4	Ethylbenzene	**0.20**	0.13	0.012	**0.046**	0.029	0.0028	
179601-23-1	m,p-Xylenes	**0.61**	0.13	0.024	**0.14**	0.029	0.0056	
95-47-6	o-Xylene	**0.22**	0.13	0.011	**0.051**	0.029	0.0026	
91-20-3	Naphthalene	**0.23**	0.13	0.020	**0.043**	0.024	0.0039	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **Duplicate-022316** ALS Project ID: P1601131
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601131-015

Test Code: EPA TO-15 SIM Modified Date Collected: 2/23/16
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date Received: 3/3/16
Analyst: Wida Ang Date Analyzed: 3/14/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 1.11 Liter(s)
Test Notes:

Initial Pressure (psig): -1.77 Final Pressure (psig): 3.58

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	0.032	0.012	ND	0.0088	0.0033	
71-43-2	Benzene	**0.047**	0.095	0.025	**0.015**	0.030	0.0080	**J, B**
108-88-3	Toluene	**0.035**	0.13	0.014	**0.0093**	0.034	0.0037	**J**
100-41-4	Ethylbenzene	ND	0.13	0.012	ND	0.029	0.0028	
179601-23-1	m,p-Xylenes	ND	0.13	0.024	ND	0.029	0.0056	
95-47-6	o-Xylene	ND	0.13	0.011	ND	0.029	0.0026	
91-20-3	Naphthalene	ND	0.13	0.020	ND	0.024	0.0039	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **Method Blank**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P160314-MB

Test Code: EPA TO-15 SIM Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 3/14/16
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	0.025	0.0093	ND	0.0069	0.0026	
71-43-2	Benzene	**0.021**	0.075	0.020	**0.0066**	0.023	0.0063	**J**
108-88-3	Toluene	ND	0.10	0.011	ND	0.027	0.0029	
100-41-4	Ethylbenzene	ND	0.10	0.0097	ND	0.023	0.0022	
179601-23-1	m,p-Xylenes	ND	0.10	0.019	ND	0.023	0.0044	
95-47-6	o-Xylene	ND	0.10	0.0089	ND	0.023	0.0020	
91-20-3	Naphthalene	ND	0.10	0.016	ND	0.019	0.0031	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **Leidos**
Client Project ID: **Chelan Chevron / 96590** ALS Project ID: P1601131

Test Code: EPA TO-15 SIM Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19 Date(s) Collected: 2/23/16
Analyst: Wida Ang Date(s) Received: 3/3/16
Sample Type: 6.0 L Summa Canister(s) Date(s) Analyzed: 3/14/16
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 % Recovered	Toluene-d8 % Recovered	Bromofluorobenzene % Recovered	Acceptance Limits	Data Qualifier
Method Blank	P160314-MB	**96**	**99**	**107**	70-130	
Lab Control Sample	P160314-LCS	**97**	**100**	**109**	70-130	
OA-01-022316	P1601131-001	**94**	**101**	**110**	70-130	
OA-02-022316	P1601131-002	**94**	**100**	**111**	70-130	
OA-03-022316	P1601131-003	**94**	**99**	**108**	70-130	
OA-04-022316	P1601131-004	**94**	**100**	**108**	70-130	
OA-05-022316	P1601131-005	**94**	**99**	**104**	70-130	
IA-233 EWA-022316	P1601131-006	**91**	**100**	**113**	70-130	
IA-222 EWA-022316	P1601131-007	**90**	**99**	**109**	70-130	
IA-216 EWA-022316	P1601131-008	**92**	**101**	**104**	70-130	
IA-212 EWA-022316	P1601131-009	**90**	**99**	**111**	70-130	
IA-212 EWA-022316	P1601131-009DUP	**88**	**99**	**109**	70-130	
IA-206 EWA-022316	P1601131-010	**92**	**99**	**114**	70-130	
IA-204 EWA-022316	P1601131-011	**93**	**100**	**113**	70-130	
IA-146 EWA-022316	P1601131-012	**91**	**99**	**119**	70-130	
IA-140 EWA-022316	P1601131-013	**93**	**100**	**116**	70-130	
IA-113 SES-022316	P1601131-014	**93**	**100**	**115**	70-130	
Duplicate-022316	P1601131-015	**91**	**99**	**111**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Leidos**
Client Sample ID: **Lab Control Sample**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P160314-LCS

Test Code: EPA TO-15 SIM Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 3/14/16
Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
1634-04-4	Methyl tert-Butyl Ether	4.32	**3.65**	**84**	65-116	
71-43-2	Benzene	4.52	**3.86**	**85**	67-113	
108-88-3	Toluene	4.36	**3.53**	**81**	68-111	
100-41-4	Ethylbenzene	4.36	**3.67**	**84**	71-127	
179601-23-1	m,p-Xylenes	8.56	**7.12**	**83**	73-130	
100-42-5	Styrene	4.44	**3.56**	**80**	70-130	
95-47-6	o-Xylene	4.20	**3.43**	**82**	74-130	
91-20-3	Naphthalene	4.36	**4.76**	**109**	31-142	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Leidos**
Client Sample ID: **IA-212 EWA-022316**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601131
ALS Sample ID: P1601131-009DUP

Test Code: EPA TO-15 SIM Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973N/HP6890A/MS19
Analyst: Wida Ang
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: 2/23/16
Date Received: 3/3/16
Date Analyzed: 3/14/16
Volume(s) Analyzed: 1.1 Liter(s)

Initial Pressure (psig): -0.78 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.32

CAS #	Compound	Sample Result µg/m³	Sample Result ppbV	**Duplicate Sample Result µg/m³**	**Duplicate Sample Result** ppbV	Average µg/m³	**% RPD**	RPD Limit	**Data Qualifier**
1634-04-4	Methyl tert-Butyl Ether	0.0286	0.00794	0.0270	0.00750	0.0278	**6**	25	**J**
71-43-2	Benzene	1.18	0.371	1.16	0.364	1.17	**2**	25	**B**
108-88-3	Toluene	11.6	3.08	11.4	3.04	11.5	**2**	25	
100-41-4	Ethylbenzene	1.42	0.327	1.41	0.325	1.415	**0.7**	25	
179601-23-1	m,p-Xylenes	4.10	0.945	4.07	0.937	4.085	**0.7**	25	
95-47-6	o-Xylene	1.47	0.338	1.45	0.335	1.46	**1**	25	
91-20-3	Naphthalene	0.123	0.0234	0.123	0.0234	0.123	**0**	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

Response Factor Report MS19

Method Path : I:\MS19\METHODS\
Method File : S19031216.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 15 08:54:44 2016
Response Via : Initial Calibration

CL 3/15/16 JDA 3/21/16

Calibration Files
10 =03121603.D 20 =03121604.D 50 =03121605.D 100 =03121606.D 500 =03121607.D 1000=03121608.D 2000=03121609.D
5000=03121610.D 10K =03121611.D 50K =03121612.D

		Compound	10	20	50	100	500	1000	2000	5000	10K	50K	Avg	%RSD
1)	I	Bromochloromethane...	----------ISTD----------											
2)	T	Dichlorodifluo...	3.878	3.649	3.238	2.888	2.959	3.347	2.999	2.739	2.632	2.529	3.086	14.23
3)	T	Chloromethane			1.128	1.069	0.794	0.849	0.736	0.649	0.585	0.597	0.801	25.73
4)	T	1,2-Dichloro,1...	3.163	3.511	3.146	2.840	2.917	3.288	2.972	2.673	2.540	2.454	2.950	11.39
5)	T	Vinyl Chloride	2.489	3.182	2.739	2.430	2.480	2.839	2.536	2.294	2.188	2.129	2.531	12.57
6)	T	1,3-Butadiene		1.413	1.770	1.483	1.219	1.943	1.784	1.646	1.564	1.626	1.605	13.54
7)	T	Bromomethane	1.124	1.315	1.115	1.048	1.060	1.198	1.078	0.981	0.951	0.964	1.084	10.37
8)	T	Chloroethane	0.868	0.862	0.826	0.756	0.784	0.891	0.800	0.732	0.718	0.728	0.797	7.94
9)	T	Acrolein	0.939	0.565	0.566	0.511	0.552	0.636	0.577	0.530	0.517	0.541	0.593	21.32
10)	T	Acetone		1.119	1.099	0.935	0.666	0.748	0.668	0.608	0.587		0.804	27.01
11)	T	Trichlorofluor...	2.571	2.651	2.403	2.159	2.199	2.465	2.195	1.985	1.922	1.990	2.254	11.38
12)	T	1,1-Dichloroet...	1.126	1.407	1.233	1.121	1.149	1.313	1.185	1.095	1.068	1.114	1.181	9.10
13)	T	Methylene Chlo...		1.935	1.638	1.321	1.201	1.347	1.201	1.096	1.059	1.109	1.323	21.90
14)	T	Trichlorotrifl...	1.201	1.324	1.189	1.059	1.097	1.244	1.125	1.042	1.006	1.127	1.141	8.63
15)	T	trans-1,2-Dich...	0.834	1.428	1.349	1.214	1.262	1.441	1.317	1.206	1.175	1.197	1.242	13.85
16)	T	1,1-Dichloroet...	2.132	2.592	2.279	2.050	2.153	2.449	2.197	1.992	1.930	1.963	2.174	9.90
17)	T	Methyl tert-Bu...	3.674	4.427	3.957	3.529	3.595	4.095	3.695	3.399	3.309	3.458	3.714	9.38
18)	T	cis-1,2-Dichlo...	1.141	1.461	1.390	1.256	1.307	1.493	1.362	1.257	1.222	1.251	1.314	8.45
19)	T	Chloroform			3.095	2.529	2.256	2.509	2.258	2.043	1.983	2.002	2.334	16.02
20)	S	1,2-Dichloroet...	1.992	1.972	1.961	1.958	1.987	1.926	1.912	1.921	1.941	1.926	1.950	1.46
21)	T	1,2-Dichloroet...	1.765	2.045	1.868	1.688	1.756	2.012	1.834	1.690	1.656	1.704	1.802	7.60
22)	T	1,1,1-Trichlor...	2.187	2.554	2.316	2.055	2.125	2.420	2.187	2.008	1.944	1.960	2.176	9.30
23)	T	Benzene		7.534	5.778	4.763	4.521	5.110	4.625	4.183	4.068	4.112	4.966	22.27
24)	T	Carbon Tetrach...	2.464	2.307	1.947	1.747	1.799	2.048	1.860	1.712	1.665	1.697	1.925	14.16
25)	I	1,4-Difluorobenzen...	----------ISTD----------											
26)	T	1,2-Dichloropr...	0.229	0.266	0.234	0.209	0.216	0.246	0.225	0.209	0.205	0.221	0.226	8.38
27)	T	Bromodichlorom...	0.328	0.380	0.342	0.309	0.322	0.371	0.344	0.321	0.317	0.349	0.338	6.94
28)	T	Trichloroethene	0.273	0.313	0.291	0.255	0.256	0.298	0.271	0.249	0.241	0.262	0.271	8.57
29)	T	1,4-Dioxane	0.209	0.233	0.211	0.191	0.176	0.211	0.194	0.180	0.176	0.195	0.198	9.36
30)	T	cis-1,3-Dichlo...	0.350	0.389	0.360	0.323	0.343	0.403	0.380	0.360	0.360	0.400	0.367	7.06
31)	T	trans-1,3-Dich...	0.284	0.325	0.308	0.281	0.301	0.363	0.347	0.333	0.335	0.363	0.324	9.19
32)	T	1,1,2-Trichlor...	0.212	0.210	0.195	0.180	0.185	0.214	0.197	0.182	0.178	0.188	0.194	7.18
33)	S	Toluene-d8 (SS2)	0.956	0.955	0.953	0.952	0.955	0.956	0.956	0.957	0.958	0.931	0.953	0.84
34)	T	Toluene		1.230	1.057	0.933	0.955	1.056	0.974	0.887	0.870	0.886	0.983	11.74
35)	T	Dibromochlorom...	0.237	0.275	0.249	0.223	0.237	0.280	0.265	0.251	0.252	0.273	0.254	7.33
36)	T	1,2-Dibromoethane	0.226	0.270	0.253	0.228	0.238	0.282	0.263	0.246	0.242	0.252	0.250	7.10
37)	T	Tetrachloroethene	0.279	0.322	0.290	0.259	0.268	0.309	0.288	0.269	0.268	0.296	0.285	7.08
38)	I	Chlorobenzene-d5 (...	----------ISTD----------											
39)	T	Chlorobenzene	3.412	3.931	3.586	3.264	3.301	3.878	3.591	3.278	3.116	2.882	3.424	9.58
40)	T	Ethylbenzene	6.412	6.889	6.248	5.690	5.820	6.802	6.282	5.680	5.364	4.823	6.001	10.78
41)	T	m,p-Xylene	5.110	5.405	4.862	4.439	4.550	5.335	4.904	4.441	4.255	3.966	4.727	10.03

Method Path : I:\MS19\METHODS\
Method File : S19031216.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

42)	T	Styrene	3.642	3.784	3.515	3.229	3.270	4.106	3.862	3.590	3.495	3.269	3.576	7.96
43)	T	o-Xylene	2.410	2.733	2.459	2.228	2.272	2.661	2.449	2.224	2.142	2.140	2.372	8.76
44)	T	1,1,2,2-Tetrac...	2.573	2.373	2.194	2.051	2.151	2.493	2.328	2.143	2.083	2.008	2.240	8.60
45)	S	Bromofluoroben...	1.955	1.993	2.040	2.049	2.077	2.109	2.140	2.143	2.113	1.811	2.043	5.01
46)	T	1,3,5-Trimethy...	4.779	5.598	5.171	4.741	4.785	5.741	5.228	4.843	4.715	4.356	4.996	8.62
47)	T	1,2,4-Trimethy...	4.996	5.337	5.014	4.661	4.715	5.775	5.331	5.060	5.023	4.738	5.065	6.75
48)	T	1,3-Dichlorobe...	2.481	2.552	2.537	2.415	2.481	3.088	2.854	2.694	2.647	2.653	2.640	7.67
49)	T	1,4-Dichlorobe...	2.517	2.972	2.768	2.528	2.502	3.126	2.919	2.732	2.665	2.569	2.730	7.92
50)	T	1,2-Dichlorobe...	2.451	2.672	2.553	2.386	2.389	2.942	2.753	2.612	2.579	2.695	2.603	6.65
51)	T	1,2-Dibromo-3-...	0.682	0.815	0.782	0.769	0.790	1.012	1.002	0.978	0.978	0.950	0.876	13.72
52)	T	1,2,4-Trichlor...	1.383	1.358	1.355	1.301	1.307	1.732	1.679	1.607	1.587	0.001	1.331	37.12
53)	T	Naphthalene	5.368	4.400	4.949	4.668	4.625	6.474	6.287	5.983	5.908	5.757	5.442	13.68
54)	T	Hexachlorobuta...	1.003	1.131	1.076	0.982	0.924	1.113	1.052	0.999	0.977	1.027	1.028	6.30

