September 18, 2017

Ms. Dilan Roe
Chief – Land Water Division
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94501-6577

Subject: **Addendum to 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 "Addendum to 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 Addendum presents the results of additional 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: Addendum to Dublin Apartments Indoor Air Report

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

Addendum to 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

September 2017

Project No. 8617170810.2.3

ADDENDUM TO DUBLIN APARTMENTS
INDOOR AIR REPORT
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

September 18, 2017
Project 8617170810.2.3

This report was prepared by the staff of Amec Foster Wheeler Environment & Infrastructure, Inc., under the supervision of the Geologist whose seal and signature appear 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
Senior Geologist

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ADDENDUM TO DUBLIN APARTMENTS INDOOR AIR REPORT

Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

1.0 INTRODUCTION

On behalf of Dublin Apartment Properties LLC, Amec Foster Wheeler Environment & Infrastructure, Inc. ("Amec Foster Wheeler") prepared this *Addendum to Dublin Apartments Indoor Air Report* ("Addendum") for the Former Crown Chevrolet North Parcel located at 7544 Dublin Boulevard, Dublin, California (the "site"; Figure 1).[1] This Addendum documents indoor air sampling that was supplemental that that reported in the *Dublin Apartments Indoor Air Report* ("Report"; Amec Foster Wheeler, 2017b). Indoor air samples were collected in August 2017 in ground-floor retail spaces that were not sampled during the previous indoor air sampling events due to ongoing construction activities.

The work 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). A summary of site background information and documentation of previous residential indoor air sampling events can be found in the Report.

2.0 INVESTIGATION OBJECTIVE

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

In August 2017, indoor air samples were collected from ground-floor retail units in Buildings E and F (Figure 2). This sampling event followed two previous rounds of indoor air sampling in residential units beneath which the vapor mitigation system (VMS) is installed (Figure 2) in March and June 2017, as documented in the Report (Amec Foster Wheeler, 2017b).

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

- Tetrachloroethene (PCE);
- Trichloroethene (TCE);
- cis-1,2-Dichloroethene;
- trans-1,2-Dichloroethene;

[1] Documents associated with future site work are associated with the Aster Apartments case, at 6775 Golden Gate Drive, Dublin, California (Site Cleanup Program Case No. RO0003252 and GeoTracker Site ID T10000010517).

- 1,1-Dichloroethene;
- Vinyl chloride;
- Benzene;
- Chlorobenzene;
- 1,2-Dichlorobenzene (1,2-DCB); and
- 1,4-Dichlorobenzene (1,4-DCB).

3.0 FIELD AND LABORATORY METHODS

Field activities, including a building survey and indoor air sample collection, and laboratory analysis were conducted in accordance with the methods described in the Work Plan, and are described in more detail below.

3.1 BUILDING SURVEY

On August 7, 2017, prior to sampling, 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 potentially cause false positive detections of site COCs. The results of the survey were documented on a Building Survey Form, a copy of which is 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 within several days prior to and during the sampling event.

During the building survey 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 A, and summarized below.

- PID readings were 0 ppbv in the vicinity of all sample locations.
- During the building survey, Amec Foster Wheeler personnel identified paint thinner stored in an open-top bucket in Building F, approximately 50 feet from the closest sample location. PID readings of up to 500 parts per billion by volume (ppbv) were detected in the vicinity of the bucket. Amec Foster Wheeler personnel coordinated with site construction management to remove the bucket of paint thinner shortly after the start of sample collection.[2]

[2] Sampling was allowed to proceed prior to removal of the paint thinner because PID readings dropped 0 ppbv within approximately 10 feet of the bucket, and thus it appeared that the paint thinner was not contributing to VOC concentrations in indoor air in the vicinity of the samples.

3.2 INDOOR AND OUTDOOR AIR SAMPLING

Indoor air sampling of ground floor retail spaces in Building E and F was conducted on August 7 and 8, 2017. Indoor air samples were collected from four locations within the retail buildings over a 24-hour period. A summary of the samples collected from each building during the sampling event is included in Table 1. The indoor air sampling locations from this sampling event, as well as from the previous sampling events, are shown on Figure 2.

The indoor and outdoor air 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's) *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air* ("Vapor Instruction Guidance;" DTSC, 2011). Field methodologies for collecting indoor and outdoor air samples are described in detail in the Report. Copies of the Air Sampling Logs for the sampling canisters are included in Appendix B.

3.3 WEATHER CONDITIONS

Weather conditions during the sampling event, based on those documented at a nearby weather station (Ecco Park, approximately 0.6 mile northeast of the site), are summarized in Table 2.

3.4 VENT RISER SAMPLING

As discussed in the Report, collection of vapor samples from the 15 vent risers at the site is part of the routine operations, maintenance, and performance monitoring of the VMS. The routine vent riser sampling closest in time to the retail indoor air sampling vent was conducted on July 31, 2017. 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* ("VMS OMM Plan;" Amec Foster Wheeler, 2017c) and submitted to the analytical laboratory under chain-of-custody procedures.

3.5 LABORATORY METHODS

Following sample collection, the indoor and outdoor air samples were transported and submitted under chain-of-custody procedures to Eurofins Air Toxics, Inc. of Folsom, California, a National Environmental Laboratory Accreditation Program–certified analytical laboratory. The samples were analyzed for the site COCs using U.S. Environmental Protection Agency (U.S. EPA) Method TO-15 with selective ion monitoring.

Copies of the laboratory analytical reports for the indoor and 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 August 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 following issues were identified during the data quality review process:

- Benzene was detected in the laboratory blank sample associated with all indoor air samples and the outdoor air sample. Benzene was reported at concentrations up to twice the laboratory reporting limit in three indoor air samples, so these detections are not considered valid.
- Similarly, 1,4-DCB was reported in all indoor and outdoor air 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.
- Approximately 1 hour after starting sampling at location E1, it was noted that the vacuum in the canister had dropped more than anticipated. As a result, a second canister (E1B) was opened at the same location, approximately 1.5 hours after initiating sampling at the other locations. After 24 hours of sampling canister E1 was observed to be at ambient pressure, and is therefore considered a grab sample. The results for both canisters are provided in Table 3.

The findings of the data review indicate that, with the exception of the issues identified above, 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 EVALUATION

This section summarizes the analytical results for the COCs in indoor and outdoor air samples collected during August 2017, as well as for the vent riser samples collected in July 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.

5.1 AUGUST 2017 INDOOR AND OUTDOOR AIR SAMPLING EVENT

No COCs were detected in the retail indoor or outdoor air samples during the August 2017 sampling event, with the exception of benzene in the two indoor samples from Building F.[3] Benzene was detected at concentrations up to 0.94 micrograms per cubic meter (µg/m^3), greater than the Environmental Screening Level (ESL) of 0.097 µg/m^3 in these samples. No other COCs were detected during the June 2017 sampling event.

[3] As noted in Section 4.0, the laboratory reports indicated the presence of benzene and 1,4-DCB in all samples, but all but two benzene results were qualified as non-detected due to the presence of these COCs in the laboratory blank samples.

5.2 DATA EVALUATION

The analytical results of the August 2017 sampling event indicate that, with the exception of benzene, site COCs are not present in indoor air at concentrations exceeding the indoor air ESLs in the retail units at the site.

Based on comparison of the vent riser data to the indoor air data, it does not appear that the benzene detected in indoor air is related to vapor intrusion. Benzene, PCE, and TCE were detected in two of the vent riser samples nearest these indoor air locations (V-05 and V-06). While benzene was also detected in the indoor air samples, PCE and TCE were not. If the benzene were related to vapor intrusion, PCE and TCE would be expected to be present in indoor air as well. Therefore, the analytical results indicate that the detections of benzene in indoor air are likely related to indoor chemical use (potentially fuel used for powered equipment), not vapor intrusion. A similar situation was encountered during the previous residential sampling, and the same conclusion was made in the Report.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The results of the indoor air sampling event in August 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 and commercial occupants due to vapor intrusion at the site.

No further indoor air sampling is planned. Performance monitoring of the VMS will continue in accordance with the methods outlined in the VMS OMM Plan.

7.0 REFERENCES

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

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), 2017b. Dublin Apartments Indoor Air Report, Former Crown Chevrolet North Parcel, 7544 Dublin Boulevard, Dublin, California, June 28.

Amec Foster Wheeler, 2017c. Operation, Maintenance, and Monitoring Plan for Vapor Mitigation System, Former Crown Chevrolet North Parcel, 7544 Dublin Boulevard, Dublin, California, July 31.

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
foster
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	Commercial Buildings	
		E	F
1	August 7-8, 2017	2	2

Note
1. Total numbers of samples does not include field duplicate or outdoor air samples.

