24-Feb-2014

Jeff Rosen
Corona Environmental Consultants
54 Old Oaken Bucket Rd
Scituate, MA 02066

Re: **WV TAP** Work Order: **1402552**

Dear Jeff,

ALS Environmental received 4 samples on 12-Feb-2014 07:34 PM for the analyses presented in the following report.

This is a REVISED REPORT. The Case Narrative provides information discussing the reason for issuing a revised report. The total number of pages in this revision is 12.

If you have any questions regarding these test results, please feel free to contact me.

Sincerely,

Rebecca Kiser

Electronically approved by: Rebecca Kiser

Rebecca Kiser
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
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ALS Group USA, Corp

Date: 24-Feb-14

Client: Corona Environmental Consultants
Project: WV TAP
Work Order: **1402552**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1402552-01	IS-1	Water		2/12/2014 10:30	2/12/2014 19:34	☐
1402552-02	IS-2	Water		2/12/2014 10:37	2/12/2014 19:34	☐
1402552-03	IS-3	Water		2/12/2014 10:51	2/12/2014 19:34	☐
1402552-04	IS-4	Water		2/12/2014 11:00	2/12/2014 19:34	☐

Freedom_0005812_0002

Client: Corona Environmental Consultants
Project: WV TAP
Work Order: 1402552

Case Narrative

QC Summary:

Sample descriptions were revised by client per email on February 23, 2014. Report was revised to reflect these changes.

4-Methyl-1-cyclohexanemethanol

Batch 55804, Organic Compounds by GCMS, Sample 1402552-01A: Surrogate recovery low due to matrix interference.

Batch 55804, Organic Compounds by GCMS, Sample 1402552-02A: Surrogate recovery low due to matrix interference.

Freedom_0005812_0003

ALS Group USA, Corp

Date: 24-Feb-14

Client: Corona Environmental Consultants
Project: WV TAP
WorkOrder: **1402552**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

Freedom_0005812_0004

ALS Group USA, Corp

Date: *24-Feb-14*

Client: Corona Environmental Consultants
Project: WV TAP
Sample ID: IS-1
Collection Date: 2/12/2014 10:30 AM

Work Order: 1402552
Lab ID: 1402552-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC		Method: **SW8270**			Prep: SW3510 / 2/17/14		Analyst: **RM**
4-Methyl-1-cyclohexanemethanol	U		2.7	5.0	µg/L	1	2/17/2014 21:06
Propylene glycol phenyl ether	U		3.6	5.0	µg/L	1	2/17/2014 21:06
Surr: 2,4,6-Tribromophenol	*43.7*			*38-115*	*%REC*	1	2/17/2014 21:06
Surr: 2-Fluorophenol	*23.0*			*22-59*	*%REC*	1	2/17/2014 21:06
Surr: Phenol-d6	*2.42*	S		*13-36*	*%REC*	1	2/17/2014 21:06
ORGANIC CARBON, TOTAL		Method: **A5310C-96**					Analyst: **ED**
Organic Carbon, Total	**0.78**		**0.073**	**0.50**	**mg/L**	1	2/17/2014 14:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

Freedom_0005812_0005

ALS Group USA, Corp

Date: *24-Feb-14*

Client: Corona Environmental Consultants
Project: WV TAP
Sample ID: IS-2
Collection Date: 2/12/2014 10:37 AM

Work Order: 1402552
Lab ID: 1402552-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC		Method: **SW8270**			Prep: SW3510 / 2/17/14		Analyst: **RM**
4-Methyl-1-cyclohexanemethanol	U		2.7	5.0	µg/L	1	2/17/2014 21:30
Propylene glycol phenyl ether	U		3.6	5.0	µg/L	1	2/17/2014 21:30
Surr: 2,4,6-Tribromophenol	*54.2*			*38-115*	*%REC*	1	2/17/2014 21:30
Surr: 2-Fluorophenol	*31.6*			*22-59*	*%REC*	1	2/17/2014 21:30
Surr: Phenol-d6	*18.1*			*13-36*	*%REC*	1	2/17/2014 21:30
ORGANIC CARBON, TOTAL		Method: **A5310C-96**					Analyst: **ED**
Organic Carbon, Total	**0.67**		**0.073**	**0.50**	**mg/L**	1	2/17/2014 14:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

Freedom_0005812_0006

ALS Group USA, Corp

Date: *24-Feb-14*

Client: Corona Environmental Consultants
Project: WV TAP
Sample ID: IS-3
Collection Date: 2/12/2014 10:51 AM

