UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
Environmental Sciences Center
701 Mapes Road
Fort Meade, Maryland 20755-5350

DATE : February 24, 2012

SUBJECT: Region III Data QA Review

FROM: Colleen Walling
Region III ESAT RPO (3EA20)

TO: Rich Fetzer
Remedial Project Manager (3HS31)

Attached is the organic data validation report for the Dimock Residential Groundwater site (DAS#: R33917; Case #: 480-15814-1) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III EAID.

If you have any questions regarding this review, please call me at (410) 305-2763.

Attachment

TO: #0042 TDF: 02097 Data Validation
TO: #0042 TDF: #02085 Sample log-in processing

cc: Gene Nance (Techlaw)
Suddha Graves (Techlaw)

Lockheed Martin IS&GS – Civil
Energy & Environment
ESAT Region 3
US EPA Environmental Science Center
701 Mapes Road Ft. Meade, MD 20755-5350
Telephone 410-305-3037 Facsimile 410-305-3597

LOCKHEED MARTIN
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Date: February 22, 2012

Subject: Organic Data Validation (M3 Level)
Case: R33917
Project: 480-15814-1
Site: Dimock

From: Ex. 4 - CBI
Senior Data Reviewer

Ex. 4 - CBI
Ex. 4 - CBI
Senior Oversight Chemist

To: Colleen Walling
ESAT Region 3 Project Officer

OVERVIEW

Third party Case R33917, Project 480-15814-1, consisted of twenty (20) aqueous samples including three (3) field blanks and one (1) rinsate blank analyzed for ethylene glycol, diethylene glycol, triethylene glycol, 2-methoxyethanol and 2-ethoxyethanol. Samples were analyzed by TestAmerica Buffalo (TAL BUF) according to Test Methods for Evaluating Solid Waste SW-846 Method 8015B.

SUMMARY

Data were validated according to Region 3 Modifications to the National Functional Guidelines for Organic Data Review, Level M3 and is assigned the Superfund Data Validation Label S4VM (Stage_4_Validation_Manual). Areas of concern with respect to data usability are listed below.

MAJOR PROBLEM

- Peaks were detected in the GC/FID Method 8015B glycols analysis within the retention time window of target compounds diethylene glycol and triethylene glycol. However, the positive identification of these target compounds was not confirmed via second GC column and/or GC/MS analysis. For this reason, the target compounds were qualified "R" on the Data Summary Forms (DSFs) as their absolute identity could not be proven.

MINOR PROBLEM

- The laboratory employed a four (4) point calibration curve for the analysis of the compounds requested; however, Method 8015B specifies the use of a five (5) point curve. No action was taken by the reviewer based on this deviation from the method.

NOTES

- Reported recoveries and Relative Percent Differences (RPDs) in Laboratory Control Sample (LCS) analyses and Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses of sample HW45 were within control limits.

- The calibration factors calculated by the reviewer were slightly different than those calculated by the laboratory. Results calculated using these calibration factors were within rounding errors from laboratory and data validation results.

ATTACHMENTS

Appendix A – Glossary of Data Qualifier Codes
Appendix B – Data Summary Form(s)
Appendix C – Chain of Custody Records
Appendix D – Laboratory Case Narrative

DCN: R33917_480-15814-1

GLOSSARY OF DATA QUALIFIER CODES (ORGANIC)

CODES RELATED TO IDENTIFICATION
(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

NO CODE = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unusable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION
(can be used for both positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

OTHER CODES

NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

Q = No analytical result.

DATA SUMMARY FORM: Glycols

DAS: R33917
Site :
Lab. :

PROJECT #: 480-15814-1
DIMOCK
TALBUF

Number of Soil Samples : 0
Number of Water Samples : 20

Sample Number :		EB02		FB08		FB09		FB10		HW09	
Sampling Location :		EB02		FB08		FB09		FB10		HW09	
Laboratory ID:		480-15814-1		480-15814-2		480-15814-3		480-15814-4		480-15814-5	
Field QC:		Rinsate Blank		Field Blank		Field Blank		Field Blank			
Matrix :		Water		Water		Water		Water		Water	
Units :		mg/L		mg/L		mg/L		mg/L		mg/L	
Date Sampled :		2/05/2012		2/01/2012		2/02/2012		2/03/2012		2/03/2012	
Time Sampled :		15:00		14:45		10:15		14:09		15:20	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Glycols	RL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Ethylene glycol	10										
Triethylene glycol	10	4.0	R								
Diethylene glycol	10	0.54	R			0.52	R				
2-Methoxyethanol	10										
2-Ethoxyethanol	10										

