

Nowell, Keith, Env. Health

From: Michael Harrison <mharrison@enviroassets.com>
Sent: Friday, May 25, 2018 11:13 AM
To: John Till; Jonathan W. Redding
Cc: Alexander, Jeriann; Nowell, Keith, Env. Health; dwood@wshblaw.com; Khatri, Paresh, Env. Health; dsobelman@downeybrand.com; epoppler@behblaw.com; Donna Cresswell; Nowell, Keith, Env. Health; Roe, Dilan, Env. Health; George Mead
Subject: FW: Analytical Report and Invoice for Project # EA270.B.01 Sampled 5/14/18 (EAS ID 218261)
Attachments: 218261 Cover Letter_EnviroAssets.pdf; 218261 Analytical Report N.pdf; 218261 Invoice.pdf

Good morning all:

Attached please find the most recent sampling data: shallow soil vapor data, collected from the small limited access space between 6251 College Avenue and 6241 College Avenue.

The only solvent detected was PCE at a very low concentration of 10 µg/M3. This concentration is below residential guidance levels at all conceivable attenuation factors. No helium was detected in the sample, demonstrating that the sample was not diluted by ambient air.

Sincerely,

Michael Harrison, P.E., QSD/QSP, LEED AP
Principal

EnviroAssets, Inc.

Voice: (510) 346-9500

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Thursday, May 24, 2018

Sample Delivery Group (SDG) 218261
EAS Project Number: 17331

Michael Harrison
EnviroAssets, Inc.
6037 La Salle Avenue
Oakland, CA 94611

Michael,

Enclosed is the analytical report for the samples received and analyzed by Environmental Analytical Service, Inc. for the following Project.

Client Project Name:
PO Number: EA270.B.01
Client Project Number EA270.B.01
Sample Event Date: 5/14/18

If you have any questions on the report or the analytical data please contact me at (805) 781-3585.

Sincerely

Steven D. Hoyt Ph.D.
Laboratory Director

SDH/LIMS

Laboratory Report

Project Name:

EAS SDG Number: **218261**

Client Project Manager: Michael Harrison

Prepared For:

EnviroAssets, Inc.
6037 La Salle Avenue
Oakland

CA 94611

Project Number: 17331

Sample Event Date: 5/14/18

Received Date: 5/17/2018

Report Date: 5/24/2018

Project Number: EA270.B.01

PO Number: EA270.B.01

This is the Laboratory Report for the samples in the indicated Sample Delivery Group (SDG). Each sample received in the group is assigned a Laboratory ID number. The combination of the SDG number and the Lab ID number is an unique identifier for the sample.

This Report Contains:

- Laboratory Work Order
- Project Sample Media
- Laboratory Case Narrative and Chain of Custody
- Method Description (when applicable)
- Quality Control Reports
- Analytical Reports

NELAC Certification: Florida E871125

173 Cross Street, San Luis Obispo, CA 93401 (805) 781-3585

Laboratory Work Order

SDG Number: 218261

Client: Michael Harrison

EnviroAssets, Inc.

Project Number: 17331

Received: 5/17/2018

SAMPLE DESCRIPTION AND ANALYSIS REQUESTED

Client Sample ID	EAS Lab No.	Analysis Requested	Date Sampled
V-B17-5.5	218261 1	EPA TO-15 Short Chlorinated List	5/14/2018
V-B17-5.5	218261 1	ASTM D1945 Helium	5/14/2018

Project Sample Media

SDG Number: 218261

The following sample media was used for this Sample Delivery Group (SDG). The Sample Media column identifies the type of media. For canisters, the Sample Media Batch gives the canister number followed by the cleaning batch number, which is a unique identification. Canisters that are received with sub-ambient pressures are pressurized to about 5 psig. The initial pressure of the canister when it is received is recorded along with the final pressure after pressurization. The canister dilution factor is the ratio of the final to initial pressure. The results are adjusted for the can dilution factor.

SDG	Lab ID	Client Sample No.	Sample		Pressure, torr		Can Factor
			Media	Batch	Initial	Final	
218261	1	V-B17-5.5	132	032018B	698	698	1.00

Laboratory Case Narrative

EAS SDG Number: 218261

Project Number: 17331

Client: EnviroAssets, Inc.

