

8/17/2021

Ms. Michelle Myers
GeoSyntec Consultants
3043 Gold Canal Drive, Suite 100

Rancho Cordova CA 95670

Project Name: Cascade SVE

Project #: PNG0564519

Workorder #: 2108090

Dear Ms. Michelle Myers

The following report includes the data for the above referenced project for sample(s) received on 8/4/2021 at Eurofins Air Toxics LLC.

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 LLC. 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: Monica Tran at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Monica Tran
Project Manager

WORK ORDER #: 2108090

Work Order Summary

CLIENT:	Ms. Michelle Myers GeoSyntec Consultants 3043 Gold Canal Drive, Suite 100 Rancho Cordova, CA 95670	BILL TO:	Accounts Payable Cascade Corporation 2201 NE 201st Avenue Fairview, OR 97024
PHONE:	916-637-8338	P.O. #	
FAX:		PROJECT #	PNG0564519 Cascade SVE
DATE RECEIVED:	08/04/2021	CONTACT:	Monica Tran
DATE COMPLETED:	08/17/2021		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SVE-EFF-080321	Modified TO-15	4.9 "Hg	10 psi
02A	VW-17-95.5-080321	Modified TO-15	6.1 "Hg	10 psi
03A	VMWC-080321	Modified TO-15	5.3 "Hg	9.8 psi
04A	VMWE-080321	Modified TO-15	5.9 "Hg	9.9 psi
05A	VMWF-080321	Modified TO-15	6.1 "Hg	9.8 psi
06A	VMWG-080321	Modified TO-15	6.3 "Hg	9.9 psi
07A	VMWH-080321	Modified TO-15	6.1 "Hg	10 psi
08A	Lab Blank	Modified TO-15	NA	NA
09A	CCV	Modified TO-15	NA	NA
10A	LCS	Modified TO-15	NA	NA
10AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 

 Technical Director

DATE: 08/17/21

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209220, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-20-16, UT NELAP – CA009332020-12, VA NELAP - 10615, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005-014, Effective date: 10/18/2020, Expiration date: 10/17/2021.

Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15
GeoSyntec Consultants
Workorder# 2108090

Seven 1 Liter Summa Canister (100% Certified) samples were received on August 04, 2021. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

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

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Initial Calibration	$\leq 30\%$ RSD with 2 compounds allowed out to <math>< 40\%</math> RSD	$\leq 30\%$ RSD with 4 compounds allowed out to <math>< 40\%</math> RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

Receiving Notes

The Chain of Custody (COC) information for samples SVE-EFF-080321 and VW-17-95.5-080321 did not match the entries on the sample tags with regard to sample identification. Therefore the information on the COC was used to process and report the samples.

Analytical Notes

Dilution was performed on samples SVE-EFF-080321 and VMWC-080321 due to the presence of high level target species.

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

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

Client Sample ID: SVE-EFF-080321

Lab ID#: 2108090-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
cis-1,2-Dichloroethene	0.50	10	2.0	42
Trichloroethene	0.50	170	2.7	910
Tetrachloroethene	0.50	8.3	3.4	56

Client Sample ID: VW-17-95.5-080321

Lab ID#: 2108090-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
cis-1,2-Dichloroethene	0.21	8.4	0.84	33
Trichloroethene	0.21	85	1.1	460
Tetrachloroethene	0.21	4.0	1.4	28

Client Sample ID: VMWC-080321

Lab ID#: 2108090-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
cis-1,2-Dichloroethene	1.0	10	4.0	40
Trichloroethene	1.0	280	5.4	1500
Tetrachloroethene	1.0	14	6.8	99

Client Sample ID: VMWE-080321

Lab ID#: 2108090-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.21	0.25	1.1	1.4

Client Sample ID: VMWF-080321

Lab ID#: 2108090-05A

No Detections Were Found.

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

Client Sample ID: VMWG-080321

Lab ID#: 2108090-06A

No Detections Were Found.

Client Sample ID: VMWH-080321

Lab ID#: 2108090-07A

No Detections Were Found.