Sample Number :		HW09-P		HW28A		HW28A-P		HW28B-P		HW39	
Sampling Location :		HW09		HW28A		HW28A		HW28B		HW39	
Laboratory ID:		480-15814-6		480-15814-7		480-15814-8		480-15814-9		480-15814-10	
Field QC:											
Matrix :		Water		Water		Water		Water		Water	
Units :		mg/L		mg/L		mg/L		mg/L		mg/L	
Date Sampled :		2/03/2012		2/03/2012		2/03/2012		2/03/2012		2/03/2012	
Time Sampled :		15:16		11:49		11:52		14:27		14:42	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Glycols	RL	Result	Flag	Result	Flag	Result	Flag	Result	Flag		Flag
Ethylene glycol	10										
Triethylene glycol	10					2.7	R				
Diethylene glycol	10	0.51	R			0.59	R				
2-Methoxyethanol	10										
2-Ethoxyethanol	10										

RL = Reporting Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS
To calculate sample quantitation limits: (RL * Dilution Factor) Revised 09/99

DATA SUMMARY FORM: Glycols

DAS: R33917
Site :
Lab. :

PROJECT #: 480-15814-1
DIMOCK
TALBUF

Sample Number :		HW39-P		HW40		HW40-P		HW41		HW41-P	
Sampling Location :		HW39		HW40		HW40		HW41		HW41	
Laboratory ID:		480-15814-11		480-15814-12		480-15814-13		480-15814-14		480-15814-15	
Field QC:											
Matrix :		Water		Water		Water		Water		Water	
Units :		mg/L		mg/L		mg/L		mg/L		mg/L	
Date Sampled :		2/03/2012		2/02/2012		2/02/2012		2/02/2012		2/02/2012	
Time Sampled :		11:13		15:39		15:44		16:12		15:54	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Glycols	RL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Ethylene glycol	10										
Triethylene glycol	10					3.0	R				
Diethylene glycol	10					0.66	R	0.59	R		
2-Methoxyethanol	10										
2-Ethoxyethanol	10										

RL = Reporting Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS
To calculate sample quantitation limits: (RL * Dilution Factor) Revised 09/99

Sample Number :		HW-42		HW-42Z		HW45		HW46		HW46-P	
Sampling Location :		HW-42		HW-42		HW45		HW46		HW46	
Laboratory ID:		480-15814-16		480-15814-17		480-15814-18		480-15814-19		480-15814-20	
Field QC:											
Matrix :		Water		Water		Water		Water		Water	
Units :		mg/L		mg/L		mg/L		mg/L		mg/L	
Date Sampled :		2/02/2012		2/02/2012		2/02/2012		2/02/2012		2/02/2012	
Time Sampled :		10:28		10:29		10:28		11:39		11:24	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
Glycols	RL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Ethylene glycol	10										
Triethylene glycol	10							6.2	R	1.7	R
Diethylene glycol	10					0.55	R	1.8	R	0.54	R
2-Methoxyethanol	10										
2-Ethoxyethanol	10										

RL = Reporting Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS
To calculate sample quantitation limits: (RL * Dilution Factor) Revised 09/99

Appendix C

Chain of Custody (COC) Records

USEPA CLP Generic COC (LAB COPY)
DateShipped: 2/6/2012
CarrierName: FedEx
AirbillNo: 7931 9753 4405

CHAIN OF CUSTODY RECORD

Project Code: TL01-11-12-001

No: 3-020612-163058-0122
Lab: Test America DIM
Lab Contact:
Lab Phone: 716.504.9822

