



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

LABORATORY REPORT

January 21, 2021

Cindy Bartlett
Geosyntec Consultants
621 SW Morrison Street Suite 600
Portland, OR 97205

RE: Cascade SVE / PNG0564S19

Dear Cindy:

Enclosed are the results of the sample submitted to our laboratory on January 7, 2021. For your reference, this analysis has been assigned our service request number P2100105.

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

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

Respectfully submitted,

ALS | Environmental

By Hayden Akers at 3:38 pm, Jan 21, 2021

Hayden Akers
Project Manager



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Client: Geosyntec Consultants
Project: Cascade SVE / PNG0564S19

Service Request No: P2100105

CASE NARRATIVE

The sample was received intact under chain of custody on January 7, 2021 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Volatile Organic Compound Analysis

The sample was analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The container was cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.3 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	http://dec.alaska.gov/eh/lab.aspx	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/page/la-lab-accreditation	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml	2018027
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1776326
New Jersey DEP (NELAP)	http://www.nj.gov/dep/enforcement/oqa.html	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-007
Pennsylvania DEP	http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413- 19-10
Utah DOH (NELAP)	http://health.utah.gov/lab/lab_cert_env	CA01627201 9-10
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

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

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

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Geosyntec Consultants
Project ID: Cascade SVE / PNG0564S19

Service Request: P2100105

Date Received: 1/7/2021
Time Received: 10:00

TO-15 - VOC Cans

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	
SVE-EFF-010521	P2100105-001	Air	1/5/2021	11:30	1SC00096	-1.92	5.66	X

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Geosyntec Consultants
Client Sample ID: SVE-EFF-010521
Client Project ID: Cascade SVE / PNG0564S19

ALS Project ID: P2100105
 ALS Sample ID: P2100105-001

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Wida Ang
 Sample Type: 1.0 L Summa Canister
 Test Notes:
 Container ID: 1SC00096

Date Collected: 1/5/21
 Date Received: 1/7/21
 Date Analyzed: 1/12/21
 Volume(s) Analyzed: 0.40 Liter(s)
 0.040 Liter(s)

Initial Pressure (psig): -1.92 Final Pressure (psig): 5.66

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	2.1	ND	0.82	
75-35-4	1,1-Dichloroethene	ND	2.1	ND	0.52	
156-59-2	cis-1,2-Dichloroethene	50	2.1	13	0.52	
79-01-6	Trichloroethene	480	20	90	3.8	D
127-18-4	Tetrachloroethene	40	2.1	5.9	0.30	

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

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

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Geosyntec Consultants
Client Sample ID: Method Blank
Client Project ID: Cascade SVE / PNG0564S19

ALS Project ID: P2100105
 ALS Sample ID: P210112-MB

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Wida Ang
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/12/21
 Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.53	ND	0.21	
75-35-4	1,1-Dichloroethene	ND	0.52	ND	0.13	
156-59-2	cis-1,2-Dichloroethene	ND	0.52	ND	0.13	
79-01-6	Trichloroethene	ND	0.51	ND	0.095	
127-18-4	Tetrachloroethene	ND	0.52	ND	0.077	

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

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

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: Geosyntec Consultants
Client Project ID: Cascade SVE / PNG0564S19

ALS Project ID: P2100105

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Wida Ang
 Sample Type: 1.0 L Summa Canister(s)
 Test Notes:

Date(s) Collected: 1/5/21
 Date(s) Received: 1/7/21
 Date(s) Analyzed: 1/12/21

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P210112-MB	103	100	99	70-130	
Lab Control Sample	P210112-LCS	110	94	103	70-130	
SVE-EFF-010521	P2100105-001	100	99	103	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

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

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: Geosyntec Consultants
Client Sample ID: Lab Control Sample
Client Project ID: Cascade SVE / PNG0564S19

ALS Project ID: P2100105
 ALS Sample ID: P210112-LCS

Test Code: EPA TO-15
 Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
 Analyst: Wida Ang
 Sample Type: 1.0 L Summa Canister
 Test Notes:

Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/12/21
 Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
75-01-4	Vinyl Chloride	208	238	114	61-129	
75-35-4	1,1-Dichloroethene	212	205	97	67-115	
156-59-2	cis-1,2-Dichloroethene	208	219	105	64-120	
79-01-6	Trichloroethene	206	211	102	70-114	
127-18-4	Tetrachloroethene	206	191	93	64-120	

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