TABLE 2

WEATHER CONDITONS [1]

Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

Sampling Event	Date	Temperature (F) [2]	Barometric Pressure (in Hg)	Wind Speed (mph) [2]	Wind Direction
1	8/7/2017	67.9	29.63	6	WSW
	8/8/2017	68.3	29.77	6	WSW

Notes

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

Abbreviations

F = degrees fahrenheit
in Hg = inches of mercury
mph = miles per hour
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													
Roof	Roof1-080717	Ambient	8/8/2017	0.25 U	<0.72	<0.94	0.19 U	<0.062	<0.12	<0.62	<0.21	<0.17	*<0.012* [2]
Indoor Air Samples													
E1 [3]	E1-080717	Building E First Floor	8/8/2017	0.35 U	<0.62	<0.81	0.16 U	<0.054	<0.11	<0.54	<0.18	<0.14	*<0.010*
	E1B-080717	Building E First Floor	8/8/2017	0.32 U	<0.81	<1.1	0.21 U	<0.070	<0.14	<0.70	<0.24	<0.19	*<0.014*
E2	E2-080717	Building E First Floor	8/8/2017	0.32 U	<0.76	<0.99	0.20 U	<0.065	<0.13	<0.65	<0.22	<0.18	*<0.013*
F1	F1-080717	Building F First Floor	8/8/2017	**0.81** [4,5]	<0.81	<1.1	0.21 U	<0.070	<0.14	<0.70	<0.24	<0.19	*<0.014*
F2	F2-080717	Building F First Floor	8/8/2017	**0.94**	<0.72	<0.94	0.19 U	<0.062	<0.12	<0.62	<0.21	<0.17	*<0.012*
Environmental Screening Level [6]				0.097	52	210	0.26	73	8.3	83	0.48	0.48	0.0095

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. Approximately 1 hour after starting sampling at location E1, it was noted that the vacuum in canister E1-080717 had dropped more than anticipated. As a result, a second canister (E1B-080717) was opened at the same location. After 24 hours of sampling canister E1-080717 was observed to be at ambient pressure, and is therefore considered a grab sample.
4. Data in bold font represent a detection at or above applicable analytical reporting limit.
5. Data in gray cells exceed their respective indoor air ESLs.
6. San Francisco Regional Water Quality Control Board Environmental Screening Levels (ESLs), Tier 1 ESLs, February 2016 (Rev. 3).

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 monitoring
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.

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 (µg/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-01-072017	7/31/2017	**4.3** [2]	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	**140**	**87**	<1.3
V-02	VMS-02-072017	7/31/2017	**4.4**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	<3.4	<2.7	<1.3
V-03	VMS-03-072017	7/31/2017	**6.0**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	**30**	**15**	<1.3
V-04	VMS-04-072017	7/31/2017	**5.3**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	<3.4	<2.7	<1.3
V-05	VMS-05-072017	7/31/2017	**2.2**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	**130**	**49**	<1.3
V-06	VMS-06-072017	7/31/2017	**4.7**	<2.3	<3.0	<3.0	<2.0	<2.0	<2.0	**79**	**37**	<1.3
V-07	VMS-07-072017	7/31/2017	**3.6**	<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

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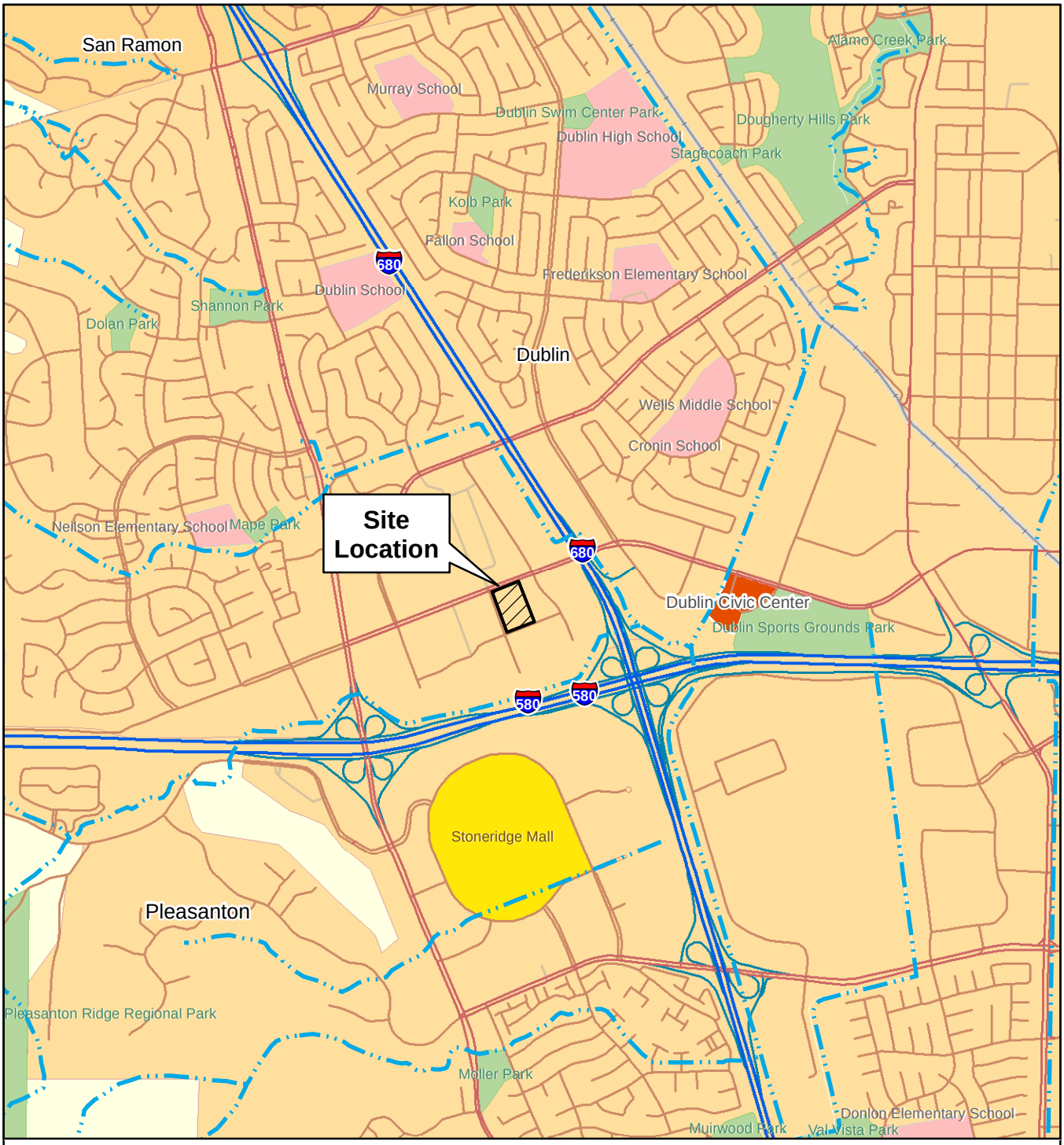
FIGURES