Sample #	Matrix/Sampler	Coll. Method	Analysis/Turnaround	Tag/Preservative/Bottles	Station Location	Collected	For Lab Use Only
HW28a-P	Drinking Water/ Mike Ferrier	Grab	17GLY(7), 17GLY(7)	3242 (-NA- / 40mlGlassVial), 3243 (-NA- / 40mlGlassVial) (2)	HW28a	02/03/2012 11:52	
HW28b-P	Drinking Water/ David Johnson	Grab	17GLY(7), 17GLY(7)	3377 (-NA- / 40mlGlassVial), 3378 (-NA- / 40mlGlassVial) (2)	HW28b	02/03/2012 14:27	
HW39	Drinking Water/ Tom Sedlacek	Grab	17GLY(7), 17GLY(7)	3120 (-NA- / 40mlGlassVial), 3121 (-NA- / 40mlGlassVial) (2)	HW39	02/03/2012 10:42	
HW39-P	Drinking Water/ Dan Jacobsen	Grab	17GLY(7), 17GLY(7)	3170 (-NA- / 40mlGlassVial), 3171 (-NA- / 40mlGlassVial) (2)	HW39	02/03/2012 11:13	
HW40	Drinking Water/ Tom Sedlacek	Grab	17GLY(7), 17GLY(7)	2976 (-NA- / 40mlGlassVial), 2977 (-NA- / 40mlGlassVial) (2)	HW40	02/02/2012 15:39	
HW40-P	Drinking Water/ Dan Jacobsen	Grab	17GLY(7), 17GLY(7)	3012 (-NA- / 40mlGlassVial), 3013 (-NA- / 40mlGlassVial) (2)	HW40	02/02/2012 15:44	
HW41	Drinking Water/ David Johnson	Grab	17GLY(7), 17GLY(7)	3048 (-NA- / 40mlGlassVial), 3049 (-NA- / 40mlGlassVial) (2)	HW41	02/02/2012 16:12	

Special Instructions:	**Shipment for Case Complete? N**
	Samples Transferred From Chain of Custody #
Analysis Key: 17GLY=17-Glycol	

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
14	[signature]	2/6/12									

Appendix D

Laboratory Case Narrative

SAMPLE SUMMARY

Client: Techlaw, Inc

Job Number: 480-15814-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-15814-1	EB02	Water	02/05/2012 1500	02/07/2012 1015
480-15814-2	FB08	Water	02/01/2012 1445	02/07/2012 1015
480-15814-3	FB09	Water	02/02/2012 1015	02/07/2012 1015
480-15814-4	FB10	Water	02/03/2012 1409	02/07/2012 1015
480-15814-5	HW09	Water	02/03/2012 1520	02/07/2012 1015
480-15814-6	HW09-P	Water	02/03/2012 1516	02/07/2012 1015
480-15814-7	HW28A	Water	02/03/2012 1149	02/07/2012 1015
480-15814-8	HW28A-P	Water	02/03/2012 1152	02/07/2012 1015
480-15814-9	HW28B-P	Water	02/03/2012 1427	02/07/2012 1015
480-15814-10	HW39	Water	02/03/2012 1442	02/07/2012 1015
480-15814-11	HW39-P	Water	02/03/2012 1113	02/07/2012 1015
480-15814-12	HW40	Water	02/02/2012 1539	02/07/2012 1015
480-15814-13	HW40-P	Water	02/02/2012 1544	02/07/2012 1015
480-15814-14	HW41	Water	02/02/2012 1612	02/07/2012 1015
480-15814-15	HW41-P	Water	02/02/2012 1554	02/07/2012 1015
480-15814-16	HW-42	Water	02/02/2012 1028	02/07/2012 1015
480-15814-17	HW-42Z	Water	02/02/2012 1029	02/07/2012 1015
480-15814-18	HW45	Water	02/06/2012 1028	02/07/2012 1015
480-15814-18MS	HW45	Water	02/06/2012 1028	02/07/2012 1015
480-15814-18MSD	HW45	Water	02/06/2012 1028	02/07/2012 1015
480-15814-19	HW46	Water	02/02/2012 1139	02/07/2012 1015
480-15814-20	HW46-P	Water	02/02/2012 1124	02/07/2012 1015

GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Instrument ID: PE-01 Analysis Batch Number: 49964

Lab Sample ID: STD 480-49964/6 IC Client Sample ID:

Date Analyzed: 02/01/12 11:32 Lab File ID: PE08206.d GC Column: ZB-5 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Ethoxyethanol	2.08	Peak Tail	dosierc	02/01/12 13:24