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : I:\MS19\DATA\2016 03\14\03141602.D Vial: 16
Acq On : 14 Mar 2016 10:45 Operator: WA/CL
Sample : CCV S19031416 500pg Inst : MS19
Misc : S29-02221601/S29-02291607 (3/29)

Quant Time: Mar 15 09:28:29 2016
Quant Method : I:\MS19\METHODS\S19031216.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 15 08:54:44 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

CL 3/15/16 WA 3/21/16

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane (IS1)	1.000	1.000	0.0	89	-0.02
2	T	Dichlorodifluoromethane (CF	3.086	2.645	14.3	79	-0.02
3	T	Chloromethane	0.801	0.649	19.0	72	-0.02
4	T	1,2-Dichloro,1,1,2,2-tetrac	2.950	2.666	9.6	81	-0.01
5	T	Vinyl Chloride	2.531	2.248	11.2	80	-0.03
6	T	1,3-Butadiene	1.605	1.589	1.0	115	-0.04
7	T	Bromomethane	1.084	0.974	10.1	81	-0.03
8	T	Chloroethane	0.797	0.697	12.5	79	-0.03
9	T	Acrolein	0.593	0.445	25.0	71	-0.07
10	T	Acetone	0.804	0.588	26.9	78	-0.06
11	T	Trichlorofluoromethane	2.254	1.985	11.9	80	-0.02
12	T	1,1-Dichloroethene	1.181	1.051	11.0	81	-0.02
13	T	Methylene Chloride	1.323	1.091	17.5	80	-0.03
14	T	Trichlorotrifluoroethane	1.141	1.008	11.7	81	-0.01
15	T	trans-1,2-Dichloroethene	1.242	1.146	7.7	80	-0.03
16	T	1,1-Dichloroethane	2.174	1.886	13.2	78	-0.01
17	T	Methyl tert-Butyl Ether	3.714	3.336	10.2	82	-0.03
18	T	cis-1,2-Dichloroethene	1.314	1.185	9.8	80	-0.01
19	T	Chloroform	2.334	2.072	11.2	81	0.00
20	S	1,2-Dichloroethane-d4 (SS1)	1.950	1.904	2.4	85	-0.01
21	T	1,2-Dichloroethane	1.802	1.560	13.4	79	-0.01
22	T	1,1,1-Trichloroethane	2.176	1.931	11.3	80	0.00
23	T	Benzene	4.966	4.080	17.8	80	0.00
24	T	Carbon Tetrachloride	1.925	1.660	13.8	82	0.00
25	I	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	87	0.00
26	T	1,2-Dichloropropane	0.226	0.194	14.2	78	-0.01
27	T	Bromodichloromethane	0.338	0.296	12.4	80	-0.01
28	T	Trichloroethene	0.271	0.240	11.4	82	-0.01
29	T	1,4-Dioxane	0.198	0.146	26.3	73	-0.02
30	T	cis-1,3-Dichloropropene	0.367	0.316	13.9	80	-0.02
31	T	trans-1,3-Dichloropropene	0.324	0.282	13.0	81	-0.01
32	T	1,1,2-Trichloroethane	0.194	0.169	12.9	80	-0.01
33	S	Toluene-d8 (SS2)	0.953	0.944	0.9	86	0.00
34	T	Toluene	0.983	0.849	13.6	77	0.00
35	T	Dibromochloromethane	0.254	0.226	11.0	83	0.00
36	T	1,2-Dibromoethane	0.250	0.222	11.2	81	0.00
37	T	Tetrachloroethene	0.285	0.252	11.6	82	0.00
38	I	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	82	0.00
39	T	Chlorobenzene	3.424	3.242	5.3	81	0.00
40	T	Ethylbenzene	6.001	5.632	6.1	80	0.00
41	T	m,p-Xylene	4.727	4.401	6.9	80	0.00
42	T	Styrene	3.576	3.152	11.9	79	-0.01
43	T	o-Xylene	2.372	2.228	6.1	81	0.00
44	T	1,1,2,2-Tetrachloroethane	2.240	2.080	7.1	80	0.00
45	S	Bromofluorobenzene (SS3)	2.043	2.136	-4.6	85	0.00
46	T	1,3,5-Trimethylbenzene	4.996	4.726	5.4	81	0.00
47	T	1,2,4-Trimethylbenzene	5.065	4.629	8.6	81	0.00
48	T	1,3-Dichlorobenzene	2.640	2.409	8.8	80	0.00
49	T	1,4-Dichlorobenzene	2.730	2.395	12.3	79	0.00
50	T	1,2-Dichlorobenzene	2.603	2.338	10.2	81	0.00
51	T	1,2-Dibromo-3-chloropropane	0.876	0.793	9.5	83	-0.02
52	T	1,2,4-Trichlorobenzene	1.331	1.309	1.7	82	-0.05
53	T	Naphthalene	5.442	4.455	18.1	79	-0.07
54	T	Hexachlorobutadiene	1.028	1.002	2.5	89	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS19\DATA\2016 03\14\03141602.D Vial: 16
Acq On : 14 Mar 2016 10:45 Operator: WA/CL
Sample : CCV S19031416 500pg Inst : MS19
Misc : S29-02221601/S29-02291607 (3/29)

Quant Time: Mar 15 09:28:29 2016
Quant Method : I:\MS19\METHODS\S19031216.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 15 08:54:44 2016
Response via : Initial Calibration
DataAcq Meth:TO15SIM.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0

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LABORATORY REPORT

March 17, 2016

Russell Shropshire, PE
Leidos
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Chelan Chevron / 96590

Dear Russell:

Enclosed are the results of the samples submitted to our laboratory on March 3, 2016. For your reference, these analyses have been assigned our service request number P1601128.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Sue Anderson at 9:02 am, Mar 17, 2016

Sue Anderson
Project Manager

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www.alsglobal.com

Client: Leidos
Project: Chelan Chevron / 96590

Service Request No: P1601128

CASE NARRATIVE

The samples were received intact under chain of custody on March 3, 2016 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Fixed Gases Analysis

All of the samples were analyzed for fixed gases (hydrogen, oxygen, nitrogen, carbon monoxide, methane and carbon dioxide) according to modified EPA Method 3C (single injection) using a gas chromatograph equipped with a thermal conductivity detector (TCD). This procedure is described in laboratory SOP VOA-EPA3C. This method is included on the laboratory's DoD-ELAP scope of accreditation, however it is not part of the NELAP or AIHA-LAP accreditation.

Helium Analysis

All of the samples were also analyzed for helium prior to pressurization according to modified EPA Method 3C (single injection) using a gas chromatograph equipped with a thermal conductivity detector (TCD). This method is not included on the laboratory's NELAP, DoD-ELAP, or AIHA-LAP scope of accreditation.

Air-Phase Petroleum Hydrocarbons (APH) Analysis

Ten of the samples were also analyzed for C5-C8 & C9-C12 aliphatic hydrocarbons by gas chromatography/mass spectrometry according to the Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), Massachusetts Department of Environmental Protection, Revision 1, December, 2009. This method is included on the laboratory's NELAP scope of accreditation, however it is not part of the DoD-ELAP or AIHA-LAP accreditation.

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present. Any internal/tuning standards and target APH analytes eluting in the hydrocarbon ranges are also subtracted. Additionally, C_9-C_{10} Aromatic Hydrocarbons are excluded from the C_9-C_{12} Aliphatic Hydrocarbon range.

Volatile Organic Compound Analysis

The samples were also analyzed for selected volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a

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Client: Leidos
Project: Chelan Chevron / 96590

Service Request No: P1601128

CASE NARRATIVE

gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. The method was modified to include the use of helium as a diluent gas in place of zero-grade air for container pressurization. When necessary, analytical sample volumes were adjusted by a correction factor for containers pressurized with helium. A summary sheet has been included listing the affected samples. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation, however it is not part of the AIHA-LAP accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
AIHA	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
DoD ELAP	http://www.pjlabs.com/search-accredited-labs	L15-398
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2014025
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	977273
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-001
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-15-6
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA016272015-5
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Leidos
Project ID: Chelan Chevron / 96590

Service Request: P1601128

Date Received: 3/3/2016
Time Received: 09:35

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	ASTM D1946-90(2006) - Fxd Gases Can	3C Modified - Helium Can	MA APH 1.0 - MA VOC PH Can	TO-15 Modified - VOC Cans
SSVP-01-022416	P1601128-001	Air	2/24/2016	09:55	1SS00059	0.38	5.70	X	X	X	X
SSVP-02-022416	P1601128-002	Air	2/24/2016	11:46	1SS00128	-0.31	5.90	X	X	X	X
SSVP-03-022416	P1601128-003	Air	2/24/2016	13:54	1SS00004	-0.30	5.63	X	X	X	X
SSVP-04-022416	P1601128-004	Air	2/24/2016	19:42	1SC00947	0.00	6.12	X	X	X	X
SSVP-05-022416	P1601128-005	Air	2/24/2016	17:49	1SC01222	-0.17	5.70	X	X	X	X
SSVP-06-022416	P1601128-006	Air	2/24/2016	15:06	1SC00794	-0.32	5.82	X	X		X
SSVP-07-022616	P1601128-007	Air	2/26/2016	13:02	1SC00759	-0.08	5.61	X	X	X	X
SSVP-08-022616	P1601128-008	Air	2/26/2016	12:28	1SC00876	-1.17	5.28	X	X	X	X
SSVP-09-022516	P1601128-009	Air	2/25/2016	13:26	1SC01306	0.01	6.09	X	X		X
SSVP-10-022516	P1601128-010	Air	2/25/2016	14:15	1SC00450	0.25	5.71	X	X		X
SSVP-11-022516	P1601128-011	Air	2/25/2016	09:05	1SC00353	-0.67	5.35	X	X		X
SSVP-12-022416	P1601128-012	Air	2/24/2016	16:29	1SC00778	0.01	5.56	X	X	X	X
SSVP-13-022516	P1601128-013	Air	2/25/2016	11:15	1SC01317	0.05	6.08	X	X		X
SSVP-14-022516	P1601128-014	Air	2/25/2016	10:24	1SC00220	0.08	5.30	X	X		X
Duplicate-022416	P1601128-015	Air	2/24/2016	00:00	1SC01269	-0.09	5.85	X	X	X	X
Duplicate-022516	P1601128-016	Air	2/25/2016	00:00	1SS00042	0.01	5.49	X	X		X
EB-022516	P1601128-017	Air	2/25/2016	15:25	1SC00724	-0.17	6.03	X	X	X	X

ALS ENVIRONMENTAL

Sample Volume Correction for Helium Pressurization for SCAN Analysis

Sample ID	Pi	Pf	Sample Volume (L)	Adjusted Volume (L)
P1601128-001	0.38	5.70	0.362	0.400
P1601128-002	-0.31	5.90	0.358	0.400
P1601128-003	-0.30	5.63	0.359	0.400
P1601128-004	0.00	6.12	0.359	0.400
P1601128-005	-0.17	5.70	0.359	0.400
P1601128-006	-0.32	5.82	0.358	0.400
P1601128-007	-0.08	5.61	0.360	0.400
P1601128-008	-1.17	5.28	0.356	0.400
P1601128-009	0.01	6.09	0.359	0.400
P1601128-010	0.25	5.71	0.361	0.400
P1601128-011	-0.67	5.32	0.358	0.400
P1601128-012	0.01	5.56	0.361	0.400
P1601128-013	0.05	6.08	0.359	0.400
P1601128-014	0.08	5.30	0.362	0.400
P1601128-015	-0.09	5.85	0.359	0.400
P1601128-016	0.01	5.49	0.361	0.400
P1601128-017	-0.17	6.03	0.358	0.400

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) (10-Day-Standard)

ALS Project No: P1601128

Company Name & Address (Reporting Information): Leidos, 18912 North Creek Parkway, Suite 101, Bothell, WA 98011

Project Name: Chelan Chevron

Project Number: 96590

Project Manager: Russ Shropshire

P.O. # / Billing Information: Work authorization No. P0101809 46 to BOA No. 4600006025 1

Phone: 425-482-3323

Fax:

Email Address for Result Reporting: Shropshirer@leidos.com

Sampler (Print & Sign): Russell Shropshire 2-29-16

ALS Contact:

Analysis Method

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Helium by 3C Modified	H2, CO, CO2, N2, CH4, and O2 by ASTM D1946	BTEX, MTBE, and Naphthalene by TO-15	C5-C8 and C9-C12 Aliphatics by MA APH	Comments e.g. Actual Preservative or specific instructions
SSVP-01-022416	(1)	02-24-16	0955	ISS00059	SM00010	-28.90	-0.50	1L	X	X	X	X	
SSVP-02-022416	(2)	02-24-16	1146	ISS00128	SM00027	-29.39	-0.70					X	
SSVP-03-022416	(3)	02-24-16	1354	ISS00004	SM00038	-29.34	-0.75					X	
SSVP-04-022416	(4)	02-24-16	1942	ISC00947	SM00009	-29.21	-0.50					X	
SSVP-05-022416	(5)	02-24-16	1749	ISC01222	SM00024	-29.27	-0.74					X	
SSVP-06-022416	(6)	02-24-16	1506	ISC00794	SM00044	-28.01	-1.32						
SSVP-07-022616	(7)	02-26-16	1302	ISC00759	SM00057	-28.95	-0.31					X	
SSVP-08-022616	(8)	02-26-16	1228	ISC00876	SM00051	-29.02	-2.50					X	
SSVP-09-022516	(9)	02-25-16	1326	ISC01306	SM00047	-29.36	-0.66						
SSVP-10-022516	(10)	02-25-16	1415	ISC00450	SM00034	-29.25	-0.37						
SSVP-11-022516	(11)	02-25-16	0905	ISC00353	SM00012	-29.01	-1.92						
SSVP-12-022416	(12)	02-24-16	1629	ISC00778	SM00016	-29.01	-1.08					X	
SSVP-13-022516	(13)	02-25-16	1115	ISC01317	SM00030	-29.36	-0.42						
SSVP-14-022516	(14)	02-25-16	1024	ISC00220	SM00014	-29.35	-0.47						

Comments e.g. Actual Preservative or specific instructions: TO-15: Report only BTEX, MTBE and Naphthalene. MA APH: Report only C5-C8 and C9-C12 aliphatics.