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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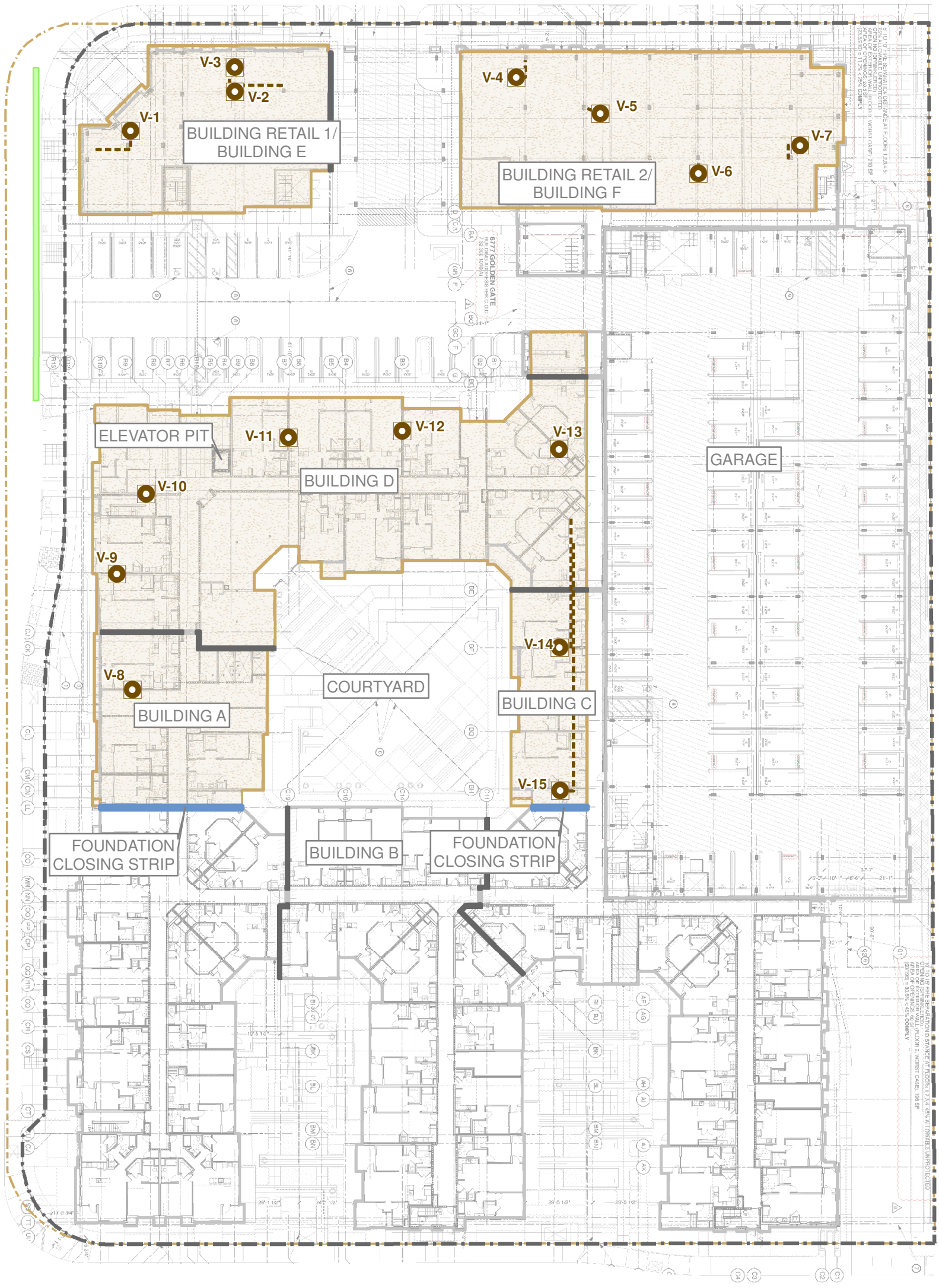
Dublin Boulevard



Golden Gate Drive

St. Patrick Way

Explanation

- 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

0 50

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

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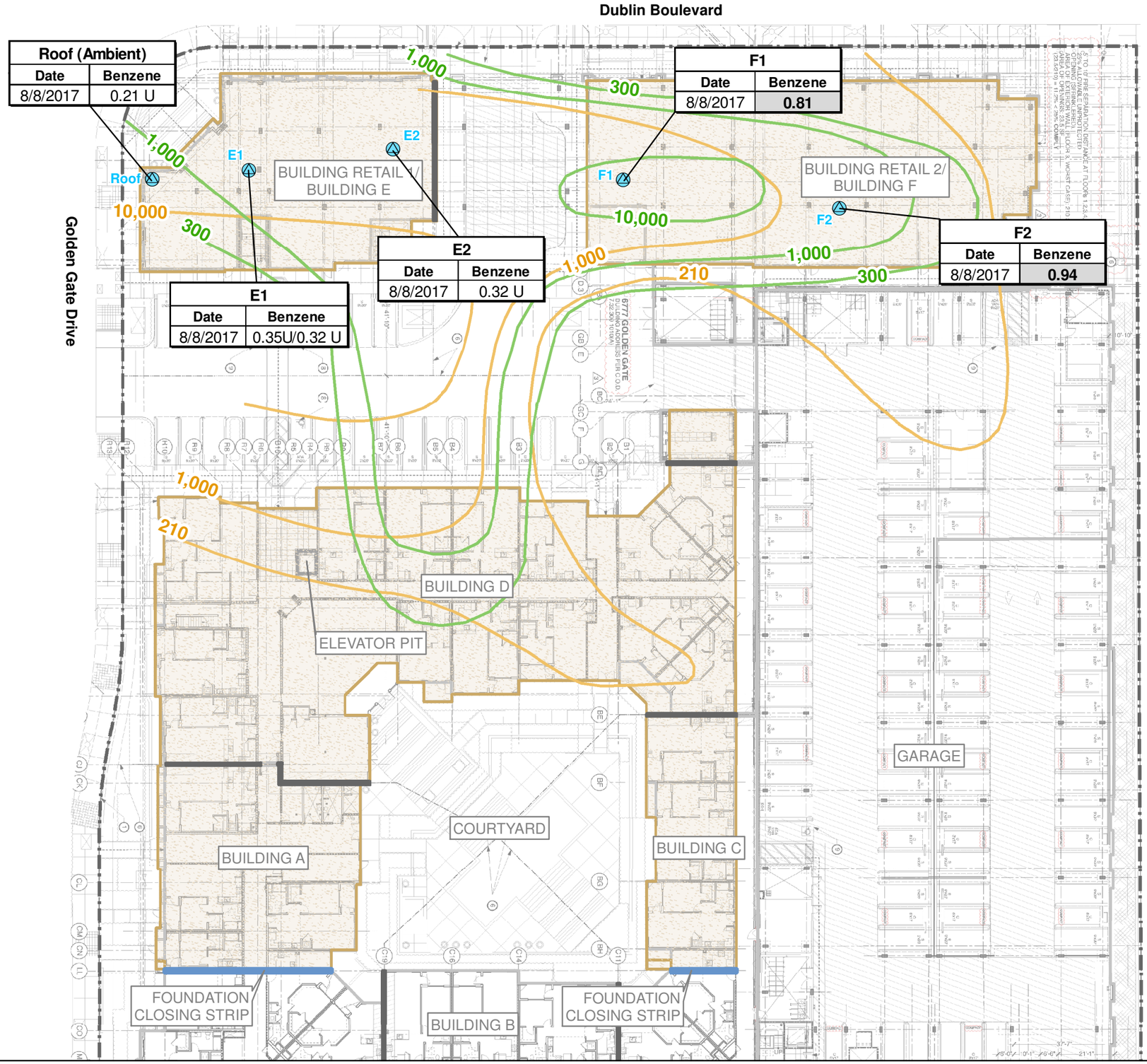
Date: 09/15/2017 | Project No. 8617170810.2.3

Figure 2



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APPROXIMATE SCALE IN FEET

Explanation

- Air sampling location (August 2017)
- 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

F1 ← Sample location	
Date	Benzene
8/8/2017	**0.81**

Analyte name and result in µg/m³; **bold** data is detected at or above applicable analytical reporting limit

Results that exceed their respective indoor air ESL are highlighted

Sample date

Abbreviations:
ESL = Environmental Screening Level
VOCs = volatile organic compounds
µg/m³ = microgram per cubic meter
< = not detected at or above the laboratory or method reporting limit shown
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 report text for details.