Lab Sample ID: STD 480-49964/7 IC Client Sample ID:

Date Analyzed: 02/01/12 11:49 Lab File ID: PE08207.d GC Column: ZB-5 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Ethoxyethanol	2.07	Peak Tail	dosierc	02/01/12 13:25

Lab Sample ID: STD 480-49964/8 IC Client Sample ID:

Date Analyzed: 02/01/12 12:06 Lab File ID: PE08208.d GC Column: ZB-5 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Methoxyethanol	1.91	Incomplete Integration	dosierc	02/01/12 13:27
2-Ethoxyethanol	2.07	Peak Tail	dosierc	02/01/12 13:27

RE: TechLaw Project No. R33917
Fischer, Brian
to:
Fred Foreman
02/23/2012 11:19 AM
Cc:
"Nance, Gene"
Hide Details
From: "Fischer, Brian" <Brian.Fischer@testamericainc.com>

To: Fred Foreman/ESC/R3/USEPA/US@EPA

Cc: "Nance, Gene" <Gnance@TechLawInc.com>

History: This message has been replied to.

Hi Fred,

This 8015 glycol modified method is single column analysis, there is no secondary column.

Announcing TotalAccess 4.0 – Online access to your data. New homepage with easier access to your data, multiple search criteria including sampling date and much more! Contact your Account Executive or Project Manager today to arrange for a live demonstration!

BRIAN FISCHER
Project Management Supervisor

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

10 Hazelwood Drive
Amherst, NY 14228
Tel 716.504.9835
www.testamericainc.com

From: Fred Foreman [mailto:Foreman.Fred@epamail.epa.gov]

ATTACHMENT 2

Appendix A

Form Is

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Client Sample ID: EB02 Lab Sample ID: 480-15814-1

Matrix: Water Lab File ID: PE09125.d

Analysis Method: 8015B Date Collected: 02/05/2012 15:00

Sample wt/vol: .5(mL) Date Analyzed: 02/09/2012 09:22

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-5 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 50925 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	4.0	J	10	1.6
111-46-6	Diethylene glycol	0.54	J B	10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	107		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo
Job No.: 480-15814-1
SDG No.:
Client Sample ID: FB08
Lab Sample ID: 480-15814-2
Matrix: Water
Lab File ID: PE09126.d
Analysis Method: 8015B
Date Collected: 02/01/2012 14:45
Sample wt/vol: .5(mL)
Date Analyzed: 02/09/2012 09:39
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: ZB-5 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 50925
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	ND		10	1.6
111-46-6	Diethylene glycol	ND		10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	108		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Client Sample ID: FB09 Lab Sample ID: 480-15814-3

Matrix: Water Lab File ID: PE09127.d

Analysis Method: 8015B Date Collected: 02/02/2012 10:15

Sample wt/vol: .5(mL) Date Analyzed: 02/09/2012 09:56

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-5 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 50925 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	ND		10	1.6
111-46-6	Diethylene glycol	0.52	J B	10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	105		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-15814-1

SDG No.:

Client Sample ID: FB10 | Lab Sample ID: 480-15814-4

Matrix: Water | Lab File ID: PE09128.d

Analysis Method: 8015B | Date Collected: 02/03/2012 14:09

Sample wt/vol: .5(mL) | Date Analyzed: 02/09/2012 10:14

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-5 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 50925 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	ND		10	1.6
111-46-6	Diethylene glycol	ND		10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	105		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW09 Lab Sample ID: 480-15814-5

Matrix: Water Lab File ID: PE09129.d

Analysis Method: 8015B Date Collected: 02/03/2012 15:20

Sample wt/vol: .5(mL) Date Analyzed: 02/09/2012 10:31

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-5 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 50925 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	ND		10	1.6
111-46-6	Diethylene glycol	ND		10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	108		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW09-P | Lab Sample ID: 480-15814-6

Matrix: Water | Lab File ID: PE09130.d

Analysis Method: 8015B | Date Collected: 02/03/2012 15:16

Sample wt/vol: .5(mL) | Date Analyzed: 02/09/2012 10:48

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-5 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 50925 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	ND		10	1.6
111-46-6	Diethylene glycol	0.51	J B	10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	108		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW28A Lab Sample ID: 480-15814-7