Report Tier Levels - please select

Tier I - Results (Default in not specified) _____
Tier II (Results + QC Summaries _____
Tier III (Results + QC & Calibration Summaries) X
Tier IV (Date Validation Package) 10% Surcharge _____

EDD required (YES) / No
Type: _____ Units: ug/m3

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
R. Shropshire	2-29-16	17:00	FedEx 6492 1123 7069		
Relinquished by: (Signature) FEDEX	Date:	Time:	Received by: (Signature)	Date: 3/3/16	Time: 0935

Cooler / Blank Temperature _____ °C

Air - Chain of Custody Record & Analytical Service Request

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) (10-Day-Standard)

ALS Project No: 1609128

Company Name & Address (Reporting Information)
Leidos
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

Project Name: Chelan Chevron
Project Number: 96590

Project Manager: Russ Shropshire
Phone: 425-482-3323
Fax:

P.O. # / Billing Information
Work Authorization No. PO10180946 to
BOA No. 460000060251

Email Address for Result Reporting: shropshirer@leidos.com

Sampler (Print & Sign): Russell Shropshire 2-29-16

ALS Contact:

Analysis Method

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Helium by 3C Modified	H2, CO, CO2, N2, CH4, and O2 by ASTM D1946	BTEX, MTBE, and Naphthalene by TO-15	C5-C8 and C9-C12 Aliphatics by MA APH	Comments e.g. Actual Preservative or specific instructions
Duplicate-022416	(15)	02-24-16	—	1SC01269	—	-29.20	-0.57	1L	X	X	X	X	
Duplicate-022516	(16)	02-25-16	—	1SS00042	—	-29.32	-0.65	1L	↓	↓	↓		
EB-022516	(17)	02-25-16	1525	1SC00724	SM00043	-28.97	-1.01	1L	↓	↓	↓	X	

TO-15: Report only BTEX, MTBE and Naphthalene.
MA APH: Report only C5-C8 and C9-C12 Aliphatics

2/29/2016

Report Tier Levels - please select
Tier I - Results (Default in not specified) ____
Tier II (Results + QC Summaries ____
Tier III (Results + QC & Calibration Summaries) X
Tier IV (Date Validation Package) 10% Surcharge ____

EDD required (YES) / No
Type: ____ Units: ug/m3

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
R. Shropshire	2-29-16	17:00	FedEx 6492 1123 7069		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Fedex				3/3/16	0935

Cooler / Blank Temperature ____°C

ALS Environmental
Sample Acceptance Check Form

Client: Leidos Work order: P1601128

Project: Chelan Chevron / 96590

Sample(s) received on: 3/3/16 Date opened: 3/3/16 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1601128-001.01	1.0 L Source Silonite Canister					
P1601128-002.01	1.0 L Source Silonite Canister					
P1601128-003.01	1.0 L Source Silonite Canister					
P1601128-004.01	1.0 L Source Can					
P1601128-005.01	1.0 L Source Can					
P1601128-006.01	1.0 L Source Can					
P1601128-007.01	1.0 L Source Can					
P1601128-008.01	1.0 L Source Can					
P1601128-009.01	1.0 L Source Can					
P1601128-010.01	1.0 L Source Can					
P1601128-011.01	1.0 L Source Can					
P1601128-012.01	1.0 L Source Can					
P1601128-013.01	1.0 L Source Can					
P1601128-014.01	1.0 L Source Can					
P1601128-015.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS Environmental
Sample Acceptance Check Form

Client: Leidos Work order: P1601128

Project: Chelan Chevron / 96590

Sample(s) received on: 3/3/16 Date opened: 3/3/16 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1601128-016.01	1.0 L Source Silonite Canister					
P1601128-017.01	1.0 L Source Can					
P1601128-018.02	1.0 L Source Can					
P1601128-019.02	1.0 L Source Can					
P1601128-020.02	1.0 L Source Can					
P1601128-021.02	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-01-022416**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-001

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Wade Henton
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00059

Date Collected: 2/24/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): 0.38 Final Pressure (psig): 5.70

Canister Dilution Factor: 1.35

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**21.6**	0.14	
7727-37-9	**Nitrogen**	**78.0**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	**Carbon Dioxide**	**0.350**	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-02-022416**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-002

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Wade Henton
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00128

Date Collected: 2/24/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.31 Final Pressure (psig): 5.90

Canister Dilution Factor: 1.43

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.0**	0.14	
7727-37-9	**Nitrogen**	**77.9**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-03-022416**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-003

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Wade Henton
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00004

Date Collected: 2/24/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.30 Final Pressure (psig): 5.63

Canister Dilution Factor: 1.41

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**21.1**	0.14	
7727-37-9	**Nitrogen**	**78.0**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	**Carbon Dioxide**	**0.933**	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-04-022416**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-004

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Wade Henton
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00947

Date Collected: 2/24/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): Final Pressure (psig): 6.12

Canister Dilution Factor: 1.42

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.1**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-05-022416**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-005

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Wade Henton
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC01222

Date Collected: 2/24/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.17 Final Pressure (psig): 5.70

Canister Dilution Factor: 1.40

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.2**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-06-022416**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-006

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Wade Henton
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00794

Date Collected: 2/24/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.32 Final Pressure (psig): 5.82

Canister Dilution Factor: 1.43

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.1**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-07-022616**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-007

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Wade Henton
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00759

Date Collected: 2/26/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.08 Final Pressure (psig): 5.61

Canister Dilution Factor: 1.39

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.1**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-08-022616**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-008

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Wade Henton
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00876

Date Collected: 2/26/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -1.17 Final Pressure (psig): 5.28

Canister Dilution Factor: 1.48

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.15	
7782-44-7	**Oxygen***	**22.2**	0.15	
7727-37-9	**Nitrogen**	**77.8**	0.15	
630-08-0	Carbon Monoxide	ND	0.15	
74-82-8	Methane	ND	0.15	
124-38-9	Carbon Dioxide	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-09-022516**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-009

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Wade Henton
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC01306

Date Collected: 2/25/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): 0.01 Final Pressure (psig): 6.09

Canister Dilution Factor: 1.41

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.1**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-10-022516**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-010

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Wade Henton
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00450

Date Collected: 2/25/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): 0.25 Final Pressure (psig): 5.71

Canister Dilution Factor: 1.37

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.2**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-11-022516**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-011

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Wade Henton
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00353

Date Collected: 2/25/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.67 Final Pressure (psig): 5.35

Canister Dilution Factor: 1.43

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**21.5**	0.14	
7727-37-9	**Nitrogen**	**78.1**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	**Carbon Dioxide**	**0.459**	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-12-022416** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-012

Test Code: ASTM D1946 Date Collected: 2/24/16
Instrument ID: HP5890 II/GC1/TCD Date Received: 3/3/16
Analyst: Wade Henton Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.10 ml(s)
Test Notes:
Container ID: 1SC00778

Initial Pressure (psig): 0.01 Final Pressure (psig): 5.56

Canister Dilution Factor: 1.38

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**20.0**	0.14	
7727-37-9	**Nitrogen**	**79.1**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	**Carbon Dioxide**	**0.901**	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-13-022516**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-013

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Wade Henton
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC01317

Date Collected: 2/25/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): 0.05 Final Pressure (psig): 6.08

Canister Dilution Factor: 1.41

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.1**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-14-022516**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-014

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Wade Henton
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00220

Date Collected: 2/25/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): 0.08 Final Pressure (psig): 5.30

Canister Dilution Factor: 1.35

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**21.8**	0.14	
7727-37-9	**Nitrogen**	**78.0**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **Duplicate-022416**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-015

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Wade Henton
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC01269

Date Collected: 2/24/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.09 Final Pressure (psig): 5.85

Canister Dilution Factor: 1.41

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.1**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **Duplicate-022516**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-016

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Wade Henton
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00042

Date Collected: 2/25/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): 0.01 Final Pressure (psig): 5.49

Canister Dilution Factor: 1.37

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**22.1**	0.14	
7727-37-9	**Nitrogen**	**77.8**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **EB-022516**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-017

Test Code: ASTM D1946
Instrument ID: HP5890 II/GC1/TCD
Analyst: Wade Henton
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00724

Date Collected: 2/25/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.17 Final Pressure (psig): 6.03

Canister Dilution Factor: 1.43

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	**Oxygen***	**20.9**	0.14	
7727-37-9	**Nitrogen**	**79.1**	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **Method Blank** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P160310-MB

Test Code: ASTM D1946 Date Collected: NA
Instrument ID: HP5890 II/GC1/TCD Date Received: NA
Analyst: Wade Henton Date Analyzed: 3/10/16
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.10 ml(s)
Test Notes:

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.10	
7782-44-7	Oxygen*	ND	0.10	
7727-37-9	Nitrogen	ND	0.10	
630-08-0	Carbon Monoxide	ND	0.10	
74-82-8	Methane	ND	0.10	
124-38-9	Carbon Dioxide	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Leidos**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P160310-LCS

Test Code: ASTM D1946 Date Collected: NA
Instrument ID: HP5890 II/GC1/TCD Date Received: NA
Analyst: Wade Henton Date Analyzed: 3/10/16
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: NA ml(s)
Test Notes:

CAS #	Compound	Spike Amount ppmV	Result ppmV	% Recovery	ALS Acceptance Limits	Data Qualifier
1333-74-0	Hydrogen	40,000	**38,900**	**97**	83-114	
7782-44-7	Oxygen*	40,000	**41,000**	**103**	84-121	
7727-37-9	Nitrogen	40,000	**39,600**	**99**	88-122	
630-08-0	Carbon Monoxide	40,000	**40,800**	**102**	87-118	
74-82-8	Methane	40,000	**40,800**	**102**	85-116	
124-38-9	Carbon Dioxide	40,000	**41,000**	**103**	84-117	

* = The oxygen result may include argon due to coelution. Ambient air includes 0.93% argon.

Method Path : I:\GC01\METHODS\
Method File : 3C012416.M
Title : EPA 3C, ASTM D 1946-90, VOA-EPA3C
Last Update : Sun Jan 24 22:12:55 2016
Response Via : Initial Calibration

Calibration Files
0.1 =01241627.D 0.5 =01241628.D 1 =01241629.D
4 =01241631.D 16 =01241632.D CO2 =01241633.D

	Compound	0.1	0.5	1	4	16	CO2	Avg	%RSD
1)	Hydrogen	1.295	1.311	1.271	1.247	1.260		1.317 E1	7.72
2)	Oxygen	1.471	1.599	1.556	1.522	1.454		1.513 E1	3.72
3)	Nitrogen	1.968	1.935	1.742	1.703	1.632		1.753 E1	9.60
4)	Carbon Monoxide	1.656	1.801	1.725	1.689	1.616		1.697 E1	4.15
5)	Methane	1.200	1.368	1.293	1.263	1.198		1.259 E1	5.14
6)	Carbon Dioxide	2.060	2.178	2.092	2.038	1.929	1.879	2.029 E1	5.38

(#) = Out of Range ### Number of calibration levels exceeded format ###

Modified EPA Method 3C Daily QC Summary

Client : Leidos
Analyst : am
Method Name : EPA 3C, ASTM D 1946-90, VOA-EPA3C

Instrument : [GC]
Date Analyzed : 3/10/2016

RT Summaries and QC Check (minutes)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time
ICAL Mean RT	0.708	2.188	2.368	3.076	5.045	6.707		
RT Windows (+/- min)	0.072	0.133	0.146	0.034	0.130	0.145		
std s30-03041604	0.711	2.230	2.406	3.093	5.084	6.743	03101601.D	10:00
+/- 0.33min of ICAL Mean RT	Pass	Pass	Pass	Pass	Pass	Pass		
mb							03101602.D	10:39
lab air		2.179 Pass	2.317 Pass			6.753 Pass	03101603.D	10:58
lcs s11-12041501	0.713 Pass	2.236 Pass	2.413 Pass	3.101 Pass	5.089 Pass	6.750 Pass	03101604.D	11:17
lcsd s11-12041501	0.711 Pass	2.230 Pass	2.407 Pass	3.095 Pass	5.086 Pass	6.748 Pass	03101605.D	11:34
1128-001		2.200 Pass	2.344 Pass			6.757 Pass	03101608.D	12:24
1128-002		2.196 Pass	2.342 Pass			6.750 Pass	03101609.D	12:40
1128-003		2.192 Pass	2.337 Pass			6.751 Pass	03101610.D	12:56
1128-004		2.194 Pass	2.340 Pass			6.759 Pass	03101611.D	13:13
1128-005		2.190 Pass	2.336 Pass			6.737 Pass	03101612.D	13:29
1128-006	0.768 Pass	2.190 Pass	2.336 Pass			6.745 Pass	03101613.D	13:46
1128-007		2.177 Pass	2.322 Pass			6.744 Pass	03101614.D	14:02
1128-008		2.196 Pass	2.343 Pass			6.752 Pass	03101615.D	14:20
1128-009		2.197 Pass	2.343 Pass			6.742 Pass	03101617.D	15:05
1128-010		2.188 Pass	2.333 Pass			6.742 Pass	03101618.D	15:21
1128-011		2.190 Pass	2.335 Pass			6.747 Pass	03101619.D	15:38
1128-012		2.191 Pass	2.334 Pass			6.744 Pass	03101620.D	15:54
1128-013		2.189 Pass	2.335 Pass			6.753 Pass	03101621.D	16:12
1128-014		2.191 Pass	2.335 Pass			6.752 Pass	03101622.D	16:30
1128-015		2.197 Pass	2.343 Pass			6.744 Pass	03101623.D	16:54
1128-016		2.196 Pass	2.341 Pass			6.752 Pass	03101624.D	17:18
1128-017		2.187 Pass	2.332 Pass				03101625.D	17:34
std s30-03041604	0.709 Pass	2.225 Pass	2.400 Pass	3.087 Pass	5.078 Pass	6.738 Pass	03101627.D	18:12

Continuing Calibration Standards Summary (ppm)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time
ACTUAL	39980.0	40030.0	50000.0	49990.0	40020.0	50040.0		
CCV Criteria (+/- %D)	15.0%	10.0%	10.0%	10.0%	10.0%	10.0%		
std s30-03041604	41343.4 3.4%	42643.3 6.5%	52433.1 4.9%	53641.4 7.3%	43513.3 8.7%	51844.8 3.6%	03101601.D	10:00
std s30-03041604	41039.2 2.6%	42272.0 5.6%	51781.7 3.6%	53030.2 6.1%	43048.0 7.6%	51285.8 2.5%	03101627.D	18:12
	#####	#####	#####	#####	#####	#####		
	#####	#####	#####	#####	#####	#####		

Lab Dup Summary (ppm, without DF correction and nomalization)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time

LCS / LCS Dup Summary (ppm, without DF correction)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time
LCS Actual Conc. (ppm)	40000.0	40000.0	40000.0	40000.0	40000.0	40000.0		
LCS Criteria (% Range)	83%-114%	84%-121%	88%-122%	87%-118%	85%-116%	84%-117%		
lcs s11-12041501	38868.5	41035.1	39562.6	40841.0	40807.0	41049.0	03101604.D	11:17
LCS % Recovery	97% Pass	103% Pass	99% Pass	102% Pass	102% Pass	103% Pass		
lcsd s11-12041501	38924.1	41152.2	39719.3	40944.1	40901.9	41441.8	03101605.D	11:34
LCS % Recovery	97% Pass	103% Pass	99% Pass	102% Pass	102% Pass	104% Pass		
Duplicate % RPD	0.1%	0.3%	0.4%	0.3%	0.2%	1.0%		
Duplicate Criteria % RPD	16% Pass	16% Pass	21% Pass	16% Pass	16% Pass	16% Pass		