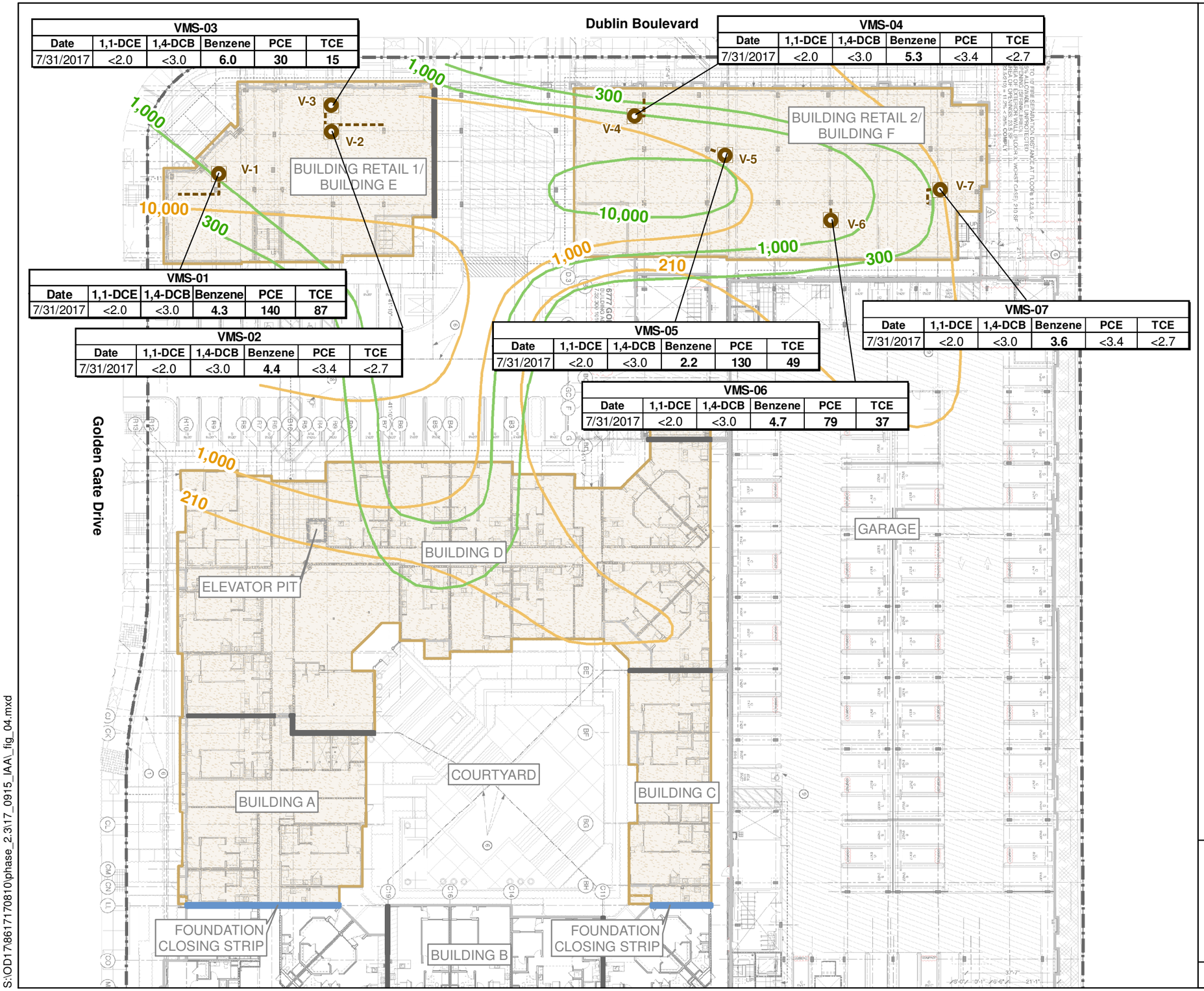
Notes:
1. Samples were analyzed for benzene, chlorobenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichlorothene, tetrachloroethylene, trichloroethylene, and vinyl chloride.
2. Locations of structures and foundation layouts provided by Carlon, 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
August 2017
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

amec foster wheeler

Date: 09/15/2017 | Project No. 8617170810.2.3

Figure 3



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APPROXIMATE SCALE IN FEET

Explanation

- VMS vent riser sample location (July 2017)
- 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

Sample location

VMS-07

Date	1,1-DCE	1,4-DCB	Benzene	PCE	TCE
7/31/2017	<2.0	<3.0	**3.6**	<3.4	<2.7

Analyte name and result in µg/m³; **bold** data is detected at or above applicable analytical reporting limit

Sample date

Abbreviations:
PCE = tetrachloroethene
TCE = trichloroethene
VMS = vapor mitigation system
VOCs = volatile organic compounds
µg/m³ = microgram per cubic meter
< = not detected at or above the laboratory or method reporting limit shown

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
July 31, 2017
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

Date: 09/15/2017 | Project No. 8617170810.2.3

amec foster wheeler

Figure **4**

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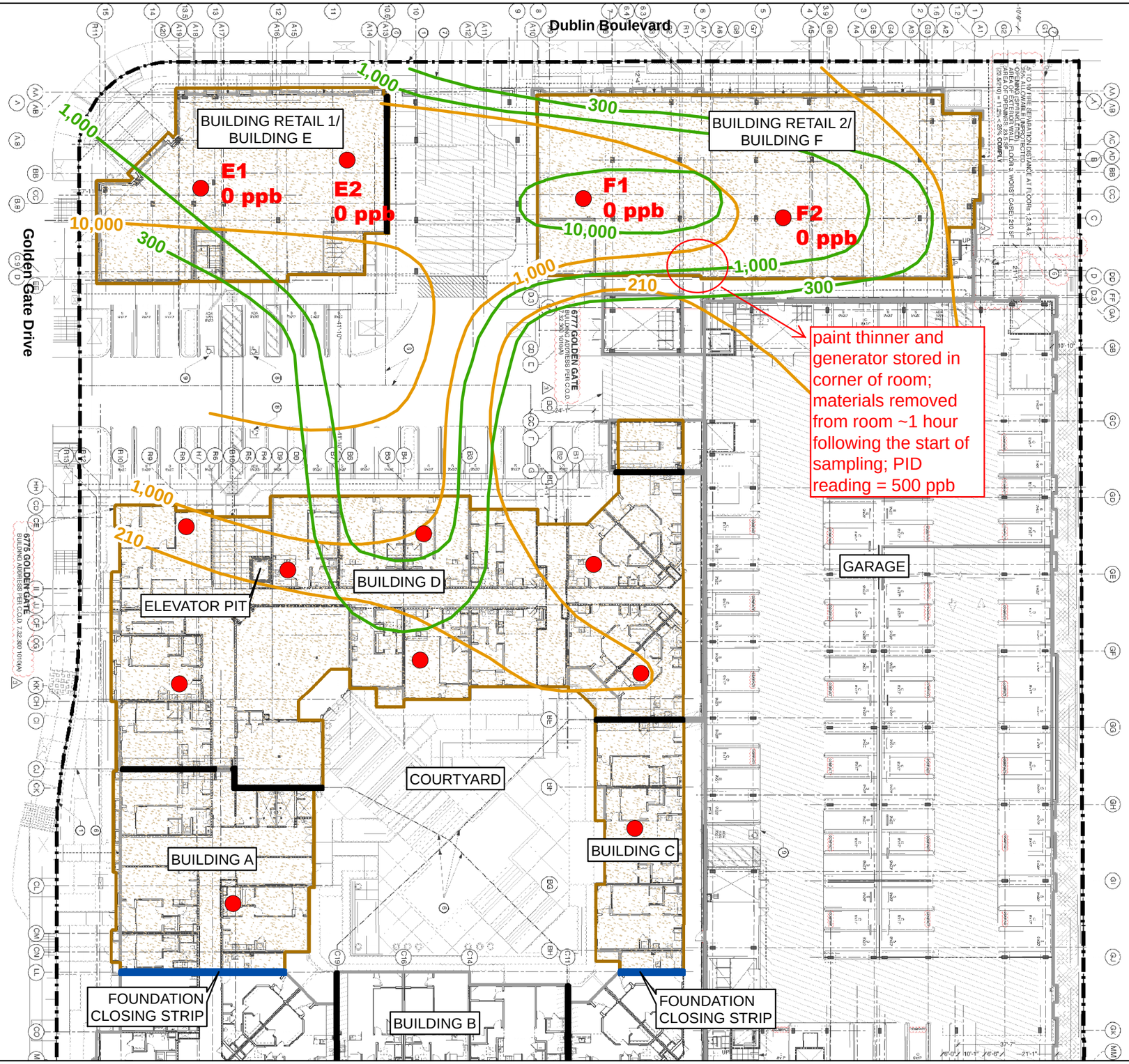
APPENDIX A

Building Survey Form



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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.

SITE PLAN AND
PROPOSED SAMPLING LOCATIONS
Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

amec foster wheeler

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

Figure 2

S:\OD1\41\70800\task_01\17_0216_iawp_fig_02.mxd

BUILDING SURVEY FORM*

Preparer's Name: Miranda Bona Date/Time Prepared: 8/4/17
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)

NB ☒ ~~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 carpet on stairs
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:	
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 figure 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
- paint thinner and a generator were left in retail building F (near sample F2) - ZEON removed these materials ~1 hr after sample canisters were deployed in this building

* 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

AIR SAMPLING LOG

Project Name: Crown Dublin
Project Number: 8617170810.2.2
Start Date: 8/7/17
Building IDs: Roof, Building E, Building F (retail buildings)
End Date: 8/8/17

FIRST DAY OF SAMPLING

Sampler Name:	Miranda Bona, Aydee Meglar	**Weather:**	overcast
Temperature:		**Barometric Pressure:**	
Notes:	sample set up		

(~~SECOND DAY OF SAMPLING~~) Sample Pickup

Sampler Name:	Miranda Bona	**Weather:**	sunny
Temperature:		**Barometric Pressure:**	
Notes:	sample pickup		

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
Roof ~~1~~ 1½	~~ambient~~ IA	roof	6L1000	22152	-30	1010	8/7/17	-4.5	1002	8/8/17
E1	IA	E1	6L1052	22548	-30	1031	8/7/17	0	1012	8/8/17
E2	IA	E2	6L0433	22076	-29.5	1036	8/7/17	-8.5	1014	8/8/17
F1	IA	F1	6L0982	40413	-27.5	1027	8/7/17	-10	1009	8/8/17
F2	IA	F2	6L0984	30516	-28.5	1026	8/7/17	-7.5	1008	8/8/17
E1B	IA	E1	6L1039	40261	-30	1210	8/7/17	-8.5	1013	8/8/17

