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June 28, 2017

Ms. Dilan Roe
Site Cleanup Program Manager
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94501-6577

Subject: **Dublin Apartments Indoor Air Report**
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California
Site Cleanup Program Case No. RO0003014

Dear Ms. Roe:

Enclosed please find a document entitled "Dublin Apartments Indoor Air Report" for the Former Crown Chevrolet North Parcel site at 7544 Dublin Boulevard, in Dublin, California (Site Cleanup Program Case No. RO0003014, GeoTracker Global ID T10000001616). This Report was prepared by Amec Foster Wheeler Environment & Infrastructure, Inc., on behalf of Dublin Apartment Properties, LLC. The Report presents the results of the indoor and outdoor air sampling conducted at the Former Crown Chevrolet North Parcel property.

I declare under penalty of perjury that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Please contact me at (408) 680-4938 or Avery Whitmarsh of Amec Foster Wheeler at (510) 663-4154 if you have any questions regarding this Report.

Sincerely yours,

Pete Beritzhoff
Dublin Apartment Properties, LLC

Attachment: Dublin Apartments Indoor Air Report

cc: Colleen Winey, Zone 7 Water Agency (electronic copy only)
Gregory Shreeve, City of Dublin (electronic copy only)

DUBLIN APARTMENTS INDOOR AIR REPORT

Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

Prepared for:

Dublin Apartment Properties, LLC
Dublin, California

Prepared by:

Amec Foster Wheeler Environment & Infrastructure, Inc.
180 Grand Avenue, Suite 1100
Oakland, California 94612

June 2017

Project No. 8617170810.2.3

Dublin Apartments Indoor Air Report
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California
Site Cleanup Program Case No. RO0003014

June 28, 2017
Project 8617170810

This report was prepared by the staff of Amec Foster Wheeler under the supervision of the Geologist whose signature appears hereon.

The findings, recommendations, specifications, or professional opinions are presented within the limits described by the client, in accordance with generally accepted professional engineering and geologic practice. No warranty is expressed or implied.

Avery Whitmarsh, PG #8541
Associate Geologist
Amec Foster Wheeler
Environment & Infrastructure, Inc.

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LIST OF ACRONYMS AND ABBREVIATIONS

µg/m^3	micrograms per cubic meter
1,2-DCB	1,2-dichlorobenzene
1,4-DCB	1,4-dichlorobenzene
1,1-DCE	1,1-dichloroethene
ACDEH	Alameda County Department of Environmental Health
Amec Foster Wheeler	Amec Foster Wheeler Environment & Infrastructure, Inc.
cis-1,2-DCE	cis-1,2-dichloroethene
COC	chemical of concern
DTSC	Department of Toxic Substances Control
ESL	Environmental Screening Level
OMM	operations, maintenance, and performance monitoring
PCE	tetrachloroethene
PID	photoionization detector
Pbv	parts per billion by volume
PRB	permeable reactive barrier
SIM	selective ion monitoring
TCE	trichloroethene
trans-1,2-DCE	trans-1,2-dichloroethene
U.S. EPA	U.S. Environmental Protection Agency
VMS	vapor mitigation system
VOC	volatile organic compound

DUBLIN APARTMENTS INDOOR AIR REPORT

Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

1.0 INTRODUCTION

Amec Foster Wheeler Environment & Infrastructure, Inc. ("Amec Foster Wheeler") has prepared this *Dublin Apartments Indoor Air Report* ("Report") on behalf of Dublin Apartment Properties LLC for the former Crown Chevrolet North Parcel located at 7544 Dublin Boulevard, Dublin, California (the "site"; Figure 1). This Report describes the methods and results of indoor air sampling that was conducted in accordance with the *Indoor Air Sampling Work Plan* ("Work Plan") that was submitted to the Alameda County Department of Environmental Health (ACDEH) on March 6, 2017 (Amec Foster Wheeler, 2017a). Additionally, this report presents the results of the preliminary vapor mitigation system vent riser sampling event, which provides context and support for the indoor air results. The indoor air sampling was performed to meet the requirements set forth in the August 16, 2013, and August 7, 2015, letters from Alameda County Department of Environmental Health (ACDEH, 2013 and 2015).

1.1 SITE BACKGROUND

The site was developed in 1968 as Crown Chevrolet, a car dealership with auto body shops, on land that appears to have been previously used for agricultural purposes. Operations as a car dealership and auto body shop continued from 1968 through 2013. Investigations performed from 2009 through 2014 indicated the presence of volatile organic compounds (VOCs) in soil, groundwater, and soil vapor. More detailed site history and the results of previous investigations can be found in the *Soil, Groundwater, and Soil Vapor Investigation Report* (AMEC Environment and Infrastructure, 2012) and the *Vapor Mitigation and Permeable Reactive Barrier Basis of Design Report* ("Design Report;" Amec Foster Wheeler, 2015a).

1.2 CONSTITUENTS OF CONCERN

Two main areas of soil, groundwater, and/or soil vapor impacts have been identified at the site. A summary of the constituents of concern (COCs) for the site, as well as their distribution in affected media and suspected origin, is as follows:

- Volatile organic compounds (VOCs), primarily tetrachloroethene (PCE) and trichloroethene (TCE), are present in shallow groundwater throughout the northern portion of the site. The PCE and TCE are attributed to an off-site source; the specific source has not been identified. Soil vapor impacts (PCE, TCE, and associated breakdown products) have been identified in the vicinity of the groundwater plume, extending approximately 200 to 240 feet south from the northern property boundary, as summarized in the FS/CAP (AMEC, 2014).

Groundwater monitoring at the site has indicated that concentrations of VOCs in groundwater are generally stable or declining (Amec Foster Wheeler, 2015c).

- Past releases at the site impacted soil with chlorobenzene and related compounds at a former front-end alignment pit ("former F.E. Pit") and former sump beneath the current parking garage. Limited groundwater and soil vapor impacts have also been identified at the former sump.

Remedial activities were performed to address the chlorobenzenes and petroleum hydrocarbons at the former F.E. Pit and sump. These included excavation of these features and surrounding soil in 2011 and removal of other subsurface features and impacted soils in 2015, as summarized in the *Remediation Report* (AMEC, 2011) and *Post-Demolition Investigation and Soil Removal Completion Report* ("2015 Completion Report"; Amec Foster Wheeler, 2015b).

1.3 SITE REDEVELOPMENT AND CORRECTIVE ACTIONS

The property was sold in the fall of 2014, and the site buildings were demolished in December 2014 in preparation for redevelopment. Site redevelopment was conducted from 2015 through 2017. There are currently mixed residential/commercial buildings at the site, comprising 313 apartments (a total of approximately 323,000 gross square feet in multi-unit structures) and 17,000 square feet of future retail space at ground level along Dublin Boulevard with apartments located above (Figure 2). Buildings A, C, and D consist of four floors of residential apartments (including apartments on the ground floor), and Buildings E and F consist of ground-floor retail units with four floors of residential apartments above. A 230,000-square-foot parking garage is located in the eastern central portion of the site. The buildings are not yet occupied; occupancy of the residential units is planned for July 2017 and occupancy of the retail units is planned for October 2017.

The Design Report includes designs for a permeable reactive barrier (PRB) to treat VOC-impacted groundwater as it enters the site from the west, and a vapor mitigation system (VMS) to mitigate potential risks to future building occupants from VOC-impacted soil vapor. The PRB was installed in 2015, and the VMS, which includes a vapor barrier and sub-slab ventilation system beneath applicable mixed use commercial and residential buildings at the site, was installed in 2016 during building construction.

The VMS was installed beneath the entirety of Buildings D, E, and F, and partially beneath Buildings A and C (Figure 2). The vapor membrane provides the primary mitigation measure for the VMS by creating a physical barrier that has an extremely low permeability to soil vapor. As an added mitigation measure, the sub-slab area is passively vented to limit the accumulation of soil vapors beneath the slab, reducing the concentration gradient across the vapor membrane and therefore further reducing the risk to indoor air. Extracted vapor is conveyed from the sub-slab to the building roof through steel piping fitted with wind-driven turbine ventilators. A total of fifteen vent risers are located among five building units (Buildings

A, C, D, E, and F; Figure 2). The vapor barrier and sub-slab ventilation system began operating in May 2017.

2.0 INVESTIGATION OBJECTIVE AND APPROACH

This objective of the indoor air investigation was to confirm prior to building occupancy that the vapor mitigation measures at the site are functioning as designed.

The investigation included two rounds of indoor air sampling in the buildings beneath which the VMS is installed (Figure 2) in March and June 2017. By March 2017, the envelope of Building D was complete; however, construction of Buildings A, C, E, and F was not sufficiently complete to allow for collection of indoor air samples. By June 2017, all building envelopes were complete, with the exception of the retail space within Buildings E and F. During the March 2017 sampling event, indoor air samples were collected from ground floor residential units in Building D only. In June 2017, indoor air samples were collected from ground floor residential units in Buildings, A, C, and D, and from second floor residential units in Buildings E and F because the build-out of the ground floor retail units was not complete at the time of sampling.

Collection of vapor samples from the 15 vent risers (Section 1.3) is part of the routine operations, maintenance, and performance monitoring (OMM) of the VMS. The first round of vent riser vapor sampling was conducted in May 2017. Analytical results from the vent riser sampling, which represent average sub-slab vapor concentrations beneath the buildings, are included herein for comparison to the indoor and outdoor air results as an additional line of evidence to evaluate the efficacy of the VMS.

The constituents of concern (COCs) for this indoor air evaluation, as specified in the Work Plan, include the following VOCs:

- Tetrachloroethene,
- Trichloroethene,
- cis-1,2-Dichloroethene (cis-1,2-DCE),
- trans-1,2-Dichloroethene (trans-1,2-DCE),
- 1,1-Dichloroethene (1,1-DCE),
- Vinyl chloride,
- Benzene,
- Chlorobenzene,
- 1,2-Dichlorobenzene (1,2-DCB), and
- 1,4-Dichlorobenzene (1,4-DCB).

3.0 FIELD AND LABORATORY METHODS

The field activities, including a building survey and the indoor and outdoor air sampling, and laboratory analysis are described in the following sections.

3.1 CHEMICAL USE AND BUILDING SURVEY

Prior to each sampling event Amec Foster Wheeler performed the following activities:

- A building survey was conducted to confirm the sample locations and identify potential sources of VOCs that could cause false positive detections of site COCs. The results of each survey are documented on a Building Survey Form. Copies of the completed Building Survey Forms are included in Appendix A.
- Amec Foster Wheeler coordinated with site construction management to remove, if possible, chemicals present within each building that could interfere with the interpretation of the indoor air sampling results. Additionally, Amec Foster Wheeler requested that painting and other construction work not be performed in the units to be sampled immediately prior to and during the sampling event.

During the building surveys a RAE Systems ppbRAE 2000 (a low-level photoionization detector [PID]), was used to identify potential sources of VOCs. The results of the PID screening are documented on the site plans included in Appendix B. The results of each building survey are described below:

- The building survey for the first indoor air sampling event was performed on February 23, 2017. Ground-floor residential units in Buildings A, C, and D were surveyed. No significant indoor air sources of VOCs were identified during the walkthrough. One PID reading of 70 parts per billion by volume (ppbv) was noted near a newly installed tile backsplash in one unit; no other PID readings greater than 0 were recorded.
- A secondary building survey was performed on March 20, 2017, immediately prior to starting sample collection. A PID was also used to survey the units in which samples were collected, and PID readings ranging from 150 to 240 ppbv were observed in all units during this survey.
- The building survey for the second indoor air sampling event was completed on June 12, 2017. Ground-floor residential units in Buildings A, C, and D and second-floor residential units in Buildings E and F were surveyed. Elevated PID readings ranging from approximately 300 to 3,000 ppbv were observed in residential units in all buildings. Based on the construction activities that had recently taken place, the source(s) of the elevated PID readings may have been related to building materials and/or flooring adhesives. Similar PID readings were observed in model residential units on the fourth floor of Building A, within which construction was completed several months prior.

3.2 INDOOR AND OUTDOOR AIR SAMPLING

Indoor air sampling events were conducted on March 20 and 21, 2017, and June 12 and 13, 2017. A summary of the number of samples collected from each building during each event is included in Table 1. The indoor and outdoor air sampling locations are shown in Figure 2. The

Work Plan specified that a total of 30 samples would be collected during three sampling events, from ground-floor residential units in Buildings A, C, and D, and from ground-floor retail locations in Buildings E and F. However, the number and some locations of samples deviated from that specified in the Work Plan, as described further below.

As noted above, at the time of the March 2017 sampling event, the build-out of Buildings A, C, E, and F was not yet complete (i.e., windows and/or doors had not yet been installed). Therefore, samples were collected from seven locations within selected ground-floor residential units of Building D and from two outdoor/ambient air locations.

At the time of the June 2017 sampling event, the build-out of the residential units in all site buildings was substantially complete. However, the build-out of the retail units in Buildings E and F was still incomplete at the time of this sampling event. Therefore, samples were collected from the following locations:

- The seven locations in Building D that were sampled during the first event,
- Two additional locations within the ground-floor residential units in Buildings A and C,
- Four locations within second-floor residential units in Buildings E and F, and
- Two outdoor/ambient air locations.

As specified in the Work Plan, a blind field duplicate sample was collected during each sampling event and analyzed for the same COCs as the primary samples.

The indoor air samples were collected from living and working spaces within the buildings. Some samples were collected from rooms with typical vapor intrusion pathways, such as bathrooms and kitchens, and some were collected from other areas representative of the living and working spaces. The outdoor air samples collected during each event were located on the ground near the northwest corner (generally upwind) of residential Building D, and on the roof of residential Building A.

3.2.1 Air Sampling Equipment

Indoor and outdoor air samples were collected into 6-liter stainless steel Summa canisters. Each sampling system consisted of a Summa canister, a dedicated flow controller, and a vacuum gauge. All laboratory equipment was provided by Eurofins Air Toxics, Inc. (Eurofins), of Folsom, California, a National Environmental Laboratory Accreditation Program–certified analytical laboratory, which calibrated the flow controllers to allow flow into the Summa canisters over an approximately 24-hour period (i.e., approximate flow rates of 3.0 to 4.5 milliliters per minute). All laboratory equipment was individually certified by Eurofins as clean and contained no detectable concentrations of the COCs prior to delivery. Each canister was evacuated to a nominal vacuum of 30 to 32 inches of mercury before it was sealed and delivered to Amec Foster Wheeler. The vacuum in each canister was recorded on the field

data forms (Appendix B) at the beginning and end of the sampling event. The canisters were maintained at ambient temperatures prior to and during each sampling event

3.2.2 Sample Collection Procedures

The indoor and outdoor sample collection was performed in accordance with the Work Plan and consistent with the guidelines presented in the Department of Toxic Substances Control's (DTSC) *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air* ("Vapor Instruction Guidance;" DTSC, 2011).

Each sample was collected as a composite (integrated) sample over the nominal 24-hour sampling period. The indoor air samples were collected from 3 to 5 feet above the floor, depending on the configuration and available surfaces in the buildings, consistent with the Work Plan and the Vapor Intrusion Guidance. The outdoor ambient air samples were collected concurrently with the indoor sampling, although collection of the outdoor samples began approximately 1 hour prior to collection of the first indoor air samples.

The canister pressures at the start/end of air sampling, canister and flow controller identification numbers, and sampling start/end times were recorded on Air Sampling Logs, copies of which are included in Appendix B.

Sampling was conducted with the buildings' HVAC systems off. During the first round of sampling the exterior doors of each unit sampled were sealed using painter's tape because door thresholds had yet to be installed. The doors to these units generally remained closed during sampling activities, though construction workers may have occasionally entered and exited.

Following each sampling event, Amec Foster Wheeler submitted the samples under chain-of-custody protocol to the analytical laboratory for analysis.

3.2.3 Weather Conditions

Weather conditions were collected from a nearby weather station (Ecco Park, approximately 0.6 miles northeast of the site). Weather conditions during each sampling event are summarized in Table 2.

3.3 VENT RISER SAMPLING

As noted above (Section 2.0), vent riser samples were collected from ports installed on each of the 15 risers as part of the routine OMM of the VMS. The samples were collected into Tedlar bags in accordance with the standard operating procedures outlined in the *Operation, Maintenance, and Monitoring Plan for Vapor Mitigation System* (Amec Foster Wheeler, DRAFT 2017b).

3.4 LABORATORY METHODS

Following sample collection, the indoor and outdoor air samples were transported and submitted under chain-of-custody procedures to Eurofins for analysis for site COCs using U.S. Environmental Protection Agency (U.S. EPA) Method TO-15 with selective ion monitoring (SIM).

The vent riser samples were also submitted to Eurofins and analyzed for the site COCs using U.S. EPA Method TO-15 in scan mode.

Copies of the laboratory analytical reports for the indoor/outdoor air and vent riser sampling are included in Appendix C.

4.0 DATA QUALITY REVIEW

The laboratory analytical data were reviewed by the laboratory and by Amec Foster Wheeler. The data quality review included accuracy and precision assessments for the samples collected in March and June 2017 and was performed in accordance with the procedures specified in the U.S. EPA *Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15* (U.S. EPA, 2014).

The findings of the data review indicate that the data are usable as reported, with additional validation qualifiers as applicable. The complete data quality review is included in Appendix D.

5.0 RESULTS AND DATA EVAULATION

This section summarizes the analytical results for the COCs in indoor and outdoor air samples collected at the site during both sampling events, as well as for the vent riser samples collected in May 2017. The indoor and outdoor air analytical results are summarized in Table 3 and on Figure 3. The vent riser analytical results are summarized in Table 4 and on Figure 4. Copies of the analytical laboratory reports are included in Appendix C.

In accordance with the Work Plan, the indoor and outdoor air sampling results were compared to residential indoor air Environmental Screening Levels (ESLs) published by the California Regional Water Quality Control Board, San Francisco Bay Region ("Water Board;" Water Board, 2016). Vent riser analytical results were not compared to screening criteria, but were used to compare concentrations of COCs in sub-slab air to those in indoor air.

5.1 MARCH 2017 INDOOR AND OUTDOOR AIR SAMPLING EVENT

Benzene was the only COC detected in indoor air during the March 2017 sampling event (PCE was also reported, but was detected at a similar concentration in the laboratory blank sample, so this detection is not considered valid). Benzene was detected at concentrations up to 30 micrograms per cubic meter ($\mu g/m^3$), greater than the ESL of 0.097 $\mu g/m^3$ in all indoor air samples except D5 (however, the reporting limit for benzene in sample D5 was greater than the ESL).