Matrix: Water Lab File ID: PE09131.d

Analysis Method: 8015B Date Collected: 02/03/2012 11:49

Sample wt/vol: .5(mL) Date Analyzed: 02/09/2012 11:06

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-5 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 50925 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	ND		10	1.6
111-46-6	Diethylene glycol	ND		10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	107		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW28A-P Lab Sample ID: 480-15814-8

Matrix: Water Lab File ID: PE09133.d

Analysis Method: 8015B Date Collected: 02/03/2012 11:52

Sample wt/vol: .5(mL) Date Analyzed: 02/09/2012 11:46

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-5 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 50925 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	2.7	J	10	1.6
111-46-6	Diethylene glycol	0.59	J B	10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	107		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW28B-P | Lab Sample ID: 480-15814-9

Matrix: Water | Lab File ID: PE09134.d

Analysis Method: 8015B | Date Collected: 02/03/2012 14:27

Sample wt/vol: .5(mL) | Date Analyzed: 02/09/2012 12:03

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-5 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 50925 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	ND		10	1.6
111-46-6	Diethylene glycol	ND		10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	107		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW39 | Lab Sample ID: 480-15814-10

Matrix: Water | Lab File ID: PE09135.d

Analysis Method: 8015B | Date Collected: 02/03/2012 14:42

Sample wt/vol: .5(mL) | Date Analyzed: 02/09/2012 12:20

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-5 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 50925 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	ND		10	1.6
111-46-6	Diethylene glycol	ND		10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	105		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW39-P | Lab Sample ID: 480-15814-11

Matrix: Water | Lab File ID: PE09136.d

Analysis Method: 8015B | Date Collected: 02/03/2012 11:13

Sample wt/vol: .5(mL) | Date Analyzed: 02/09/2012 12:38

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-5 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 50925 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	ND		10	1.6
111-46-6	Diethylene glycol	ND		10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	110		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW40 Lab Sample ID: 480-15814-12

Matrix: Water Lab File ID: PE09137.d

Analysis Method: 8015B Date Collected: 02/02/2012 15:39

Sample wt/vol: .5(mL) Date Analyzed: 02/09/2012 12:55

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-5 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 50925 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	ND		10	1.6
111-46-6	Diethylene glycol	ND		10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	108		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW40-P | Lab Sample ID: 480-15814-13

Matrix: Water | Lab File ID: PE09141.d

Analysis Method: 8015B | Date Collected: 02/02/2012 15:44

Sample wt/vol: 0.5(mL) | Date Analyzed: 02/09/2012 14:42

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-5 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 50925 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	3.0	J B	10	1.6
111-46-6	Diethylene glycol	0.66	J B	10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	104		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW41 | Lab Sample ID: 480-15814-14

Matrix: Water | Lab File ID: PE09142.d

Analysis Method: 8015B | Date Collected: 02/02/2012 16:12

Sample wt/vol: 0.5(mL) | Date Analyzed: 02/09/2012 14:59

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-5 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 50925 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	ND		10	1.6
111-46-6	Diethylene glycol	0.59	J B	10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	105		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW41-P Lab Sample ID: 480-15814-15

Matrix: Water Lab File ID: PE09143.d

Analysis Method: 8015B Date Collected: 02/02/2012 15:54

Sample wt/vol: 0.5(mL) Date Analyzed: 02/09/2012 15:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-5 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 50925 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	ND		10	1.6
111-46-6	Diethylene glycol	ND		10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	105		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW-42 Lab Sample ID: 480-15814-16

Matrix: Water Lab File ID: PE09144.d

Analysis Method: 8015B Date Collected: 02/02/2012 10:28

Sample wt/vol: 0.5(mL) Date Analyzed: 02/09/2012 15:34

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-5 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 50925 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	ND		10	1.6
111-46-6	Diethylene glycol	ND		10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	104		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW-42Z | Lab Sample ID: 480-15814-17

Matrix: Water | Lab File ID: PE09145.d

Analysis Method: 8015B | Date Collected: 02/02/2012 10:29

Sample wt/vol: 0.5(mL) | Date Analyzed: 02/09/2012 15:51

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-5 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 50925 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	ND		10	1.6
111-46-6	Diethylene glycol	ND		10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	106		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW45 | Lab Sample ID: 480-15814-18