Work Order: 1402552
Lab ID: 1402552-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC		Method: **SW8270**			Prep: SW3510 / 2/17/14		Analyst: **RM**
4-Methyl-1-cyclohexanemethanol	U		2.7	5.0	µg/L	1	2/17/2014 21:54
Propylene glycol phenyl ether	U		3.6	5.0	µg/L	1	2/17/2014 21:54
Surr: 2,4,6-Tribromophenol	*47.9*			*38-115*	*%REC*	1	2/17/2014 21:54
Surr: 2-Fluorophenol	*28.3*			*22-59*	*%REC*	1	2/17/2014 21:54
Surr: Phenol-d6	*3.52*	S		*13-36*	*%REC*	1	2/17/2014 21:54
ORGANIC CARBON, TOTAL		Method: **A5310C-96**					Analyst: **ED**
Organic Carbon, Total	**0.76**		**0.073**	**0.50**	**mg/L**	1	2/17/2014 14:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

Freedom_0005812_0007

ALS Group USA, Corp

Date: *24-Feb-14*

Client: Corona Environmental Consultants
Project: WV TAP
Sample ID: IS-4
Collection Date: 2/12/2014 11:00 AM

Work Order: 1402552
Lab ID: 1402552-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC		Method: **SW8270**			Prep: SW3510 / 2/17/14		Analyst: **RM**
4-Methyl-1-cyclohexanemethanol	U		2.7	5.0	µg/L	1	2/17/2014 22:18
Propylene glycol phenyl ether	U		3.6	5.0	µg/L	1	2/17/2014 22:18
Surr: 2,4,6-Tribromophenol	*50.5*			*38-115*	*%REC*	1	2/17/2014 22:18
Surr: 2-Fluorophenol	*28.0*			*22-59*	*%REC*	1	2/17/2014 22:18
Surr: Phenol-d6	*15.2*			*13-36*	*%REC*	1	2/17/2014 22:18
ORGANIC CARBON, TOTAL		Method: **A5310C-96**					Analyst: **ED**
Organic Carbon, Total	**0.68**		**0.073**	**0.50**	**mg/L**	1	2/17/2014 14:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

Freedom_0005812_0008

ALS Group USA, Corp

Date: 24-Feb-14

Client: Corona Environmental Consultants

Work Order: 1402552

Project: WV TAP

QC BATCH REPORT

Batch ID: **55804** Instrument ID **SVMS5** Method: **SW8270**

MBLK Sample ID: **ABLKW1-55804-55804** Units: **µg/L** Analysis Date: **2/17/2014 05:29 PM**

Client ID: Run ID: **SVMS5_140217A** SeqNo: **2645278** Prep Date: **2/17/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemethanol	U	5.0								
Propylene glycol phenyl ether	U	5.0								
Surr: 2,4,6-Tribromophenol	*19.09*	0	*50*	0	*38.2*	*38-115*		0		
Surr: 2-Fluorophenol	*13.62*	0	*50*	0	*27.2*	*22-59*		0		
Surr: Phenol-d6	*7.81*	0	*50*	0	*15.6*	*13-36*		0		

LCS Sample ID: **ALCSW1-55804-55804** Units: **µg/L** Analysis Date: **2/17/2014 05:53 PM**

Client ID: Run ID: **SVMS5_140217A** SeqNo: **2645279** Prep Date: **2/17/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemethanol	58.29	5.0	100	0	58.3	48-80		0		
Propylene glycol phenyl ether	53.64	5.0	100	0	53.6	48-80		0		
Surr: 2,4,6-Tribromophenol	*19.3*	0	*50*	0	*38.6*	*38-115*		0		
Surr: 2-Fluorophenol	*13.59*	0	*50*	0	*27.2*	*22-59*		0		
Surr: Phenol-d6	*8*	0	*50*	0	*16*	*13-36*		0		

MS Sample ID: **1402615-01A MS** Units: **µg/L** Analysis Date: **2/17/2014 06:18 PM**

Client ID: Run ID: **SVMS5_140217A** SeqNo: **2645280** Prep Date: **2/17/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemethanol	577.7	50	1000	0	57.8	48-80		0		
Propylene glycol phenyl ether	524.6	50	1000	0	52.5	48-80		0		
Surr: 2,4,6-Tribromophenol	*190.2*	0	*500*	0	*38*	*38-115*		0		
Surr: 2-Fluorophenol	*134.3*	0	*500*	0	*26.9*	*22-59*		0		
Surr: Phenol-d6	*74.4*	0	*500*	0	*14.9*	*13-36*		0		

MSD Sample ID: **1402615-01A MSD** Units: **µg/L** Analysis Date: **2/17/2014 06:42 PM**