Benzene was also detected in outdoor ambient air. 1,4-DCB and PCE were also reported, but were found at similar concentrations in the laboratory blank sample, so these detections are not considered valid. No other COCs were detected during the March 2017 sampling event.

5.2 JUNE 2017 INDOOR AND OUTDOOR AIR SAMPLING EVENT

Benzene and 1,1-DCE were detected in indoor air during the June 2017 sampling event. Benzene was detected at concentrations up to 0.78 µg/m^3, greater than the ESL of 0.097 µg/m^3 in three indoor air samples. 1,1-DCE was detected at a concentration of 0.062 µg/m^3, well below the ESL of 73 µg/m^3 in sample A1. Benzene was detected in the laboratory blank sample associated with eleven of the indoor air samples. Benzene was reported at concentrations below or less than twice the laboratory reporting limit in these samples, so these detections are not considered valid. Similarly 1,4-DCB was reported in three samples at concentrations below the laboratory reporting limit, but was detected in the associated laboratory blank sample at a similar concentration, so these detections are not considered valid.

Benzene and TCE were detected in outdoor ambient air. 1,4-DCB was also reported, but as stated above these detections are not considered valid. No other COCs were detected during the June 2017 sampling event.

5.3 MAY 2017 VENT RISER SAMPLING EVENT

COCs detected in vent riser air samples collected in May 2017 include benzene (up to 97 µg/m^3), PCE (up to 110 µg/m^3), and TCE (up to 46 µg/m^3).

5.4 DATA EVALUATION

Analytical results from the March and June sampling events indicate that, with the exception of benzene, site COCs are not present at concentrations exceeding the indoor air ESLs in any of the residential units sampled. During both sampling events, with the exception of one sample, benzene was detected at similar concentrations in indoor and outdoor ambient air samples, indicating that the source of benzene is not related to vapor intrusion.

One detection of benzene in March 2017 in sample D2 (30 µg/m^3), located in the northeast corner of Building D, was roughly two orders of magnitude greater than concentrations in other indoor and outdoor air samples. Benzene was detected at significantly lower concentrations in the field duplicate pair collected from the same location in June 2017, but the detections are not considered valid due to laboratory blank sample contamination. Additionally, the concentration of benzene in the closest vent riser sample (V-13) was similar (34 µg/m^3), but while PCE and TCE were detected in vent riser sample V-13, they were not detected in indoor air sample D2. Therefore, the benzene detected in sample D2 is considered related to indoor chemical use, rather than vapor intrusion.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The results of the indoor and outdoor air sampling events in March and June 2017 indicate that the VMS is functioning as designed, and that there are no detected concentrations of COCs in indoor air related to vapor intrusion. The results indicate that there is no elevated health risk to future residential occupants due to vapor intrusion at the site. Amec Foster Wheeler recommends that ACDEH grant Dublin Apartment Properties, LLC approval for occupancy in residential units in all buildings.

No further indoor air sampling is planned, with the exception of sampling of indoor air in the ground-floor retail spaces in Buildings E and F when construction of these units is completed (prior to retail occupancy), which is tentatively anticipated for October 2017. The methods and results of the retail sampling will be submitted to ACDEH as an addendum to this report.

7.0 REFERENCES

ACDEH (Alameda County Health Care Services Agency), 2013. Fuel Leak Case No. RO0003014 and GeoTracker Global ID T00000001616, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, 94568, August 16.

ACDEH, 2015. Voluntary Remedial Action Case No. RO0003014 and GeoTracker Global ID T00000001616, Crown Chevrolet North Parcel, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, 94568, August 7.

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AMEC, 2014. Final Feasibility Study and Corrective Action Plan, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, Fuel Leak Case No. RO003014, May 1.

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), 2015a. Vapor Mitigation and Permeable Reactive Barrier Basis of Design Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard, Dublin, California, June 11.

Amec Foster Wheeler, 2015b. Post-Demolition Investigation and Soil Removal Completion Report, Former Crown Chevrolet North Parcel, 7544 Dublin Boulevard, Dublin, California, June 27.

Amec Foster Wheeler, 2017a. Indoor Air Sampling Work Plan, Former Crown Chevrolet North Parcel, 7544 Dublin Boulevard, Dublin, California, March 6.

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AMEC Geomatrix, Inc. (AMEC), 2011. Remediation Report, Crown Chevrolet Cadillac Isuzu, 7544 Dublin Boulevard and 6707 Golden Gate Drive, Dublin, California, Fuel Leak Case No. RO003014, December 21.

California Department of Toxic Substances Control (DTSC), 2011. Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance), California Environmental Protection Agency. October.

U.S. Environmental Protection Agency, 2014. Standard Operating Procedure No. HW-31, Rev 6, Hazardous Waste Support Section, Analysis of Volatile Organic Compounds in Air Contained in Canister by Method TO-15, June.

amec
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wheeler

TABLES

TABLE 1

NUMBER AND LOCATION OF INDOOR AIR SAMPLES[1]

Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

Sampling Event	Sampling Dates	Building				
		Residential			Mixed Residential/ Commercial [2]	
		A	C	D	E	F
1	March 20-21, 2017	0	0	7	0	0
2	June 12-13, 2017	1	1	7	2	2

Notes
1. Total numbers of samples do note include field duplicate or outdoor air samples.
2. Indoor air samples were collected from second floor residential units above the future retail space.

TABLE 2

WEATHER CONDITONS [1]

Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

Sampling Round	Date	Temperature (F) [2]	Barometric Pressure (inHg)	Wind Speed (mph) [2]	Wind Direction
1	3/20/2017	57.5	29.63	2	SSE
	3/21/2017	61.2	29.63	4	SW
2	6/12/2017	58.6	29.91	4	SW
	6/13/2017	63	29.91	4	WSW

Notes

1. Data collected from KCADUBLI11 weather station located about 0.6 miles northeast of the site. (https://www.wunderground.com/personal-weather-station/dashboard?ID=KCADUBLI11)
2. Values are daily averages.

Abbreviations

F = degrees fahrenheit
inHg = inches of mercury
mph = miles per hour
SSE = south-southeast
SW = southwest
WSW = west-southwest

TABLE 3

SUMMARY OF INDOOR AND OUTDOOR AIR ANALYTICAL RESULTS[1]
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

Concentrations reported in micrograms per cubic meter (µg/m^3)

Location ID	Sample ID	Sample Type/Location	Sample Date	Benzene	Chloro-benzene	1,2-DCB	1,4-DCB	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
Outdoor Ambient Air Background Samples													
Ground	Floor1-032017	Ambient	3/20/2017	<0.76	<2.2	<2.9	<0.57 U	<0.19	<0.38	<1.9	<0.64 U	*<0.024* [2]	*<0.011*
	Floor1-061217	Ambient	6/12/2017	0.42 U	<0.70	<0.91	<0.18 U	<0.060	<0.12	<0.60	<0.20	<0.16	*<0.0023*
Roof	Roof1-032017	Ambient	3/20/2017	**0.40** [3,4]	<0.76	<1.0	<0.20	<0.066	<0.13	<0.66	<0.22	<0.18	*<0.0038*
	Roof1-061217 [5]	Ambient	6/12/2017	**0.67 J**	<0.61	<0.79	<0.16 U	<0.052	<0.10	<0.52	<0.18	**1.7 J**	*<0.0023*
Indoor Air Samples													
A1	A1-061217	Building A First Floor	6/12/2017	0.38 U	<0.68	<0.89	<0.18	**0.062**	<0.12	<0.59	<0.20	<0.16	*<0.0023*
C1	C1-061217	Building C First Floor	6/12/2017	**0.27**	<0.86	<0.66	<0.17	<0.057	<0.11	<0.57	<0.20	<0.15	*<0.0033*
D1	D1-032017	Building D First Floor	3/20/2017	**0.56**	<0.77	<1.0	<0.20	<0.066	<0.13	<0.66	<0.23	<0.18	*<0.0038*
	D1-061217	Building D First Floor	6/12/2017	0.27 U	<0.65	<0.85	<0.17 U	<0.056	<0.11	<0.56	<0.19	<0.15	*<0.0023*
D2	D2-032017	Building D First Floor	3/20/2017	**30**	<2.4	<3.2	*<0.033*	<0.21	<0.42	<2.1	<0.72 U	*<0.026*	*<0.012*
	D2-061217	Building D First Floor	6/12/2017	0.26 U	<0.68	<0.90	<0.18 U	<0.059	<0.12	<0.59	<0.20	<0.16	*<0.0023*
	D20-061217 [6]	Building D First Floor	6/12/2017	0.24 U	<0.68	<0.90	<0.18	<0.059	<0.12	<0.59	<0.20	<0.16	*<0.0023*
D3	D3-032017	Building D First Floor	3/20/2017	**0.47**	<0.80	<1.0	<0.21	<0.069	<0.14	<0.69	<0.24	<0.19	*<0.0040*
	D3-061217	Building D First Floor	6/12/2017	0.36 U	<0.70	<0.92	<0.18 U	<0.061	<0.12	<0.61	<0.21	<0.16	*<0.0023*
D4	D4-032017	Building D First Floor	3/20/2017	**0.61**	<0.70	<0.91	<0.18	<0.060	<0.12	<0.60	<0.20	<0.16	*<0.0034*
	D4-061217	Building D First Floor	6/12/2017	0.46 U	<0.70	<0.92	<0.18	<0.061	<0.12	<0.61	<0.21	<0.16	*<0.0023*
D5	D5-032017	Building D First Floor	3/20/2017	<2.5	<7.3	<9.6	*<0.33*	<0.63	<1.3	<6.3	*<0.064*	*<0.079*	*<0.036*
	DUPLICATE-032017 [6]	Building D First Floor	3/20/2017	<2.3	<6.8	<8.8	*<0.30*	<0.58	<1.2	<5.8	*<0.059*	*<0.073*	*<0.033*
	D5-061217	Building D First Floor	6/12/2017	**0.36**	<0.86	<0.66	<0.17	<0.057	<0.11	<0.57	<0.19	<0.15	*<0.0032*
D6	D6-032017	Building D First Floor	3/20/2017	**2.4**	<0.74	<0.96	<0.19	<0.063	<0.13	<0.63	<0.22	<0.17	*<0.0036*
	D6-061217	Building D First Floor	6/12/2017	0.37 U	<0.65	<0.85	<0.17	<0.056	<0.11	<0.56	<0.19	<0.15	*<0.0023*
D7	D7-032017	Building D First Floor	3/20/2017	**0.56**	<0.81	<1.1	<0.21	<0.070	<0.14	<0.70	<0.24	<0.19	*<0.0040*
	D7-061217	Building D First Floor	6/12/2017	0.27 U	<0.68	<0.88	<0.18	<0.058	<0.12	<0.58	<0.20	<0.16	*<0.0023*
E1	E1-061217	Building E Second Floor	6/12/2017	**0.78**	<0.86	<0.66	<0.17	<0.057	<0.11	<0.57	<0.20	<0.15	*<0.0033*
E2	E2-061217	Building E Second Floor	6/12/2017	0.41 U	<0.67	<0.88	<0.18	<0.058	<0.12	<0.58	<0.20	<0.16	*<0.0023*
F1	F1-061217	Building F Second Floor	6/12/2017	0.81 U	<2.3	<3.1	*<0.021*	<0.20	<0.40	<2.0	<0.69	<0.55	*<0.0023*
F2	F2-061217	Building F Second Floor	6/12/2017	0.39 U	<0.68	<0.90	<0.18	<0.059	<0.12	<0.59	<0.20	<0.16	*<0.0023*
		Environmental Screening Level [7]		0.097	52	210	0.26	73	8.3	83	0.48	0.48	0.0095

TABLE 3

SUMMARY OF INDOOR AND OUTDOOR AIR ANALYTICAL RESULTS[1]
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

Notes
1. Samples were collected by Amec Foster Wheeler and analyzed by Eurofins Air Toxics, Inc., of Folsom, California using U.S. Environmental Protection Agency Method TO-15 SIM.
2. Results shown in *italics* are reported to the laboratory method detection limit because the laboratory reporting limit was greater than the ESL. All other results are reported to the laboratory reporting limit. See laboratory analytical reports in Appendix C for all laboratory method detection limits and reporting limits.
3. Data in bold font represent a detection at or above applicable analytical reporting limit.
4. Results that exceed their respective indoor air ESL are highlighted.
5. The Roof-061217 sample canister arrived at the laboratory under ambient pressure, indicating that the vacuum gauge used in the field was incorrect or there was a minor leak during transit.
6. Sample is a blind field duplicate sample.
7. Results are compared to the Tier 1 Environmental Screening Levels for indoor air published by the California Regional Water Quality Control Board, San Francisco Bay Region.

Abbreviations and Data Qualifiers
< = not detected at or above the laboratory method detection or reporting limit shown (see Note 2, above)
1,2-DCB = 1,2-dichlorobenzene
1,4-DCB = 1,4-dichlorobenzene
1,1-DCE = 1,1-dichloroethene
cis-1,2-DCE = cis-1,2-dichloroethene
J = the analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
trans-1,2-DCE = trans-1,2-dichloroethene
PCE = tetrachloroethene
SIM = selective ion mode
TCE = trichloroethene
U = the compound was detected in an associated laboratory blank sample and was not detected at a level greater than or equal to two times the value of the reporting limit in the project sample; the detections reported by the laboratory are not considered valid. See Appendix D for details.

Reference
San Francisco Regional Water Quality Control Board Environmental Screening Levels (ESLs), Tier 1 ESLs, February 2016 (Rev. 3).

TABLE 4

SUMMARY OF VENT RISER ANALYTICAL RESULTS[1]
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

Concentrations reported in micrograms per cubic meter ($\mu g/m^3$)

Location ID	Sample ID	Sample Date	Benzene	Chloro-benzene	1,2-DCB	1,4-DCB	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
V-01	VMS-01-052017	5/20/2017	**54** [2]	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	**49**	**46**	<1.3
V-02	VMS-02-052017	5/20/2017	**44**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	<3.4	<2.7	<1.3
V-03	VMS-03-052017	5/20/2017	**97**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	**4.4**	**2.7**	<1.3
V-04	VMS-04-052017	5/20/2017	**56**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	**3.6**	<2.7	<1.3
V-05	VMS-05-052017	5/20/2017	**22**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	<3.4	<2.7	<1.3
V-06	VMS-06-052017	5/20/2017	**60**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	**32**	**19**	<1.3
V-07	VMS-07-052017	5/20/2017	**79**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	<3.4	<2.7	<1.3
V-08	VMS-08-052017	5/20/2017	**38**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	<3.4	<2.7	<1.3
V-09	VMS-09-052017	5/20/2017	**27**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	**3.7**	<2.7	<1.3
V-10	VMS-10-052017	5/20/2017	**83**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	**69**	<2.7	<1.3
V-11	VMS-11-052017	5/20/2017	**16**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	**110**	<2.7	<1.3
V-12	VMS-12-052017	5/20/2017	**1.6**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	<3.4	<2.7	<1.3
V-13	VMS-13-052017	5/20/2017	**34**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	**110**	**4.2**	<1.3
V-14	VMS-14-052017	5/20/2017	**58**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	<3.4	<2.7	<1.3
V-15	VMS-15-052017	5/20/2017	**54**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	<3.4	<2.7	<1.3

Notes
1. Samples were collected by Amec Foster Wheeler and analyzed by Eurofins Air Toxics, Inc., of Folsom, California using U.S. Environmental Protection Agency Method TO-15.
2. Data in bold font represent a detection at or above the analytical reporting limit.

Abbreviations
< = not detected at or above the laboratory reporting limit shown
1,2-DCB = 1,2-dichlorobenzene
1,4-DCB = 1,4-dichlorobenzene
1,1-DCE = 1,1-dichloroethene
cis-1,2-DCE = cis-1,2-dichloroethene
trans-1,2-DCE = trans-1,2-dichloroethene
PCE = tetrachloroethene
TCE = trichloroethene

amec
foster
wheeler

FIGURES

Street map from ESRI, 2007.