The Laboratory Case Narrative for the SDG is below. The Chain of Custody form(s) follow the Laboratory Case Narrative.

Sample Control Narrative

The samples were all received in good condition and with proper preservation.

Analytical Methods

The methods used for sample analysis are listed on the Analytical Report header, and have been modified as described in the EAS Quality Manual..

Case Narrative

QC Narrative

All analyses met EAS method criteria as defined in the Quality Manual, except as noted in the report or QC reports with data qualifiers.

Subcontract Narrative

No sample analysis was subcontracted for this project

Laboratory Certification

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness other than the condition(s) noted above. The Laboratory Report is property of EAS and its client. The entire report has been reviewed and approved.



Date Approved: 5/24/2018

Steven D. Hoyt, Ph.D.
Environmental Analytical Service
Laboratory Director

Quality Control Report

EAS SDG Number 218261

Project Number: 17331

QC Narrative

Samples were analyzed in a daily analytical batch (DAB) designated by a QC batch number, and were analyzed using EAS standard laboratory QC specified in the EAS Quality Manual which may be different than the referenced agency method. Any deviations from the EAS QC criteria are flagged in the Laboratory Control Reports or in the sample Analytical Reports.

Standard Laboratory QC Report

Unless project specific QC was requested, this Section containing the standard laboratory QC (Level 2) supplied with the Analytical Reports. Each sample is analyzed in a Daily Analytical Batch (DAB) which includes the method blank, a laboratory control spike (LCS) and a laboratory control duplicate (LCD). A Daily Analytical Batch QC report is supplied for each method requested.

Method Blank

A method blank is a laboratory generated sample which assesses the degree to which laboratory operations and procedures cause a false positive. In the method blank, compounds should be present below the reporting limit (RL). Compounds present above the RL are flagged with a "B" in the Analytical Reports in that batch unless the result is greater than ten times the blank value..

Laboratory Control Spike

A laboratory control spike is a well characterized matrix similar to the sample which is spiked and run in duplicate with each Daily Analytical Batch. The laboratory control spike results are reported as a percent recovery. The QC Criteria for the control spike is listed in the Laboratory Control Report. Any results outside the control limits are flagged with a "Q" on the Laboratory Control Report. The control spike contains an abbreviated list of compounds in the method, and may contain compounds not on the target list for the specified report.

Laboratory Control Duplicate

The laboratory control duplicate is a duplicate analysis of the laboratory control spike, a standard, or a sample depending on the method. The results are reported as a relative percent difference (RPD). The criteria for the duplicate is in the Laboratory Control Report for the Daily Analytical Batch. Any results outside the control limits are flagged with a "Q" on the Laboratory Control Report.

METHOD BLANK REPORT

EPA Method TO-15 Modified Full Scan GC/MS

Analytical Method: TO-15

SDG: LABQC

Laboratory ID: B05238

File Name: B05238D.D
Description: METHOD BLANK
Canister:
QC_Batch: 052318-MA1

Date Sampled: Time:
Date Analyzed: 05/23/18 Time: 13:48
Can Dilution Factor: 1.00
Air Volume: 200 ml

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
75-01-4	Vinyl chloride	0.25	1.26	ND	0.64	3.21	ND	
75-35-4	1,1-Dichloroethene	0.25	1.24	ND	0.99	4.91	ND	
156-60-5	trans-1,2-Dichloroethene	0.25	0.90	ND	0.99	3.58	ND	
75-34-3	1,1-Dichloroethane	0.25	1.25	ND	1.01	5.05	ND	
156-59-2	cis-1,2-Dichloroethene	0.50	1.35	ND	1.98	5.33	ND	
71-55-6	1,1,1-Trichloroethane	0.25	1.11	ND	1.36	6.05	ND	
107-06-2	1,2-Dichloroethane	0.25	1.14	ND	1.01	4.62	ND	
79-01-6	Trichloroethene	0.15	1.16	ND	0.81	6.26	ND	
127-18-4	Tetrachloroethene	0.15	0.61	ND	1.02	4.12	ND	

Surrogate Recovery		% Rec.	QC LCL	Limits UCL	Flag
2037-26-5	Toluene-d8	83	70	130	

METHOD BLANK REPORT

ENVIRONMENTAL
Analytical Service, Inc.