Lab Air QC Summary

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxid	Methane	Carbon Dioxide	Lab Air Criteria Total (90%-110%)
lab air		220472.7	786204.9			497.4	100.7% Pass
Lab Air Normalized (%)		21.89%	78.05%			0.05%	100.0%

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Project ID: **Chelan Chevron / 96590** ALS Project ID: P1601128

Helium

Test Code: EPA 3C Modified
Instrument ID: HP5890 II/GC8/TCD Date(s) Collected: 2/24 - 2/26/16
Analyst: Wade Henton Date Received: 3/3/16
Sample Type: 1.0 L Silonite Summa Canister(s) Date Analyzed: 3/9/16
Test Notes:

Client Sample ID	ALS Sample ID	Injection Volume ml(s)	Canister Dilution Factor	Result ppmV	MRL ppmV	MDL ppmV	Data Qualifier
SSVP-01-022416	P1601128-001	1.00	1.00	**3,500**	25	4.6	
SSVP-02-022416	P1601128-002	1.00	1.02	**390**	26	4.7	
SSVP-03-022416	P1601128-003	1.00	1.02	**430**	26	4.7	
SSVP-04-022416	P1601128-004	1.00	1.00	**2,800**	25	4.6	
SSVP-05-022416	P1601128-005	1.00	1.01	**6,400**	25	4.6	
SSVP-06-022416	P1601128-006	1.00	1.02	**600**	26	4.7	
SSVP-07-022616	P1601128-007	1.00	1.00	**2,800**	25	4.6	
SSVP-08-022616	P1601128-008	1.00	1.09	**2,100**	27	5.0	
SSVP-09-022516	P1601128-009	1.00	1.00	**240**	25	4.6	
SSVP-10-022516	P1601128-010	1.00	1.00	**130**	25	4.6	
SSVP-11-022516	P1601128-011	1.00	1.05	**1,500**	26	4.8	
SSVP-12-022416	P1601128-012	1.00	1.00	**32**	25	4.6	
SSVP-13-022516	P1601128-013	1.00	1.00	**9,300**	25	4.6	
SSVP-14-022516	P1601128-014	1.00	1.00	**1,900**	25	4.6	
Duplicate-022416	P1601128-015	1.00	1.01	**2,700**	25	4.6	
Duplicate-022516	P1601128-016	1.00	1.00	**260**	25	4.6	
EB-022516	P1601128-017	1.00	1.01	ND	25	4.6	
Method Blank	P160309-MB	1.00	1.00	ND	25	4.6	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Leidos**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P160309-LCS

Test Code: EPA 3C Modified Date Collected: NA
Instrument ID: HP5890 II/GC8/TCD Date Received: NA
Analyst: Wade Henton Date Analyzed: 3/09/16
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: NA ml(s)
Test Notes:

CAS #	Compound	Spike Amount ppmV	**Result ppmV**	**% Recovery**	ALS Acceptance Limits	Data Qualifier
7440-59-7	Helium	10,000	**9,640**	**96**	63-131	

Method Path : J:\GC08\METHODS\
Method File : H2HE092115.M
Title : Hydrogen and Helium by EPA Method 3C
Last Update : Mon Sep 21 15:38:09 2015
Response Via : Initial Calibration

Calibration Files
1 =09211503.D 2 =09211504.D 3 =09211505.D
4 =09211506.D 5 =09211507.D

	Compound	1	2	3	4	5	Avg		%RSD
1)	Helium	4.469	3.893	4.413	4.592	4.499	4.373	E1	6.31
2)	Hydrogen	6.889	6.046	6.764	7.103	6.992	6.759	E1	6.18

(#) = Out of Range

H2HE092115.M Mon Sep 21 15:38:20 2015

ALS Enviromental

REPORT SUMMARY

Method : Helium by modified EPA 3C
Client : Leidos
Analyst : AM

Instrument : Instrument #8 / TCD #8
Date Acquired : 3/9/2016
Sample Amount : 1 mL

Opening CCV[1]

std s30-03091601		He
Sample result (ppm)	inj vol.	9922.50
ACTUAL	0.10	10000.00
%Difference		0.78%

Opening CCV[1]

		He
Sample result (ppm)	inj vol.	
ACTUAL	0.10	10000.00
%Difference		

Laboratory Control Spike[2]

lcs s30-03091602	He
sample result ppm	9636.1
spike amount	10000
% recovery	96.36%

Closing CCV[1]

std s30-03091601		He
Sample result (ppm)	inj vol.	9783.20
ACTUAL	0.10	10000.00
%Difference		2.17%

Closing CCV[1]

		He
Sample result (ppm)	inj vol.	
ACTUAL	0.10	10000.00
%Difference		

Laboratory Control Spike[2]

lcsds30-03091602	He
sample result ppm	10548.1
spike amount	10000
% recovery	105.48%
% RPD	9.04%

FINAL SAMPLE RESULT SUMMARIES

Sample ID	Inject. Vol(ml)	Dilution DF	Pi	Pf	PiPf DF	He Result (ppm)	FINAL HELIUM RESULT ppm	FINAL HELIUM RESULT mg/M3	File ID	Acq time
Reporting Limit							25.0	4.09		
mb 1ml	1.000	1.0			1.00	0.00	ND	ND		
1128-001 1ml	1.00	1.0	0.40	0.40	1.00	3549.35	**3549.350**	**580.811**	03091608.D	16:46:08
1128-002 1ml	1.00	1.0	-0.30	0.00	1.02	383.14	**391.122**	**64.003**	03091609.D	16:53:29
1128-003 1ml	1.00	1.0	-0.31	0.00	1.02	423.89	**433.022**	**70.859**	03091610.D	16:59:40
1128-004 1ml	1.00	1.0	0.00	0.00	1.00	2805.06	**2805.060**	**459.016**	03091611.D	17:05:58
1128-005 1ml	1.00	1.0	-0.15	0.00	1.01	6295.63	**6360.533**	**1040.829**	03091612.D	17:13:23
1128-006 1ml	1.00	1.0	-0.34	0.00	1.02	586.75	**600.642**	**98.288**	03091613.D	17:20:46
1128-007 1ml	1.00	1.0	-0.05	0.00	1.00	2767.67	**2777.116**	**454.443**	03091614.D	17:26:57
1128-008 1ml	1.00	1.0	-1.19	0.00	1.09	1953.42	**2125.483**	**347.811**	03091615.D	17:33:03
1128-009 1ml	1.00	1.0	0.01	0.01	1.00	243.72	**243.720**	**39.882**	03091616.D	17:40:38
1128-010 1ml	1.00	1.0	0.28	0.28	1.00	134.51	**134.510**	**22.011**	03091617.D	17:48:06
1128-011 1ml	1.00	1.0	-0.70	0.00	1.05	1445.44	**1517.712**	**248.356**	03091619.D	18:21:32
1128-012 1ml	1.00	1.0	0.02	0.02	1.00	32.33	**32.330**	**5.290**	03091620.D	18:27:42
1128-013 1ml	1.00	1.0	0.08	0.08	1.00	9257.46	**9257.460**	**1514.878**	03091621.D	18:33:48
1128-014 1ml	1.00	1.0	0.09	0.09	1.00	1884.24	**1884.240**	**308.334**	03091622.D	18:39:58
1128-015 1ml	1.00	1.0	-0.11	0.00	1.01	2694.73	**2715.047**	**444.286**	03091623.D	18:47:23
1128-016 1ml	1.00	1.0	0.02	0.02	1.00	259.95	**259.950**	**42.538**	03091624.D	18:54:49
1128-017 1ml	1.00	1.0	-0.16	0.00	1.01	0.00	ND	ND	03091625.D	19:02:08

3/16/16

1. 15% difference allowed for the opening and closing standards.
2. 63-131% helium recovery for the lab control spike.
3. 18% helium RPD allowed between duplicate samples.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-01-022416**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-001

Test Code: Massachusetts APH, Revision 1, December 2009
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00059

Date Collected: 2/24/16
Date Received: 3/3/16
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): 0.38 Final Pressure (psig): 5.70

Canister Dilution Factor: 1.35

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	68	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	34	
C_9 - C_{10} Aromatic Hydrocarbons	ND	8.4	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-02-022416** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-002

Test Code: Massachusetts APH, Revision 1, December 2009 Date Collected: 2/24/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00128

Initial Pressure (psig): -0.31 Final Pressure (psig): 5.90

Canister Dilution Factor: 1.43

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	72	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	36	
C_9 - C_{10} Aromatic Hydrocarbons	ND	8.9	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-03-022416** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-003

Test Code: Massachusetts APH, Revision 1, December 2009 Date Collected: 2/24/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00004

Initial Pressure (psig): -0.30 Final Pressure (psig): 5.63

Canister Dilution Factor: 1.41

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	71	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	35	
C_9 - C_{10} Aromatic Hydrocarbons	ND	8.8	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-04-022416** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-004

Test Code: Massachusetts APH, Revision 1, December 2009 Date Collected: 2/24/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00947
Initial Pressure (psig): 0.0 Final Pressure (psig): 6.12

Canister Dilution Factor: 1.42

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	71	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	36	
C_9 - C_{10} Aromatic Hydrocarbons	ND	8.9	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.
[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.
[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.
[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.
ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-05-022416** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-005

Test Code: Massachusetts APH, Revision 1, December 2009 Date Collected: 2/24/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01222

Initial Pressure (psig): -0.17 Final Pressure (psig): 5.70

Canister Dilution Factor: 1.40

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	**140**	70	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	35	
C_9 - C_{10} Aromatic Hydrocarbons	ND	8.8	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-07-022616** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-007

Test Code: Massachusetts APH, Revision 1, December 2009 Date Collected: 2/26/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00759

Initial Pressure (psig): -0.08 Final Pressure (psig): 5.61

Canister Dilution Factor: 1.39

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	70	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	35	
C_9 - C_{10} Aromatic Hydrocarbons	ND	8.7	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-08-022616** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-008

Test Code: Massachusetts APH, Revision 1, December 2009 Date Collected: 2/26/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00876

Initial Pressure (psig): -1.17 Final Pressure (psig): 5.28

Canister Dilution Factor: 1.48

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	74	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	37	
C_9 - C_{10} Aromatic Hydrocarbons	ND	9.3	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-12-022416** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-012

Test Code: Massachusetts APH, Revision 1, December 2009 Date Collected: 2/24/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00778

Initial Pressure (psig): 0.01 Final Pressure (psig): 5.56

Canister Dilution Factor: 1.38

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	**260**	69	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	**39**	35	
C_9 - C_{10} Aromatic Hydrocarbons	ND	8.6	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **Duplicate-022416**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-015

Test Code: Massachusetts APH, Revision 1, December 2009
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC01269

Date Collected: 2/24/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.09 Final Pressure (psig): 5.85

Canister Dilution Factor: 1.41

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	71	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	35	
C_9 - C_{10} Aromatic Hydrocarbons	ND	8.8	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **EB-022516**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P1601128-017

Test Code: Massachusetts APH, Revision 1, December 2009
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00724

Date Collected: 2/25/16
Date Received: 3/3/16
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.17 Final Pressure (psig): 6.03

Canister Dilution Factor: 1.43

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	72	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	36	
C_9 - C_{10} Aromatic Hydrocarbons	ND	8.9	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **Method Blank**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P160310-MB

Test Code: Massachusetts APH, Revision 1, December 2009
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 3/10/16
Volume(s) Analyzed: 1.00 Liter(s)

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	20	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	10	
C_9 - C_{10} Aromatic Hydrocarbons	ND	2.5	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **Method Blank**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P160311-MB

Test Code: Massachusetts APH, Revision 1, December 2009
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 3/11/16
Volume(s) Analyzed: 1.00 Liter(s)

Compound	Result µg/m³	MRL µg/m³	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	20	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	10	
C_9 - C_{10} Aromatic Hydrocarbons	ND	2.5	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Leidos**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P160310-LCS

Test Code: Massachusetts APH, Revision 1, December 2009 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
C5 - C8 Aliphatic Hydrocarbons	216	**197**	**91**	70-130	
C9 - C12 Aliphatic Hydrocarbons	202	**195**	**97**	70-130	
C9 - C10 Aromatic Hydrocarbons	422	**384**	**91**	70-130	

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Leidos**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P160311-LCS

Test Code: Massachusetts APH, Revision 1, December 2009 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 3/11/16
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
C5 - C8 Aliphatic Hydrocarbons	216	**198**	**92**	70-130	
C9 - C12 Aliphatic Hydrocarbons	202	**199**	**99**	70-130	
C9 - C10 Aromatic Hydrocarbons	422	**395**	**94**	70-130	

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Leidos**
Client Sample ID: **SSVP-08-022616** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-008DUP

Test Code: Massachusetts APH, Revision 1, December 2009 Date Collected: 2/26/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00876

Initial Pressure (psig): -1.17 Final Pressure (psig): 5.28

Canister Dilution Factor: 1.48

Compound	Sample Result µg/m³	Duplicate Sample Result µg/m³	Average µg/m³	% RPD	RPD Limit	Data Qualifier
C_5 - C_8 Aliphatic Hydrocarbons[1,2]	ND	ND	-	-	30	
C_9 - C_{12} Aliphatic Hydrocarbons[1,3]	ND	ND	-	-	30	
C_9 - C_{10} Aromatic Hydrocarbons	ND	ND	-	-	30	

Significant non-petroleum related peaks (i.e. halogenated, oxygenated, terpenes, etc.) are subtracted from the hydrocarbon range areas when present.

[1]Hydrocarbon Range data from total ion chromatogram excluding any internal/tuning standards eluting in that range.

[2]C_5-C_8 Aliphatic Hydrocarbons exclude the concentration of Target APH analytes eluting in that range.

[3]C_9-C_{12} Aliphatic Hydrocarbons exclude concentration of Target APH Analytes eluting in that range and concentration of C_9-C_{10} Aromatic Hydrocarbons.

ND = Compound was analyzed for, but not detected.