0 2,000 4,000 Feet

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SITE LOCATION MAP
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

amec foster wheeler

Date: 04/27/2017 | Project No. 8617170810.1.1

Figure 1

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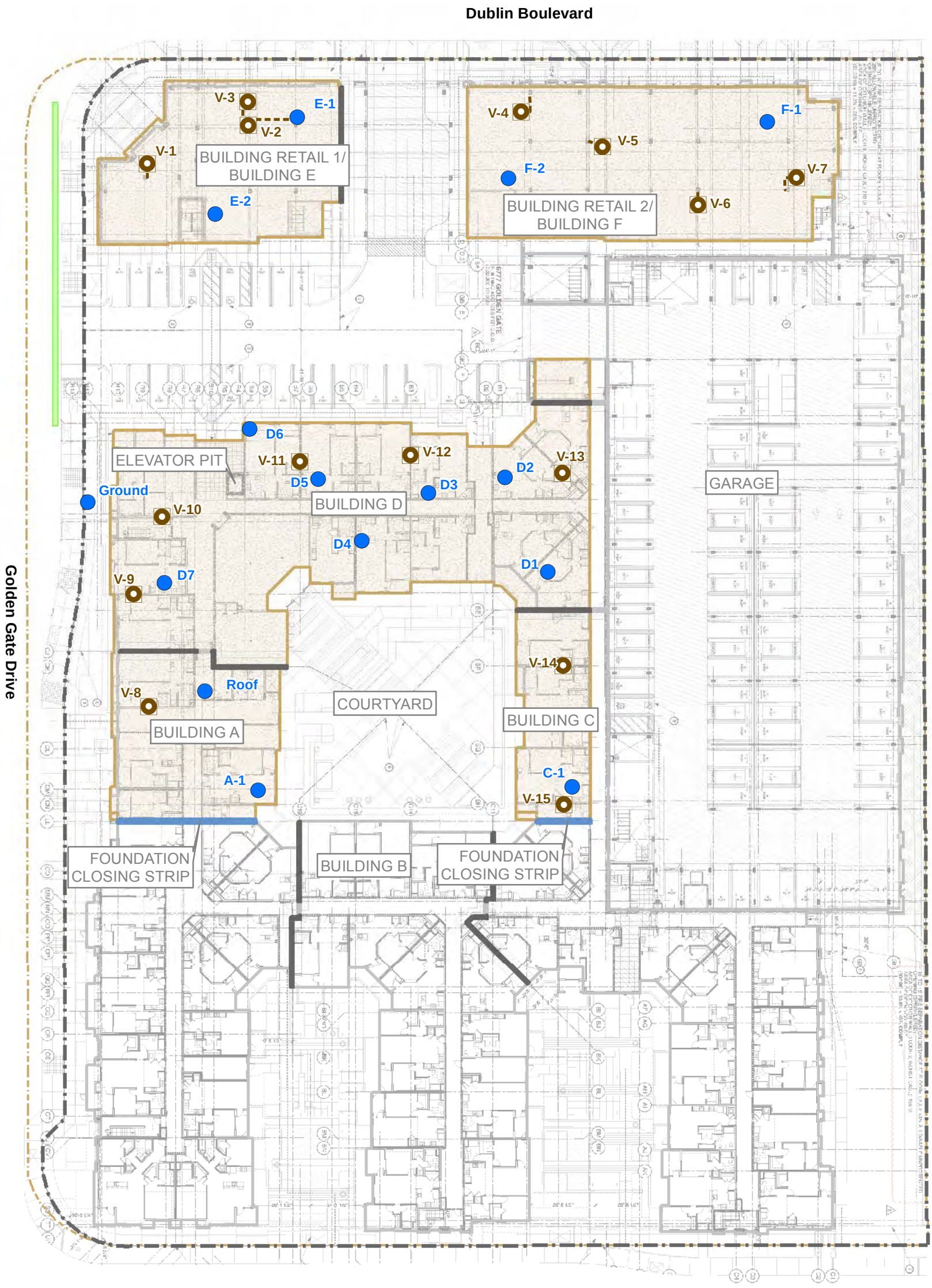

Explanation

- Air Sampling Location
- VMS vent riser location
- Extent of permeable reactive barrier (PRB)
- Soil vapor mitigation membrane extents
- Building boundary (fire wall)
- Approximate property line
- Former property line

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APPROXIMATE SCALE IN FEET

Abbreviations:
VMS = vapor mitigation system

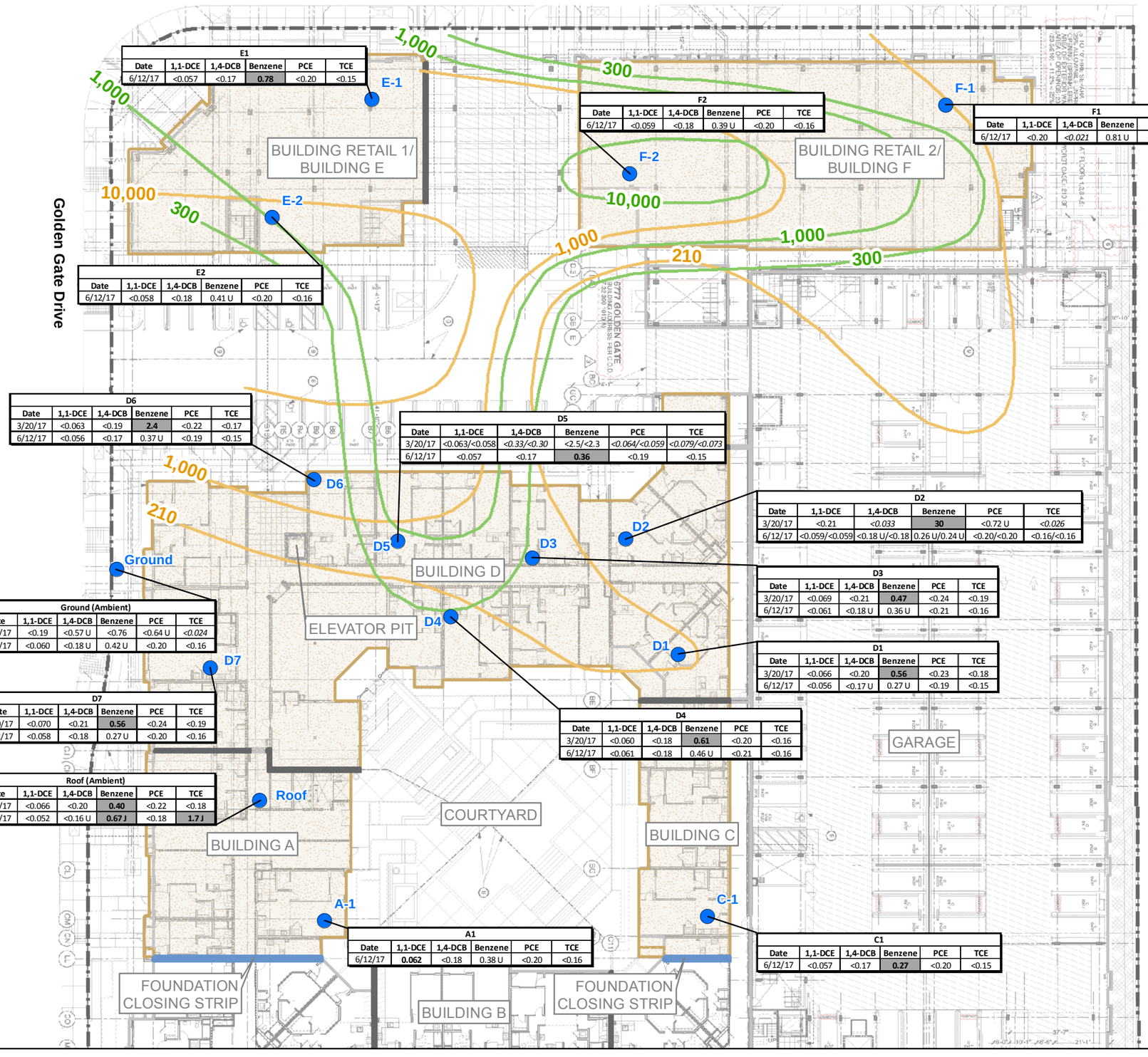
Note:
1. Locations of structures and foundation layouts provided by Carlon, Barbee, & Gibson, Inc., and BDE Architecture in January 2015. Building site plan and interior details provided by BDE Architecture, dated 02/28/2017.

SITE PLAN
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

amec foster wheeler

Date: 06/26/2017 | Project No. 8617170810.2.3

Figure 2



*Results shown in italics are reported to the laboratory method detection limit because the laboratory reporting limit was greater than the ESL. All other results are reported to the laboratory reporting limit. See laboratory analytical reports in Appendix C for all laboratory method detection limits and reporting limits.
Data in bold font represent a detection at or above applicable analytical reporting limit.
Results that exceed their respective indoor air ESL are highlighted.
< = not detected at or above the laboratory method reporting limit shown
J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample because the concentration of the analyte was below the reporting limit.
U = the compound was detected in an associated laboratory blank sample and was not detected at a level greater than or equal to two times the value of the reporting limit in the project sample; the detections reported by the laboratory are not considered valid. See Appendix D for details.

Abbreviations:
1,4-DCB = 1,4 dichlorobenzene
1,1-DCE = 1,2-dichloroethane
ESL = Environmental Screening Level
PCE = tetrachloroethene
TCE = trichloroethene
VOCs = volatile organic compounds
µg/m³ = microgram per cubic meter

Notes:
1. Samples were analyzed for benzene, chlorobenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichlorothene, PCE, TCE, and vinyl chloride.
2. Locations of structures and foundation layouts provided by Carlon, Barbee, & Gibson, Inc., and BDE Architecture in January 2015. Building site plan and interior details provided by BDE Architecture, dated 02/28/2017.

SUMMARY OF INDOOR AND OUTDOOR AIR ANALYTICAL RESULTS
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

amec foster wheeler

Date: 06/28/2017 | Project No. 8617170810.2.3

Figure 3

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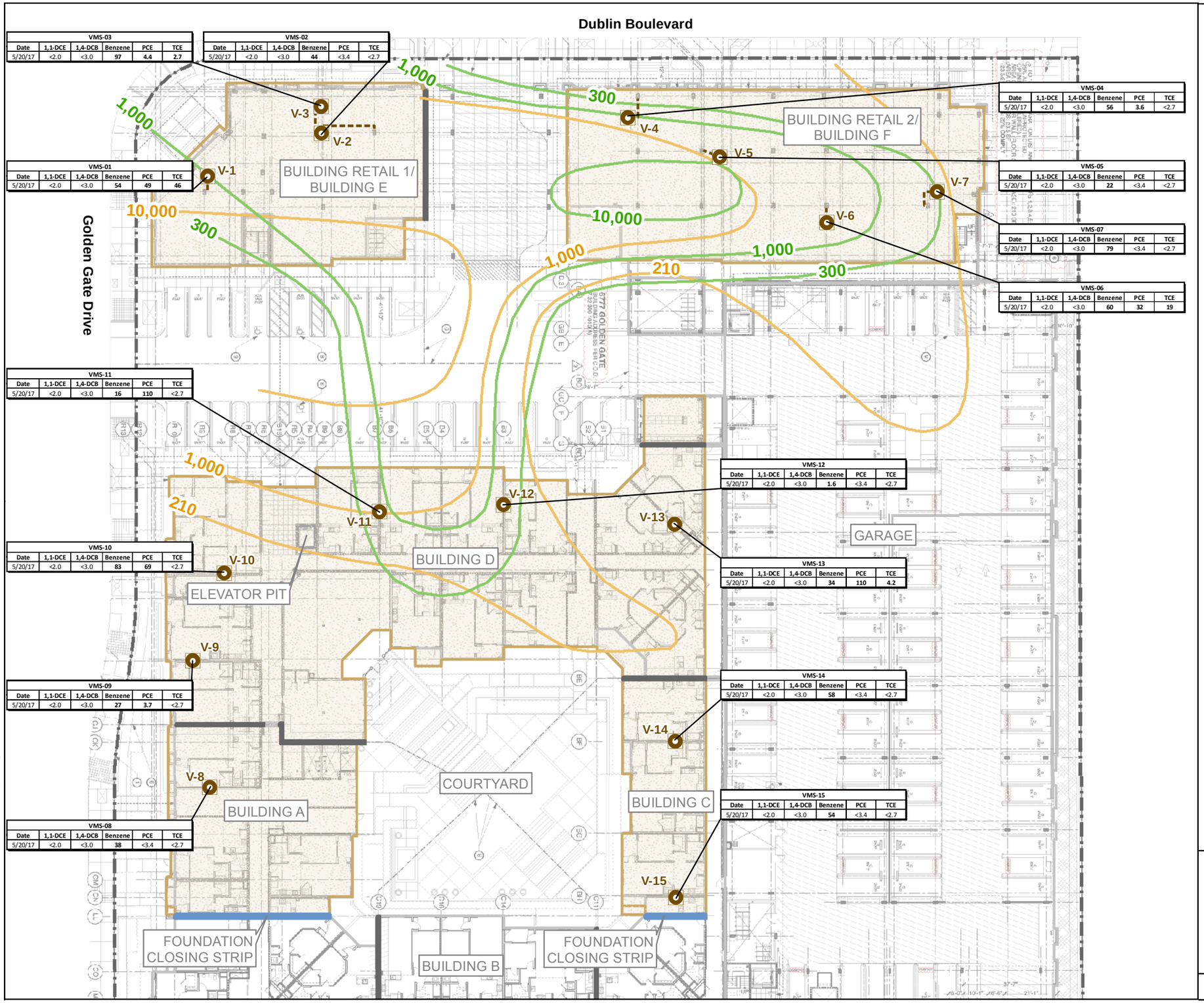

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APPROXIMATE SCALE IN FEET

Explanation

- VMS vent riser location
- 210 — Approximate line of equal PCE concentration in 2012 in µg/m³
- 1,000 — Approximate line of equal TCE concentration in 2012 in µg/m³
- Soil vapor mitigation membrane extents
- Building boundary (fire wall)
- Approximate property line

VMS-12 | Date | 1,1-DCE | 1,4-DCB | Benzene | PCE | TCE | 5/20/17 | <2.0 | <3.0 | 1.6 | <3.4 | <2.7

- Sample location
- Analyte name and result (bold) in µg/m³ or reporting limit if not detetected
- Sample date

Abbreviations:
PCE = tetrachloroethene
TCE = trichloroethene
VMS = vapor mitigation system
VOCs = volatile organic compounds
µg/m³ = microgram per cubic meter

Notes:
1. Samples were analyzed for benzene, chlorobenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichlorothene, PCE, TCE, and vinyl chloride.
2. Locations of structures and foundation layouts provided by Carlon, Barbee, & Gibson, Inc., and BDE Architecture in January 2015. Building site plan and interior details provided by BDE Architecture, dated 02/28/2017.

SUMMARY OF VENT RISER ANALYTICAL RESULTS
MAY 20, 2017
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

amec foster wheeler

Date: 06/26/2017 | Project No. 8617170810.2.3

Figure 4

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amec foster wheeler

APPENDIX A

Building Survey Form

BUILDING SURVEY FORM*

Preparer's Name: Priscilla Soto Date/Time Prepared: 2/23/17
Affiliation: Amec Foster Wheeler Phone Number: 510 663 4100

Occupant Information

Occupant Name: N/A (not currently occupied) Interviewed: ☐ Yes ☒ No
Mailing Address: 7544 Dublin Blvd
City: Dublin State: CA Zip Code: 94568
Phone: N/A Email: N/A

Owner/Landlord Information (Check if same as occupant ☐)

Occupant Name: _____ Interviewed: ☐ Yes ☐ No
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Phone: _____ Email: _____

Building Type (Check appropriate boxes)

☐ Residential ☐ Residential Duplex ☒ Apartment Building ☐ Mobile Home ☐ Commercial (office)
☐ Commercial (warehouse) ☐ Industrial ☐ Strip Mall ☐ Split Level ☐ Church ☐ School

Building Characteristics

Approximate Building Age (years): < 1 year Number of Stories: 4
Approximate Building Area (square feet): 72,000 Number of Elevators: 1

Foundation Type (Check appropriate boxes)

☒ Slab-on-Grade ☐ Crawl Space ☐ Basement

Basement Characteristics (Check appropriate boxes) N/A

☐ Dirt Floor ☐ Sealed ☐ Wet Surfaces ☐ Sump Pump ☐ Concrete Cracks ☐ Floor Drains

Factors Influencing Indoor Air Quality

Is there an attached garage?	☒ Yes ☐ No		
Is there smoking in the building?	☐ Yes ☒ No		
Is there new carpet or furniture?	☒ Yes ☐ No	Describe:	New counters, cabinets etc
Have clothes or drapes been recently dry cleaned?	☐ Yes ☒ No	Describe:	
Has painting or staining been done with the last six months?	☒ Yes ☐ No	Describe:	all units recently painted
Has the building been recently remodeled?	☒ Yes ☐ No	Describe:	Newly built
Has the building ever had a fire?	☐ Yes ☒ No		
Is there a hobby or craft area in the building?	☐ Yes ☒ No	Describe:	
Is gun cleaner stored in the building?	☐ Yes ☒ No		
Is there a fuel oil tank on the property?	☐ Yes ☒ No		
Is there a septic tank on the property?	☐ Yes ☒ No		
Has the building been fumigated or sprayed for pests recently?	☐ Yes ☒ No	Describe:	
Do any building occupants use solvents at work?	☐ Yes ☒ No	Describe:	Not currently occupied

* Developed based guidelines set forth in the Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (DTSC, 2011).

Sampling Locations

Draw the general floor plan of the building and denote locations of sample collection. Indicate locations of doors, windows, indoor air contaminant sources and field instrument readings.

SEE Site Plan with Proposed Sample locations & Unit figure with PID Readings

Primary Type of Energy Used (Check appropriate boxes)

☐ Natural Gas ☐ Fuel Oil ☐ Propane ☐ Electricity ☐ Wood ☐ Kerosene

Meteorological Conditions

Describe the general weather conditions during the indoor air sampling event.

General Comments

Provide any other information that may be of importance in understanding the indoor air quality of this building.

- Building construction is ongoing, began in 2016

* Developed based guidelines set forth in the Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (DTSC, 2011).

BUILDING SURVEY FORM*

Preparer's Name: Miranda Bona Date/Time Prepared: 6/12/17
Affiliation: Amec Foster Wheeler Phone Number: 510-663-3993

Occupant Information

Occupant Name: N/A (not currently occupied) Interviewed: ☐ Yes ☒ No
Mailing Address: 7544 Dublin Blvd
City: Dublin State: CA Zip Code: 94568
Phone: N/A Email: N/A

Owner/Landlord Information (Check if same as occupant ☐)

Occupant Name: _____ Interviewed: ☐ Yes ☐ No
Mailing Address: _____
City: _____ State: _____ Zip Code: _____
Phone: _____ Email: _____

Building Type (Check appropriate boxes)

☐ Residential ☐ Residential Duplex ☒ Apartment Building ☐ Mobile Home ☐ Commercial (office)
☐ Commercial (warehouse) ☐ Industrial ☐ Strip Mall ☐ Split Level ☐ Church ☐ School

Building Characteristics

Approximate Building Age (years): < 1 year Number of Stories: 4
Approximate Building Area (square feet): 72,000 Number of Elevators: 1

Foundation Type (Check appropriate boxes)

☐ Slab-on-Grade ☐ Crawl Space ☐ Basement

Basement Characteristics (Check appropriate boxes)

☐ Dirt Floor ☐ Sealed ☐ Wet Surfaces ☐ Sump Pump ☐ Concrete Cracks ☐ Floor Drains

Factors Influencing Indoor Air Quality

Is there an attached garage?	☒ Yes ☐ No		
Is there smoking in the building?	☐ Yes ☒ No		
Is there new carpet or furniture?	☒ Yes ☐ No	Describe:	new counters, cabinets, etc
Have clothes or drapes been recently dry cleaned?	☐ Yes ☒ No	Describe:	
Has painting or staining been done with the last six months?	☒ Yes ☐ No	Describe:	all units recently painted
Has the building been recently remodeled?	☒ Yes ☐ No	Describe:	newly built
Has the building ever had a fire?	☐ Yes ☒ No		
Is there a hobby or craft area in the building?	☐ Yes ☒ No	Describe:	
Is gun cleaner stored in the building?	☐ Yes ☒ No		
Is there a fuel oil tank on the property?	☐ Yes ☒ No		
Is there a septic tank on the property?	☐ Yes ☒ No		
Has the building been fumigated or sprayed for pests recently?	☐ Yes ☒ No	Describe:	
Do any building occupants use solvents at work?	☐ Yes ☒ No	Describe:	not occupied currently

* Developed based guidelines set forth in the Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (DTSC, 2011).

Sampling Locations

Draw the general floor plan of the building and denote locations of sample collection. Indicate locations of doors, windows, indoor air contaminant sources and field instrument readings.