ASTM D 1945 GC/TCD

Analytical Method: D1945

SDG: LABQC
Laboratory Number: B05238

File Name: B05238A

Date Sampled:

Time:

Description: METHOD BLANK

Date Analyzed: 05/23/18

Time: 14:51

Can/Tube#:

QC_Batch: 052318-GCO

CAS#	Compound	MDL %	RL %	Result %	MDL ppmv	RL ppmv	Result ppmV	Flag
7440-59-7	Helium	0.020	0.06	ND	200	600	ND	

QUALITY CONTROL REPORT

Laboratory Control Spike and Spike Duplicate Report

TO15 Volatile Organic Compounds by GC/MS

QC_Batch: 052318-MA1

Date: 05/23/18

CAS#	Compound	LCS		LCD		Spike Limit		Duplicate		Flag
		Recovery %	Flag	Recovery %	Flag	LCL %	UCL %	Duplicate %	Limit %	
75-01-4	Vinyl chloride	94		88		70	130	6	25	
75-35-4	1,1-Dichloroethene	104		98		70	130	6	25	
75-09-2	Dichloromethane	105		99		70	130	6	25	
75-34-3	1,1-Dichloroethane	104		99		70	130	5	25	
67-66-3	Chloroform	104		101		70	130	3	25	
71-55-6	1,1,1-Trichloroethane	99		96		70	130	2	25	
107-06-2	1,2-Dichloroethane	99		98		70	130	1	25	
71-43-2	Benzene	103		104		70	130	1	25	
56-23-5	Carbon tetrachloride	99		98		70	130	1	25	
79-01-6	Trichloroethene	97		103		70	130	6	25	
108-88-3	Toluene	100		98		70	130	2	25	
127-18-4	Tetrachloroethene	102		99		70	130	3	25	
100-41-4	Ethylbenzene	102		94		70	130	8	25	
1330-20-7	m,p-Xylenes	101		94		70	130	7	25	
95-47-6	o-Xylene	101		99		70	130	2	25	
108-67-8	1,3,5-Trimethylbenzene	102		98		70	130	3	25	

LCS - Laboratory Control Spike

LCD - Laboratory Control Duplicate

Flag - Q indicated out of Limits

Analytical Reports

EAS SDG Number 218261

Project Number: 17331

The following pages contain the certified Analytical Reports for the samples submitted in the Sample Delivery Group (SDG) and are in order of the EAS Lab ID number. All of the analytical methods used are modifications of the published methods. Procedural method modifications are listed in the method descriptions, and the QC modifications are in the QC Criteria table in the EAS Quality Manual.

The Analytical Report has columns for the method detection limit (MDL), the reporting limit (RL), and the Amount. The Amount is the concentration of the compound in the sample. The report usually has the results reported with two commonly used units. The MDL, RL, and Amount are adjusted for the canister dilution factor and any dilution caused by sample matrix effects.

DETECTION LIMITS

MDL: The MDL is initially determined from the standard deviation of seven replicate measurements, but the value in the report is set from a MDL verification sample run at a level near the calculated MDL.

RL: The reporting limit (RL) is usually the lowest concentration standard on the calibration curve, and represents the lowest concentration that can be measured that will meet all of the QC Criteria for the method.

DATA FLAGS

In the standard report, if a compound is not detected above the method detection limit, a "ND" is in the Amount column. The flag column is used for both the not detect flag and for any data flags. The not detect flag is either a "ND" or a "U". If the "U" flag is selected, the MDL for the compound is reported in the Amount column instead of "ND". Other flags are listed below:

- B - This compound was detected in the batch method blank above the reporting limit.
- E - This compound exceeds the calibration range for this sample volume.
- J - The amount reported is estimated because it was below the RL and above the MDL
- F - Higher detection limits because of matrix interference

UNITS

PPBV or PPMV: Parts-per-billion (or million) by volume is a mole (volume) ratio of the moles of analyte divided by the moles of air (gas). This is the primary unit used to report air or gas concentrations and is independent of temperature and pressure. It is different from the ppb unit used to report water or soil data, which is a mass ratio.