Massachusetts APH ICAL Method: M16012016.M ICAL Date: 1/20/16 Instrument ID: MS16

Hydrocarbon Ranges

	areas							masses					
C5-C8 Aliphatics	**0.5**	**1**	**5**	**25**	**50**	**100**		**0.5**	**1**	**5**	**25**	**50**	**100**
Isopentane	101730	172632	761646	3894028	7288675	13621322		0.535	1.07	5.35	26.75	53.5	107
n-Hexane	143449	206994	777500	3952846	7252482	13425316		0.525	1.05	5.25	26.25	52.5	105
Cyclohexane	113537	196504	883795	4794986	8920870	16428383		0.530	1.06	5.30	26.50	53.0	106
2,3-Dimethylpentane	122141	207788	901706	4829849	8884536	15993761		0.575	1.15	5.75	28.75	57.5	115
n-Heptane	104300	180340	818660	4381197	8026628	14651762		0.535	1.07	5.35	26.75	53.5	107
n-Octane	118476	204020	930816	5031994	9185731	16462013		0.545	1.09	5.45	27.25	54.5	109
area sum:	**703633**	**1168278**	**5074123**	**26884900**	**49558922**	**90582557**	**sum:**	**3.245**	**6.490**	**32.45**	**162.25**	**324.50**	**649.00**
C9-C12 Aliphatics	**0.5**	**1**	**5**	**25**	**50**	**100**		**0.5**	**1**	**5**	**25**	**50**	**100**
2,3-Dimethylheptane	131666	225786	1023771	5501206	9913500	17270945		0.530	1.06	5.30	26.50	53.0	106
n-Nonane	121934	219139	986026	5272807	9485730	16370379		0.525	1.05	5.25	26.25	52.5	105
n-Decane	131588	236442	1090310	5586044	9830291	16561556		0.515	1.03	5.15	25.75	51.5	103
Butylcyclohexane	163915	290570	1282825	6540121	11612190	19704773		0.525	1.05	5.25	26.25	52.5	105
n-Undecane	133188	250259	1153804	5816618	10263166	16977345		0.500	1.00	5.00	25.00	50.0	100
n-Dodecane	128801	246755	1224130	6044898	10794434	18026592		0.505	1.01	5.05	25.25	50.5	101
area sum:	**811092**	**1468951**	**6760866**	**34761694**	**61899311**	**104911590**	**sum:**	**3.100**	**6.200**	**31.00**	**155.00**	**310.00**	**620.00**
C9-C10 Aromatics	**0.5**	**1**	**5**	**25**	**50**	**100**		**0.5**	**1**	**5**	**25**	**50**	**100**
Isopropylbenzene	19804	35681	157407	847616	1527732	2658934		0.525	1.05	5.25	26.25	52.5	105
3-Ethyltoluene	20700	37937	178034	938242	1697414	2949955		0.500	1.00	5.00	25.00	50.0	100
1,3,5-Trimethylbenzene	30700	54503	245869	1272489	2288461	3932751		0.515	1.03	5.15	25.75	51.5	103
1,2,3-Trimethylbenzene	31866	58094	263947	1292402	2188718	3498962		0.495	0.99	4.95	24.75	49.5	99
p-Isopropyltoluene	17860	32287	147408	744168	1257110	2020220		0.500	1.00	5.00	25.00	50.0	100
area sum:	**120930**	**218502**	**992665**	**5094917**	**8959435**	**15060822**	**sum:**	**2.535**	**5.070**	**25.35**	**126.75**	**253.50**	**507.00**

LH 1/22/16

Massachusetts APH ICAL: M16012016.M ICAL Date: 1/20/16 Instrument ID: MS16

Hydrocarbon Ranges

areas

Internal Standards (TIC)	0.5	1	5	25	50	100
Bromochloromethane (IS1)	1203770	1200364	1161592	1121737	1136116	1172182
1,4-Difluorobenzene (IS2)	2734881	2682881	2622242	2532391	2537699	2609634
Chlorobenzene-d5 (IS3)	2890805	2852803	2783793	2717158	2742964	2817936
Internal Standards (EIC)						
Bromochloromethane (IS1)	260713	260353	252664	247887	250170	254211
1,4-Difluorobenzene (IS2)	1339124	1316073	1290365	1249077	1246763	1282084
Chlorobenzene-d5 (IS3)	1066960	1055253	1030089	1002467	1002606	1024981
Surrogates (TIC)	**0.5**	**1**	**5**	**25**	**50**	**100**
1,2-Dichloroethane-d4	1051210	1035583	1013697	981697	987809	1012084
Toluene-d8	3327862	3250716	3182092	3095160	3106141	3196029
p-Bromofluorobenzene	2646086	2630390	2602330	2537977	2552714	2598792

RRFs

C5-C8 Aliphatics	0.5	1	5	25	50	100	RRF_{avg}	%RSD
	2.0240	1.7097	1.5148	1.6582	1.5312	1.3608	1.633	13.91
C9-C12 Aliphatics	**0.5**	**1**	**5**	**25**	**50**	**100**	RRF_{avg}	%RSD
	3.0653	2.8065	2.6465	2.7965	2.4895	2.0636	2.645	12.97
C9-C10 Aromatics	**0.5**	**1**	**5**	**25**	**50**	**100**	RRF_{avg}	%RSD
	0.5589	0.5105	0.4752	0.5012	0.4406	0.3623	0.475	14.25

LH 1/22/16

Massachusetts APH

Continuing Calibration Verification Check Sheet

Data File Name: **03101601.D**
Data File Path: **I:\MS16\DATA\2016_03\10**
Operator: **LH**
Date Acquired: **3/10/16 11:42**
Acq. Method File: **TO15.M**
Sample Name: **CCV M16031016_25ng**
Misc Info: **S29-02181601/S29-03031605 (4/30)**
Instrument Name: **GCMS-16**

Enter RRFs from current ICAL!

	Internal Standards	RT	Area
7)	1,4-Difluorobenzene (IS2)	13.30	1447074
16)	Chlorobenzene-d5 (IS3)	17.61	1149780

	C5-C8 Aliphatics	RT	Area	RRF	ng	% D	LCL	UCL	Pass/Fai
3)	Isopentane	7.05	4540584	1.680	166.9	**2.88**	**-30**	**30**	Pass
4)	n-Hexane	11.29	4746151						
9)	Cyclohexane	13.20	5561790						
10)	2,3-Dimethylpentane	13.48	5594338	**Spike**	**ICAL**				
11)	n-Heptane	14.34	5213017	**Amt (ng)**	**RRF**				
14)	n-Octane	16.86	5901027	162.25	1.633				
			31556907						

	C9-C12 Aliphatics	RT	Area	RRF	ng	% D			
18)	2,3-Dimethylheptane	18.09	6342934	2.825	165.5	**6.79**	**-30**	**30**	Pass
19)	n-Nonane	18.81	6093903						
25)	n-Decane	20.23	6473133						
28)	Butylcyclohexane	20.74	7481176	**Spike**	**ICAL**				
29)	n-Undecane	21.33	6690393	**Amt (ng)**	**RRF**				
30)	n-Dodecane	22.24	7190726	155.00	2.645				
			40272265						

	C9-C10 Aromatics	RT	Area	RRF	ng	% D			
22)	Isopropylbenzene	19.13	971903	0.504	134.5	**6.14**	**-30**	**30**	Pass
23)	1-Methyl-3-ethylbenzene	19.68	1085404						
24)	1,3,5-Trimethylbenzene	19.78	1474686						
26)	p-Isopropyltoluene	20.52	852549	**Spike**	**ICAL**				
27)	1,2,3-Trimethylbenzene	20.52	1493405	**Amt (ng)**	**RRF**				
			5877947	126.75	0.475				

LH 3/10/16

Massachusetts APH

Continuing Calibration Verification Check Sheet

Data File Name: **03111601.D**
Data File Path: **I:\MS16\DATA\2016_03\11**
Operator: **LH**
Date Acquired: **3/11/16 1:10**
Acq. Method File: **TO15.M**
Sample Name: **CCV M16031116_25ng**
Misc Info: **S29-02181601/S29-03031605 (4/30)**
Instrument Name: **GCMS-16**

Enter RRFs from current ICAL!

	Internal Standards	RT	Area
7)	1,4-Difluorobenzene (IS2)	13.30	1368679
16)	Chlorobenzene-d5 (IS3)	17.61	1084381

	C5-C8 Aliphatics	RT	Area	RRF	ng	% D	LCL	UCL	Pass/Fai
3)	Isopentane	7.04	4320068	1.689	167.8	**3.42**	**-30**	**30**	Pass
4)	n-Hexane	11.28	4495845						
9)	Cyclohexane	13.19	5280449						
10)	2,3-Dimethylpentane	13.48	5333587	**Spike**	**ICAL**				
11)	n-Heptane	14.34	4963489	**Amt (ng)**	**RRF**				
14)	n-Octane	16.86	5609291	162.25	1.633				
			30002729						

	C9-C12 Aliphatics	RT	Area	RRF	ng	% D			
18)	2,3-Dimethylheptane	18.09	6038540	2.861	167.7	**8.18**	**-30**	**30**	Pass
19)	n-Nonane	18.81	5801547						
25)	n-Decane	20.23	6199552						
28)	Butylcyclohexane	20.74	7180727	**Spike**	**ICAL**				
29)	n-Undecane	21.33	6409022	**Amt (ng)**	**RRF**				
30)	n-Dodecane	22.24	6846480	155.00	2.645				
			38475868						

	C9-C10 Aromatics	RT	Area	RRF	ng	% D			
22)	Isopropylbenzene	19.14	937969	0.517	137.9	**8.76**	**-30**	**30**	Pass
23)	1-Methyl-3-ethylbenzene	19.68	1049972						
24)	1,3,5-Trimethylbenzene	19.78	1422099						
26)	p-Isopropyltoluene	20.52	826694	**Spike**	**ICAL**				
27)	1,2,3-Trimethylbenzene	20.52	1443871	**Amt (ng)**	**RRF**				
			5680605	126.75	0.475				

LH 3/11/16

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-01-022416** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-001

Test Code: EPA TO-15 Modified Date Collected: 2/24/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00059

Initial Pressure (psig): 0.38 Final Pressure (psig): 5.70

Canister Dilution Factor: 1.35

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	1.7	0.57	ND	0.47	0.16	
71-43-2	Benzene	ND	1.7	0.54	ND	0.53	0.17	
108-88-3	Toluene	**4.5**	1.7	0.57	**1.2**	0.45	0.15	
100-41-4	Ethylbenzene	**1.1**	1.7	0.54	**0.26**	0.39	0.12	**J**
179601-23-1	m,p-Xylenes	**2.7**	3.4	1.0	**0.63**	0.78	0.23	**J**
95-47-6	o-Xylene	**0.69**	1.7	0.51	**0.16**	0.39	0.12	**J**
91-20-3	Naphthalene	**0.85**	1.7	0.61	**0.16**	0.32	0.12	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-02-022416** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-002

Test Code: EPA TO-15 Modified Date Collected: 2/24/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00128

Initial Pressure (psig): -0.31 Final Pressure (psig): 5.90

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	1.8	0.61	ND	0.50	0.17	
71-43-2	Benzene	**1.2**	1.8	0.57	**0.38**	0.56	0.18	**J**
108-88-3	Toluene	**1.6**	1.8	0.61	**0.42**	0.47	0.16	**J**
100-41-4	Ethylbenzene	ND	1.8	0.57	ND	0.41	0.13	
179601-23-1	m,p-Xylenes	ND	3.6	1.1	ND	0.82	0.25	
95-47-6	o-Xylene	ND	1.8	0.54	ND	0.41	0.12	
91-20-3	Naphthalene	ND	1.8	0.64	ND	0.34	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-03-022416** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-003

Test Code: EPA TO-15 Modified Date Collected: 2/24/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00004

Initial Pressure (psig): -0.30 Final Pressure (psig): 5.63

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	1.8	0.60	ND	0.49	0.17	
71-43-2	Benzene	ND	1.8	0.56	ND	0.55	0.18	
108-88-3	Toluene	**1.0**	1.8	0.60	**0.27**	0.47	0.16	**J**
100-41-4	Ethylbenzene	ND	1.8	0.56	ND	0.41	0.13	
179601-23-1	m,p-Xylenes	ND	3.5	1.1	ND	0.81	0.24	
95-47-6	o-Xylene	ND	1.8	0.53	ND	0.41	0.12	
91-20-3	Naphthalene	ND	1.8	0.63	ND	0.34	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-04-022416** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-004

Test Code: EPA TO-15 Modified Date Collected: 2/24/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00947

Initial Pressure (psig): 0.0 Final Pressure (psig): 6.12

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	1.8	0.60	ND	0.49	0.17	
71-43-2	Benzene	ND	1.8	0.57	ND	0.56	0.18	
108-88-3	Toluene	**0.96**	1.8	0.60	**0.25**	0.47	0.16	**J**
100-41-4	Ethylbenzene	ND	1.8	0.57	ND	0.41	0.13	
179601-23-1	m,p-Xylenes	ND	3.6	1.1	ND	0.82	0.25	
95-47-6	o-Xylene	ND	1.8	0.53	ND	0.41	0.12	
91-20-3	Naphthalene	ND	1.8	0.64	ND	0.34	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-05-022416** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-005

Test Code: EPA TO-15 Modified Date Collected: 2/24/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01222

Initial Pressure (psig): -0.17 Final Pressure (psig): 5.70

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	1.8	0.60	ND	0.49	0.17	
71-43-2	Benzene	ND	1.8	0.56	ND	0.55	0.18	
108-88-3	Toluene	**1.3**	1.8	0.60	**0.35**	0.46	0.16	**J**
100-41-4	Ethylbenzene	ND	1.8	0.56	ND	0.40	0.13	
179601-23-1	m,p-Xylenes	ND	3.5	1.1	ND	0.81	0.24	
95-47-6	o-Xylene	ND	1.8	0.53	ND	0.40	0.12	
91-20-3	Naphthalene	ND	1.8	0.63	ND	0.33	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-06-022416** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-006

Test Code: EPA TO-15 Modified Date Collected: 2/24/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00794

Initial Pressure (psig): -0.32 Final Pressure (psig): 5.82

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	1.8	0.61	ND	0.50	0.17	
71-43-2	Benzene	ND	1.8	0.57	ND	0.56	0.18	
108-88-3	Toluene	**9.2**	1.8	0.61	**2.4**	0.47	0.16	
100-41-4	Ethylbenzene	ND	1.8	0.57	ND	0.41	0.13	
179601-23-1	m,p-Xylenes	**1.3**	3.6	1.1	**0.29**	0.82	0.25	**J**
95-47-6	o-Xylene	ND	1.8	0.54	ND	0.41	0.12	
91-20-3	Naphthalene	ND	1.8	0.64	ND	0.34	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-07-022616** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-007

Test Code: EPA TO-15 Modified Date Collected: 2/26/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00759

Initial Pressure (psig): -0.08 Final Pressure (psig): 5.61

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	1.7	0.59	ND	0.48	0.16	
71-43-2	Benzene	ND	1.7	0.56	ND	0.54	0.17	
108-88-3	Toluene	**4.5**	1.7	0.59	**1.2**	0.46	0.16	
100-41-4	Ethylbenzene	ND	1.7	0.56	ND	0.40	0.13	
179601-23-1	m,p-Xylenes	ND	3.5	1.0	ND	0.80	0.24	
95-47-6	o-Xylene	ND	1.7	0.52	ND	0.40	0.12	
91-20-3	Naphthalene	ND	1.7	0.63	ND	0.33	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-08-022616** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-008