* see site plan w/ proposed sample locations and unit figure w/ PID readings

Primary Type of Energy Used (Check appropriate boxes)

☐ Natural Gas ☐ Fuel Oil ☐ Propane ☐ Electricity ☐ Wood ☐ Kerosene

Meteorological Conditions

Describe the general weather conditions during the indoor air sampling event.

General Comments

Provide any other information that may be of importance in understanding the indoor air quality of this building.

- building construction is ongoing, began in 2016

* Developed based guidelines set forth in the Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (DTSC, 2011).

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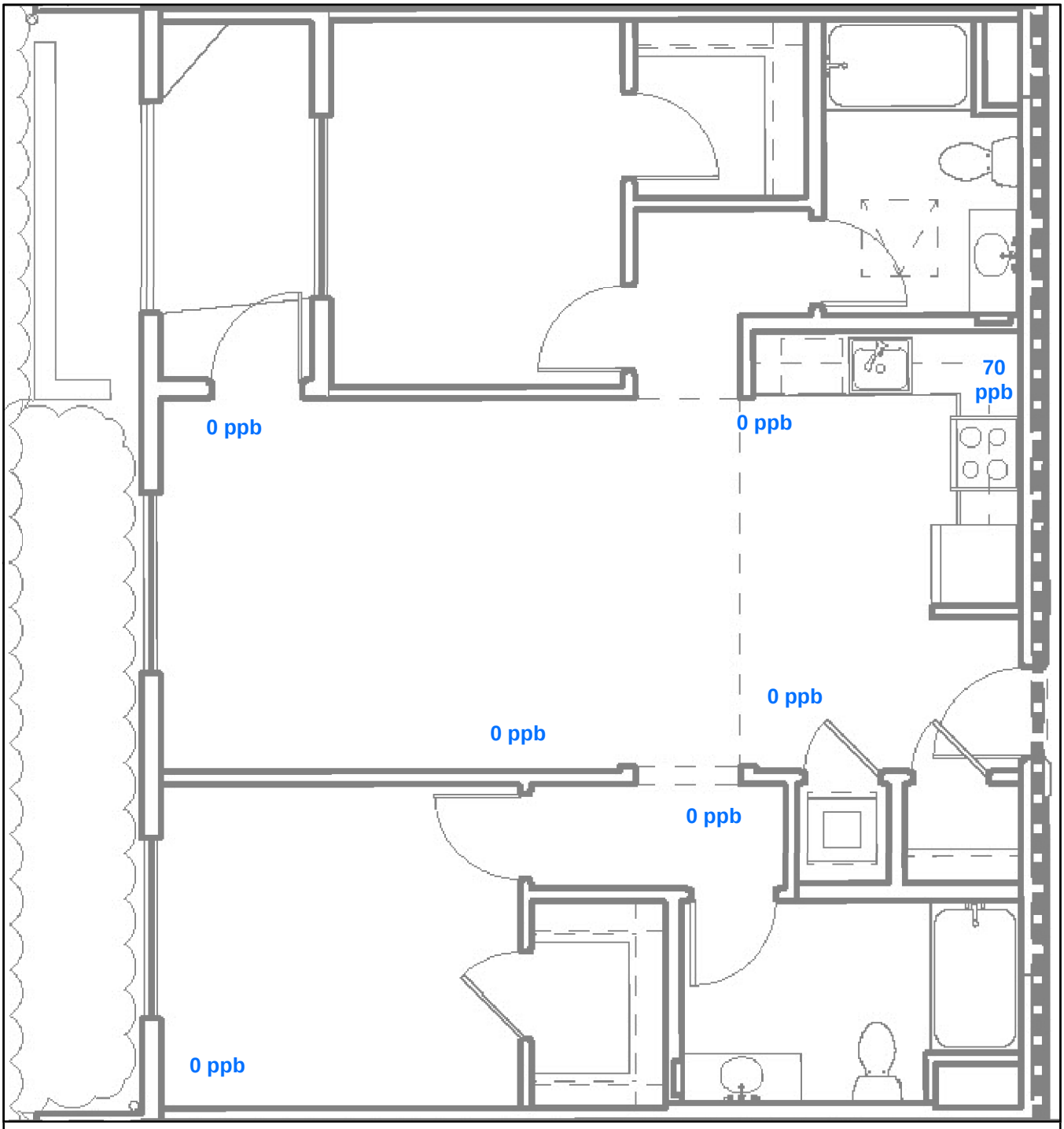
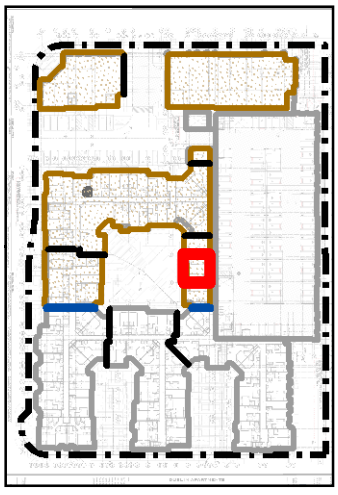
APPENDIX B

Field Data Forms





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APPROXIMATE SCALE IN FEET

Explanation

70 ppb Measurements taken with a photoionization detector on February 23, 2017

ppb = parts per billion

RESIDENTIAL UNIT PID READINGS - FEBRUARY 23, 2017
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

amec foster wheeler

Date: 03/02/2017 | Project No. 8617170810

Figure **B-1**

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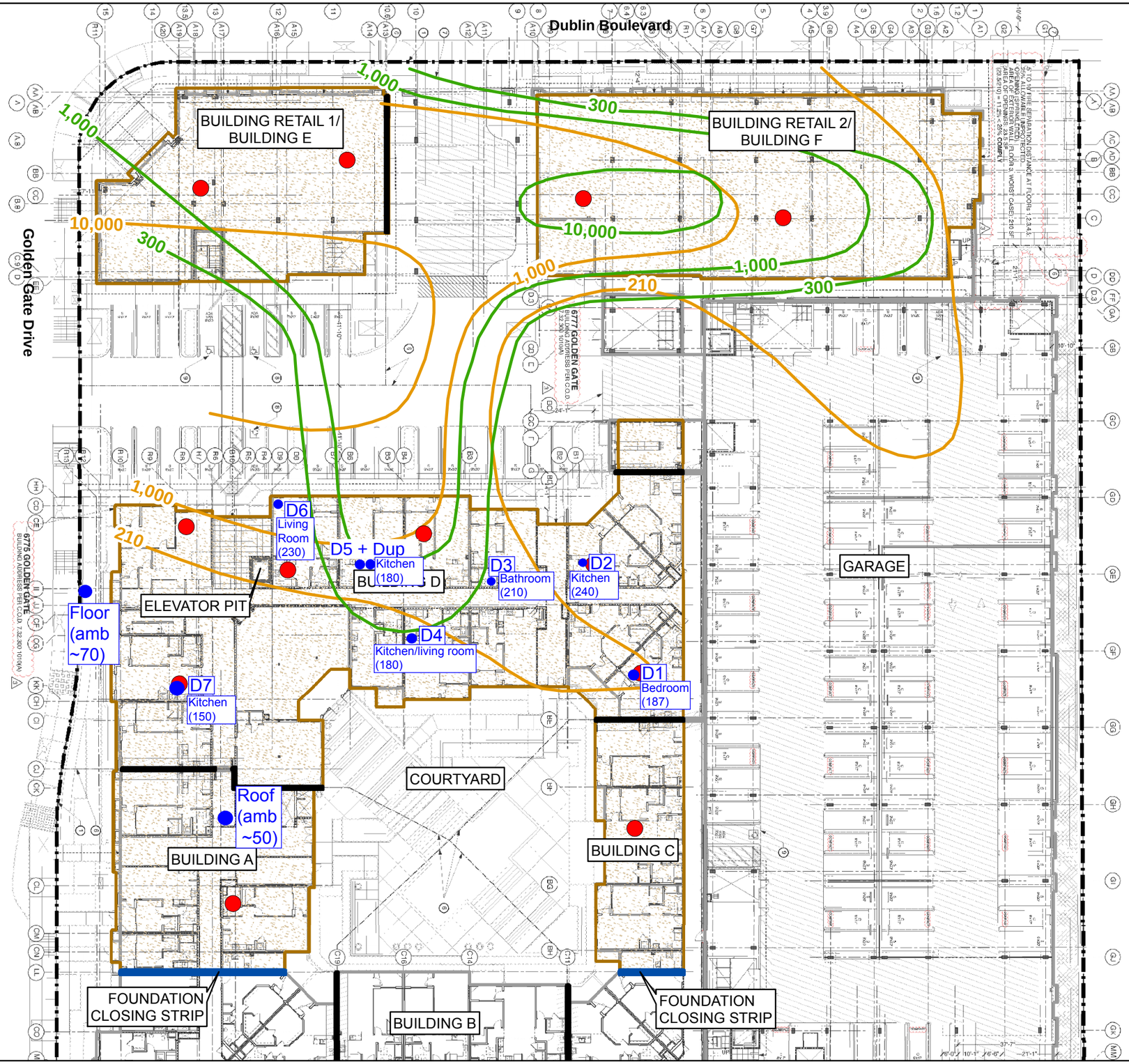

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APPROXIMATE SCALE IN FEET

Explanation

- Proposed indoor air sampling location
- 210 — Approximate line of equal PCE concentration in micrograms per cubic meter (µg/m³)
- 1,000 — Approximate line of equal TCE concentration in µg/m³
- Soil vapor mitigation membrane extents
- Building boundary (fire wall)
- Approximate property line

Abbreviations:
PCE = tetrachloroethene
TCE = trichloroethene

Note:
1. Locations of structures and foundation layouts provided by Carlon, Barbee, & Gibson, Inc., and BDE Architecture in January 2015. Building site plan and interior details provided by BDE Architecture, dated 09/23/2015.

PID Readings
March 20, 2017
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

amec foster wheeler

Date: 03/02/2017 | Project No. 8617170810

Figure 2

AIR SAMPLING LOG

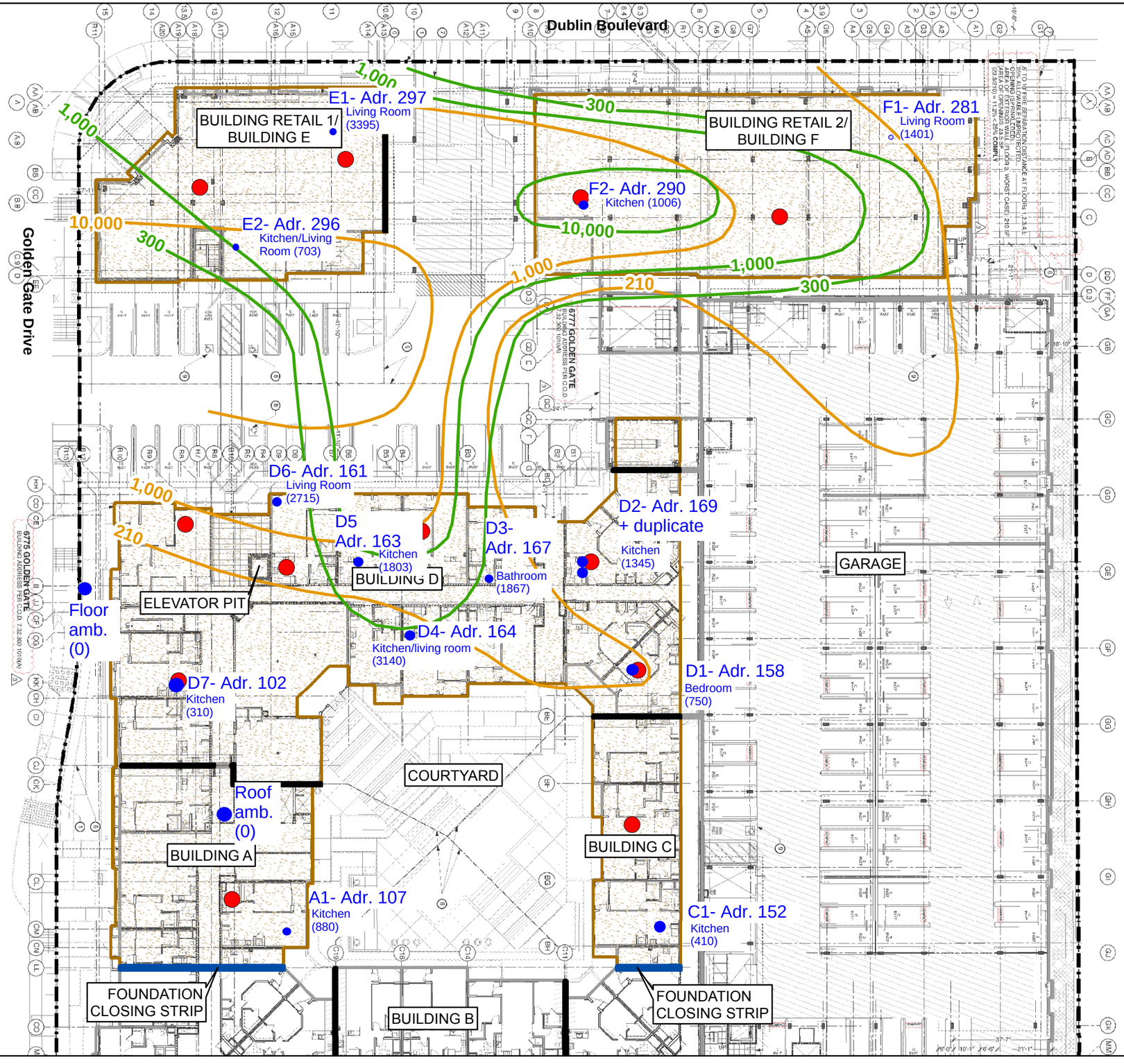
Project Name: Dublin - Indoor Air Sampling **Project Number:** 8617170810

Start Date: 03/20/17 **Building IDs:** Building D & Ambients

Sample ID	Sample Type	Building ID	Summa Canister ID	Flow Controller ID	Sampling Start			Sampling End		
					Start Canister Vacuum	Start Time	Start Date	End Canister Vacuum	End Time	End Date
Roof1	Amb		6L1059	30593	~~-29 -28.5~~	0925	3/20/17	-6	0925	3/21/17
Floor1	Amb		6L0993	40491	-30	0937	3/20/17	-22	0945	3/21/17
D2	IA		6L1114	40236	-30	1225	3/20/17	-7	1225	3/21/17
D1	IA		6L0966	40649	-30	1232	3/20/17	-7.5	1232	3/21/17
D4	IA		6L1011	30781	-30	1237	3/20/17	-4.5	1237	3/21/17
D3	IA		6L1047	30773	-30	1239	3/20/17	-8	1239	3/21/17
D5	IA		6L1031	20563	-28.5	1242	3/20/17	-6.5	1242	3/21/17
DUPE	DUPE		6L1005	30891	-29.5	1242	3/20/17	-4	1242	3/21/17

Pg 2/2

Sample ID	Sample Type	Building ID	Summa Canister ID	Flow Controller ID	Sampling Start			Sampling End		
					Start Canister Vacuum	Start Time	Start Date	End Canister Vacuum	End Time	End Date
D6	IA		641022	40157	-~~28~~ 29	1245	3/20/17	-6	1245	3/21/17
D7	IA		610976	400727	-30	1249	3/20/17	-8	1249	3/21/17



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0 40

APPROXIMATE SCALE IN FEET

Explanation

- Proposed indoor air sampling location
- 210 — Approximate line of equal PCE concentration in micrograms per cubic meter (µg/m³)
- 1,000 — Approximate line of equal TCE concentration in µg/m³
- Soil vapor mitigation membrane extents
- Building boundary (fire wall)
- Approximate property line

Abbreviations:
PCE = tetrachloroethene
TCE = trichloroethene

Note:
1. Locations of structures and foundation layouts provided by Carlon, Barbee, & Gibson, Inc., and BDE Architecture in January 2015. Building site plan and interior details provided by BDE Architecture, dated 09/23/2015.

PID Readings
June 12, 2017
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

amec foster wheeler

Date: 03/02/2017 | Project No. 8617170810

Figure
2

AIR SAMPLING LOG

Project Name: Bay West **Project Number:** 861717 0810

Start Date: 6/12/2017 **Building IDs:** A, C, D, E, F

FIRST DAY OF SAMPLING

Sampler Name:	Susan Rebellon	**Weather:**	Sunny ; clear
Temperature:	17°	**Barometric Pressure:**	29.93 in. Hg
Notes:			

SECOND DAY OF SAMPLING

Sampler Name:	Susan Rebellon	**Weather:**	Sunny ; clear
Temperature:	26°	**Barometric Pressure:**	30.00 in Hg
Notes:			

Sample ID	Sample Type	Building ID	Summa Canister ID	Flow Controller ID	Sampling Start			Sampling End		
					Start Canister Vacuum	Start Time	Start Date	End Canister Vacuum	End Time	End Date
~~Lab~~										
Roof1-061217	Amb		6L1041	22281	-30	12:06	6/12/17	-3.5	12:00	6/13/2017
Floor1-061217	Amb		6L1027	20746	-30	12:13	6/12/17	-3.5	14:43	6/13/2017
C1 ~~D1 D2~~	IA	C	6L1460	40384	-30	15:41	6/16/17	-3	16:41	6/13/2017
D1	IA	D	6L1007	40295	-30	15:49	6/16/17	-3	16:42	6/13/17

Sample ID	Sample Type	Building ID	Summa Canister ID	Flow Controller ID	Sampling Start			Sampling End		
					Start Canister Vacuum	Start Time	Start Date	End Canister Vacuum	End Time	End Date
D2	IA	D	64007	22878	-30	15:59	6/12/17	-4	18:16	
D-20 DUP	DUP	D	6L0978	22094	-29	15:59	6/12/17	-3.5	~~18:15~~ 18:16 (listed 17:55)	
D3	IA	D	6L0921	30773	-30	16:09	6/12/17	-5.5	19:54	
D4	IA	D	6L0965	40546	-25	16:14	6/12/17	-5	19:13	
D5	IA	D	6L1525	100166	-28	16:32	6/12/17	-3	18:43	
600 D6	IA	D	6L0996	22870	-30	16:37	6/12/17	-5	19:52	
D7	IA	D	6L1046	22063	-29.5	16:42	6/12/17	-3.5	18:48	
D8 A1	IA	A	6L1462	40466	-30	16:47	6/12/17	-3.5	18:51	
F1	IA	F	6L1054	40590	-29.5	17:02	6/12/17	-23	19:30	
F2	IA	F	6L1016	22079	-30	17:09	6/12/17	-4.5	19:27	
E1	IA	E	6L1045	22186	-29.5	17:14	6/12/17	~~-3.5~~ -4	~~17:35~~ 19:36	
E2	IA	E	6L1053	40261	-30	17:16	6/12/17	-3.5	17:35	

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APPENDIX C

Laboratory Data

eurofins | Air Toxics

6/19/2017

Mr. Alex Rosenthal
AMEC Environmental & Infrastructure
180 Grand Avenue, Suite 1100

Oakland CA 94612

Project Name: Bay West Developement
Project #: 8617170810
Workorder #: 1703439R1

Dear Mr. Alex Rosenthal

The following report includes the data for the above referenced project for sample(s) received on 3/24/2017 at Air Toxics Ltd.