APPENDIX C

Laboratory Data

eurofins | Air Toxics

8/19/2017

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

Oakland CA 94612

Project Name: Crown Dublin
Project #:
Workorder #: 1708148

Dear Mr. Alex Rosenthal

The following report includes the data for the above referenced project for sample(s) received on 8/9/2017 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 #: 1708148

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 #**	Crown Dublin
DATE RECEIVED:	08/09/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	08/19/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	Roof 1-080717	Modified TO-15	4.1 "Hg	5.1 psi
01B	Roof 1-080717	Modified TO-15	4.1 "Hg	5.1 psi
02A	E1-080717	Modified TO-15	0 psi	5.1 psi
02B	E1-080717	Modified TO-15	0 psi	5.1 psi
03A	E2-080717	Modified TO-15	5.5 "Hg	5 psi
03B	E2-080717	Modified TO-15	5.5 "Hg	5 psi
04A	F1-080717	Modified TO-15	7.1 "Hg	5.1 psi
04B	F1-080717	Modified TO-15	7.1 "Hg	5.1 psi
05A	F2-080717	Modified TO-15	4.3 "Hg	4.9 psi
05B	F2-080717	Modified TO-15	4.3 "Hg	4.9 psi
06A	E1B-080717	Modified TO-15	7.1 "Hg	5.1 psi
06B	E1B-080717	Modified TO-15	7.1 "Hg	5.1 psi
07A	Lab Blank	Modified TO-15	NA	NA
07B	Lab Blank	Modified TO-15	NA	NA
07C	Lab Blank	Modified TO-15	NA	NA
07D	Lab Blank	Modified TO-15	NA	NA
08A	CCV	Modified TO-15	NA	NA
08B	CCV	Modified TO-15	NA	NA
08C	CCV	Modified TO-15	NA	NA
08D	CCV	Modified TO-15	NA	NA
09A	LCS	Modified TO-15	NA	NA
09AA	LCSD	Modified TO-15	NA	NA
09B	LCS	Modified TO-15	NA	NA

Continued on next page

eurofins | Air Toxics

WORK ORDER #: 1708148

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 #**	Crown Dublin
DATE RECEIVED:	08/09/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	08/19/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
09BB	LCSD	Modified TO-15	NA	NA
09C	LCS	Modified TO-15	NA	NA
09CC	LCSD	Modified TO-15	NA	NA
09D	LCS	Modified TO-15	NA	NA
09DD	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 08/19/17

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# 1708148

Six 6 Liter Summa Canister (100% SIM Ambient) samples were received on August 09, 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

The Chain of Custody (COC) information for sample E2-080717 did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

Despite the use of flow controllers for sample collection, the final canister vacuum for sample E1-080717 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

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

Client ID:	Roof 1-080717		
Lab ID:	1708148-01A	**Date/Time Analyzed:**	8/14/17 11:44 AM
Date/Time Collecte	8/8/17 10:02 AM	**Dilution Factor:**	1.56
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msde.i / e081407

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.19	0.75	0.94	Not Detected
Chlorobenzene	108-90-7	0.11	0.57	0.72	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	101
Toluene-d8	2037-26-5	70-130	99

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

Client ID:	Roof 1-080717		
Lab ID:	1708148-01B	**Date/Time Analyzed:**	8/14/17 11:44 AM
Date/Time Collecte	8/8/17 10:02 AM	**Dilution Factor:**	1.56
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msde.i / e081407sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.027	0.037	0.062	Not Detected
1,4-Dichlorobenzene	106-46-7	0.010	0.056	0.19	0.15 J 0.19 U
Benzene	71-43-2	0.031	0.031	0.25	0.21 J 0.25 U
cis-1,2-Dichloroethene	156-59-2	0.010	0.037	0.12	Not Detected
Tetrachloroethene	127-18-4	0.010	0.063	0.21	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.012	0.037	0.62	Not Detected
Trichloroethene	79-01-6	0.0089	0.050	0.17	Not Detected
Vinyl Chloride	75-01-4	0.012	0.024	0.040	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	104
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	99

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

Client ID:	E1-080717		
Lab ID:	1708148-02A	**Date/Time Analyzed:**	8/14/17 01:36 PM
Date/Time Collecte	8/8/17 10:12 AM	**Dilution Factor:**	1.35
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msde.i / e081409

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.17	0.65	0.81	Not Detected
Chlorobenzene	108-90-7	0.094	0.50	0.62	Not Detected

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	102
Toluene-d8	2037-26-5	70-130	96

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

Client ID:	E1-080717		
Lab ID:	1708148-02B	**Date/Time Analyzed:**	8/14/17 01:36 PM
Date/Time Collecte	8/8/17 10:12 AM	**Dilution Factor:**	1.35
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msde.i / e081409sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.023	0.032	0.054	Not Detected
1,4-Dichlorobenzene	106-46-7	0.0088	0.049	0.16	0.066 J 0.16 U
Benzene	71-43-2	0.027	0.027	0.22	0.35 U
cis-1,2-Dichloroethene	156-59-2	0.0090	0.032	0.11	Not Detected
Tetrachloroethene	127-18-4	0.0088	0.055	0.18	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.010	0.032	0.54	Not Detected
Trichloroethene	79-01-6	0.0077	0.044	0.14	Not Detected
Vinyl Chloride	75-01-4	0.010	0.021	0.034	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	102
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	99

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

Client ID:	E2-080717		
Lab ID:	1708148-03A	**Date/Time Analyzed:**	8/14/17 12:53 PM
Date/Time Collecte	8/8/17 10:14 AM	**Dilution Factor:**	1.64
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msde.i / e081408

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.20	0.79	0.99	Not Detected
Chlorobenzene	108-90-7	0.11	0.60	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	103
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
Crown Dublin

Client ID:	E2-080717		
Lab ID:	1708148-03B	**Date/Time Analyzed:**	8/14/17 12:53 PM
Date/Time Collecte	8/8/17 10:14 AM	**Dilution Factor:**	1.64
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msde.i / e081408sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.028	0.039	0.065	Not Detected
1,4-Dichlorobenzene	106-46-7	0.011	0.059	0.20	0.16 J 0.20 U
Benzene	71-43-2	0.033	0.033	0.26	0.32 U
cis-1,2-Dichloroethene	156-59-2	0.011	0.039	0.13	Not Detected
Tetrachloroethene	127-18-4	0.011	0.067	0.22	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.012	0.039	0.65	Not Detected
Trichloroethene	79-01-6	0.0093	0.053	0.18	Not Detected
Vinyl Chloride	75-01-4	0.013	0.025	0.042	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	103
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	98

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

Client ID:	F1-080717		
Lab ID:	1708148-04A	**Date/Time Analyzed:**	8/11/17 10:59 PM
Date/Time Collecte	8/8/17 10:09 AM	**Dilution Factor:**	1.77
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msde.i / e081120

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.22	0.85	1.1	Not Detected
Chlorobenzene	108-90-7	0.12	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	98
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	96

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

Client ID:	F1-080717		
Lab ID:	1708148-04B	**Date/Time Analyzed:**	8/11/17 10:59 PM
Date/Time Collecte	8/8/17 10:09 AM	**Dilution Factor:**	1.77
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msde.i / e081120sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.030	0.042	0.070	Not Detected
1,4-Dichlorobenzene	106-46-7	0.011	0.064	0.21	0.044 J U
Benzene	71-43-2	0.036	0.036	0.28	0.81
cis-1,2-Dichloroethene	156-59-2	0.012	0.042	0.14	Not Detected
Tetrachloroethene	127-18-4	0.012	0.072	0.24	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.013	0.042	0.70	Not Detected
Trichloroethene	79-01-6	0.010	0.057	0.19	Not Detected
Vinyl Chloride	75-01-4	0.014	0.027	0.045	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	102
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	99

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

Client ID:	F2-080717		
Lab ID:	1708148-05A	**Date/Time Analyzed:**	8/11/17 10:17 PM
Date/Time Collecte	8/8/17 10:08 AM	**Dilution Factor:**	1.56
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msde.i / e081119

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.19	0.75	0.94	Not Detected
Chlorobenzene	108-90-7	0.11	0.57	0.72	Not Detected

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	99
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	100