Test Code: EPA TO-15 Modified Date Collected: 2/26/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00876

Initial Pressure (psig): -1.17 Final Pressure (psig): 5.28

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	1.9	0.63	ND	0.51	0.17	
71-43-2	Benzene	ND	1.9	0.59	ND	0.58	0.19	
108-88-3	Toluene	**7.6**	1.9	0.63	**2.0**	0.49	0.17	
100-41-4	Ethylbenzene	ND	1.9	0.59	ND	0.43	0.14	
179601-23-1	m,p-Xylenes	ND	3.7	1.1	ND	0.85	0.26	
95-47-6	o-Xylene	ND	1.9	0.56	ND	0.43	0.13	
91-20-3	Naphthalene	ND	1.9	0.67	ND	0.35	0.13	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-09-022516** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-009

Test Code: EPA TO-15 Modified Date Collected: 2/25/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01306

Initial Pressure (psig): 0.01 Final Pressure (psig): 6.09

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	1.8	0.60	ND	0.49	0.17	
71-43-2	Benzene	ND	1.8	0.56	ND	0.55	0.18	
108-88-3	Toluene	ND	1.8	0.60	ND	0.47	0.16	
100-41-4	Ethylbenzene	ND	1.8	0.56	ND	0.41	0.13	
179601-23-1	m,p-Xylenes	ND	3.5	1.1	ND	0.81	0.24	
95-47-6	o-Xylene	ND	1.8	0.53	ND	0.41	0.12	
91-20-3	Naphthalene	ND	1.8	0.63	ND	0.34	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-10-022516** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-010

Test Code: EPA TO-15 Modified Date Collected: 2/25/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00450

Initial Pressure (psig): 0.25 Final Pressure (psig): 5.71

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	1.7	0.58	ND	0.48	0.16	
71-43-2	Benzene	ND	1.7	0.55	ND	0.54	0.17	
108-88-3	Toluene	**0.86**	1.7	0.58	**0.23**	0.45	0.15	**J**
100-41-4	Ethylbenzene	ND	1.7	0.55	ND	0.39	0.13	
179601-23-1	m,p-Xylenes	ND	3.4	1.0	ND	0.79	0.24	
95-47-6	o-Xylene	ND	1.7	0.51	ND	0.39	0.12	
91-20-3	Naphthalene	ND	1.7	0.62	ND	0.33	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-11-022516** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-011

Test Code: EPA TO-15 Modified Date Collected: 2/25/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00353

Initial Pressure (psig): -0.67 Final Pressure (psig): 5.35

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	1.8	0.61	ND	0.50	0.17	
71-43-2	Benzene	ND	1.8	0.57	ND	0.56	0.18	
108-88-3	Toluene	**3.3**	1.8	0.61	**0.87**	0.47	0.16	
100-41-4	Ethylbenzene	ND	1.8	0.57	ND	0.41	0.13	
179601-23-1	m,p-Xylenes	ND	3.6	1.1	ND	0.82	0.25	
95-47-6	o-Xylene	ND	1.8	0.54	ND	0.41	0.12	
91-20-3	Naphthalene	ND	1.8	0.64	ND	0.34	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-12-022416** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-012

Test Code: EPA TO-15 Modified Date Collected: 2/24/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00778

Initial Pressure (psig): 0.01 Final Pressure (psig): 5.56

Canister Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	**1.2**	1.7	0.59	**0.33**	0.48	0.16	**J**
71-43-2	Benzene	ND	1.7	0.55	ND	0.54	0.17	
108-88-3	Toluene	**0.87**	1.7	0.59	**0.23**	0.46	0.16	**J**
100-41-4	Ethylbenzene	ND	1.7	0.55	ND	0.40	0.13	
179601-23-1	m,p-Xylenes	ND	3.5	1.0	ND	0.79	0.24	
95-47-6	o-Xylene	ND	1.7	0.52	ND	0.40	0.12	
91-20-3	Naphthalene	ND	1.7	0.62	ND	0.33	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-13-022516** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-013

Test Code: EPA TO-15 Modified Date Collected: 2/25/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01317

Initial Pressure (psig): 0.05 Final Pressure (psig): 6.08

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	1.8	0.60	ND	0.49	0.17	
71-43-2	Benzene	ND	1.8	0.56	ND	0.55	0.18	
108-88-3	Toluene	**1.1**	1.8	0.60	**0.30**	0.47	0.16	**J**
100-41-4	Ethylbenzene	ND	1.8	0.56	ND	0.41	0.13	
179601-23-1	m,p-Xylenes	ND	3.5	1.1	ND	0.81	0.24	
95-47-6	o-Xylene	ND	1.8	0.53	ND	0.41	0.12	
91-20-3	Naphthalene	ND	1.8	0.63	ND	0.34	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **SSVP-14-022516** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-014

Test Code: EPA TO-15 Modified Date Collected: 2/25/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/11/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00220

Initial Pressure (psig): 0.08 Final Pressure (psig): 5.30

Canister Dilution Factor: 1.35

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	1.7	0.57	ND	0.47	0.16	
71-43-2	Benzene	ND	1.7	0.54	ND	0.53	0.17	
108-88-3	Toluene	**1.5**	1.7	0.57	**0.40**	0.45	0.15	**J**
100-41-4	Ethylbenzene	ND	1.7	0.54	ND	0.39	0.12	
179601-23-1	m,p-Xylenes	ND	3.4	1.0	ND	0.78	0.23	
95-47-6	o-Xylene	ND	1.7	0.51	ND	0.39	0.12	
91-20-3	Naphthalene	ND	1.7	0.61	ND	0.32	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **Duplicate-022416** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-015

Test Code: EPA TO-15 Modified Date Collected: 2/24/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/11/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01269

Initial Pressure (psig): -0.09 Final Pressure (psig): 5.85

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	1.8	0.60	ND	0.49	0.17	
71-43-2	Benzene	**3.7**	1.8	0.56	**1.2**	0.55	0.18	
108-88-3	Toluene	**1.2**	1.8	0.60	**0.32**	0.47	0.16	**J**
100-41-4	Ethylbenzene	ND	1.8	0.56	ND	0.41	0.13	
179601-23-1	m,p-Xylenes	ND	3.5	1.1	ND	0.81	0.24	
95-47-6	o-Xylene	ND	1.8	0.53	ND	0.41	0.12	
91-20-3	Naphthalene	ND	1.8	0.63	ND	0.34	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **Duplicate-022516** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-016

Test Code: EPA TO-15 Modified Date Collected: 2/25/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/11/16
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00042

Initial Pressure (psig): 0.01 Final Pressure (psig): 5.49

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	1.7	0.58	ND	0.48	0.16	
71-43-2	Benzene	ND	1.7	0.55	ND	0.54	0.17	
108-88-3	Toluene	**0.91**	1.7	0.58	**0.24**	0.45	0.15	**J**
100-41-4	Ethylbenzene	ND	1.7	0.55	ND	0.39	0.13	
179601-23-1	m,p-Xylenes	ND	3.4	1.0	ND	0.79	0.24	
95-47-6	o-Xylene	ND	1.7	0.51	ND	0.39	0.12	
91-20-3	Naphthalene	ND	1.7	0.62	ND	0.33	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **EB-022516** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-017

Test Code: EPA TO-15 Modified Date Collected: 2/25/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/11/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00724

Initial Pressure (psig): -0.17 Final Pressure (psig): 6.03

Canister Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	1.8	0.61	ND	0.50	0.17	
71-43-2	Benzene	ND	1.8	0.57	ND	0.56	0.18	
108-88-3	Toluene	**1.3**	1.8	0.61	**0.35**	0.47	0.16	**J**
100-41-4	Ethylbenzene	ND	1.8	0.57	ND	0.41	0.13	
179601-23-1	m,p-Xylenes	ND	3.6	1.1	ND	0.82	0.25	
95-47-6	o-Xylene	ND	1.8	0.54	ND	0.41	0.12	
91-20-3	Naphthalene	ND	1.8	0.64	ND	0.34	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **Method Blank** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P160310-MB

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	0.17	ND	0.14	0.047	
71-43-2	Benzene	ND	0.50	0.16	ND	0.16	0.050	
108-88-3	Toluene	ND	0.50	0.17	ND	0.13	0.045	
100-41-4	Ethylbenzene	ND	0.50	0.16	ND	0.12	0.037	
179601-23-1	m,p-Xylenes	ND	1.0	0.30	ND	0.23	0.069	
95-47-6	o-Xylene	ND	0.50	0.15	ND	0.12	0.035	
91-20-3	Naphthalene	ND	0.50	0.18	ND	0.095	0.034	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Leidos**
Client Sample ID: **Method Blank** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P160311-MB

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 3/11/16
Sample Type: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	0.17	ND	0.14	0.047	
71-43-2	Benzene	ND	0.50	0.16	ND	0.16	0.050	
108-88-3	Toluene	ND	0.50	0.17	ND	0.13	0.045	
100-41-4	Ethylbenzene	ND	0.50	0.16	ND	0.12	0.037	
179601-23-1	m,p-Xylenes	ND	1.0	0.30	ND	0.23	0.069	
95-47-6	o-Xylene	ND	0.50	0.15	ND	0.12	0.035	
91-20-3	Naphthalene	ND	0.50	0.18	ND	0.095	0.034	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **Leidos**
Client Project ID: **Chelan Chevron / 96590** ALS Project ID: P1601128

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 2/24 - 2/26/16
Analyst: Lusine Hakobyan Date(s) Received: 3/3/16
Sample Type: 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 3/10 - 3/11/16
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P160310-MB	**98**	**102**	**109**	70-130	
Method Blank	P160311-MB	**98**	**102**	**108**	70-130	
Lab Control Sample	P160310-LCS	**96**	**100**	**111**	70-130	
Lab Control Sample	P160311-LCS	**96**	**102**	**110**	70-130	
SSVP-01-022416	P1601128-001	**100**	**100**	**108**	70-130	
SSVP-02-022416	P1601128-002	**98**	**100**	**109**	70-130	
SSVP-03-022416	P1601128-003	**98**	**100**	**110**	70-130	
SSVP-04-022416	P1601128-004	**98**	**101**	**110**	70-130	
SSVP-05-022416	P1601128-005	**98**	**100**	**110**	70-130	
SSVP-06-022416	P1601128-006	**97**	**102**	**110**	70-130	
SSVP-07-022616	P1601128-007	**97**	**101**	**109**	70-130	
SSVP-08-022616	P1601128-008	**97**	**101**	**109**	70-130	
SSVP-08-022616	P1601128-008DUP	**97**	**101**	**110**	70-130	
SSVP-09-022516	P1601128-009	**97**	**101**	**108**	70-130	
SSVP-10-022516	P1601128-010	**98**	**102**	**109**	70-130	
SSVP-11-022516	P1601128-011	**98**	**102**	**109**	70-130	
SSVP-12-022416	P1601128-012	**98**	**100**	**116**	70-130	
SSVP-13-022516	P1601128-013	**97**	**101**	**108**	70-130	
SSVP-14-022516	P1601128-014	**98**	**101**	**109**	70-130	
Duplicate-022416	P1601128-015	**97**	**102**	**108**	70-130	
Duplicate-022516	P1601128-016	**97**	**104**	**103**	70-130	
EB-022516	P1601128-017	**97**	**104**	**103**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Leidos**
Client Sample ID: **Lab Control Sample**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P160310-LCS

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 3/10/16
Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
1634-04-4	Methyl tert-Butyl Ether	216	**199**	**92**	55-128	
71-43-2	Benzene	226	**178**	**79**	61-110	
108-88-3	Toluene	218	**195**	**89**	67-117	
100-41-4	Ethylbenzene	218	**205**	**94**	69-123	
179601-23-1	m,p-Xylenes	428	**399**	**93**	67-125	
95-47-6	o-Xylene	210	**194**	**92**	67-124	
91-20-3	Naphthalene	218	**236**	**108**	56-158	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Leidos**
Client Sample ID: **Lab Control Sample**
Client Project ID: **Chelan Chevron / 96590**

ALS Project ID: P1601128
ALS Sample ID: P160311-LCS

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 3/11/16
Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
1634-04-4	Methyl tert-Butyl Ether	216	**200**	**93**	55-128	
71-43-2	Benzene	226	**179**	**79**	61-110	
108-88-3	Toluene	218	**199**	**91**	67-117	
100-41-4	Ethylbenzene	218	**210**	**96**	69-123	
179601-23-1	m,p-Xylenes	428	**410**	**96**	67-125	
95-47-6	o-Xylene	210	**200**	**95**	67-124	
91-20-3	Naphthalene	218	**241**	**111**	56-158	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Leidos**
Client Sample ID: **SSVP-08-022616** ALS Project ID: P1601128
Client Project ID: **Chelan Chevron / 96590** ALS Sample ID: P1601128-008DUP

Test Code: EPA TO-15 Modified Date Collected: 2/26/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/3/16
Analyst: Lusine Hakobyan Date Analyzed: 3/10/16
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00876

Initial Pressure (psig): -1.17 Final Pressure (psig): 5.28

Canister Dilution Factor: 1.48

Compound	Sample Result µg/m³	Sample Result ppbV	**Duplicate Sample Result µg/m³**	**Duplicate Sample Result** ppbV	Average µg/m³	**% RPD**	RPD Limit	**Data Qualifier**
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Toluene	7.64	2.03	7.40	1.96	7.52	**3**	25	
Ethylbenzene	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16011416.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Jan 15 07:37:26 2016
Response Via : Initial Calibration

LH 1/15/16

Calibration Files
0.08=01141617.D 0.10=01141618.D 0.20=01141619.D 0.40=01141620.D 1.0 =01141621.D 5.0 =01141622.D 25 =01141623.D
50 =01141624.D 100 =01141625.D