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

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

Regards,

Rachel Selenis

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1703439R1

Work Order Summary

CLIENT:	Mr. Alex Rosenthal AMEC Environmental & Infrastructure 180 Grand Avenue, Suite 1100 Oakland, CA 94612	**BILL TO:**	Mr. Alex Rosenthal AMEC Environmental & Infrastructure 180 Grand Avenue, Suite 1100 Oakland, CA 94612
PHONE:	510-663-4100	**P.O. #**	
FAX:	510-663-4141	**PROJECT #**	8617170810 Bay West Developement
DATE RECEIVED:	03/24/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	04/05/2017		
DATE REISSUED:	06/16/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	Roof1-032017	Modified TO-15	5.7 "Hg	5.1 psi
01B	Roof1-032017	Modified TO-15	5.7 "Hg	5.1 psi
02A	Floor1-032017	Modified TO-15	21.4 "Hg	5.3 psi
02B	Floor1-032017	Modified TO-15	21.4 "Hg	5.3 psi
03A	D1-032017	Modified TO-15	5.7 "Hg	5.2 psi
03B	D1-032017	Modified TO-15	5.7 "Hg	5.2 psi
04A	D2-032017	Modified TO-15	4.7 "Hg	5.1 psi
04B	D2-032017	Modified TO-15	4.7 "Hg	5.1 psi
05A	D3-032017	Modified TO-15	6.7 "Hg	5.2 psi
05B	D3-032017	Modified TO-15	6.7 "Hg	5.2 psi
06A	D4-032017	Modified TO-15	3.3 "Hg	5.1 psi
06B	D4-032017	Modified TO-15	3.3 "Hg	5.1 psi
07A	D5-032017	Modified TO-15	4.5 "Hg	5.2 psi
07B	D5-032017	Modified TO-15	4.5 "Hg	5.2 psi
08A	D6-032017	Modified TO-15	4.7 "Hg	5.2 psi
08B	D6-032017	Modified TO-15	4.7 "Hg	5.2 psi
09A	D7-032017	Modified TO-15	7.1 "Hg	5.1 psi
09B	D7-032017	Modified TO-15	7.1 "Hg	5.1 psi
10A	DUPLICATE-032017	Modified TO-15	2.4 "Hg	5.2 psi
10B	DUPLICATE-032017	Modified TO-15	2.4 "Hg	5.2 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA

Continued on next page

eurofins | Air Toxics

WORK ORDER #: 1703439R1

Work Order Summary

CLIENT:	Mr. Alex Rosenthal AMEC Environmental & Infrastructure 180 Grand Avenue, Suite 1100 Oakland, CA 94612	**BILL TO:**	Mr. Alex Rosenthal AMEC Environmental & Infrastructure 180 Grand Avenue, Suite 1100 Oakland, CA 94612
PHONE:	510-663-4100	**P.O. #**	
FAX:	510-663-4141	**PROJECT #**	8617170810 Bay West Developement
DATE RECEIVED:	03/24/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	04/05/2017		
DATE REISSUED:	06/16/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
12B	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY:  DATE: 06/16/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
AMEC Environmental & Infrastructure
Workorder# 1703439R1

Ten 6 Liter Summa Canister (100% SIM Ambient) samples were received on March 24, 2017. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

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

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

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

Sample Floor1-032017 was received with significant vacuum remaining in the canister. The residual canister vacuum resulted in elevated reporting limits.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Dilution was performed on samples D2-032017, D5-032017 and DUPLICATE-032017 due to the presence of high level non-target species.

Per client request, the workorder was reissued on 6/16/17 for the following reasons:

1) To report estimated values for Trichloroethene, Tetrachloroethene and 1,4-Dichlorobenzene hits for samples Floor1-032017, D2-032017, D5-032017 and DUPLICATE-032017 as well as estimated values for Vinyl Chloride hits that are below the reporting limit but greater than the method detection limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives.

2) To report the data using a different format.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

CN - See case narrative explanation

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	Roof1-032017		
Lab ID:	1703439R1-01A	**Date/Time Analyzed:**	3/30/17 08:31 PM
Date/Time Collecte	3/21/17 09:25 AM	**Dilution Factor:**	1.66
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033013

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.13	0.80	1.0	Not Detected
Chlorobenzene	108-90-7	0.19	0.61	0.76	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	112
4-Bromofluorobenzene	460-00-4	70-130	95
Toluene-d8	2037-26-5	70-130	100

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	Roof1-032017		
Lab ID:	1703439R1-01B	**Date/Time Analyzed:**	3/30/17 08:31 PM
Date/Time Collecte	3/21/17 09:25 AM	**Dilution Factor:**	1.66
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033013simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.010	0.053	0.066	Not Detected
1,4-Dichlorobenzene	106-46-7	0.034	0.080	0.20	Not Detected
Benzene	71-43-2	0.0091	0.042	0.26	0.40
cis-1,2-Dichloroethene	156-59-2	0.0081	0.053	0.13	Not Detected
Tetrachloroethene	127-18-4	0.0066	0.090	0.22	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.011	0.053	0.66	Not Detected
Trichloroethene	79-01-6	0.0082	0.071	0.18	Not Detected
Vinyl Chloride	75-01-4	0.0038	0.034	0.042	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	110
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	101

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	Floor1-032017		
Lab ID:	1703439R1-02A	**Date/Time Analyzed:**	3/30/17 09:18 PM
Date/Time Collecte	3/21/17 09:45 AM	**Dilution Factor:**	4.76
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033014

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.38	2.3	2.9	Not Detected
Chlorobenzene	108-90-7	0.54	1.8	2.2	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	101

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	Floor1-032017		
Lab ID:	1703439R1-02B	**Date/Time Analyzed:**	3/30/17 09:18 PM
Date/Time Collecte	3/21/17 09:45 AM	**Dilution Factor:**	4.76
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033014simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.030	0.15	0.19	Not Detected
1,4-Dichlorobenzene	106-46-7	0.099	0.23	0.57	0.10 J 0.57 U
Benzene	71-43-2	0.026	0.12	0.76	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.023	0.15	0.38	Not Detected
Tetrachloroethene	127-18-4	0.019	0.26	0.64	0.044 J 0.64 U
trans-1,2-Dichloroethene	156-60-5	0.033	0.15	1.9	Not Detected
Trichloroethene	79-01-6	0.024	0.20	0.51	Not Detected
Vinyl Chloride	75-01-4	0.011	0.097	0.12	Not Detected

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	108
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	101

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	D1-032017		
Lab ID:	1703439R1-03A	**Date/Time Analyzed:**	3/30/17 10:07 PM
Date/Time Collecte	3/21/17 12:32 PM	**Dilution Factor:**	1.67
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033015

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.13	0.80	1.0	Not Detected
Chlorobenzene	108-90-7	0.19	0.62	0.77	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	109
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	97

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	D1-032017		
Lab ID:	1703439R1-03B	**Date/Time Analyzed:**	3/30/17 10:07 PM
Date/Time Collecte	3/21/17 12:32 PM	**Dilution Factor:**	1.67
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033015simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.010	0.053	0.066	Not Detected
1,4-Dichlorobenzene	106-46-7	0.035	0.080	0.20	Not Detected
Benzene	71-43-2	0.0091	0.043	0.27	0.56
cis-1,2-Dichloroethene	156-59-2	0.0081	0.053	0.13	Not Detected
Tetrachloroethene	127-18-4	0.0067	0.091	0.23	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.012	0.053	0.66	Not Detected
Trichloroethene	79-01-6	0.0082	0.072	0.18	Not Detected
Vinyl Chloride	75-01-4	0.0038	0.034	0.043	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	108
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	101

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	D2-032017		
Lab ID:	1703439R1-04A	**Date/Time Analyzed:**	3/31/17 08:19 AM
Date/Time Collecte	3/21/17 12:25 PM	**Dilution Factor:**	5.33
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033020

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.43	2.6	3.2	Not Detected
Chlorobenzene	108-90-7	0.60	2.0	2.4	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	104
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	102

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	D2-032017		
Lab ID:	1703439R1-04B	**Date/Time Analyzed:**	3/31/17 08:19 AM
Date/Time Collecte	3/21/17 12:25 PM	**Dilution Factor:**	5.33
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033020simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.033	0.17	0.21	Not Detected
1,4-Dichlorobenzene	106-46-7	0.11	0.26	0.64	Not Detected
Benzene	71-43-2	0.029	0.14	0.85	30
cis-1,2-Dichloroethene	156-59-2	0.026	0.17	0.42	Not Detected
Tetrachloroethene	127-18-4	0.021	0.29	0.72	0.034 J 0.72 U
trans-1,2-Dichloroethene	156-60-5	0.037	0.17	2.1	Not Detected
Trichloroethene	79-01-6	0.026	0.23	0.57	Not Detected
Vinyl Chloride	75-01-4	0.012	0.11	0.14	Not Detected

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	101
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	101

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	D3-032017		
Lab ID:	1703439R1-05A	**Date/Time Analyzed:**	3/30/17 10:58 PM
Date/Time Collecte	3/21/17 12:39 PM	**Dilution Factor:**	1.74
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033016

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.14	0.84	1.0	Not Detected
Chlorobenzene	108-90-7	0.20	0.64	0.80	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	100

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	D3-032017		
Lab ID:	1703439R1-05B	**Date/Time Analyzed:**	3/30/17 10:58 PM
Date/Time Collecte	3/21/17 12:39 PM	**Dilution Factor:**	1.74
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033016simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.011	0.055	0.069	Not Detected
1,4-Dichlorobenzene	106-46-7	0.036	0.084	0.21	Not Detected
Benzene	71-43-2	0.0095	0.044	0.28	0.47
cis-1,2-Dichloroethene	156-59-2	0.0085	0.055	0.14	Not Detected
Tetrachloroethene	127-18-4	0.0070	0.094	0.24	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.012	0.055	0.69	Not Detected
Trichloroethene	79-01-6	0.0086	0.075	0.19	Not Detected
Vinyl Chloride	75-01-4	0.0040	0.036	0.044	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	108
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	102

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	D4-032017		
Lab ID:	1703439R1-06A	**Date/Time Analyzed:**	3/31/17 05:49 AM
Date/Time Collecte	3/21/17 12:37 PM	**Dilution Factor:**	1.51
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033017

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.12	0.73	0.91	Not Detected
Chlorobenzene	108-90-7	0.17	0.56	0.70	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	108
4-Bromofluorobenzene	460-00-4	70-130	93
Toluene-d8	2037-26-5	70-130	101

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	D4-032017		
Lab ID:	1703439R1-06B	**Date/Time Analyzed:**	3/31/17 05:49 AM
Date/Time Collecte	3/21/17 12:37 PM	**Dilution Factor:**	1.51
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033017simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.0095	0.048	0.060	Not Detected
1,4-Dichlorobenzene	106-46-7	0.031	0.073	0.18	Not Detected
Benzene	71-43-2	0.0082	0.038	0.24	0.61
cis-1,2-Dichloroethene	156-59-2	0.0074	0.048	0.12	Not Detected
Tetrachloroethene	127-18-4	0.0060	0.082	0.20	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.010	0.048	0.60	Not Detected
Trichloroethene	79-01-6	0.0075	0.065	0.16	Not Detected
Vinyl Chloride	75-01-4	0.0034	0.031	0.038	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	105
4-Bromofluorobenzene	460-00-4	70-130	94
Toluene-d8	2037-26-5	70-130	100

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	D5-032017		
Lab ID:	1703439R1-07A	**Date/Time Analyzed:**	3/30/17 06:22 PM
Date/Time Collecte	3/21/17 12:42 PM	**Dilution Factor:**	15.9
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033011

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	1.3	7.6	9.6	Not Detected
Chlorobenzene	108-90-7	1.8	5.8	7.3	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	96
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	97

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	D5-032017		
Lab ID:	1703439R1-07B	**Date/Time Analyzed:**	3/30/17 06:22 PM
Date/Time Collecte	3/21/17 12:42 PM	**Dilution Factor:**	15.9
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033011simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.10	0.50	0.63	Not Detected
1,4-Dichlorobenzene	106-46-7	0.33	0.76	1.9	Not Detected
Benzene	71-43-2	0.087	0.41	2.5	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.078	0.50	1.3	Not Detected
Tetrachloroethene	127-18-4	0.064	0.86	2.2	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.11	0.50	6.3	Not Detected
Trichloroethene	79-01-6	0.079	0.68	1.7	Not Detected
Vinyl Chloride	75-01-4	0.036	0.32	0.41	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	100
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	101

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	D6-032017		
Lab ID:	1703439R1-08A	**Date/Time Analyzed:**	3/31/17 06:30 AM
Date/Time Collecte	3/21/17 12:45 PM	**Dilution Factor:**	1.60
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033018

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.13	0.77	0.96	Not Detected
Chlorobenzene	108-90-7	0.18	0.59	0.74	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	97
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	98

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	D6-032017		
Lab ID:	1703439R1-08B	**Date/Time Analyzed:**	3/31/17 06:30 AM
Date/Time Collecte	3/21/17 12:45 PM	**Dilution Factor:**	1.60
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033018simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.010	0.051	0.063	Not Detected
1,4-Dichlorobenzene	106-46-7	0.033	0.077	0.19	Not Detected
Benzene	71-43-2	0.0087	0.041	0.26	2.4
cis-1,2-Dichloroethene	156-59-2	0.0078	0.051	0.13	Not Detected
Tetrachloroethene	127-18-4	0.0064	0.087	0.22	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.011	0.051	0.63	Not Detected
Trichloroethene	79-01-6	0.0079	0.069	0.17	Not Detected
Vinyl Chloride	75-01-4	0.0036	0.033	0.041	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	103
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	100

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	D7-032017		
Lab ID:	1703439R1-09A	**Date/Time Analyzed:**	3/31/17 07:09 AM
Date/Time Collecte	3/21/17 12:49 PM	**Dilution Factor:**	1.77
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033019

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.14	0.85	1.1	Not Detected
Chlorobenzene	108-90-7	0.20	0.65	0.81	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	107
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	98

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	D7-032017		
Lab ID:	1703439R1-09B	**Date/Time Analyzed:**	3/31/17 07:09 AM
Date/Time Collecte	3/21/17 12:49 PM	**Dilution Factor:**	1.77
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033019simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.011	0.056	0.070	Not Detected
1,4-Dichlorobenzene	106-46-7	0.037	0.085	0.21	Not Detected
Benzene	71-43-2	0.0097	0.045	0.28	0.56
cis-1,2-Dichloroethene	156-59-2	0.0086	0.056	0.14	Not Detected
Tetrachloroethene	127-18-4	0.0071	0.096	0.24	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.012	0.056	0.70	Not Detected
Trichloroethene	79-01-6	0.0088	0.076	0.19	Not Detected
Vinyl Chloride	75-01-4	0.0040	0.036	0.045	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	101

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	DUPLICATE-032017		
Lab ID:	1703439R1-10A	**Date/Time Analyzed:**	3/30/17 07:15 PM
Date/Time Collecte	3/21/17 12:00 AM	**Dilution Factor:**	14.7
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033012

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	1.2	7.1	8.8	Not Detected
Chlorobenzene	108-90-7	1.7	5.4	6.8	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	103
4-Bromofluorobenzene	460-00-4	70-130	93
Toluene-d8	2037-26-5	70-130	101

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	DUPLICATE-032017		
Lab ID:	1703439R1-10B	**Date/Time Analyzed:**	3/30/17 07:15 PM
Date/Time Collecte	3/21/17 12:00 AM	**Dilution Factor:**	14.7
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20033012simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.092	0.47	0.58	Not Detected
1,4-Dichlorobenzene	106-46-7	0.30	0.71	1.8	Not Detected
Benzene	71-43-2	0.080	0.38	2.3	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.072	0.47	1.2	Not Detected
Tetrachloroethene	127-18-4	0.059	0.80	2.0	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.10	0.47	5.8	Not Detected
Trichloroethene	79-01-6	0.073	0.63	1.6	Not Detected
Vinyl Chloride	75-01-4	0.033	0.30	0.38	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	100
4-Bromofluorobenzene	460-00-4	70-130	95
Toluene-d8	2037-26-5	70-130	101

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	Lab Blank		
Lab ID:	1703439R1-11A	**Date/Time Analyzed:**	3/30/17 02:12 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd20.i / 20033006

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.080	0.48	0.60	Not Detected
Chlorobenzene	108-90-7	0.11	0.37	0.46	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	109
4-Bromofluorobenzene	460-00-4	70-130	95
Toluene-d8	2037-26-5	70-130	98

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	Lab Blank		
Lab ID:	1703439R1-11B	**Date/Time Analyzed:**	3/30/17 02:12 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd20.i / 20033006simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.0063	0.032	0.040	Not Detected
1,4-Dichlorobenzene	106-46-7	0.021	0.048	0.12	0.073 J
Benzene	71-43-2	0.0055	0.026	0.16	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.0049	0.032	0.079	Not Detected
Tetrachloroethene	127-18-4	0.0040	0.054	0.14	0.030 J
trans-1,2-Dichloroethene	156-60-5	0.0069	0.032	0.40	Not Detected
Trichloroethene	79-01-6	0.0049	0.043	0.11	0.028 J
Vinyl Chloride	75-01-4	0.0023	0.020	0.026	Not Detected

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	94
Toluene-d8	2037-26-5	70-130	100

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	CCV		
Lab ID:	1703439R1-12A	**Date/Time Analyzed:**	3/30/17 11:03 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd20.i / 20033002

Compound	CAS#	%Recovery
1,2-Dichlorobenzene	95-50-1	90
Chlorobenzene	108-90-7	102

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	95
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	97

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	CCV		
Lab ID:	1703439R1-12B	**Date/Time Analyzed:**	3/30/17 11:03 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd20.i / 20033002sim

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	95
1,4-Dichlorobenzene	106-46-7	79
Benzene	71-43-2	97
cis-1,2-Dichloroethene	156-59-2	94
Tetrachloroethene	127-18-4	98
trans-1,2-Dichloroethene	156-60-5	95
Trichloroethene	79-01-6	97
Vinyl Chloride	75-01-4	99

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	96
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	100

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	LCS		
Lab ID:	1703439R1-13A	**Date/Time Analyzed:**	3/30/17 11:50 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd20.i / 20033003

Compound	CAS#	%Recovery
1,2-Dichlorobenzene	95-50-1	87
Chlorobenzene	108-90-7	102

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	90
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	100

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	LCSD		
Lab ID:	1703439R1-13AA	**Date/Time Analyzed:**	3/30/17 12:39 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd20.i / 20033004

Compound	CAS#	%Recovery
1,2-Dichlorobenzene	95-50-1	88
Chlorobenzene	108-90-7	104

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	97
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	101

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	LCS		
Lab ID:	1703439R1-13B	**Date/Time Analyzed:**	3/30/17 11:50 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd20.i / 20033003sim

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	93
1,4-Dichlorobenzene	106-46-7	76
Benzene	71-43-2	97
cis-1,2-Dichloroethene	156-59-2	86
Tetrachloroethene	127-18-4	96
trans-1,2-Dichloroethene	156-60-5	104
Trichloroethene	79-01-6	100
Vinyl Chloride	75-01-4	100

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	95
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	101

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	LCSD		
Lab ID:	1703439R1-13BB	**Date/Time Analyzed:**	3/30/17 12:39 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd20.i / 20033004sim

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	93
1,4-Dichlorobenzene	106-46-7	75
Benzene	71-43-2	97
cis-1,2-Dichloroethene	156-59-2	85
Tetrachloroethene	127-18-4	97
trans-1,2-Dichloroethene	156-60-5	103
Trichloroethene	79-01-6	99
Vinyl Chloride	75-01-4	98

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	96
4-Bromofluorobenzene	460-00-4	70-130	98
Toluene-d8	2037-26-5	70-130	101

* % Recovery is calculated using unrounded analytical results.