Client ID: Run ID: **SVMS5_140217A** SeqNo: **2645281** Prep Date: **2/17/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4-Methyl-1-cyclohexanemethanol	581.3	50	1000	0	58.1	48-80	577.7	0.621	35	
Propylene glycol phenyl ether	533.6	50	1000	0	53.4	48-80	524.6	1.7	35	
Surr: 2,4,6-Tribromophenol	*192.1*	0	*500*	0	*38.4*	*38-115*	190.2	*0.994*		
Surr: 2-Fluorophenol	*142.1*	0	*500*	0	*28.4*	*22-59*	134.3	*5.64*		
Surr: Phenol-d6	*85.3*	0	*500*	0	*17.1*	*13-36*	74.4	*13.7*		

The following samples were analyzed in this batch: 1402552-01A 1402552-02A 1402552-03A 1402552-04A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Freedom_0005812_0009

Client: Corona Environmental Consultants
Work Order: 1402552
Project: WV TAP

QC BATCH REPORT

Batch ID: **R135743** Instrument ID **TOC3** Method: **A5310C-96**

MBLK Sample ID: **WBLKW1-140217-R135743** Units: **mg/L** Analysis Date: **2/17/2014 02:15 PM**
Client ID: Run ID: **TOC3_140217A** SeqNo: **2644671** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	0.074	0.50								J

LCS Sample ID: **WLCSW1-140217-R135743** Units: **mg/L** Analysis Date: **2/17/2014 02:15 PM**
Client ID: Run ID: **TOC3_140217A** SeqNo: **2644672** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	4.979	0.50	5	0	99.6	90-110		0		

MS Sample ID: **1402615-01BMS** Units: **mg/L** Analysis Date: **2/17/2014 02:15 PM**
Client ID: Run ID: **TOC3_140217A** SeqNo: **2644678** Prep Date: DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	5.804	2.0	5	0.749	101	85-120		0		

MSD Sample ID: **1402615-01BMSD** Units: **mg/L** Analysis Date: **2/17/2014 02:15 PM**
Client ID: Run ID: **TOC3_140217A** SeqNo: **2644679** Prep Date: DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	5.92	2.0	5	0.749	103	85-120	5.804	1.98	20	

The following samples were analyzed in this batch:

1402552-01B	1402552-02B	1402552-03B
1402552-04B		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Freedom_0005812_0010

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Fort Collins, CO +1 970 490 1511 | Everett, WA +1 425 356 2600 | Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 18454

Houston, TX +1 281 530 5656 | Spring City, PA +1 610 948 4903 | South Charleston, WV +1 304 356 3168 | Middletown, PA +1 717 944 5541 | Salt Lake City, UT +1 801 266 7700 | York, PA +1 717 505 5280

ALS Project Manager: | ALS Work Order #: 1402552

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	WV TAP	A	MCHM ~~Duplicate~~ re
Work Order		Project Number		B	PPH - Duplicate Samples
Company Name	Corona Environ. Consult.	Bill To Company	Corona Environ. Consult.	C	TOC
Send Report To	Jeff Rosen	Invoice Attn	Jeff Rosen	D	
Address	54 Old Oaken Bucket Rd	Address	54 Old Oaken Bucket Rd	E	
				F	
City/State/Zip	Scituate, MA 02066	City/State/Zip	Scituate, MA 02066	G	
Phone	781 544 3255	Phone	781 544 3255	H	
Fax		Fax		I	
e-Mail Address	jrosen@coronaenv.com	e-Mail Address	jrosen@coronaenv.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Redacted for privacy Kitchen Cold	2/12/14	10:30	Water		4	✓	✓	✓								
2	Redacted for privacy Kitchen Hot	2/12/14	10:37	Water		4	✓	✓	✓								
3	Redacted for privacy Bathtub Cold	2/12/14	10:51	Water		4	✓	✓	✓								
4	Redacted for privacy Bathtub Hot	2/12/14	11:00	Water		4	✓	✓	✓								
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Timothy Clancy

Shipment Method:

Required Turnaround Time: (Check Box) ☐ Other ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by:	Date: 2/12/14	Time: 18:38/19:22	Received by:
Relinquished by:	Date: 02/12/14	Time: 19:34	Received by (Laboratory):
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: RECD 2/14/14 1000 4.4°C

Cooler ID	Cooler Temp
	5.4°C; 4.4°C

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Date ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **CORONAENV** Date/Time Received: **12-Feb-14 19:34**

Work Order: **1402552** Received by: **JAS**

Checklist completed by Janet Smith (eSignature) 13-Feb-14 (Date) Reviewed by: Rebecca Kiser (eSignature) 16-Feb-14 (Date)

Matrices: Water
Carrier name: Courier

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	5.4C; 4.4:	IR	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

Freedom_0005812_0012