		Compound	0.08	0.10	0.20	0.40	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------										
2)	T	Propene			1.357	1.305	1.201	1.189	1.175	1.077	1.241	1.221	7.50
3)	T	Dichlorodifluo...	2.891	2.756	2.547	2.631	2.445	2.497	2.489	2.265	2.088	2.512	9.59
4)	T	Chloromethane	2.113	2.059	1.935	1.874	1.805	1.736	1.890	1.873	1.529	1.868	9.23
5)	T	1,2-Dichloro-1...	1.529	1.458	1.411	1.445	1.333	1.365	1.372	1.289	1.251	1.384	6.30
6)	T	Vinyl Chloride	1.723	1.618	1.662	1.769	1.661	1.750	1.855	1.776	1.751	1.729	4.20
7)	T	1,3-Butadiene	1.203	1.267	1.192	0.996	1.256	0.983	1.098	1.046	0.982	1.114	10.58
8)	T	Bromomethane	1.463	1.274	1.194	1.217	1.129	1.166	1.320	1.153	1.137	1.228	8.85
9)	T	Chloroethane	1.006	1.004	0.889	1.004	0.980	0.927	1.044	0.976	0.850	0.965	6.53
10)	T	Ethanol	1.001	0.937	0.888	0.840	0.843	0.786	0.906	0.812	0.756	0.863	8.98
11)	T	Acetonitrile	3.670	3.492	2.860	2.670	2.304	2.327	2.506	2.358	2.303	2.721	19.26
12)	T	Acrolein	0.970	0.950	0.926	0.865	0.783	0.807	0.780	0.703	0.684	0.830	12.57
13)	T	Acetone	1.206	1.168	1.067	1.034	0.955	0.957	0.901	0.762	0.635	0.965	19.00
14)	T	Trichlorofluor...	2.317	2.234	2.110	2.174	1.968	2.043	2.034	1.896	1.836	2.068	7.61
15)	T	2-Propanol (Is...	3.052	2.947	2.854	2.975	2.849	2.957	3.082	2.796	2.086	2.844	10.52
16)	T	Acrylonitrile	1.198	1.336	1.508	1.626	1.594	1.711	1.812	1.689	1.641	1.568	12.33
17)	T	1,1-Dichloroet...	1.231	1.217	1.185	1.239	1.168	1.230	1.259	1.179	1.137	1.205	3.31
18)	T	2-Methyl-2-Pro...	2.848	2.697	2.658	2.793	2.683	2.877	2.906	2.673	2.427	2.729	5.41
19)	T	Methylene Chlo...				1.757	1.434	1.312	1.292	1.192	1.059	1.341	17.86
20)	T	3-Chloro-1-pro...	1.677	1.484	1.535	1.636	1.579	1.656	1.737	1.621	1.555	1.609	4.86
21)	T	Trichlorotrifl...	1.254	1.198	1.182	1.207	1.094	1.130	1.149	1.070	1.038	1.147	6.16
22)	T	Carbon Disulfide	6.241	5.755	5.402	5.478	5.087	5.109	5.304	4.890	4.571	5.315	9.21
23)	T	trans-1,2-Dich...	1.558	1.457	1.567	1.714	1.609	1.740	1.816	1.705	1.656	1.647	6.69
24)	T	1,1-Dichloroet...	2.423	2.304	2.198	2.343	2.142	2.226	2.243	2.104	2.028	2.223	5.53
25)	T	Methyl tert-Bu...	3.628	3.474	3.375	3.526	3.287	3.464	3.499	3.268	3.103	3.403	4.71
26)	T	Vinyl Acetate				0.247	0.254	0.297	0.300	0.269	0.237	0.267	9.79
27)	T	2-Butanone (MEK)				0.711	0.774	0.843	0.836	0.784	0.749	0.783	6.45
28)	T	cis-1,2-Dichlo...	1.659	1.590	1.560	1.624	1.533	1.640	1.692	1.569	1.518	1.598	3.70
29)	T	Diisopropyl Ether	1.156	1.193	1.148	1.233	1.152	0.991	0.982	0.873	0.767	1.055	15.17
30)	T	Ethyl Acetate			0.347	0.410	0.437	0.471	0.457	0.399	0.331	0.407	13.07
31)	T	n-Hexane	2.174	2.237	2.033	2.163	1.899	1.993	1.824	1.663	1.507	1.944	12.66
32)	T	Chloroform	2.220	2.172	2.029	2.111	1.935	2.010	2.013	1.848	1.744	2.009	7.54
33)	S	1,2-Dichloroet...	1.359	1.350	1.357	1.356	1.347	1.361	1.364	1.330	1.352	1.353	0.76
34)	T	Tetrahydrofura...	0.919	0.865	0.819	0.868	0.798	0.845	0.846	0.795	0.765	0.836	5.58
35)	T	Ethyl tert-But...	1.516	1.365	1.341	1.436	1.326	1.408	1.431	1.329	1.267	1.380	5.43
36)	T	1,2-Dichloroet...	1.417	1.358	1.302	1.338	1.254	1.315	1.344	1.256	1.217	1.311	4.71
37)	IR	1,4-Difluorobenzen...	----------ISTD----------										
38)	T	1,1,1-Trichlor...	0.356	0.348	0.338	0.336	0.323	0.329	0.335	0.323	0.306	0.333	4.46
39)	T	Isopropyl Acetate	0.133	0.140	0.135	0.145	0.142	0.150	0.147	0.136	0.118	0.138	6.98
40)	T	1-Butanol				0.136	0.182	0.209	0.233	0.212	0.179	0.192	17.68
41)	T	Benzene	1.462	1.527	1.194	1.112	0.948	0.919	0.877	0.792	0.652	1.054	28.16
42)	T	Carbon Tetrach...	0.273	0.277	0.261	0.272	0.262	0.271	0.284	0.276	0.264	0.271	2.79

Method Path : I:\MS16\METHODS\
Method File : R16011416.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

43)	T	Cyclohexane	0.418	0.393	0.377	0.394	0.367	0.371	0.364	0.337	0.288	0.368	10.18
44)	T	tert-Amyl Meth...	0.704	0.682	0.651	0.665	0.643	0.661	0.673	0.642	0.594	0.657	4.71
45)	T	1,2-Dichloropr...	0.277	0.269	0.253	0.259	0.246	0.248	0.251	0.243	0.228	0.253	5.79
46)	T	Bromodichlorom...	0.285	0.291	0.288	0.310	0.293	0.307	0.317	0.306	0.287	0.298	3.99
47)	T	Trichloroethene	0.307	0.296	0.281	0.288	0.277	0.278	0.280	0.269	0.247	0.280	6.02
48)	T	1,4-Dioxane	0.169	0.175	0.169	0.178	0.189	0.196	0.204	0.196	0.178	0.184	6.99
49)	T	2,2,4-Trimethy...	1.211	1.152	1.101	1.105	1.031	1.041	1.040	0.968	0.841	1.054	10.21
50)	T	Methyl Methacr...	0.054	0.063	0.076	0.085	0.093	0.101	0.103	0.098	0.088	0.085	20.35
51)	T	n-Heptane	0.257	0.236	0.234	0.248	0.230	0.229	0.222	0.213	0.196	0.229	7.94
52)	T	cis-1,3-Dichlo...	0.310	0.292	0.310	0.332	0.337	0.369	0.394	0.381	0.358	0.343	10.26
53)	T	4-Methyl-2-pen...				0.197	0.206	0.226	0.230	0.218	0.199	0.213	6.74
54)	T	trans-1,3-Dich...				0.250	0.278	0.320	0.350	0.342	0.326	0.311	12.57
55)	T	1,1,2-Trichlor...	0.228	0.223	0.223	0.247	0.239	0.243	0.248	0.239	0.222	0.235	4.54
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------										
57)	S	Toluene-d8 (SS2)	2.298	2.301	2.290	2.310	2.304	2.305	2.317	2.303	2.300	2.303	0.33
58)	T	Toluene	3.032	2.915	2.572	2.619	2.428	2.446	2.419	2.229	1.976	2.515	12.85
59)	T	2-Hexanone				0.908	1.159	1.248	1.275	1.179	1.055	1.137	11.97
60)	T	Dibromochlorom...	0.571	0.570	0.573	0.639	0.623	0.680	0.717	0.680	0.639	0.632	8.49
61)	T	1,2-Dibromoethane	0.542	0.547	0.572	0.631	0.650	0.688	0.725	0.687	0.643	0.632	10.33
62)	T	n-Butyl Acetate				0.879	1.228	1.402	1.468	1.369	1.216	1.260	16.78
63)	T	n-Octane	0.542	0.554	0.512	0.574	0.522	0.523	0.518	0.484	0.430	0.518	8.05
64)	T	Tetrachloroethene	0.825	0.804	0.779	0.838	0.775	0.788	0.806	0.757	0.690	0.785	5.56
65)	T	Chlorobenzene	1.835	1.775	1.666	1.720	1.616	1.622	1.687	1.570	1.414	1.656	7.40
66)	T	Ethylbenzene	2.927	2.786	2.670	2.768	2.694	2.755	2.782	2.538	2.182	2.678	7.97
67)	T	m- & p-Xylenes	2.320	2.229	2.098	2.221	2.148	2.161	2.153	1.926	1.617	2.097	10.00
68)	T	Bromoform	0.499	0.498	0.500	0.559	0.571	0.636	0.705	0.666	0.610	0.583	13.19
69)	T	Styrene	1.669	1.555	1.429	1.515	1.565	1.689	1.748	1.590	1.382	1.571	7.61
70)	T	o-Xylene	2.369	2.297	2.194	2.314	2.230	2.241	2.235	1.990	1.671	2.171	9.92
71)	T	n-Nonane	1.308	1.220	1.192	1.263	1.229	1.215	1.176	1.038	0.839	1.164	12.26
72)	T	1,1,2,2-Tetrac...	1.029	1.048	1.055	1.113	1.109	1.172	1.200	1.086	0.916	1.081	7.73
73)	S	Bromofluoroben...	1.004	1.000	1.004	1.007	1.027	1.022	1.023	1.003	0.982	1.008	1.41
74)	T	Cumene	3.160	3.056	2.866	2.976	2.878	2.923	2.915	2.603	2.173	2.839	10.30
75)	T	alpha-Pinene	1.446	1.439	1.353	1.446	1.349	1.426	1.421	1.298	1.124	1.367	7.70
76)	T	n-Propylbenzene	3.509	3.407	3.317	3.515	3.531	3.588	3.558	3.138	2.544	3.345	9.94
77)	T	3-Ethyltoluene	2.701	2.664	2.567	2.762	2.900	2.782	2.944	2.549	2.190	2.673	8.42
78)	T	4-Ethyltoluene	2.558	2.546	2.483	2.569	2.522	2.724	2.544	2.329	1.833	2.457	10.39
79)	T	1,3,5-Trimethy...	2.682	2.576	2.285	2.337	2.280	2.274	2.280	2.042	1.708	2.274	12.39
80)	T	alpha-Methylst...	0.967	0.974	1.009	1.112	1.085	1.192	1.277	1.151	0.970	1.082	10.26
81)	T	2-Ethyltoluene	3.333	3.200	2.869	2.892	2.760	2.734	2.681	2.378	1.955	2.756	14.91
82)	T	1,2,4-Trimethy...	2.545	2.508	2.245	2.359	2.299	2.285	2.249	1.915	1.511	2.213	14.43
83)	T	n-Decane	1.255	1.276	1.244	1.328	1.354	1.340	1.303	1.120	0.874	1.233	12.30
84)	T	Benzyl Chloride				1.204	1.416	1.743	1.971	1.764	1.463	1.594	17.63
85)	T	1,3-Dichlorobe...	1.178	1.250	1.205	1.300	1.330	1.375	1.444	1.283	1.051	1.268	9.12
86)	T	1,4-Dichlorobe...	1.449	1.411	1.358	1.391	1.426	1.420	1.517	1.342	1.151	1.385	7.33
87)	T	sec-Butylbenzene	3.361	3.276	3.130	3.248	3.133	3.122	3.076	2.671	2.128	3.016	12.79
88)	T	4-Isopropyltol...	2.898	2.714	2.742	2.969	2.934	2.955	2.837	2.323	1.750	2.680	15.00
89)	T	1,2,3-Trimethy...	2.598	2.425	2.354	2.426	2.381	2.362	2.339	1.971	1.537	2.266	14.09
90)	T	1,2-Dichlorobe...	1.347	1.308	1.271	1.323	1.344	1.357	1.397	1.200	0.952	1.278	10.53
91)	T	d-Limonene	0.757	0.743	0.783	0.864	0.819	0.875	0.860	0.723	0.545	0.774	13.22
92)	T	1,2-Dibromo-3-...				0.365	0.405	0.487	0.580	0.540	0.482	0.476	16.90
93)	T	n-Undecane	1.091	1.099	1.138	1.278	1.358	1.400	1.437	1.236	0.961	1.222	13.17
94)	T	1,2,4-Trichlor...				0.781	0.877	0.951	1.231	1.139	0.987	0.994	16.73

Method Path : I:\MS16\METHODS\
Method File : R16011416.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

95)	T	Naphthalene				2.082	2.458	2.831	3.705	3.122	2.386	2.764	21.22
96)	T	n-Dodecane				1.003	1.188	1.320	1.360	1.104	0.810	1.131	18.19
97)	T	Hexachlorobuta...	0.660	0.593	0.598	0.629	0.606	0.622	0.722	0.667	0.583	0.631	7.10
98)	T	Cyclohexanone	0.664	0.614	0.608	0.623	0.746	0.807	0.848	0.785	0.694	0.710	12.72
99)	T	tert-Butylbenzene	2.342	2.305	2.263	2.365	2.276	2.267	2.180	1.832	1.440	2.141	14.35
100)	T	n-Butylbenzene	2.125	2.127	2.170	2.315	2.410	2.429	2.478	2.153	1.731	2.215	10.32

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File: I:\MS16\DATA\2016 03\10\03101602.D
Acq On : 10 Mar 2016 12:15 Operator: LH
Sample : CCV R16031016 5.0ng
Misc : S29-02181601/S29-02291606 (3/29)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 10 12:43:44 2016
Quant Method : I:\MS16\METHODS\R16011416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 15 07:29:33 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/10/16