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6/19/2017

Mr. Alex Rosenthal
AMEC Environmental & Infrastructure
180 Grand Avenue, Suite 1100

Oakland CA 94612

Project Name: Bay West Developement
Project #: 8617170810
Workorder #: 1706309A

Dear Mr. Alex Rosenthal

The following report includes the data for the above referenced project for sample(s) received on 6/15/2017 at Air Toxics Ltd.

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

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

Regards,

Rachel Selenis

Project Manager

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WORK ORDER #: 1706309A

Work Order Summary

CLIENT:	Mr. Alex Rosenthal AMEC Environmental & Infrastructure 180 Grand Avenue, Suite 1100 Oakland, CA 94612	**BILL TO:**	Mr. Alex Rosenthal AMEC Environmental & Infrastructure 180 Grand Avenue, Suite 1100 Oakland, CA 94612
PHONE:	510-663-4100	**P.O. #**	
FAX:	510-663-4141	**PROJECT #**	8617170810 Bay West Developement
DATE RECEIVED:	06/15/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	06/19/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
03A	C1 - 061217	Modified TO-15	1.8 "Hg	5.2 psi
03B	C1 - 061217	Modified TO-15	1.8 "Hg	5.2 psi
08A	D5 - 061217	Modified TO-15	1.6 "Hg	5.2 psi
08B	D5 - 061217	Modified TO-15	1.6 "Hg	5.2 psi
15A	E1 - 061217	Modified TO-15	2 "Hg	5 psi
15B	E1 - 061217	Modified TO-15	2 "Hg	5 psi
16A	Lab Blank	Modified TO-15	NA	NA
16B	Lab Blank	Modified TO-15	NA	NA
17A	CCV	Modified TO-15	NA	NA
17B	CCV	Modified TO-15	NA	NA
18A	LCS	Modified TO-15	NA	NA
18AA	LCSD	Modified TO-15	NA	NA
18B	LCS	Modified TO-15	NA	NA
18BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 06/19/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
AMEC Environmental & Infrastructure
Workorder# 1706309A

Two 6 Liter Summa Canister (SIM Certified) and one 6 Liter Summa Canister (100% SIM Ambient) samples were received on June 15, 2017. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

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

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

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

As per project specific client request the laboratory has reported estimated values for Vinyl Chloride that are below the Reporting Limit but greater than the Method Detection Limit. Results are reported as qualified with high probability for false positive.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

CN - See case narrative explanation

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	C1 - 061217		
Lab ID:	1706309A-03A	**Date/Time Analyzed:**	6/17/17 04:33 PM
Date/Time Collecte	6/13/17 04:41 PM	**Dilution Factor:**	1.44
Media:	6 Liter Summa Canister (SIM Certified)	**Instrument/Filename:**	msd20.i / 20061708

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.12	0.69	0.86	Not Detected
Chlorobenzene	108-90-7	0.16	0.53	0.66	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	95
4-Bromofluorobenzene	460-00-4	70-130	107
Toluene-d8	2037-26-5	70-130	91

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	C1 - 061217		
Lab ID:	1706309A-03B	**Date/Time Analyzed:**	6/17/17 04:33 PM
Date/Time Collecte	6/13/17 04:41 PM	**Dilution Factor:**	1.44
Media:	6 Liter Summa Canister (SIM Certified)	**Instrument/Filename:**	msd20.i / 20061708sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.0090	0.028	0.057	Not Detected
1,4-Dichlorobenzene	106-46-7	0.030	0.043	0.17	Not Detected
Benzene	71-43-2	0.0079	0.023	0.23	0.27
cis-1,2-Dichloroethene	156-59-2	0.0070	0.028	0.11	Not Detected
Tetrachloroethene	127-18-4	0.0058	0.049	0.20	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.0099	0.028	0.57	Not Detected
Trichloroethene	79-01-6	0.0071	0.039	0.15	Not Detected
Vinyl Chloride	75-01-4	0.0033	0.018	0.037	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	93

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	D5 - 061217		
Lab ID:	1706309A-08A	**Date/Time Analyzed:**	6/17/17 05:38 PM
Date/Time Collecte	6/13/17 06:43 PM	**Dilution Factor:**	1.43
Media:	6 Liter Summa Canister (SIM Certified)	**Instrument/Filename:**	msd20.i / 20061709

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.12	0.69	0.86	Not Detected
Chlorobenzene	108-90-7	0.16	0.53	0.66	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	97
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	112

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	D5 - 061217		
Lab ID:	1706309A-08B	**Date/Time Analyzed:**	6/17/17 05:38 PM
Date/Time Collecte	6/13/17 06:43 PM	**Dilution Factor:**	1.43
Media:	6 Liter Summa Canister (SIM Certified)	**Instrument/Filename:**	msd20.i / 20061709sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.0090	0.028	0.057	Not Detected
1,4-Dichlorobenzene	106-46-7	0.030	0.043	0.17	Not Detected
Benzene	71-43-2	0.0078	0.023	0.23	0.36
cis-1,2-Dichloroethene	156-59-2	0.0070	0.028	0.11	Not Detected
Tetrachloroethene	127-18-4	0.0057	0.048	0.19	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.0099	0.028	0.57	Not Detected
Trichloroethene	79-01-6	0.0071	0.038	0.15	Not Detected
Vinyl Chloride	75-01-4	0.0032	0.018	0.036	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	95
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	112

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	E1 - 061217		
Lab ID:	1706309A-15A	**Date/Time Analyzed:**	6/17/17 06:35 PM
Date/Time Collecte	6/13/17 07:36 PM	**Dilution Factor:**	1.44
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20061710

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.12	0.69	0.86	Not Detected
Chlorobenzene	108-90-7	0.16	0.53	0.66	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	93
4-Bromofluorobenzene	460-00-4	70-130	109
Toluene-d8	2037-26-5	70-130	96

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	E1 - 061217		
Lab ID:	1706309A-15B	**Date/Time Analyzed:**	6/17/17 06:35 PM
Date/Time Collecte	6/13/17 07:36 PM	**Dilution Factor:**	1.44
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msd20.i / 20061710sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.0090	0.028	0.057	Not Detected
1,4-Dichlorobenzene	106-46-7	0.030	0.043	0.17	Not Detected
Benzene	71-43-2	0.0079	0.023	0.23	0.78
cis-1,2-Dichloroethene	156-59-2	0.0070	0.028	0.11	Not Detected
Tetrachloroethene	127-18-4	0.0058	0.049	0.20	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.0099	0.028	0.57	Not Detected
Trichloroethene	79-01-6	0.0071	0.039	0.15	Not Detected
Vinyl Chloride	75-01-4	0.0033	0.018	0.037	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	97
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	98

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	Lab Blank		
Lab ID:	1706309A-16A	**Date/Time Analyzed:**	6/17/17 03:32 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd20.i / 20061707a

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.080	0.48	0.60	Not Detected
Chlorobenzene	108-90-7	0.11	0.37	0.46	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	95
4-Bromofluorobenzene	460-00-4	70-130	91
Toluene-d8	2037-26-5	70-130	102

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	Lab Blank		
Lab ID:	1706309A-16B	**Date/Time Analyzed:**	6/17/17 03:32 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd20.i / 20061707sima

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.0063	0.020	0.040	Not Detected
1,4-Dichlorobenzene	106-46-7	0.021	0.030	0.12	Not Detected
Benzene	71-43-2	0.0055	0.016	0.16	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.0049	0.020	0.079	Not Detected
Tetrachloroethene	127-18-4	0.0040	0.034	0.14	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.0069	0.020	0.40	Not Detected
Trichloroethene	79-01-6	0.0049	0.027	0.11	Not Detected
Vinyl Chloride	75-01-4	0.0023	0.013	0.026	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	98
4-Bromofluorobenzene	460-00-4	70-130	89
Toluene-d8	2037-26-5	70-130	98

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	CCV		
Lab ID:	1706309A-17A	**Date/Time Analyzed:**	6/17/17 11:11 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd20.i / 20061702

Compound	CAS#	%Recovery
1,2-Dichlorobenzene	95-50-1	107
Chlorobenzene	108-90-7	115

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	86
4-Bromofluorobenzene	460-00-4	70-130	108
Toluene-d8	2037-26-5	70-130	106

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	CCV		
Lab ID:	1706309A-17B	**Date/Time Analyzed:**	6/17/17 11:11 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd20.i / 20061702sim

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	84
1,4-Dichlorobenzene	106-46-7	90
Benzene	71-43-2	117
cis-1,2-Dichloroethene	156-59-2	91
Tetrachloroethene	127-18-4	102
trans-1,2-Dichloroethene	156-60-5	93
Trichloroethene	79-01-6	105
Vinyl Chloride	75-01-4	93

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	94
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	106

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	LCS		
Lab ID:	1706309A-18A	**Date/Time Analyzed:**	6/17/17 12:38 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd20.i / 20061703

Compound	CAS#	%Recovery
1,2-Dichlorobenzene	95-50-1	99
Chlorobenzene	108-90-7	114

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	89
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	108

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	LCSD		
Lab ID:	1706309A-18AA	**Date/Time Analyzed:**	6/17/17 01:33 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd20.i / 20061704

Compound	CAS#	%Recovery
1,2-Dichlorobenzene	95-50-1	106
Chlorobenzene	108-90-7	112

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	89
4-Bromofluorobenzene	460-00-4	70-130	107
Toluene-d8	2037-26-5	70-130	107

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	LCS		
Lab ID:	1706309A-18B	**Date/Time Analyzed:**	6/17/17 12:38 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd20.i / 20061703sim

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	87
1,4-Dichlorobenzene	106-46-7	87
Benzene	71-43-2	117
cis-1,2-Dichloroethene	156-59-2	83
Tetrachloroethene	127-18-4	104
trans-1,2-Dichloroethene	156-60-5	102
Trichloroethene	79-01-6	106
Vinyl Chloride	75-01-4	98

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	93
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	105

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN
Bay West Developement

Client ID:	LCSD		
Lab ID:	1706309A-18BB	**Date/Time Analyzed:**	6/17/17 01:33 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd20.i / 20061704sim

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	87
1,4-Dichlorobenzene	106-46-7	92
Benzene	71-43-2	114
cis-1,2-Dichloroethene	156-59-2	83
Tetrachloroethene	127-18-4	103
trans-1,2-Dichloroethene	156-60-5	102
Trichloroethene	79-01-6	104
Vinyl Chloride	75-01-4	96

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	92
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	106

* % Recovery is calculated using unrounded analytical results.

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6/21/2017

Mr. Alex Rosenthal
AMEC Environmental & Infrastructure
180 Grand Avenue, Suite 1100

Oakland CA 94612

Project Name: Bay West Developement
Project #: 8617170810
Workorder #: 1706309B

Dear Mr. Alex Rosenthal

The following report includes the data for the above referenced project for sample(s) received on 6/15/2017 at Air Toxics Ltd.

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

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

Regards,

Rachel Selenis

Project Manager

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WORK ORDER #: 1706309B

Work Order Summary

CLIENT:	Mr. Alex Rosenthal AMEC Environmental & Infrastructure 180 Grand Avenue, Suite 1100 Oakland, CA 94612	**BILL TO:**	Mr. Alex Rosenthal AMEC Environmental & Infrastructure 180 Grand Avenue, Suite 1100 Oakland, CA 94612
PHONE:	510-663-4100	**P.O. #**	
FAX:	510-663-4141	**PROJECT #**	8617170810 Bay West Developement
DATE RECEIVED:	06/15/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	06/21/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	Roof1 - 061217	Modified TO-15	0.2 psi	5 psi
01B	Roof1 - 061217	Modified TO-15	0.2 psi	5 psi
02A	Floor1 - 061217	Modified TO-15	3.1 "Hg	5.2 psi
02B	Floor1 - 061217	Modified TO-15	3.1 "Hg	5.2 psi
04A	D1 - 061217	Modified TO-15	1.6 "Hg	5.1 psi
04B	D1 - 061217	Modified TO-15	1.6 "Hg	5.1 psi
05A	D2 - 061217	Modified TO-15	3.1 "Hg	5 psi
05B	D2 - 061217	Modified TO-15	3.1 "Hg	5 psi
06A	D3 - 061217	Modified TO-15	3.7 "Hg	5 psi
06B	D3 - 061217	Modified TO-15	3.7 "Hg	5 psi
07A	D4 - 061217	Modified TO-15	3.7 "Hg	5 psi
07B	D4 - 061217	Modified TO-15	3.7 "Hg	5 psi
09A	D6 - 061217	Modified TO-15	1.4 "Hg	5 psi
09B	D6 - 061217	Modified TO-15	1.4 "Hg	5 psi
10A	D7 - 061217	Modified TO-15	2.4 "Hg	5.2 psi
10B	D7 - 061217	Modified TO-15	2.4 "Hg	5.2 psi
11A	D20 - 061217	Modified TO-15	2.4 "Hg	5.4 psi
11B	D20 - 061217	Modified TO-15	2.4 "Hg	5.4 psi
12A	A1 - 061217	Modified TO-15	2.6 "Hg	5.1 psi
12B	A1 - 061217	Modified TO-15	2.6 "Hg	5.1 psi
13A	F1 - 061217	Modified TO-15	22.0 "Hg	5.2 psi
13B	F1 - 061217	Modified TO-15	22.0 "Hg	5.2 psi
14A	F2 - 061217	Modified TO-15	3.1 "Hg	5 psi

Continued on next page

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WORK ORDER #: 1706309B

Work Order Summary

CLIENT:	Mr. Alex Rosenthal AMEC Environmental & Infrastructure 180 Grand Avenue, Suite 1100 Oakland, CA 94612	**BILL TO:**	Mr. Alex Rosenthal AMEC Environmental & Infrastructure 180 Grand Avenue, Suite 1100 Oakland, CA 94612
PHONE:	510-663-4100	**P.O. #**	
FAX:	510-663-4141	**PROJECT #**	8617170810 Bay West Developement
DATE RECEIVED:	06/15/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	06/21/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
14B	F2 - 061217	Modified TO-15	3.1 "Hg	5 psi
16A	E2 - 061217	Modified TO-15	2.2 "Hg	5.1 psi
16B	E2 - 061217	Modified TO-15	2.2 "Hg	5.1 psi
17A	Lab Blank	Modified TO-15	NA	NA
17B	Lab Blank	Modified TO-15	NA	NA
18A	CCV	Modified TO-15	NA	NA
18B	CCV	Modified TO-15	NA	NA
19A	LCS	Modified TO-15	NA	NA
19AA	LCSD	Modified TO-15	NA	NA
19B	LCS	Modified TO-15	NA	NA
19BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 06/21/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
AMEC Environmental & Infrastructure
Workorder# 1706309B

Eleven 6 Liter Summa Canister (100% SIM Ambient) and two 6 Liter Summa Canister (SIM Certified) samples were received on June 15, 2017. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

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

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

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

Samples Roof1 - 061217, Floor1 - 061217, D1 - 061217, D2 - 061217, D3 - 061217, D4 - 061217, D6 - 061217, D7 - 061217, D20 - 061217, A1 - 061217, F1 - 061217, F2 - 061217 and E2 - 061217 were placed on hold per the client's request.

Sample F1 - 061217 was received with significant vacuum remaining in the canister. The residual canister vacuum resulted in elevated reporting limits.

Despite the use of flow controllers for sample collection, the final canister vacuum for sample Roof1 - 061217 was measured at ambient pressure at the laboratory.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

As per project specific client request the laboratory has reported estimated values for Vinyl Chloride, Benzene and 1,4-Dichlorobenzene that are below the Reporting Limit but greater than the Method Detection Limit. All The canisters used for this project have been certified to the Reporting Limit for the target analytes included in this workorder. Concentrations that are below the level at which the canister was certified may be false positives.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

CN - See case narrative explanation

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: Roof1 - 061217

Lab ID#: 1706309B-01A

No Detections Were Found.

Client Sample ID: Roof1 - 061217

Lab ID#: 1706309B-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
Benzene	0.066	0.21	0.21	0.67	J
Trichloroethene	0.026	0.32	0.14	1.7	J
1,4-Dichlorobenzene	0.026	0.0090 J	0.16	0.054 J	0.16 U

Client Sample ID: Floor1 - 061217

Lab ID#: 1706309B-02A

No Detections Were Found.

Client Sample ID: Floor1 - 061217

Lab ID#: 1706309B-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
Benzene	0.076	0.13	0.24	0.42	U
1,4-Dichlorobenzene	0.030	0.016 J	0.18	0.096 J	0.18 U

Client Sample ID: D1 - 061217

Lab ID#: 1706309B-04A

No Detections Were Found.