Matrix: Water | Lab File ID: PE09146.d

Analysis Method: 8015B | Date Collected: 02/06/2012 10:28

Sample wt/vol: 0.5(mL) | Date Analyzed: 02/09/2012 16:09

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-5 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 50925 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	ND		10	1.6
111-46-6	Diethylene glycol	0.55	J B	10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	107		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW46 Lab Sample ID: 480-15814-19

Matrix: Water Lab File ID: PE09150.d

Analysis Method: 8015B Date Collected: 02/02/2012 11:39

Sample wt/vol: 0.5(mL) Date Analyzed: 02/09/2012 17:18

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-5 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 50925 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	6.2	J B	10	1.6
111-46-6	Diethylene glycol	1.8	J B	10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	106		66-130

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW46-P Lab Sample ID: 480-15814-20

Matrix: Water Lab File ID: PE09151.d

Analysis Method: 8015B Date Collected: 02/02/2012 11:24

Sample wt/vol: 0.5(mL) Date Analyzed: 02/09/2012 17:35

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-5 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 50925 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	1.7	J B	10	1.6
111-46-6	Diethylene glycol	0.54	J B	10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	105		66-130

Appendix B

Support Documentation

FORM VI
GC VOA INITIAL CALIBRATION DATA
EXTERNAL STANDARD RETENTION TIME SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1 Analy Batch No.: 49964

SDG No.:

Instrument ID: PE-01 GC Column: ZB-5 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/01/2012 10:57 Calibration End Date: 02/01/2012 12:06 Calibration ID: 5852

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 480-49964/5	PE08205.d
Level 2	STD 480-49964/6	PE08206.d
Level 3	STD 480-49964/7	PE08207.d
Level 4	STD 480-49964/8	PE08208.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4							RT WINDOW	AVG RT
2-Methoxyethanol	1.904	1.920	1.912	1.907							1.870 - 1.970	1.911
2-Ethoxyethanol	2.067	2.083	2.073	2.068							2.033 - 2.133	2.073
Propylene glycol	4.515	4.524	4.519	4.523							4.474 - 4.574	4.520
Ethylene glycol	4.771	4.780	4.773	4.779							4.730 - 4.830	4.776
Diethylene glycol	7.180	7.188	7.179	7.187							7.138 - 7.238	7.184
Triethylene Glycol	8.828	8.833	8.827	8.833							8.783 - 8.883	8.830
1,4-Butanediol	6.829	6.839	6.831	6.837							6.789 - 6.889	6.834

FORM VI
GC VOA INITIAL CALIBRATION DATA
EXTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1 Analy Batch No.: 49964

SDG No.:

Instrument ID: PE-01 GC Column: ZB-5 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/01/2012 10:57 Calibration End Date: 02/01/2012 12:06 Calibration ID: 5852

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 480-49964/5	PE08205.d
Level 2	STD 480-49964/6	PE08206.d
Level 3	STD 480-49964/7	PE08207.d
Level 4	STD 480-49964/8	PE08208.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4		B	M1	M2								
2-Methoxyethanol	563452	596737	595761	513714	Ave		571859.509				6.2		20.0			
2-Ethoxyethanol	751570	792686	787469	694526	Ave		760510.780				5.3		20.0			
Propylene glycol	617951	671784	682739	601502	Ave		643217.933				5.4		20.0			
Ethylene glycol	459250	498692	513964	454783	Ave		480568.287				5.3		20.0			
Diethylene glycol	548106	538716	560304	500903	Ave		540870.511				4.4		20.0			
Triethylene Glycol	362706	305218	329041	307007	Ave		350933.990				17.0		20.0			
1,4-Butanediol	913252	977122	967058	853325	Ave		917742.130				5.9		20.0			

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
GC VOA INITIAL CALIBRATION DATA
EXTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1 Analy Batch No.: 49964

SDG No.:

Instrument ID: PE-01 GC Column: ZB-5 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/01/2012 10:57 Calibration End Date: 02/01/2012 12:06 Calibration ID: 5852