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

Client ID:	F2-080717		
Lab ID:	1708148-05B	**Date/Time Analyzed:**	8/11/17 10:17 PM
Date/Time Collecte	8/8/17 10:08 AM	**Dilution Factor:**	1.56
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msde.i / e081119sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.027	0.037	0.062	Not Detected
1,4-Dichlorobenzene	106-46-7	0.010	0.056	0.19	0.041 J U
Benzene	71-43-2	0.031	0.031	0.25	0.94
cis-1,2-Dichloroethene	156-59-2	0.010	0.037	0.12	Not Detected
Tetrachloroethene	127-18-4	0.010	0.063	0.21	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.012	0.037	0.62	Not Detected
Trichloroethene	79-01-6	0.0089	0.050	0.17	Not Detected
Vinyl Chloride	75-01-4	0.012	0.024	0.040	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	103
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	99

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

Client ID:	E1B-080717		
Lab ID:	1708148-06A	**Date/Time Analyzed:**	8/11/17 08:00 PM
Date/Time Collecte	8/8/17 10:13 AM	**Dilution Factor:**	1.77
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msde.i / e081116

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.22	0.85	1.1	Not Detected
Chlorobenzene	108-90-7	0.12	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	102
Toluene-d8	2037-26-5	70-130	97

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

Client ID:	E1B-080717		
Lab ID:	1708148-06B	**Date/Time Analyzed:**	8/11/17 08:00 PM
Date/Time Collecte	8/8/17 10:13 AM	**Dilution Factor:**	1.77
Media:	6 Liter Summa Canister (100% SIM Ambie	**Instrument/Filename:**	msde.i / e081116sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.030	0.042	0.070	Not Detected
1,4-Dichlorobenzene	106-46-7	0.011	0.064	0.21	0.048 J U
Benzene	71-43-2	0.036	0.036	0.28	0.32 U
cis-1,2-Dichloroethene	156-59-2	0.012	0.042	0.14	Not Detected
Tetrachloroethene	127-18-4	0.012	0.072	0.24	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.013	0.042	0.70	Not Detected
Trichloroethene	79-01-6	0.010	0.057	0.19	Not Detected
Vinyl Chloride	75-01-4	0.014	0.027	0.045	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	103
4-Bromofluorobenzene	460-00-4	70-130	101
Toluene-d8	2037-26-5	70-130	98

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

Client ID:	Lab Blank		
Lab ID:	1708148-07A	**Date/Time Analyzed:**	8/11/17 01:00 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msde.i / e081107

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.12	0.48	0.60	Not Detected
Chlorobenzene	108-90-7	0.070	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	106
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	103

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

Client ID:	Lab Blank		
Lab ID:	1708148-07B	**Date/Time Analyzed:**	8/11/17 01:00 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msde.i / e081107sima

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.017	0.024	0.040	Not Detected
1,4-Dichlorobenzene	106-46-7	0.0065	0.036	0.12	0.070 J
Benzene	71-43-2	0.020	0.020	0.16	0.027 J
cis-1,2-Dichloroethene	156-59-2	0.0067	0.024	0.079	Not Detected
Tetrachloroethene	127-18-4	0.0065	0.041	0.14	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.0076	0.024	0.40	Not Detected
Trichloroethene	79-01-6	0.0057	0.032	0.11	Not Detected
Vinyl Chloride	75-01-4	0.0077	0.015	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	104
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
Crown Dublin

Client ID:	Lab Blank		
Lab ID:	1708148-07C	**Date/Time Analyzed:**	8/14/17 10:55 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msde.i / e081406

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	95-50-1	0.12	0.48	0.60	Not Detected
Chlorobenzene	108-90-7	0.070	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	99
Toluene-d8	2037-26-5	70-130	100

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

Client ID:	Lab Blank		
Lab ID:	1708148-07D	**Date/Time Analyzed:**	8/14/17 10:55 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msde.i / e081406sima

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	75-35-4	0.017	0.024	0.040	Not Detected
1,4-Dichlorobenzene	106-46-7	0.0065	0.036	0.12	0.084 J
Benzene	71-43-2	0.020	0.020	0.16	0.027 J
cis-1,2-Dichloroethene	156-59-2	0.0067	0.024	0.079	Not Detected
Tetrachloroethene	127-18-4	0.0065	0.041	0.14	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.0076	0.024	0.40	Not Detected
Trichloroethene	79-01-6	0.0057	0.032	0.11	Not Detected
Vinyl Chloride	75-01-4	0.0077	0.015	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	103
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	101

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

Client ID:	CCV		
Lab ID:	1708148-08A	**Date/Time Analyzed:**	8/11/17 09:17 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msde.i / e081102

Compound	CAS#	%Recovery
1,2-Dichlorobenzene	95-50-1	107
Chlorobenzene	108-90-7	105

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	102
Toluene-d8	2037-26-5	70-130	104

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

Client ID:	CCV		
Lab ID:	1708148-08B	**Date/Time Analyzed:**	8/11/17 09:17 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msde.i / e081102sim

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	95
1,4-Dichlorobenzene	106-46-7	100
Benzene	71-43-2	94
cis-1,2-Dichloroethene	156-59-2	96
Tetrachloroethene	127-18-4	98
trans-1,2-Dichloroethene	156-60-5	100
Trichloroethene	79-01-6	94
Vinyl Chloride	75-01-4	104

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	104
Toluene-d8	2037-26-5	70-130	101

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

Client ID:	CCV		
Lab ID:	1708148-08C	**Date/Time Analyzed:**	8/14/17 07:57 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msde.i / e081402

Compound	CAS#	%Recovery
1,2-Dichlorobenzene	95-50-1	104
Chlorobenzene	108-90-7	100

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	105
Toluene-d8	2037-26-5	70-130	99

Client ID:	CCV		
Lab ID:	1708148-08D	**Date/Time Analyzed:**	8/14/17 07:57 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msde.i / e081402sim

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	91
1,4-Dichlorobenzene	106-46-7	94
Benzene	71-43-2	88
cis-1,2-Dichloroethene	156-59-2	91
Tetrachloroethene	127-18-4	93
trans-1,2-Dichloroethene	156-60-5	95
Trichloroethene	79-01-6	88
Vinyl Chloride	75-01-4	101

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	104
Toluene-d8	2037-26-5	70-130	100

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

Client ID:	LCS		
Lab ID:	1708148-09A	**Date/Time Analyzed:**	8/11/17 10:48 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msde.i / e081104

Compound	CAS#	%Recovery
1,2-Dichlorobenzene	95-50-1	95
Chlorobenzene	108-90-7	94

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	97

* % Recovery is calculated using unrounded analytical results.

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

Client ID:	LCSD		
Lab ID:	1708148-09AA	**Date/Time Analyzed:**	8/11/17 11:32 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msde.i / e081105

Compound	CAS#	%Recovery
1,2-Dichlorobenzene	95-50-1	91
Chlorobenzene	108-90-7	90

D: Analyte not within the DoD scope of accreditation.

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	102
4-Bromofluorobenzene	460-00-4	70-130	102
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
Crown Dublin

Client ID:	LCS		
Lab ID:	1708148-09B	**Date/Time Analyzed:**	8/11/17 10:48 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msde.i / e081104sim

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	85
1,4-Dichlorobenzene	106-46-7	87
Benzene	71-43-2	83
cis-1,2-Dichloroethene	156-59-2	94
Tetrachloroethene	127-18-4	89
trans-1,2-Dichloroethene	156-60-5	77
Trichloroethene	79-01-6	84
Vinyl Chloride	75-01-4	94

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	102
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
Crown Dublin

Client ID:	LCSD		
Lab ID:	1708148-09BB	**Date/Time Analyzed:**	8/11/17 11:32 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msde.i / e081105sim

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	86
1,4-Dichlorobenzene	106-46-7	85
Benzene	71-43-2	83
cis-1,2-Dichloroethene	156-59-2	95
Tetrachloroethene	127-18-4	87
trans-1,2-Dichloroethene	156-60-5	77
Trichloroethene	79-01-6	83
Vinyl Chloride	75-01-4	95

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	101
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
Crown Dublin

Client ID:	LCS		
Lab ID:	1708148-09C	**Date/Time Analyzed:**	8/14/17 08:40 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msde.i / e081403

Compound	CAS#	%Recovery
1,2-Dichlorobenzene	95-50-1	93
Chlorobenzene	108-90-7	88

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

* % Recovery is calculated using unrounded analytical results.

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

Client ID:	LCSD		
Lab ID:	1708148-09CC	**Date/Time Analyzed:**	8/14/17 09:23 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msde.i / e081404

Compound	CAS#	%Recovery
1,2-Dichlorobenzene	95-50-1	94
Chlorobenzene	108-90-7	90

D: Analyte not within the DoD scope of accreditation.

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

* % Recovery is calculated using unrounded analytical results.