Client Sample ID: D1 - 061217

Lab ID#: 1706309B-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
Benzene	0.071	0.085	0.23	0.27	U
1,4-Dichlorobenzene	0.028	0.0054 J	0.17	0.033 J	0.17 U

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

Client Sample ID: D2 - 061217

Lab ID#: 1706309B-05A

No Detections Were Found.

Client Sample ID: D2 - 061217

Lab ID#: 1706309B-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
Benzene	0.074	0.080	0.24	0.26	U
1,4-Dichlorobenzene	0.030	0.0053 J	0.18	0.032 J	0.18 U

Client Sample ID: D3 - 061217

Lab ID#: 1706309B-06A

No Detections Were Found.

Client Sample ID: D3 - 061217

Lab ID#: 1706309B-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
Benzene	0.076	0.11	0.24	0.36	U
1,4-Dichlorobenzene	0.031	0.0054 J	0.18	0.032 J	0.18 U

Client Sample ID: D4 - 061217

Lab ID#: 1706309B-07A

No Detections Were Found.

Client Sample ID: D4 - 061217

Lab ID#: 1706309B-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
Benzene	0.076	0.14	0.24	0.46	U

Client Sample ID: D6 - 061217

Lab ID#: 1706309B-09A

No Detections Were Found.

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

Client Sample ID: D6 - 061217

Lab ID#: 1706309B-09B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
Benzene	0.070	0.12	0.22	0.37	U

Client Sample ID: D7 - 061217

Lab ID#: 1706309B-10A

No Detections Were Found.

Client Sample ID: D7 - 061217

Lab ID#: 1706309B-10B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
Benzene	0.074	0.084	0.23	0.27	U

Client Sample ID: D20 - 061217

Lab ID#: 1706309B-11A

No Detections Were Found.

Client Sample ID: D20 - 061217

Lab ID#: 1706309B-11B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
Benzene	0.074	0.076	0.24	0.24	U

Client Sample ID: A1 - 061217

Lab ID#: 1706309B-12A

No Detections Were Found.

Client Sample ID: A1 - 061217

Lab ID#: 1706309B-12B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
1,1-Dichloroethene	0.015	0.016	0.059	0.062	U

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

Client Sample ID: A1 - 061217

Lab ID#: 1706309B-12B

Benzene	0.074	0.12	0.24	0.38	U

Client Sample ID: F1 - 061217

Lab ID#: 1706309B-13A

No Detections Were Found.

Client Sample ID: F1 - 061217

Lab ID#: 1706309B-13B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
Benzene	0.26	0.21 J	0.81	0.66 J	0.81 U

Client Sample ID: F2 - 061217

Lab ID#: 1706309B-14A

No Detections Were Found.

Client Sample ID: F2 - 061217

Lab ID#: 1706309B-14B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
Benzene	0.074	0.12	0.24	0.39	U

Client Sample ID: E2 - 061217

Lab ID#: 1706309B-16A

No Detections Were Found.

Client Sample ID: E2 - 061217

Lab ID#: 1706309B-16B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
Benzene	0.073	0.13	0.23	0.41	U

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Client Sample ID: Roof1 - 061217

Lab ID#: 1706309B-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062007**	**Date of Collection: 6/13/17 12:00:00 PM**	
Dil. Factor:	**1.32**	**Date of Analysis: 6/20/17 01:57 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chlorobenzene	0.13	Not Detected	0.61	Not Detected
1,2-Dichlorobenzene	0.13	Not Detected	0.79	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: Roof1 - 061217

Lab ID#: 1706309B-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062007sim**	**Date of Collection:**	**6/13/17 12:00:00 PM**
Dil. Factor:	**1.32**	**Date of Analysis:**	**6/20/17 01:57 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.034	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.052	Not Detected
trans-1,2-Dichloroethene	0.13	Not Detected	0.52	Not Detected
cis-1,2-Dichloroethene	0.026	Not Detected	0.10	Not Detected
Benzene	0.066	0.21	0.21	0.67
Trichloroethene	0.026	0.32	0.14	1.7
Tetrachloroethene	0.026	Not Detected	0.18	Not Detected
1,4-Dichlorobenzene	0.026	0.0090 J	0.16	0.054 J 0.16 U

J = Estimated value.

Vinyl Chloride MDL = 0.0023 ug/m3
Benzene MDL = 0.0055 ug/m3
1,4-Dichlorobenzene MDL = 0.021 ug/m3

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

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

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Client Sample ID: Floor1 - 061217

Lab ID#: 1706309B-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062008**	**Date of Collection: 6/13/17 2:43:00 PM**	
Dil. Factor:	**1.51**	**Date of Analysis: 6/20/17 02:36 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chlorobenzene	0.15	Not Detected	0.70	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: Floor1 - 061217

Lab ID#: 1706309B-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062008sim**	**Date of Collection:**	**6/13/17 2:43:00 PM**
Dil. Factor:	**1.51**	**Date of Analysis:**	**6/20/17 02:36 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.038	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.060	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
Benzene	0.076	0.13	0.24	0.42
Trichloroethene	0.030	Not Detected	0.16	Not Detected
Tetrachloroethene	0.030	Not Detected	0.20	Not Detected
1,4-Dichlorobenzene	0.030	0.016 J	0.18	0.096 J

0.18 U

J = Estimated value.

Vinyl Chloride MDL = 0.0023 ug/m3
Benzene MDL = 0.0055 ug/m3
1,4-Dichlorobenzene MDL = 0.021 ug/m3

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: D1 - 061217

Lab ID#: 1706309B-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062009**	**Date of Collection: 6/13/17 4:42:00 PM**	
Dil. Factor:	**1.42**	**Date of Analysis: 6/20/17 03:15 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chlorobenzene	0.14	Not Detected	0.65	Not Detected
1,2-Dichlorobenzene	0.14	Not Detected	0.85	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: D1 - 061217

Lab ID#: 1706309B-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062009sim**	**Date of Collection:**	**6/13/17 4:42:00 PM**
Dil. Factor:	**1.42**	**Date of Analysis:**	**6/20/17 03:15 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.036	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.056	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.56	Not Detected
cis-1,2-Dichloroethene	0.028	Not Detected	0.11	Not Detected
Benzene	0.071	0.085	0.23	0.27
Trichloroethene	0.028	Not Detected	0.15	Not Detected
Tetrachloroethene	0.028	Not Detected	0.19	Not Detected
1,4-Dichlorobenzene	0.028	0.0054 J	0.17	0.033 J 0.17 U

J = Estimated value.

Vinyl Chloride MDL = 0.0023 ug/m3
Benzene MDL = 0.0055 ug/m3
1,4-Dichlorobenzene MDL = 0.021 ug/m3

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

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

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Client Sample ID: D2 - 061217

Lab ID#: 1706309B-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062010**	**Date of Collection: 6/13/17 6:16:00 PM**	
Dil. Factor:	**1.49**	**Date of Analysis: 6/20/17 03:54 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chlorobenzene	0.15	Not Detected	0.68	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: D2 - 061217

Lab ID#: 1706309B-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062010sim**	**Date of Collection:**	**6/13/17 6:16:00 PM**
Dil. Factor:	**1.49**	**Date of Analysis:**	**6/20/17 03:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.038	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.059	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
Benzene	0.074	0.080	0.24	0.26
Trichloroethene	0.030	Not Detected	0.16	Not Detected
Tetrachloroethene	0.030	Not Detected	0.20	Not Detected
1,4-Dichlorobenzene	0.030	0.0053 J	0.18	0.032 J 0.18 U

J = Estimated value.

Vinyl Chloride MDL = 0.0023 ug/m3
Benzene MDL = 0.0055 ug/m3
1,4-Dichlorobenzene MDL = 0.021 ug/m3

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: D3 - 061217

Lab ID#: 1706309B-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062011**	**Date of Collection: 6/13/17 7:54:00 PM**	
Dil. Factor:	**1.53**	**Date of Analysis: 6/20/17 04:34 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chlorobenzene	0.15	Not Detected	0.70	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.92	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: D3 - 061217

Lab ID#: 1706309B-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062011sim**	**Date of Collection:**	**6/13/17 7:54:00 PM**
Dil. Factor:	**1.53**	**Date of Analysis:**	**6/20/17 04:34 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.039	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.061	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.61	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
Benzene	0.076	0.11	0.24	0.36
Trichloroethene	0.031	Not Detected	0.16	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected
1,4-Dichlorobenzene	0.031	0.0054 J	0.18	0.032 J

0.18 U

J = Estimated value.

Vinyl Chloride MDL = 0.0023 ug/m3
Benzene MDL = 0.0055 ug/m3
1,4-Dichlorobenzene MDL = 0.021 ug/m3

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: D4 - 061217

Lab ID#: 1706309B-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062012**	**Date of Collection: 6/13/17 7:13:00 PM**	
Dil. Factor:	**1.53**	**Date of Analysis: 6/20/17 05:24 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chlorobenzene	0.15	Not Detected	0.70	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.92	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	112	70-130
4-Bromofluorobenzene	110	70-130

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Client Sample ID: D4 - 061217

Lab ID#: 1706309B-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062012sim**	**Date of Collection:**	**6/13/17 7:13:00 PM**
Dil. Factor:	**1.53**	**Date of Analysis:**	**6/20/17 05:24 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.039	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.061	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.61	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
Benzene	0.076	0.14	0.24	0.46
Trichloroethene	0.031	Not Detected	0.16	Not Detected
Tetrachloroethene	0.031	Not Detected	0.21	Not Detected
1,4-Dichlorobenzene	0.031	Not Detected	0.18	Not Detected

Vinyl Chloride MDL = 0.0023 ug/m3
Benzene MDL = 0.0055 ug/m3
1,4-Dichlorobenzene MDL = 0.021 ug/m3

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: D6 - 061217

Lab ID#: 1706309B-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062013**	**Date of Collection: 6/13/17 7:52:00 PM**	
Dil. Factor:	**1.41**	**Date of Analysis: 6/20/17 06:33 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chlorobenzene	0.14	Not Detected	0.65	Not Detected
1,2-Dichlorobenzene	0.14	Not Detected	0.85	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	115	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: D6 - 061217

Lab ID#: 1706309B-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062013sim**	**Date of Collection:**	**6/13/17 7:52:00 PM**
Dil. Factor:	**1.41**	**Date of Analysis:**	**6/20/17 06:33 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.036	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.056	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.56	Not Detected
cis-1,2-Dichloroethene	0.028	Not Detected	0.11	Not Detected
Benzene	0.070	0.12	0.22	0.37
Trichloroethene	0.028	Not Detected	0.15	Not Detected
Tetrachloroethene	0.028	Not Detected	0.19	Not Detected
1,4-Dichlorobenzene	0.028	Not Detected	0.17	Not Detected

Vinyl Chloride MDL = 0.0023 ug/m3
Benzene MDL = 0.0055 ug/m3
1,4-Dichlorobenzene MDL = 0.021 ug/m3

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	117	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: D7 - 061217

Lab ID#: 1706309B-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062014**	**Date of Collection: 6/13/17 6:48:00 PM**	
Dil. Factor:	**1.47**	**Date of Analysis: 6/20/17 07:18 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chlorobenzene	0.15	Not Detected	0.68	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.88	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: D7 - 061217

Lab ID#: 1706309B-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062014sim**	**Date of Collection:**	**6/13/17 6:48:00 PM**
Dil. Factor:	**1.47**	**Date of Analysis:**	**6/20/17 07:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.038	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.058	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.58	Not Detected
cis-1,2-Dichloroethene	0.029	Not Detected	0.12	Not Detected
Benzene	0.074	0.084	0.23	0.27
Trichloroethene	0.029	Not Detected	0.16	Not Detected
Tetrachloroethene	0.029	Not Detected	0.20	Not Detected
1,4-Dichlorobenzene	0.029	Not Detected	0.18	Not Detected

Vinyl Chloride MDL = 0.0023 ug/m3
Benzene MDL = 0.0055 ug/m3
1,4-Dichlorobenzene MDL = 0.021 ug/m3

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: D20 - 061217

Lab ID#: 1706309B-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062015**	**Date of Collection: 6/13/17 5:50:00 PM**	
Dil. Factor:	**1.49**	**Date of Analysis: 6/20/17 08:00 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chlorobenzene	0.15	Not Detected	0.68	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: D20 - 061217

Lab ID#: 1706309B-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062015sim**	**Date of Collection: 6/13/17 5:50:00 PM**	
Dil. Factor:	**1.49**	**Date of Analysis: 6/20/17 08:00 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.038	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.059	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
Benzene	0.074	0.076	0.24	0.24
Trichloroethene	0.030	Not Detected	0.16	Not Detected
Tetrachloroethene	0.030	Not Detected	0.20	Not Detected
1,4-Dichlorobenzene	0.030	Not Detected	0.18	Not Detected

Vinyl Chloride MDL = 0.0023 ug/m3
Benzene MDL = 0.0055 ug/m3
1,4-Dichlorobenzene MDL = 0.021 ug/m3

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: A1 - 061217

Lab ID#: 1706309B-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062017**	**Date of Collection: 6/13/17 6:51:00 PM**	
Dil. Factor:	**1.48**	**Date of Analysis: 6/20/17 09:40 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chlorobenzene	0.15	Not Detected	0.68	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.89	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

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

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Client Sample ID: A1 - 061217

Lab ID#: 1706309B-12B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062017sim**	**Date of Collection:**	**6/13/17 6:51:00 PM**
Dil. Factor:	**1.48**	**Date of Analysis:**	**6/20/17 09:40 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.038	Not Detected
1,1-Dichloroethene	0.015	0.016	0.059	0.062
trans-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
Benzene	0.074	0.12	0.24	0.38
Trichloroethene	0.030	Not Detected	0.16	Not Detected
Tetrachloroethene	0.030	Not Detected	0.20	Not Detected
1,4-Dichlorobenzene	0.030	Not Detected	0.18	Not Detected

Vinyl Chloride MDL = 0.0023 ug/m3
Benzene MDL = 0.0055 ug/m3
1,4-Dichlorobenzene MDL = 0.021 ug/m3

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: F1 - 061217

Lab ID#: 1706309B-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062018**	**Date of Collection: 6/13/17 7:30:00 PM**	
Dil. Factor:	**5.10**	**Date of Analysis: 6/20/17 10:37 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chlorobenzene	0.51	Not Detected	2.3	Not Detected
1,2-Dichlorobenzene	0.51	Not Detected	3.1	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: F1 - 061217

Lab ID#: 1706309B-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062018sim**	**Date of Collection:**	**6/13/17 7:30:00 PM**
Dil. Factor:	**5.10**	**Date of Analysis:**	**6/20/17 10:37 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.051	Not Detected	0.13	Not Detected
1,1-Dichloroethene	0.051	Not Detected	0.20	Not Detected
trans-1,2-Dichloroethene	0.51	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Benzene	0.26	0.21 J	0.81	0.66 J
Trichloroethene	0.10	Not Detected	0.55	Not Detected
Tetrachloroethene	0.10	Not Detected	0.69	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.61	Not Detected

J = Estimated value.

Vinyl Chloride MDL = 0.0023 ug/m3
Benzene MDL = 0.0055 ug/m3
1,4-Dichlorobenzene MDL = 0.021 ug/m3

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: F2 - 061217

Lab ID#: 1706309B-14A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062019**	**Date of Collection: 6/13/17 7:27:00 PM**	
Dil. Factor:	**1.49**	**Date of Analysis: 6/21/17 07:29 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chlorobenzene	0.15	Not Detected	0.68	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	113	70-130

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Client Sample ID: F2 - 061217

Lab ID#: 1706309B-14B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062019sim**	**Date of Collection: 6/13/17 7:27:00 PM**	
Dil. Factor:	**1.49**	**Date of Analysis: 6/21/17 07:29 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.038	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.059	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
Benzene	0.074	0.12	0.24	0.39
Trichloroethene	0.030	Not Detected	0.16	Not Detected
Tetrachloroethene	0.030	Not Detected	0.20	Not Detected
1,4-Dichlorobenzene	0.030	Not Detected	0.18	Not Detected

Vinyl Chloride MDL = 0.0023 ug/m3
Benzene MDL = 0.0055 ug/m3
1,4-Dichlorobenzene MDL = 0.021 ug/m3

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: E2 - 061217

Lab ID#: 1706309B-16A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062020**	**Date of Collection: 6/13/17 5:35:00 PM**	
Dil. Factor:	**1.46**	**Date of Analysis: 6/21/17 08:23 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chlorobenzene	0.15	Not Detected	0.67	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.88	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: E2 - 061217

Lab ID#: 1706309B-16B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062020sim**	**Date of Collection:**	**6/13/17 5:35:00 PM**
Dil. Factor:	**1.46**	**Date of Analysis:**	**6/21/17 08:23 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.037	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.058	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.58	Not Detected
cis-1,2-Dichloroethene	0.029	Not Detected	0.12	Not Detected
Benzene	0.073	0.13	0.23	0.41
Trichloroethene	0.029	Not Detected	0.16	Not Detected
Tetrachloroethene	0.029	Not Detected	0.20	Not Detected
1,4-Dichlorobenzene	0.029	Not Detected	0.18	Not Detected

Vinyl Chloride MDL = 0.0023 ug/m3
Benzene MDL = 0.0055 ug/m3
1,4-Dichlorobenzene MDL = 0.021 ug/m3

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1706309B-17A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062006**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/20/17 01:05 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1706309B-17B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062006sima**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/20/17 01:05 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
Benzene	0.050	0.0027 J	0.16	0.0087 J
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
1,4-Dichlorobenzene	0.020	0.0075 J	0.12	0.045 J

J = Estimated value.

