

November 25, 2013
Sample Delivery Groups (SDG): 213619

Joe Bahde
AMEC
121 Innovative Drive, Suite 200
Irvine, CA 92617

Dear Joe,

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

Project Name: Windomar Autumnwood
Project Number #: NB1016075P
Date Sampled: 11/14/13 and 11/15/13

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

Sincerely,



Steven D. Hoyt PhD.
Laboratory Director

SDH/lms

Laboratory Report

Project Name:

Wildomar Autumnwood Development

EAS SDG Number: 213619

Client Project Manager: Joe Bahde

Prepared For:

AMEC

121 Innovative Drive, Suite 200

Irvine

CA 92617

Project Number: 16657

Sample Event Date: 11/14/2013

Received Date: 11/19/2013

Report Sent: 11/25/2013

Project Number: NB1016075P

PO Number: C013101781

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 a 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

Laboratory Work Order

SDG Number: 213619

Project Number: 16657

Project Manager: Joe Bahde

Received: 11/19/2013

Client: AMEC

Report: HC and PDF

Electronic Data Deliverable: None

SAMPLE DESCRIPTION AND ANALYSIS REQUESTED

Client Sample No.	EAS Lab No.	Analysis Requested	Date Sampled
13-SV-15	213619 1	EPA TO-11 Formaldehyde	11/14/2013
14B-SV	213619 2	EPA TO-11 Formaldehyde	11/14/2013
12-SV-15	213619 3	EPA TO-11 Formaldehyde	11/14/2013
2-SV-5	213619 4	EPA TO-11 Formaldehyde	11/14/2013
3B-SV	213619 5	EPA TO-11 Formaldehyde	11/14/2013
10L-SV	213619 6	EPA TO-11 Formaldehyde	11/14/2013
8-SV-3	213619 7	EPA TO-11 Formaldehyde	11/15/2013
6-SV-15	213619 8	EPA TO-11 Formaldehyde	11/14/2013
60-SV-15	213619 9	EPA TO-11 Formaldehyde	11/14/2013
Blank	213619 10	EPA TO-11 Formaldehyde	11/14/2013

Project Sample Media

SDG Number: 213619

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

SDG	Lab ID	Client Sample No.	Sample Media	Batch	Pressure, torr		Can Factor
					Initial	Final	
213619	1	13-SV-15	DNPH				
213619	2	14B-SV	DNPH				
213619	3	12-SV-15	DNPH				
213619	4	2-SV-5	DNPH				
213619	5	3B-SV	DNPH				
213619	6	10L-SV	DNPH				
213619	7	8-SV-3	DNPH				
213619	8	6-SV-15	DNPH				
213619	9	60-SV-15	DNPH				
213619	10	Blank	DNPH				

Laboratory Case Narrative

EAS SDG Number: 213619

Project Number: 16657

Client: AMEC

The Laboratory Case Narrative for the SDG is below. Any problems with the sample receiving or analysis are recorded in this section. The Chain of Custody forms follow the Case Narrative.

Sample Control Narrative

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

Test Methods

The methods used for sample analysis are listed on the Analytical Report header. Most methods are a modification of the agency method, and the modifications are described in the EAS Quality Manual along with the QC criteria used for the method. Project specific modifications to the methods or project specific QC may override the EAS modification

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 noted above. The Laboratory Report is property of EAS and its client. The entire report has been reviewed and approved.



Date Approved: 11/25/2013

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

CHAIN OF CUSTODY RECORD

Project Number: NB 1016075P		Project Name: DTSC - Wildomar		Quote Number:								
REPORT TO: Joe Balwe												
Company: AMEC												
Address: 121 Innovation Dr #200												
City/State/Zip: et Irvine, CA, 92617												
Phone: (949) 642-0245 (FAX)												
ATTENTION:												
SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	CANISTER NUMBER	COMPARISON			MATRIX	INITIAL PRESSURE	FINAL PRESSURE	EAS LABORATORY ID	ANALYTICAL TESTS	REMARKS
				C	O	M						
13-SV-15	11/14/13	1349								27669-01	X	32 min @ 15/min
14-SV-SV	11/14/13	1220								-02	X	
12-SV-15	11/14/13	1157								-03	X	
2-SV-5	11/14/13	1012								-04	X	
3B-SV	11/14/13	1435								-05	X	
10L-SV	11/14/13	1555								-06	X	
8-SV-3	11/15/13	1118								-07	X	
6-SV-15	11/14/13	1656								-08	X	
COMMENTS												