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

Client ID:	LCS		
Lab ID:	1708148-09D	**Date/Time Analyzed:**	8/14/17 08:40 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msde.i / e081403sim

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	83
1,4-Dichlorobenzene	106-46-7	85
Benzene	71-43-2	82
cis-1,2-Dichloroethene	156-59-2	92
Tetrachloroethene	127-18-4	87
trans-1,2-Dichloroethene	156-60-5	75
Trichloroethene	79-01-6	83
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	95
4-Bromofluorobenzene	460-00-4	70-130	102
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
Crown Dublin

Client ID:	LCSD		
Lab ID:	1708148-09DD	**Date/Time Analyzed:**	8/14/17 09:23 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msde.i / e081404sim

Compound	CAS#	%Recovery
1,1-Dichloroethene	75-35-4	83
1,4-Dichlorobenzene	106-46-7	84
Benzene	71-43-2	80
cis-1,2-Dichloroethene	156-59-2	91
Tetrachloroethene	127-18-4	86
trans-1,2-Dichloroethene	156-60-5	75
Trichloroethene	79-01-6	82
Vinyl Chloride	75-01-4	92

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	102
Toluene-d8	2037-26-5	70-130	100

* % Recovery is calculated using unrounded analytical results.

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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Avery Whitmarsh

Collected by: (Print and Sign) Miranda Bona & Aydee Melgar

Company Amec Foster Wheeler Email Avery.Whitmarsh@AmecFW.com

Address 180 Grand Ave City Oakland State CA Zip 94612

Phone (510) 663-4100 Fax

Project Info:
P.O. #
Project #
Project Name Crown Dublin

Turn Around Time:
☒ Normal
☐ Rush
specify

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

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A (~~Roof 080717~~)	Roof 1-080717	6L1000	8/7-8/8/17	10:10-1002	TO-15	-30	-4.5		
02A	E1-080717	6L1052	8/7-8/8/17	10:31-1012	TO-15	-30	0		
03A	E2-080717	6L0933	8/7-8/8/17	10:36-1014	TO-15	-29.5	-8.5		
04A	F1-080717	6L0982	8/7-8/8/17	10:27-1009	TO-15	-27.5	-10		
05A	F2-080717	6L0984	8/7-8/8/17	10:26-1008	TO-15	-28.5	-7.5		
06A	E1B-080717	6L1039	8/7-8/8/17	12:10-1013	TO-15	-30	-8.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	8/8/17 1121	[signature] EATL	8/9/17 0950
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		N/A	good	Yes No (None)	1708148

Form 1293 rev.11

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8/11/2017
Mr. Alex Rosenthal
AMEC Environmental & Infrastructure
180 Grand Avenue, Suite 1100

Oakland CA 94612

Project Name: Crown Chevy June 2017 VMS Sampling
Project #: 8617170810
Workorder #: 1708008

Dear Mr. Alex Rosenthal

The following report includes the data for the above referenced project for sample(s) received on 8/1/2017 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 #: 1708008

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 June 2017 VMS Sampling
DATE RECEIVED:	08/01/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	08/11/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMS-01-072017	TO-15	Tedlar Bag	Tedlar Bag
02A	VMS-02-072017	TO-15	Tedlar Bag	Tedlar Bag
03A	VMS-03-072017	TO-15	Tedlar Bag	Tedlar Bag
04A	VMS-04-072017	TO-15	Tedlar Bag	Tedlar Bag
05A	VMS-05-072017	TO-15	Tedlar Bag	Tedlar Bag
06A	VMS-06-072017	TO-15	Tedlar Bag	Tedlar Bag
07A	VMS-07-072017	TO-15	Tedlar Bag	Tedlar Bag
08A	VMS-08-072017	TO-15	Tedlar Bag	Tedlar Bag
09A	VMS-09-072017	TO-15	Tedlar Bag	Tedlar Bag
10A	VMS-10-072017	TO-15	Tedlar Bag	Tedlar Bag
11A	VMS-11-072017	TO-15	Tedlar Bag	Tedlar Bag
12A	VMS-12-072017	TO-15	Tedlar Bag	Tedlar Bag
13A	VMS-13-072017	TO-15	Tedlar Bag	Tedlar Bag
14A	VMS-14-072017	TO-15	Tedlar Bag	Tedlar Bag
15A	VMS-15-072017	TO-15	Tedlar Bag	Tedlar Bag
16A	VMS-80-072017	TO-15	Tedlar Bag	Tedlar Bag
17A	Lab Blank	TO-15	NA	NA
18A	CCV	TO-15	NA	NA
19A	LCS	TO-15	NA	NA
19AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 08/11/17

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# 1708008

Sixteen 1 Liter Tedlar Bag samples were received on August 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-01-072017

Lab ID#: 1708008-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	1.4	1.6	4.3
Trichloroethene	0.50	16	2.7	87
Tetrachloroethene	0.50	20	3.4	140

Client Sample ID: VMS-02-072017

Lab ID#: 1708008-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	1.4	1.6	4.4

Client Sample ID: VMS-03-072017

Lab ID#: 1708008-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	1.9	1.6	6.0
Trichloroethene	0.50	2.9	2.7	15
Tetrachloroethene	0.50	4.4	3.4	30

Client Sample ID: VMS-04-072017

Lab ID#: 1708008-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	1.6	1.6	5.3

Client Sample ID: VMS-05-072017

Lab ID#: 1708008-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	0.68	1.6	2.2
Trichloroethene	0.50	9.2	2.7	49
Tetrachloroethene	0.50	20	3.4	130

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

Client Sample ID: VMS-06-072017

Lab ID#: 1708008-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	1.5	1.6	4.7
Trichloroethene	0.50	6.8	2.7	37
Tetrachloroethene	0.50	12	3.4	79

Client Sample ID: VMS-07-072017

Lab ID#: 1708008-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	1.1	1.6	3.6

Client Sample ID: VMS-08-072017

Lab ID#: 1708008-08A

No Detections Were Found.

Client Sample ID: VMS-09-072017

Lab ID#: 1708008-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	0.76	1.6	2.4

Client Sample ID: VMS-10-072017

Lab ID#: 1708008-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	1.8	1.6	5.6
Tetrachloroethene	0.50	41	3.4	280

Client Sample ID: VMS-11-072017

Lab ID#: 1708008-11A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.50	27	3.4	180

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

Client Sample ID: VMS-12-072017

Lab ID#: 1708008-12A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	0.75	1.6	2.4
Tetrachloroethene	0.50	0.50	3.4	3.4

Client Sample ID: VMS-13-072017

Lab ID#: 1708008-13A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	0.93	1.6	3.0
Trichloroethene	0.50	2.8	2.7	15
Tetrachloroethene	0.50	53	3.4	360

Client Sample ID: VMS-14-072017

Lab ID#: 1708008-14A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	1.9	1.6	6.0
Tetrachloroethene	0.50	0.58	3.4	4.0

Client Sample ID: VMS-15-072017

Lab ID#: 1708008-15A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.50	2.0	1.6	6.2

Client Sample ID: VMS-80-072017

Lab ID#: 1708008-16A

No Detections Were Found.

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Client Sample ID: VMS-01-072017

Lab ID#: 1708008-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080207**	**Date of Collection: 7/31/17 9:05:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/17 12:40 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	1.4	1.6	4.3
Trichloroethene	0.50	16	2.7	87
Tetrachloroethene	0.50	20	3.4	140
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	102	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	119	70-130

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Client Sample ID: VMS-02-072017

Lab ID#: 1708008-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080208**	**Date of Collection:**	**7/31/17 9:01:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**8/2/17 01:07 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	1.4	1.6	4.4
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	99	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	115	70-130

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Client Sample ID: VMS-03-072017

Lab ID#: 1708008-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080209**	**Date of Collection: 7/31/17 8:57:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/17 01:33 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	1.9	1.6	6.0
Trichloroethene	0.50	2.9	2.7	15
Tetrachloroethene	0.50	4.4	3.4	30
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	90	70-130
4-Bromofluorobenzene	113	70-130

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Client Sample ID: VMS-04-072017

Lab ID#: 1708008-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080210**	**Date of Collection: 7/31/17 8:52:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/17 01:59 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	1.6	1.6	5.3
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	102	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: VMS-05-072017

Lab ID#: 1708008-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080211**	**Date of Collection: 7/31/17 8:47:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/17 02:25 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	0.68	1.6	2.2
Trichloroethene	0.50	9.2	2.7	49
Tetrachloroethene	0.50	20	3.4	130
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	101	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: VMS-06-072017

Lab ID#: 1708008-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080212**	**Date of Collection: 7/31/17 8:44:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/17 02:52 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	1.5	1.6	4.7
Trichloroethene	0.50	6.8	2.7	37
Tetrachloroethene	0.50	12	3.4	79
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	89	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: VMS-07-072017