UG/M3 OR MG/M3: Micrograms (or milligrams) per cubic meter is a mass/volume ratio and does depend on temperature and pressure of the source at time of sample collection. The reported result was calculated based on 1 atm pressure and a temperature of 25C. The conversion from PPBV is: $UG/M3 = PPBV \times MW/24.46$ where 24.26 is the gas constant and MW is the Compounds Molecular Weight (sometimes called Formula Weight)

ANALYTICAL REPORT

EPA Method TO-15 Modified Full Scan GC/MS

Analytical Method: TO-15

SDG: 218261

Laboratory ID: 01

File Name: 1826101A.D
Description: V-B17-5.5
Canister: 132
QC_Batch: 052318-MA1

Date Sampled: 05/14/18 Time: 14:15
Date Analyzed: 05/23/18 Time: 14:23
Can Dilution Factor: 1.00
Air Volume: 200 ml

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
75-01-4	Vinyl chloride	0.25	1.26	ND	0.64	3.21	ND	
75-35-4	1,1-Dichloroethene	0.25	1.24	ND	0.99	4.91	ND	
156-60-5	trans-1,2-Dichloroethene	0.25	0.90	ND	0.99	3.58	ND	
75-34-3	1,1-Dichloroethane	0.25	1.25	ND	1.01	5.05	ND	
156-59-2	cis-1,2-Dichloroethene	0.50	1.35	ND	1.98	5.33	ND	
71-55-6	1,1,1-Trichloroethane	0.25	1.11	ND	1.36	6.05	ND	
107-06-2	1,2-Dichloroethane	0.25	1.14	ND	1.01	4.62	ND	
79-01-6	Trichloroethene	0.15	1.16	ND	0.81	6.26	ND	
127-18-4	Tetrachloroethene	0.15	0.61	1.58	1.02	4.12	10.74	

Surrogate Recovery		% Rec.	QC LCL	Limits UCL	Flag
2037-26-5	Toluene-d8	77	70	130	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

ASTM D 1945 GC/TCD

Analytical Method: D1945

SDG: 218261
Laboratory Number: 01

File Name: 1826101A
Description: V-B17-5.5
Can/Tube#: 132
QC_Batch: 052318-GCO

Date Sampled: 05/14/18 Time: 14:15
Date Analyzed: 05/23/18 Time: 15:04

CAS#	Compound	MDL %	RL %	Result %	MDL ppmv	RL ppmv	Result ppmV	Flag
7440-59-7	Helium	0.032	0.096	ND	320	960	ND	

Environmental
Analytical Service, Inc.

INVOICE

Page 1 of 1

EnviroAssets, Inc.
6037 La Salle Avenue
Oakland

CA 94611

Invoice Number: 19379

Invoice Date: 24-May-18

Payment Due: 21-Jun-18

Quote Number 17331 Reference No 218261

Project Reference Information

Project Manager: Michael Harrison

PO Number: EA270.B.01

Project: None Given

Project Number: EA270.B.01

Quantity	Date Rec'd	SDG No.	Taxable	Description	Unit Price	Amount
1	5/17/2018	218261		EPA TO-15 Short Chlorinated List	145.00	145.00
1				ASTM D1945 Helium	40.00	40.00
1				Canister 1L with Batch Certification	35.00	35.00
1				Soil Gas Sampler with 150 cc Flow Controller	25.00	25.00

Please Remit Payment to:

ENVIRONMENTAL ANALYTICAL SERVICE, INC.
173 Cross Street
San Luis Obispo, CA 93401-7597
phone: (805) 781-3585 fax: (805) 541-4550

Subtotal: \$245.00

Shipping: \$0.00

Tax: \$0.00

Total Due \$245.00

Terms NET 30 DAYS

For Questions on Invoice

Judy Daly
(805) 781-3585