BILLING INFORMATION

Company: AMEC	SAMPLED BY: Joe Balwe	Date: 11/15/13	Time: 1400	Received by:	Date: 11/19/13	Time: 10:00am
Address: 121 Innovation Dr #200	Relinquished By: Joe Balwe	Date: 11/18/13	Time: 1630	Received by:	Date:	Time:
City/State/Zip: Irvine, CA, 92617	Relinquished By:	Date:	Time:	Received by:	Date:	Time:
ATTENTION:	Relinquished By:	Date:	Time:	Received for lab by:	Date:	Time:
Purchase Order/Billing Reference:						

Quality Control Report

EAS SDG Number 213619

Project Number: 16657

QC Narrative

Unless previously specified, the samples in each QC batch were run with the standard laboratory QC specified in the EAS Quality Manual. Any deviations from the QC 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.

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.

QUALITY CONTROL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

Laboratory Control Spike and Laboratory Control Duplicate

EPA Method TO-11A Modified HPLC

Analytical Method: TO-11A

LCS QC11203A
LCD QC11203B
Date 11/20/13
QC Batch 112013-HPT

CAS#	Compound	LCS		LCD		UCL		RPD	Limit	Flag
		%	Flag	%	Flag	%	%			
50-00-0	Formaldehyde	87		87		70	130	1	30	
75-07-0	Acetaldehyde	86		87		70	130	1	30	
67-64-1	Acetone	94		99		70	130	5	30	
123-38-6	Propionaldehyde	84		85		70	130	1	30	
4170-30-3	Crotonaldehyde	89		89		70	130	0	30	
123-72-8	Butyraldehyde	85		84		70	130	1	30	
100-52-7	Benzaldehyde	92		87		70	130	5	30	
590-86-3	Isovaleraldehyde	90		89		70	130	0	30	
110-62-3	Valeraldehyde	82		82		70	130	0	30	
529-20-4	o-Tolualdehyde	93		94		70	130	1	30	
620-23-5	m-Tolualdehyde	83		84		70	130	1	30	
104-87-0	p-Tolualdehyde	91		97		70	130	6	30	
66-25-1	Hexaldehyde	79		75		70	130	3	30	

Sample Analytical Reports

EAS SDG Number 213619

Project Number: 16657

The following pages contain the certified Analytical Reports for the samples submitted in the Sample Delivery Group (SDG) and are in order of EAS Lab ID number. The laboratory Work Order serves as a reference, showing the client sample description, the Lab ID number, and the date sampled. The QC batch field identifies the Daily Analytical Batch and links the sample to the corresponding QC

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 two Amount columns, for the commonly used reporting 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 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 (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 or 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 (milligrams) per cubic meter is a mass/volume ratio and is dependent on temperature and pressure. 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 Compound Molecular Weight.

ANALYTICAL REPORT

EPA Method TO-11A Modified HPLC
Analytical Method: TO-11A

SDG: 213619
Laboratory ID: 01

Description: 13-SV-15	Date Sampled: 11/14/13	Time: 13:49
Can/Tube#: CART	Date Received: 11/19/13	Time: 10:00
QC_Batch: 112013-HPT	Date Analyzed: 11/20/13	Time: 18:25
Air Volume: 32 Liters	Dilution Factor: 1.00	

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	ND	1.56	3.75	ND	ND

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11A Modified HPLC
Analytical Method: TO-11A