Air Toxics

Client Sample ID: SVE-EFF-080321

Lab ID#: 2108090-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v080915	Date of Collection:	8/3/21 8:30:00 AM
Dil. Factor:	5.02	Date of Analysis:	8/9/21 06:04 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
cis-1,2-Dichloroethene	0.50	10	2.0	42
Trichloroethene	0.50	170	2.7	910
Tetrachloroethene	0.50	8.3	3.4	56

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: VW-17-95.5-080321

Lab ID#: 2108090-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v080914	Date of Collection: 8/3/21 9:00:00 AM
Dil. Factor:	2.11	Date of Analysis: 8/9/21 05:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.21	Not Detected	0.54	Not Detected
1,1-Dichloroethene	0.21	Not Detected	0.84	Not Detected
cis-1,2-Dichloroethene	0.21	8.4	0.84	33
Trichloroethene	0.21	85	1.1	460
Tetrachloroethene	0.21	4.0	1.4	28

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: VMWC-080321

Lab ID#: 2108090-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v080916	Date of Collection:	8/3/21 9:25:00 AM
Dil. Factor:	10.1	Date of Analysis:	8/9/21 06:44 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.0	Not Detected	2.6	Not Detected
1,1-Dichloroethene	1.0	Not Detected	4.0	Not Detected
cis-1,2-Dichloroethene	1.0	10	4.0	40
Trichloroethene	1.0	280	5.4	1500
Tetrachloroethene	1.0	14	6.8	99

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: VMWE-080321

Lab ID#: 2108090-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v080917	Date of Collection:	8/3/21 10:05:00 AM
Dil. Factor:	2.08	Date of Analysis:	8/9/21 07:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.21	Not Detected	0.53	Not Detected
1,1-Dichloroethene	0.21	Not Detected	0.82	Not Detected
cis-1,2-Dichloroethene	0.21	Not Detected	0.82	Not Detected
Trichloroethene	0.21	0.25	1.1	1.4
Tetrachloroethene	0.21	Not Detected	1.4	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: VMWF-080321

Lab ID#: 2108090-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v080918	Date of Collection:	8/3/21 10:30:00 AM
Dil. Factor:	2.09	Date of Analysis:	8/9/21 08:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.21	Not Detected	0.53	Not Detected
1,1-Dichloroethene	0.21	Not Detected	0.83	Not Detected
cis-1,2-Dichloroethene	0.21	Not Detected	0.83	Not Detected
Trichloroethene	0.21	Not Detected	1.1	Not Detected
Tetrachloroethene	0.21	Not Detected	1.4	Not Detected

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

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

Client Sample ID: VMWG-080321

Lab ID#: 2108090-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v080919	Date of Collection:	8/3/21 10:50:00 AM
Dil. Factor:	2.12	Date of Analysis:	8/9/21 09:03 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.21	Not Detected	0.54	Not Detected
1,1-Dichloroethene	0.21	Not Detected	0.84	Not Detected
cis-1,2-Dichloroethene	0.21	Not Detected	0.84	Not Detected
Trichloroethene	0.21	Not Detected	1.1	Not Detected
Tetrachloroethene	0.21	Not Detected	1.4	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: VMWH-080321

Lab ID#: 2108090-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v080920	Date of Collection:	8/3/21 11:25:00 AM
Dil. Factor:	2.11	Date of Analysis:	8/9/21 09:43 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.21	Not Detected	0.54	Not Detected
1,1-Dichloroethene	0.21	Not Detected	0.84	Not Detected
cis-1,2-Dichloroethene	0.21	Not Detected	0.84	Not Detected
Trichloroethene	0.21	Not Detected	1.1	Not Detected
Tetrachloroethene	0.21	Not Detected	1.4	Not Detected

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

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

Client Sample ID: Lab Blank

Lab ID#: 2108090-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v080906c	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/9/21 10:16 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected

Container Type: NA - Not Applicable

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

Client Sample ID: CCV

Lab ID#: 2108090-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v080902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/9/21 07:01 AM

Compound	%Recovery
Vinyl Chloride	84
1,1-Dichloroethene	92
cis-1,2-Dichloroethene	95
Trichloroethene	120
Tetrachloroethene	110

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: LCS

Lab ID#: 2108090-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v080903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/9/21 07:50 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	87	70-130
1,1-Dichloroethene	92	70-130
cis-1,2-Dichloroethene	96	70-130
Trichloroethene	111	70-130
Tetrachloroethene	102	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: LCSD

Lab ID#: 2108090-10AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v080904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/9/21 08:30 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	88	70-130
1,1-Dichloroethene	92	70-130
cis-1,2-Dichloroethene	96	70-130
Trichloroethene	112	70-130
Tetrachloroethene	103	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	97	70-130