Vinyl Chloride MDL = 0.0023 ug/m3
Benzene MDL = 0.0055 ug/m3
1,4-Dichlorobenzene MDL = 0.021 ug/m3

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	88	70-130

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Client Sample ID: CCV

Lab ID#: 1706309B-18A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062002**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/20/17 09:16 AM**	

Compound	**%Recovery**
Chlorobenzene	112
1,2-Dichlorobenzene	106

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	81	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: CCV

Lab ID#: 1706309B-18B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062002sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/20/17 09:16 AM**	

Compound	%Recovery
Vinyl Chloride	92
1,1-Dichloroethene	82
trans-1,2-Dichloroethene	92
cis-1,2-Dichloroethene	90
Benzene	120
Trichloroethene	105
Tetrachloroethene	104
1,4-Dichlorobenzene	94

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: LCS

Lab ID#: 1706309B-19A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062003**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/20/17 10:01 AM**	

Compound	%Recovery	Method Limits
Chlorobenzene	111	70-130
1,2-Dichlorobenzene	110	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCSD

Lab ID#: 1706309B-19AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062004**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/20/17 10:40 AM**	

Compound	%Recovery	Method Limits
Chlorobenzene	114	70-130
1,2-Dichlorobenzene	109	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCS

Lab ID#: 1706309B-19B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062003sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/20/17 10:01 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	95	70-130
1,1-Dichloroethene	83	70-130
trans-1,2-Dichloroethene	100	70-130
cis-1,2-Dichloroethene	81	70-130
Benzene	116	70-130
Trichloroethene	104	70-130
Tetrachloroethene	103	70-130
1,4-Dichlorobenzene	94	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCSD

Lab ID#: 1706309B-19BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20062004sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/20/17 10:40 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	94	70-130
1,1-Dichloroethene	84	70-130
trans-1,2-Dichloroethene	100	70-130
cis-1,2-Dichloroethene	81	70-130
Benzene	113	70-130
Trichloroethene	102	70-130
Tetrachloroethene	103	70-130
1,4-Dichlorobenzene	93	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	104	70-130

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6/10/2017

Mr. Alex Rosenthal
AMEC Environmental & Infrastructure
180 Grand Avenue, Suite 1100

Oakland CA 94612

Project Name: Crown Chevy May 2017 VMS Sampling
Project #: 8617170810
Workorder #: 1706009

Dear Mr. Alex Rosenthal

The following report includes the data for the above referenced project for sample(s) received on 6/1/2017 at Air Toxics Ltd.

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

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

Regards,

Rachel Selenis

Project Manager

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WORK ORDER #: 1706009

Work Order Summary

CLIENT:	Mr. Alex Rosenthal AMEC Environmental & Infrastructure 180 Grand Avenue, Suite 1100 Oakland, CA 94612	**BILL TO:**	Mr. Alex Rosenthal AMEC Environmental & Infrastructure 180 Grand Avenue, Suite 1100 Oakland, CA 94612
PHONE:	510-663-4100	**P.O. #**	
FAX:	510-663-4141	**PROJECT #**	8617170810 Crown Chevy May 2017 VMS Sampling
DATE RECEIVED:	06/01/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	06/10/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMS-01-052017	TO-15	Tedlar Bag	Tedlar Bag
02A	VMS-02-052017	TO-15	Tedlar Bag	Tedlar Bag
03A	VMS-03-052017	TO-15	Tedlar Bag	Tedlar Bag
04A	VMS-04-052017	TO-15	Tedlar Bag	Tedlar Bag
05A	VMS-05-052017	TO-15	Tedlar Bag	Tedlar Bag
06A	VMS-06-052017	TO-15	Tedlar Bag	Tedlar Bag
07A	VMS-07-052017	TO-15	Tedlar Bag	Tedlar Bag
08A	VMS-08-052017	TO-15	Tedlar Bag	Tedlar Bag
09A	VMS-09-052017	TO-15	Tedlar Bag	Tedlar Bag
10A	VMS-10-052017	TO-15	Tedlar Bag	Tedlar Bag
11A	VMS-11-052017	TO-15	Tedlar Bag	Tedlar Bag
12A	VMS-12-052017	TO-15	Tedlar Bag	Tedlar Bag
13A	VMS-13-052017	TO-15	Tedlar Bag	Tedlar Bag
14A	VMS-14-052017	TO-15	Tedlar Bag	Tedlar Bag
15A	VMS-15-052017	TO-15	Tedlar Bag	Tedlar Bag
16A	Lab Blank	TO-15	NA	NA
16B	Lab Blank	TO-15	NA	NA
17A	CCV	TO-15	NA	NA
17B	CCV	TO-15	NA	NA
18A	LCS	TO-15	NA	NA
18AA	LCSD	TO-15	NA	NA
18B	LCS	TO-15	NA	NA
18BB	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 06/10/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
EPA Method TO-15
AMEC Environmental & Infrastructure
Workorder# 1706009

Fifteen 1 Liter Tedlar Bag samples were received on June 01, 2017. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Method TO-15 is validated for samples collected in specially treated canisters. As such, the use of Tedlar bags for sample collection is outside the scope of the method and not recommended for ambient or indoor air samples. It is the responsibility of the data user to determine the usability of TO-15 results generated from Tedlar bags.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: VMS-01-052017

Lab ID#: 1706009-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	17	1.6	54
Trichloroethene	0.50	8.5	2.7	46
Tetrachloroethene	0.50	7.3	3.4	49

Client Sample ID: VMS-02-052017

Lab ID#: 1706009-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	14	1.6	44

Client Sample ID: VMS-03-052017

Lab ID#: 1706009-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	30	1.6	97
Trichloroethene	0.50	0.51	2.7	2.7
Tetrachloroethene	0.50	0.64	3.4	4.4

Client Sample ID: VMS-04-052017

Lab ID#: 1706009-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	17	1.6	56
Tetrachloroethene	0.50	0.53	3.4	3.6

Client Sample ID: VMS-05-052017

Lab ID#: 1706009-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	6.8	1.6	22

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

Client Sample ID: VMS-06-052017

Lab ID#: 1706009-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	19	1.6	60
Trichloroethene	0.50	3.5	2.7	19
Tetrachloroethene	0.50	4.8	3.4	32

Client Sample ID: VMS-07-052017

Lab ID#: 1706009-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	25	1.6	79

Client Sample ID: VMS-08-052017

Lab ID#: 1706009-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	12	1.6	38

Client Sample ID: VMS-09-052017

Lab ID#: 1706009-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	8.6	1.6	27
Tetrachloroethene	0.50	0.55	3.4	3.7

Client Sample ID: VMS-10-052017

Lab ID#: 1706009-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	26	1.6	83
Tetrachloroethene	0.50	10	3.4	69

Client Sample ID: VMS-11-052017

Lab ID#: 1706009-11A

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

Client Sample ID: VMS-11-052017

Lab ID#: 1706009-11A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	5.2	1.6	16
Tetrachloroethene	0.50	16	3.4	110

Client Sample ID: VMS-12-052017

Lab ID#: 1706009-12A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	0.50	1.6	1.6

Client Sample ID: VMS-13-052017

Lab ID#: 1706009-13A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	11	1.6	34
Trichloroethene	0.50	0.79	2.7	4.2
Tetrachloroethene	0.50	16	3.4	110

Client Sample ID: VMS-14-052017

Lab ID#: 1706009-14A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	18	1.6	58

Client Sample ID: VMS-15-052017

Lab ID#: 1706009-15A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	17	1.6	54

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Client Sample ID: VMS-01-052017

Lab ID#: 1706009-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060117**	**Date of Collection: 5/31/17 9:50:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/1/17 10:28 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	17	1.6	54
Trichloroethene	0.50	8.5	2.7	46
Tetrachloroethene	0.50	7.3	3.4	49
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	122	70-130

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Client Sample ID: VMS-02-052017

Lab ID#: 1706009-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060118**	**Date of Collection: 5/31/17 9:45:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/1/17 10:57 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	14	1.6	44
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	123	70-130

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Client Sample ID: VMS-03-052017

Lab ID#: 1706009-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060119**	**Date of Collection: 5/31/17 9:37:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/1/17 11:25 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	30	1.6	97
Trichloroethene	0.50	0.51	2.7	2.7
Tetrachloroethene	0.50	0.64	3.4	4.4
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	122	70-130

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Client Sample ID: VMS-04-052017

Lab ID#: 1706009-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060210**	**Date of Collection: 5/31/17 9:30:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/17 03:43 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	17	1.6	56
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	0.53	3.4	3.6
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	126	70-130

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Client Sample ID: VMS-05-052017

Lab ID#: 1706009-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060120**	**Date of Collection: 5/31/17 9:20:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/1/17 11:53 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	6.8	1.6	22
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	124	70-130

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Client Sample ID: VMS-06-052017

Lab ID#: 1706009-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060121**	**Date of Collection: 5/31/17 9:06:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/17 12:22 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	19	1.6	60
Trichloroethene	0.50	3.5	2.7	19
Tetrachloroethene	0.50	4.8	3.4	32
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	125	70-130

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Client Sample ID: VMS-07-052017

Lab ID#: 1706009-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060211**	**Date of Collection: 5/31/17 8:45:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/17 04:12 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	25	1.6	79
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	122	70-130

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Client Sample ID: VMS-08-052017

Lab ID#: 1706009-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060212**	**Date of Collection: 5/31/17 12:13:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/17 04:40 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	12	1.6	38
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	118	70-130

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Client Sample ID: VMS-09-052017

Lab ID#: 1706009-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060213**	**Date of Collection: 5/31/17 12:08:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/17 05:08 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	8.6	1.6	27
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	0.55	3.4	3.7
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	122	70-130

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Client Sample ID: VMS-10-052017

Lab ID#: 1706009-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060214**	**Date of Collection: 5/31/17 12:05:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/17 05:37 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	26	1.6	83
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	10	3.4	69
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	117	70-130

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Client Sample ID: VMS-11-052017

Lab ID#: 1706009-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060215**	**Date of Collection: 5/31/17 12:00:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/17 06:05 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	5.2	1.6	16
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	16	3.4	110
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	119	70-130

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Client Sample ID: VMS-12-052017

Lab ID#: 1706009-12A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060216**	**Date of Collection: 5/31/17 11:55:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/17 06:34 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	0.50	1.6	1.6
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	122	70-130

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Client Sample ID: VMS-13-052017

Lab ID#: 1706009-13A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060217**	**Date of Collection: 5/31/17 11:50:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/17 08:56 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	11	1.6	34
Trichloroethene	0.50	0.79	2.7	4.2
Tetrachloroethene	0.50	16	3.4	110
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	118	70-130

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Client Sample ID: VMS-14-052017

Lab ID#: 1706009-14A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060218**	**Date of Collection:**	**5/31/17 11:45:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**6/2/17 09:24 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	18	1.6	58
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	118	70-130

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Client Sample ID: VMS-15-052017

Lab ID#: 1706009-15A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060219**	**Date of Collection:**	**5/31/17 11:38:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**6/2/17 09:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	17	1.6	54
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	120	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1706009-16A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060106**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/1/17 12:47 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1706009-16B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060206**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/17 01:15 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: CCV

Lab ID#: 1706009-17A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/1/17 10:05 AM**	

Compound	%Recovery
Vinyl Chloride	88
1,1-Dichloroethene	83
trans-1,2-Dichloroethene	91
cis-1,2-Dichloroethene	88
Benzene	96
Trichloroethene	91
Tetrachloroethene	100
Chlorobenzene	95
1,4-Dichlorobenzene	104
1,2-Dichlorobenzene	102

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: CCV

Lab ID#: 1706009-17B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060202**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/17 10:15 AM**	

Compound	%Recovery
Vinyl Chloride	88
1,1-Dichloroethene	82
trans-1,2-Dichloroethene	91
cis-1,2-Dichloroethene	89
Benzene	95
Trichloroethene	90
Tetrachloroethene	101
Chlorobenzene	96
1,4-Dichlorobenzene	103
1,2-Dichlorobenzene	101

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCS

Lab ID#: 1706009-18A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/1/17 10:32 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	96	70-130
1,1-Dichloroethene	88	70-130
trans-1,2-Dichloroethene	104	70-130
cis-1,2-Dichloroethene	84	70-130
Benzene	98	70-130
Trichloroethene	95	70-130
Tetrachloroethene	107	70-130
Chlorobenzene	102	70-130
1,4-Dichlorobenzene	114	70-130
1,2-Dichlorobenzene	108	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCSD

Lab ID#: 1706009-18AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/1/17 10:59 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	92	70-130
1,1-Dichloroethene	91	70-130
trans-1,2-Dichloroethene	105	70-130
cis-1,2-Dichloroethene	87	70-130
Benzene	98	70-130
Trichloroethene	96	70-130
Tetrachloroethene	107	70-130
Chlorobenzene	104	70-130
1,4-Dichlorobenzene	111	70-130
1,2-Dichlorobenzene	106	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCS

Lab ID#: 1706009-18B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/17 10:41 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	95	70-130
1,1-Dichloroethene	87	70-130
trans-1,2-Dichloroethene	103	70-130
cis-1,2-Dichloroethene	86	70-130
Benzene	97	70-130
Trichloroethene	94	70-130
Tetrachloroethene	106	70-130
Chlorobenzene	101	70-130
1,4-Dichlorobenzene	116	70-130
1,2-Dichlorobenzene	109	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	109	70-130

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Client Sample ID: LCSD

Lab ID#: 1706009-18BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17060204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/2/17 11:08 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	92	70-130
1,1-Dichloroethene	92	70-130
trans-1,2-Dichloroethene	102	70-130
cis-1,2-Dichloroethene	84	70-130
Benzene	95	70-130
Trichloroethene	93	70-130
Tetrachloroethene	103	70-130
Chlorobenzene	100	70-130
1,4-Dichlorobenzene	112	70-130
1,2-Dichlorobenzene	107	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	106	70-130

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APPENDIX D

Data Quality Review

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APPENDIX D
DATA QUALITY REVIEW
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

1.0 INTRODUCTION

Amec Foster Wheeler Environment & Infrastructure, Inc. ("Amec Foster Wheeler"), evaluated the analytical data from the March and June 2017 indoor and outdoor air sampling events and the May 2017 vent riser sampling event using guidelines set forth in the U.S. Environmental Protection Agency's (U.S. EPA's) *Analysis of Volatile Organic Compounds in Air Contained in Canister by Method TO-15* (U.S. EPA, 2014).

The data quality review also included a data completeness check of the data packages and a review of all laboratory reporting forms. Qualified data are included in Tables 3 and 4. Data qualifiers for analytical data collected in March, May, and June 2017 are included on the laboratory analytical reports, copies of which are included in Appendix C.

2.0 INDOOR AND OUTDOOR AIR AND VENT RISER DATA EVALUATION

Quality assurance procedures for indoor and outdoor air and vent riser samples collected in March, May, and June 2017 included laboratory analysis of method blank samples, surrogate spikes, and laboratory control spike/laboratory control spike duplicates (LCS/LCSDs); and evaluation of the analytical results.

Additionally, blind field duplicate sample pairs were collected during the indoor and outdoor air sampling events. The blind field duplicate indoor air samples were collected from locations D5 and D2 in March and June 2017, respectively. The primary samples were labeled D5-032017 and D2-061217, and the duplicate samples were labeled DUPLICATE-032017 and D20-061217.

A review of indoor and outdoor air and vent riser data quality is provided in the following sections.

2.1 DATA ACCURACY

Data accuracy was assessed by the analysis of LCS and LCSD samples and evaluation of the recovery of spiked compounds, and is expressed as a percentage of the true or known concentrations. Surrogate recoveries and blank results also were used to assess accuracy.

2.1.1 Spiked Compounds

No results were qualified due to LCS/LCSD recoveries.

2.1.2 Surrogate Recoveries

No results were qualified due to surrogate recoveries.

2.1.3 Laboratory Blanks

Compounds 1,4-dichlorobenzene (1,4-DCB), tetrachloroethene (PCE), and trichloroethene (TCE) were detected in the laboratory blank sample associated with laboratory report 1704349. 1,4-DCB and PCE were detected in project samples at concentrations similar to those in the lab blank. Results for these compounds in the affected project samples were reported at the laboratory reporting limit and flagged "U," indicating that the compounds were not detected at a concentration greater than or equal to the laboratory reporting limit. Project samples affected include Floor1-032017 and D2-032017.

Similarly, 1,4-DCB and benzene were detected in the laboratory blank sample associated with laboratory report 1706309B at concentrations below their respective reporting limits. 1,4-DCB was also detected in project samples at concentrations below the laboratory reporting limits; benzene was detected in project samples at concentrations lower or greater than laboratory reporting limits. Results for 1,4-DCB in the affected project samples were reported at the laboratory reporting limit and flagged "U," indicating that the compounds were not detected at a concentration greater than or equal to the laboratory reporting limit. Similarly results for benzene that were below the reporting limits were reported at the laboratory reporting limit and flagged "U". Benzene results that were detected between the reporting limit and two times the reporting limit were "U" flagged. Project samples affected include Roof1-061217, Floor1-061217, D1-061217, D2-061217 (and its field duplicate sample), D3-061217, D4-061217, D6-061217, D7-061217, A1-061217, F1-061217, F2-061217, and E2-061217.

2.1.4 Other Factors

The Roof-061217 sample canister arrived at the laboratory under ambient pressure, indicating that the vacuum gauge used in the field was incorrect or there was a minor leak during transit. As a result, concentrations of detected analytes (benzene and TCE) were flagged "J," indicating that the compounds were positively identified but the numerical value reported is approximate.

The laboratory reporting limit for several compounds (including 1,4-DCB, PCE, TCE, and vinyl chloride) were greater than their respective Environmental Screening Levels (the criteria to which analytical results are compared). Therefore, Amec Foster Wheeler requested that the laboratory report results for these compounds in affected samples to concentrations between the reporting limit and method detection limit. With the exception of several results which have been flagged due to laboratory blank contamination (Section 2.1.3), there were no detections of these compounds in the re-reported laboratory results.

2.2 DATA PRECISION

Data precision is evaluated by comparing analytical results from the duplicate sample pair and evaluating the calculated relative percent difference (RPD) between the data sets. Results for LCS/LCSD and field duplicate sample pairs were evaluated to assess the precision of the analytical methods. There were no detections in the field duplicate pairs, excepting results that are not considered valid due to laboratory blank contamination; therefore, the RPD for the field duplicate sample pairs was not calculated. The RPDs for the LCS/LCSD pairs were within acceptance limits.

2.3 DATA COMPLETENESS

Completeness is the ratio of the number of valid sample results to the total number of samples analyzed with a specific matrix and/or analysis. The percent complete is calculated by the following equation:

$$\% \text{ Complete} = \frac{(\text{number of valid measurements})}{(\text{number of measurements planned})} \times 100$$

The percent-complete for indoor and outdoor air data collected in March and June 2017 is 100 percent, with the exception of the 1,4-DCB, benzene, and PCE results described in Section (2.1.3), where the percent complete is 53 percent.

3.0 SUMMARY OF INDOOR AND OUTDOOR AIR DATA QUALITY REVIEW

Based on an evaluation of data quality for samples collected during the March and June 2017 indoor and outdoor air sampling events, all the analytical results are valid and useable, with additional validation qualifiers as applicable. The data are acceptable and can be used for decision-making purposes.

4.0 REFERENCES

U.S. Environmental Protection Agency, 2014. Standard Operating Procedure No. HW-31, Rev 6, Hazardous Waste Support Section, Analysis of Volatile Organic Compounds in Air Contained in Canister by Method TO-15, June.