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	124	-0.03
2	T	Propene	1.221	1.141	6.6	119	0.00
3	T	Dichlorodifluoromethane (CF	2.512	2.212	11.9	110	0.00
4	T	Chloromethane	1.868	1.604	14.1	115	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.384	1.291	6.7	117	-0.02
6	T	Vinyl Chloride	1.729	1.695	2.0	120	-0.02
7	T	1,3-Butadiene	1.114	1.065	4.4	134	-0.02
8	T	Bromomethane	1.228	1.159	5.6	123	-0.02
9	T	Chloroethane	0.965	0.890	7.8	119	-0.02
10	T	Ethanol	0.863	0.812	5.9	128	-0.12
11	T	Acetonitrile	2.721	2.132	21.6	114	-0.07
12	T	Acrolein	0.830	0.720	13.3	111	-0.03
13	T	Acetone	0.965	0.856	11.3	111	-0.07
14	T	Trichlorofluoromethane	2.068	1.816	12.2	110	-0.02
15	T	2-Propanol (Isopropanol)	2.844	2.572	9.6	108	-0.09
16	T	Acrylonitrile	1.568	1.536	2.0	111	-0.05
17	T	1,1-Dichloroethene	1.205	1.110	7.9	112	-0.02
18	T	2-Methyl-2-Propanol (tert-B	2.729	2.443	10.5	105	-0.08
19	T	Methylene Chloride	1.341	1.193	11.0	113	-0.04
20	T	3-Chloro-1-propene (Allyl C	1.609	1.402	12.9	105	-0.03
21	T	Trichlorotrifluoroethane	1.147	1.036	9.7	114	-0.02
22	T	Carbon Disulfide	5.315	4.634	12.8	112	-0.02
23	T	trans-1,2-Dichloroethene	1.647	1.534	6.9	109	-0.02
24	T	1,1-Dichloroethane	2.223	1.979	11.0	110	-0.03
25	T	Methyl tert-Butyl Ether	3.403	3.084	9.4	110	-0.02
26	T	Vinyl Acetate	0.267	0.203	24.0	85	-0.04
27	T	2-Butanone (MEK)	0.783	0.775	1.0	114	-0.03
28	T	cis-1,2-Dichloroethene	1.598	1.449	9.3	110	-0.02
29	T	Diisopropyl Ether	1.055	1.078	-2.2	135	-0.02
30	T	Ethyl Acetate	0.407	0.427	-4.9	112	-0.03
31	T	n-Hexane	1.944	1.842	5.2	115	-0.01
32	T	Chloroform	2.009	1.794	10.7	111	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	1.353	1.302	3.8	119	-0.03
34	T	Tetrahydrofuran (THF)	0.836	0.752	10.0	110	-0.01
35	T	Ethyl tert-Butyl Ether	1.380	1.277	7.5	112	-0.02
36	T	1,2-Dichloroethane	1.311	1.171	10.7	110	-0.02
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	124	-0.02
38	T	1,1,1-Trichloroethane	0.333	0.296	11.1	111	-0.02
39	T	Isopropyl Acetate	0.138	0.136	1.4	113	-0.02
40	T	1-Butanol	0.192	0.199	-3.6	118	-0.06
41	T	Benzene	1.054	0.839	20.4	113	-0.02
42	T	Carbon Tetrachloride	0.271	0.251	7.4	115	-0.02
43	T	Cyclohexane	0.368	0.335	9.0	112	-0.02
44	T	tert-Amyl Methyl Ether	0.657	0.593	9.7	111	-0.01
45	T	1,2-Dichloropropane	0.253	0.226	10.7	113	-0.02
46	T	Bromodichloromethane	0.298	0.277	7.0	112	-0.01
47	T	Trichloroethene	0.280	0.267	4.6	119	-0.01
48	T	1,4-Dioxane	0.184	0.180	2.2	114	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.054	0.923	12.4	110	-0.01
50	T	Methyl Methacrylate	0.085	0.094	-10.6	116	-0.02
51	T	n-Heptane	0.229	0.214	6.6	116	-0.02
52	T	cis-1,3-Dichloropropene	0.343	0.337	1.7	113	-0.01
53	T	4-Methyl-2-pentanone	0.213	0.205	3.8	112	-0.01
54	T	trans-1,3-Dichloropropene	0.311	0.287	7.7	111	0.00

Evaluate Continuing Calibration Report

Data File: I:\MS16\DATA\2016 03\10\03101602.D
Acq On : 10 Mar 2016 12:15 Operator: LH
Sample : CCV R16031016 5.0ng
Misc : S29-02181601/S29-02291606 (3/29)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 10 12:43:44 2016
Quant Method : I:\MS16\METHODS\R16011416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 15 07:29:33 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	1,1,2-Trichloroethane	0.235	0.223	5.1	114	-0.01
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	124	0.00
57	S	Toluene-d8 (SS2)	2.303	2.314	-0.5	125	0.00
58	T	Toluene	2.515	2.273	9.6	115	-0.01
59	T	2-Hexanone	1.137	1.135	0.2	113	-0.02
60	T	Dibromochloromethane	0.632	0.627	0.8	115	-0.01
61	T	1,2-Dibromoethane	0.632	0.628	0.6	113	-0.01
62	T	n-Butyl Acetate	1.260	1.244	1.3	110	0.00
63	T	n-Octane	0.518	0.477	7.9	113	0.00
64	T	Tetrachloroethene	0.785	0.752	4.2	119	0.00
65	T	Chlorobenzene	1.656	1.509	8.9	116	0.00
66	T	Ethylbenzene	2.678	2.518	6.0	114	0.00
67	T	m- & p-Xylenes	2.097	1.985	5.3	114	-0.01
68	T	Bromoform	0.583	0.603	-3.4	118	0.00
69	T	Styrene	1.571	1.549	1.4	114	0.00
70	T	o-Xylene	2.171	2.051	5.5	114	-0.01
71	T	n-Nonane	1.164	1.087	6.6	111	0.00
72	T	1,1,2,2-Tetrachloroethane	1.081	1.029	4.8	109	-0.01
73	S	Bromofluorobenzene (SS3)	1.008	1.112	-10.3	135	0.00
74	T	Cumene	2.839	2.679	5.6	114	-0.01
75	T	alpha-Pinene	1.367	1.284	6.1	112	0.00
76	T	n-Propylbenzene	3.345	3.266	2.4	113	0.00
77	T	3-Ethyltoluene	2.673	2.587	3.2	116	0.00
78	T	4-Ethyltoluene	2.457	2.498	-1.7	114	0.00
79	T	1,3,5-Trimethylbenzene	2.274	2.101	7.6	115	0.00
80	T	alpha-Methylstyrene	1.082	1.094	-1.1	114	-0.01
81	T	2-Ethyltoluene	2.756	2.499	9.3	114	-0.01
82	T	1,2,4-Trimethylbenzene	2.213	2.098	5.2	114	-0.01
83	T	n-Decane	1.233	1.195	3.1	111	-0.01
84	T	Benzyl Chloride	1.594	1.558	2.3	111	-0.01
85	T	1,3-Dichlorobenzene	1.268	1.303	-2.8	118	-0.01
86	T	1,4-Dichlorobenzene	1.385	1.341	3.2	117	-0.01
87	T	sec-Butylbenzene	3.016	2.849	5.5	113	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.680	2.705	-0.9	114	-0.01
89	T	1,2,3-Trimethylbenzene	2.266	2.165	4.5	114	-0.01
90	T	1,2-Dichlorobenzene	1.278	1.279	-0.1	117	0.00
91	T	d-Limonene	0.774	0.768	0.8	109	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.476	0.438	8.0	112	0.00
93	T	n-Undecane	1.222	1.246	-2.0	111	0.00
94	T	1,2,4-Trichlorobenzene	0.994	0.958	3.6	125	0.00
95	T	Naphthalene	2.764	2.802	-1.4	123	-0.01
96	T	n-Dodecane	1.131	1.182	-4.5	111	0.00
97	T	Hexachlorobutadiene	0.631	0.618	2.1	123	0.00
98	T	Cyclohexanone	0.710	0.742	-4.5	114	-0.01
99	T	tert-Butylbenzene	2.141	2.098	2.0	115	0.00
100	T	n-Butylbenzene	2.215	2.199	0.7	112	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File: I:\MS16\DATA\2016 03\11\03111602.D
Acq On : 11 Mar 2016 1:44 Operator: LH
Sample : CCV R16031116 5.0ng
Misc : S29-02181601/S29-02291606 (3/29)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 07:42:07 2016
Quant Method : I:\MS16\METHODS\R16011416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 15 07:29:33 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

LH 3/11/16

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	124	-0.03
2	T	Propene	1.221	1.083	11.3	113	0.00
3	T	Dichlorodifluoromethane (CF	2.512	2.140	14.8	106	0.00
4	T	Chloromethane	1.868	1.580	15.4	113	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.384	1.254	9.4	114	-0.02
6	T	Vinyl Chloride	1.729	1.619	6.4	115	-0.02
7	T	1,3-Butadiene	1.114	1.032	7.4	130	-0.02
8	T	Bromomethane	1.228	1.128	8.1	120	-0.02
9	T	Chloroethane	0.965	0.862	10.7	115	-0.02
10	T	Ethanol	0.863	0.778	9.8	123	-0.12
11	T	Acetonitrile	2.721	2.031	25.4	108	-0.07
12	T	Acrolein	0.830	0.684	17.6	105	-0.03
13	T	Acetone	0.965	0.822	14.8	106	-0.06
14	T	Trichlorofluoromethane	2.068	1.771	14.4	107	-0.02
15	T	2-Propanol (Isopropanol)	2.844	2.497	12.2	105	-0.08
16	T	Acrylonitrile	1.568	1.463	6.7	106	-0.05
17	T	1,1-Dichloroethene	1.205	1.052	12.7	106	-0.02
18	T	2-Methyl-2-Propanol (tert-B	2.729	2.405	11.9	104	-0.08
19	T	Methylene Chloride	1.341	1.144	14.7	108	-0.04
20	T	3-Chloro-1-propene (Allyl C	1.609	1.339	16.8	100	-0.03
21	T	Trichlorotrifluoroethane	1.147	1.008	12.1	110	-0.02
22	T	Carbon Disulfide	5.315	4.444	16.4	108	-0.02
23	T	trans-1,2-Dichloroethene	1.647	1.470	10.7	105	-0.02
24	T	1,1-Dichloroethane	2.223	1.896	14.7	106	-0.02
25	T	Methyl tert-Butyl Ether	3.403	2.974	12.6	106	-0.02
26	T	Vinyl Acetate	0.267	0.214	19.9	89	-0.04
27	T	2-Butanone (MEK)	0.783	0.735	6.1	108	-0.03
28	T	cis-1,2-Dichloroethene	1.598	1.390	13.0	105	-0.02
29	T	Diisopropyl Ether	1.055	1.041	1.3	130	-0.02
30	T	Ethyl Acetate	0.407	0.412	-1.2	108	-0.03
31	T	n-Hexane	1.944	1.768	9.1	110	-0.01
32	T	Chloroform	2.009	1.727	14.0	106	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	1.353	1.284	5.1	117	-0.02
34	T	Tetrahydrofuran (THF)	0.836	0.716	14.4	105	-0.01
35	T	Ethyl tert-Butyl Ether	1.380	1.216	11.9	107	-0.02
36	T	1,2-Dichloroethane	1.311	1.137	13.3	107	-0.02
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	121	-0.01
38	T	1,1,1-Trichloroethane	0.333	0.292	12.3	107	-0.02
39	T	Isopropyl Acetate	0.138	0.134	2.9	108	-0.02
40	T	1-Butanol	0.192	0.195	-1.6	113	-0.06
41	T	Benzene	1.054	0.827	21.5	109	-0.02
42	T	Carbon Tetrachloride	0.271	0.250	7.7	111	-0.02
43	T	Cyclohexane	0.368	0.331	10.1	108	-0.02
44	T	tert-Amyl Methyl Ether	0.657	0.586	10.8	107	-0.01
45	T	1,2-Dichloropropane	0.253	0.221	12.6	108	-0.02
46	T	Bromodichloromethane	0.298	0.272	8.7	107	-0.01
47	T	Trichloroethene	0.280	0.262	6.4	114	-0.01
48	T	1,4-Dioxane	0.184	0.176	4.3	109	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.054	0.906	14.0	105	-0.01
50	T	Methyl Methacrylate	0.085	0.092	-8.2	110	-0.02
51	T	n-Heptane	0.229	0.211	7.9	111	-0.02
52	T	cis-1,3-Dichloropropene	0.343	0.331	3.5	108	0.00
53	T	4-Methyl-2-pentanone	0.213	0.200	6.1	107	-0.01
54	T	trans-1,3-Dichloropropene	0.311	0.280	10.0	106	0.00

Evaluate Continuing Calibration Report

Data File: I:\MS16\DATA\2016 03\11\03111602.D
Acq On : 11 Mar 2016 1:44 Operator: LH
Sample : CCV R16031116 5.0ng
Misc : S29-02181601/S29-02291606 (3/29)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 11 07:42:07 2016
Quant Method : I:\MS16\METHODS\R16011416.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Jan 15 07:29:33 2016
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	1,1,2-Trichloroethane	0.235	0.218	7.2	109	-0.01
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	120	0.00
57	S	Toluene-d8 (SS2)	2.303	2.340	-1.6	122	0.00
58	T	Toluene	2.515	2.269	9.8	111	-0.01
59	T	2-Hexanone	1.137	1.112	2.2	107	-0.02
60	T	Dibromochloromethane	0.632	0.628	0.6	111	-0.01
61	T	1,2-Dibromoethane	0.632	0.629	0.5	110	-0.01
62	T	n-Butyl Acetate	1.260	1.235	2.0	106	0.00
63	T	n-Octane	0.518	0.477	7.9	109	0.00
64	T	Tetrachloroethene	0.785	0.759	3.3	115	0.00
65	T	Chlorobenzene	1.656	1.510	8.8	112	0.00
66	T	Ethylbenzene	2.678	2.509	6.3	109	0.00
67	T	m- & p-Xylenes	2.097	1.983	5.4	110	-0.01
68	T	Bromoform	0.583	0.602	-3.3	114	0.00
69	T	Styrene	1.571	1.548	1.5	110	0.00
70	T	o-Xylene	2.171	2.049	5.6	110	-0.01
71	T	n-Nonane	1.164	1.086	6.7	107	0.00
72	T	1,1,2,2-Tetrachloroethane	1.081	1.041	3.7	106	-0.01
73	S	Bromofluorobenzene (SS3)	1.008	1.109	-10.0	130	0.00
74	T	Cumene	2.839	2.672	5.9	110	-0.01
75	T	alpha-Pinene	1.367	1.277	6.6	107	0.00
76	T	n-Propylbenzene	3.345	3.274	2.1	109	0.00
77	T	3-Ethyltoluene	2.673	2.570	3.9	111	0.00
78	T	4-Ethyltoluene	2.457	2.516	-2.4	111	0.00
79	T	1,3,5-Trimethylbenzene	2.274	2.102	7.6	111	0.00
80	T	alpha-Methylstyrene	1.082	1.095	-1.2	110	-0.01
81	T	2-Ethyltoluene	2.756	2.507	9.0	110	0.00
82	T	1,2,4-Trimethylbenzene	2.213	2.101	5.1	110	-0.01
83	T	n-Decane	1.233	1.189	3.6	106	-0.01
84	T	Benzyl Chloride	1.594	1.589	0.3	109	-0.01
85	T	1,3-Dichlorobenzene	1.268	1.305	-2.9	114	-0.01
86	T	1,4-Dichlorobenzene	1.385	1.353	2.3	114	-0.01
87	T	sec-Butylbenzene	3.016	2.855	5.3	110	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.680	2.715	-1.3	110	-0.01
89	T	1,2,3-Trimethylbenzene	2.266	2.178	3.9	110	-0.01
90	T	1,2-Dichlorobenzene	1.278	1.289	-0.9	114	0.00
91	T	d-Limonene	0.774	0.760	1.8	104	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.476	0.453	4.8	112	0.00
93	T	n-Undecane	1.222	1.249	-2.2	107	0.00
94	T	1,2,4-Trichlorobenzene	0.994	0.966	2.8	122	0.00
95	T	Naphthalene	2.764	2.821	-2.1	119	-0.01
96	T	n-Dodecane	1.131	1.172	-3.6	106	0.00
97	T	Hexachlorobutadiene	0.631	0.624	1.1	120	0.00
98	T	Cyclohexanone	0.710	0.730	-2.8	108	-0.01
99	T	tert-Butylbenzene	2.141	2.101	1.9	111	0.00
100	T	n-Butylbenzene	2.215	2.210	0.2	109	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0