SDG: 213619
Laboratory ID: 02

Description: 14B-SV	Date Sampled: 11/14/13	Time: 12:20
Can/Tube#: CART	Date Received: 11/19/13	Time: 10:00
QC_Batch: 112013-HPT	Date Analyzed: 11/20/13	Time: 19:13
Air Volume: 32 Liters	Dilution Factor: 1.00	

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	0.26	1.56	3.75	8.10	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11A Modified HPLC
Analytical Method: TO-11A

SDG: 213619
Laboratory ID: 03

Description: 12-SV-15	Date Sampled: 11/14/13	Time: 11:57
Can/Tube#: CART	Date Received: 11/19/13	Time: 10:00
QC_Batch: 112013-HPT	Date Analyzed: 11/20/13	Time: 19:38
Air Volume: 32 Liters	Dilution Factor: 1.00	

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	ND	1.56	3.75	ND	ND

ANALYTICAL REPORT

EPA Method TO-11A Modified HPLC
Analytical Method: TO-11A

SDG: 213619
Laboratory ID: 04

Description: 2-SV-5	Date Sampled: 11/14/13	Time: 10:18
Can/Tube#: CART	Date Received: 11/19/13	Time: 10:00
QC_Batch: 112013-HPT	Date Analyzed: 11/20/13	Time: 19:59
Air Volume: 32 Liters	Dilution Factor: 1.00	

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	ND	1.56	3.75	ND	ND

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11A Modified HPLC
Analytical Method: TO-11A

SDG: 213619
Laboratory ID: 05

Description: 3B-SV	Date Sampled: 11/14/13	Time: 14:35
Can/Tube#: CART	Date Received: 11/19/13	Time: 10:00
QC_Batch: 112013-HPT	Date Analyzed: 11/20/13	Time: 20:21
Air Volume: 32 Liters	Dilution Factor: 1.00	

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	0.21	1.56	3.75	6.53	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11A Modified HPLC
Analytical Method: TO-11A

SDG: 213619
Laboratory ID: 06

Description: 10L-SV	Date Sampled: 11/14/13	Time: 15:55
Can/Tube#: CART	Date Received: 11/19/13	Time: 10:00
QC_Batch: 112013-HPT	Date Analyzed: 11/20/13	Time: 20:43
Air Volume: 32 Liters	Dilution Factor: 1.00	

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	0.21	1.56	3.75	6.64	

ANALYTICAL REPORT

EPA Method TO-11A Modified HPLC
Analytical Method: TO-11A

SDG: 213619
Laboratory ID: 07

Description: 8-SV-3
Can/Tube#: CART
QC_Batch: 112013-HPT
Air Volume: 32 Liters

Date Sampled: 11/15/13 Time: 11:18
Date Received: 11/19/13 Time: 10:00
Date Analyzed: 11/20/13 Time: 21:04
Dilution Factor: 1.00

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	ND	1.56	3.75	ND	ND

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11A Modified HPLC
Analytical Method: TO-11A

SDG: 213619
Laboratory ID: 08

Description: 6-SV-15	Date Sampled: 11/14/13	Time: 16:56
Can/Tube#: CART	Date Received: 11/19/13	Time: 10:00
QC_Batch: 112013-HPT	Date Analyzed: 11/20/13	Time: 21:26
Air Volume: 32 Liters	Dilution Factor: 1.00	

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	ND	1.56	3.75	ND	ND

ANALYTICAL REPORT

EPA Method TO-11A Modified HPLC
Analytical Method: TO-11A

SDG: 213619
Laboratory ID: 09

Description: 60-SV-15	Date Sampled: 11/14/13	Time: 16:54
Can/Tube#: CART	Date Received: 11/19/13	Time: 10:00
QC_Batch: 112013-HPT	Date Analyzed: 11/20/13	Time: 21:48
Air Volume: 32 Liters	Dilution Factor: 1.00	

CAS#	Compound	MDL UG	RL UG	Amount UG	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
50-00-0	Formaldehyde	0.05	0.12	ND	1.56	3.75	ND	ND