Lab ID#: 1708008-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080213**	**Date of Collection:**	**7/31/17 8:38:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**8/2/17 03:18 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	1.1	1.6	3.6
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	101	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: VMS-08-072017

Lab ID#: 1708008-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080214**	**Date of Collection:**	**7/31/17 10:40:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**8/2/17 03:44 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: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: VMS-09-072017

Lab ID#: 1708008-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080215**	**Date of Collection:**	**7/31/17 10:30:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**8/2/17 04:10 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	0.76	1.6	2.4
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	91	70-130
4-Bromofluorobenzene	117	70-130

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Client Sample ID: VMS-10-072017

Lab ID#: 1708008-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080216**	**Date of Collection:**	**7/31/17 10:26:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**8/2/17 06:12 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	1.8	1.6	5.6
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	41	3.4	280
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	89	70-130
4-Bromofluorobenzene	117	70-130

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Client Sample ID: VMS-11-072017

Lab ID#: 1708008-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080217**	**Date of Collection:**	**7/31/17 10:22:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**8/2/17 06:39 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	27	3.4	180
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	89	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: VMS-12-072017

Lab ID#: 1708008-12A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080218**	**Date of Collection:**	**7/31/17 10:18:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**8/2/17 07:05 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	0.75	1.6	2.4
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	0.50	3.4	3.4
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	100	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	115	70-130

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Client Sample ID: VMS-13-072017

Lab ID#: 1708008-13A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080219**	**Date of Collection:**	**7/31/17 10:14:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**8/2/17 07:31 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	0.93	1.6	3.0
Trichloroethene	0.50	2.8	2.7	15
Tetrachloroethene	0.50	53	3.4	360
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	90	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: VMS-14-072017

Lab ID#: 1708008-14A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080220**	**Date of Collection:**	**7/31/17 10:10:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**8/2/17 07:58 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	1.9	1.6	6.0
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	0.58	3.4	4.0
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	90	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: VMS-15-072017

Lab ID#: 1708008-15A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080221**	**Date of Collection: 7/31/17 10:06:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/17 08:24 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	2.0	1.6	6.2
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	89	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: VMS-80-072017

Lab ID#: 1708008-16A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080222**	**Date of Collection:**	**7/31/17 10:45:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**8/2/17 08:50 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: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1708008-17A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080206**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/17 11:52 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	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	91	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: CCV

Lab ID#: 1708008-18A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080202**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/17 08:30 AM**	

Compound	%Recovery
Vinyl Chloride	88
1,1-Dichloroethene	87
trans-1,2-Dichloroethene	102
cis-1,2-Dichloroethene	82
Benzene	99
Trichloroethene	98
Tetrachloroethene	100
Chlorobenzene	98
1,4-Dichlorobenzene	104
1,2-Dichlorobenzene	102

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCS

Lab ID#: 1708008-19A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/17 08:54 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	92	70-130
1,1-Dichloroethene	89	70-130
trans-1,2-Dichloroethene	91	70-130
cis-1,2-Dichloroethene	93	70-130
Benzene	100	70-130
Trichloroethene	100	70-130
Tetrachloroethene	100	70-130
Chlorobenzene	97	70-130
1,4-Dichlorobenzene	102	70-130
1,2-Dichlorobenzene	102	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	102	70-130

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Client Sample ID: LCSD

Lab ID#: 1708008-19AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3080204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/2/17 09:19 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	93	70-130
1,1-Dichloroethene	90	70-130
trans-1,2-Dichloroethene	89	70-130
cis-1,2-Dichloroethene	94	70-130
Benzene	97	70-130
Trichloroethene	97	70-130
Tetrachloroethene	100	70-130
Chlorobenzene	98	70-130
1,4-Dichlorobenzene	103	70-130
1,2-Dichlorobenzene	104	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	102	70-130

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CHAIN OF CUSTODY

180 Grand Avenue Suite 1100
Oakland, CA 94609
510-664-4167

SHIP TO:
Rachel Selenis
Eurofins Air Toxics, Inc.
180 Blue Ravine Road, Suite B
Folsom, California 95630
916-351-8279

DATE: 7/31/2017

PAGE: 1 OF 1

Project Name:	Crown Chevy June 2017 VMS Sampling	Project Contact:	Hilary Nevis	Disposal Instructions:	LAB
Project Number:	8617170810	Phone Number:	510-207-6031	Shipment Method:	courier
Project Manager:	Avery Whitmarch	Project Phase:	4.2	Waybill Number:	N/A

	Sample Information					Methods for Analysis	RUSH					
	No.	Sample ID	Date & Time Sampled	Matrix	MS/MSD	TO-15	24 Hour	48 Hour	72 Hour	5 Days	QC (MS/MSD)	HOLD All Analyses
01A	1	VMS-01-072017	7/31/17 0905	Air	N	X						
02A	2	VMS-02-072017	0901	Air	N	X						
03A	3	VMS-03-072017	0857	Air	N	X						
04A	4	VMS-04-072017	0852	Air	N	X						
05A	5	VMS-05-072017	0847	Air	N	X						
06A	6	VMS-06-072017	0844	Air	N	X						
07A	7	VMS-07-072017	0838	Air	N	X						
08A	8	VMS-08-072017	1048	Air	N	X						
09A	9	VMS-09-072017	1030	Air	N	X						
10A	10	VMS-10-072017	1026	Air	N	X						
11A	11	VMS-11-072017	1022	Air	N	X						
12A	12	VMS-12-072017	1018	Air	N	X						
13A	13	VMS-13-072017	1014	Air	N	X						
14A	14	VMS-14-072017	1010	Air	N	X						
15A	15	VMS-15-072017	1006	Air	N	X						
16A	16	VMS-80-072017	1045	Air	N	X						

Cooler Custody Seal Intact? Y N None Temp N/A

Sampler's Signature:		Date: 7/31/17	Time: 11:45
Relinquished By/Affiliation:	Swan Rebellon	Date: 7/31/17	Time: 11:45
Received By:	Rene Ortiz EATL	Date: 080117	Time: 1345
Relinquished By/Affiliation:		Date:	Time:
Received By:		Date:	Time:
Relinquished By/Affiliation:		Date:	Time:
Received By (LAB):		Date:	Time:

For Lab Use		
Does COC match samples:	Y or N	
Broken Container:	Y or N	
COC seal intact:	Y or N	
Other problems:	Y or N	
WSDOT contacted:	Y or N	
Date contacted:		
Cooler Temperature at receipt:	°C	

Comments:
X=Analyze H=Hold Analysis Request

NUMBER OF COOLERS SENT:

1708008

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APPENDIX D

Data Quality Review

APPENDIX D

DATA QUALITY REVIEW

Former Crown Chevrolet North Parcel
7544 Dublin Boulevard
Dublin, California

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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 August 2017 indoor and outdoor air sampling events and the July 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 July and August 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 August 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. A review of indoor and outdoor air 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

The compounds 1,4-dichlorobenzene (1,4-DCB) and benzene were detected in the laboratory blank sample associated with laboratory report 1708148 at concentrations below their respective reporting limits. 1,4-DCB was also detected in indoor air samples at concentrations below the laboratory reporting limits. Benzene was detected in indoor air samples at some concentrations lower and some concentrations greater than laboratory reporting limits. Results for 1,4-DCB in the affected samples (all indoor and outdoor air 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 (the outdoor air sample) 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 (E1, E1B, and E2) were "U" flagged. Benzene results that were detected at concentrations greater than two times the reporting limit (F1 and F2) were not flagged.

2.1.4 Other Factors

Approximately 1 hour after starting sampling at location E1, it was noted that the vacuum in the canister had dropped more than anticipated. As a result, a second canister (E1B) was opened at the same location, approximately 1.5 hours after initiating sampling at the other locations. After 24 hours of sampling canister E1 was observed to be at ambient pressure, and is therefore considered a grab sample. Compounds detected in this sample include 1,4-DCB and benzene, both of which were flagged "U" due to laboratory blank contamination (Section 2.1.3). Consequently, no additional flags were applied to these results.

The laboratory reporting limit for vinyl chloride were greater than the 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. There were no detections of vinyl chloride in the reported laboratory results.

2.2 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 August 2017 is 100 percent, with the exception of the 1,4-DCB and benzene results described in Section 2.1.3, where the percent complete is 0 percent.

3.0 SUMMARY OF INDOOR AND OUTDOOR AIR AND VENT RISER DATA QUALITY REVIEW

Based on an evaluation of data quality for samples collected during the July 2017 vent riser and August 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 REFERENCE

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.