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 480-49964/5	PE08205.d
Level 2	STD 480-49964/6	PE08206.d
Level 3	STD 480-49964/7	PE08207.d
Level 4	STD 480-49964/8	PE08208.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (NG/UL)				
		LVL 1	LVL 2	LVL 3	LVL 4		LVL 1	LVL 2	LVL 3	LVL 4	
2-Methoxyethanol	Ave	5634515	11934735	23830431	25685716		10.0	20.0	40.0	50.0	
2-Ethoxyethanol	Ave	7515699	15853713	31498762	34726285		10.0	20.0	40.0	50.0	
Propylene glycol	Ave	6179509	13435683	27309567	30075112		10.0	20.0	40.0	50.0	
Ethylene glycol	Ave	4592495	9973849	20558557	22739168		10.0	20.0	40.0	50.0	
Diethylene glycol	Ave	5481057	10774329	22412169	25045139		10.0	20.0	40.0	50.0	
Triethylene Glycol	Ave	3627055	6104360	13161638	15350365		10.0	20.0	40.0	50.0	
1,4-Butanediol	Ave	36530103	48856122	58023475	68266023		40.0	50.0	60.0	80.0	

Curve Type Legend:
Ave = Average

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Lab Sample ID: CCV 480-50925/2 Calibration Date: 02/09/2012 07:45

Instrument ID: PE-01 Calib Start Date: 02/01/2012 10:57

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 02/01/2012 12:06

Lab File ID: PE09121.d Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Methoxyethanol	Ave	571860	634577		22.2	20.0	11.0	20.0
2-Ethoxyethanol	Ave	760511	851002		22.4	20.0	11.9	20.0
Propylene glycol	Ave	643218	697095		21.7	20.0	8.4	20.0
Ethylene glycol	Ave	480568	520731		21.7	20.0	8.4	20.0
Diethylene glycol	Ave	540871	568139		21.0	20.0	5.0	20.0
Triethylene Glycol	Ave	350934	340124		19.4	20.0	-3.1	20.0
1,4-Butanediol	Ave	917742	902777		49.2	50.0	-1.6	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Lab Sample ID: CCV 480-50925/2 Calibration Date: 02/09/2012 07:45

Instrument ID: PE-01 Calib Start Date: 02/01/2012 10:57

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 02/01/2012 12:06

Lab File ID: PE09121.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		TO	FROM
2-Methoxyethanol	1.90	1.85	1.95
2-Ethoxyethanol	2.06	2.01	2.11
Propylene glycol	4.51	4.46	4.56
Ethylene glycol	4.77	4.72	4.82
Diethylene glycol	7.17	7.12	7.22
Triethylene Glycol	8.83	8.78	8.88
1,4-Butanediol	6.82	6.77	6.87

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Lab Sample ID: CCV 480-50925/13 Calibration Date: 02/09/2012 11:23

Instrument ID: PE-01 Calib Start Date: 02/01/2012 10:57

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 02/01/2012 12:06

Lab File ID: PE09132.d Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Methoxyethanol	Ave	571860	645595		22.6	20.0	12.9	20.0
2-Ethoxyethanol	Ave	760511	872246		22.9	20.0	14.7	20.0
Propylene glycol	Ave	643218	712664		22.2	20.0	10.8	20.0
Ethylene glycol	Ave	480568	532131		22.1	20.0	10.7	20.0
Diethylene glycol	Ave	540871	587929		21.7	20.0	8.7	20.0
Triethylene Glycol	Ave	350934	342504		19.5	20.0	-2.4	20.0
1,4-Butanediol	Ave	917742	933973		50.9	50.0	1.8	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Lab Sample ID: CCV 480-50925/13 Calibration Date: 02/09/2012 11:23

Instrument ID: PE-01 Calib Start Date: 02/01/2012 10:57

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 02/01/2012 12:06

Lab File ID: PE09132.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		TO	FROM
2-Methoxyethanol	1.91	1.86	1.96
2-Ethoxyethanol	2.06	2.01	2.11
Propylene glycol	4.52	4.47	4.57
Ethylene glycol	4.77	4.72	4.82
Diethylene glycol	7.18	7.13	7.23
Triethylene Glycol	8.83	8.78	8.88
1,4-Butanediol	6.83	6.78	6.88

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Lab Sample ID: CCV 480-50925/19 Calibration Date: 02/09/2012 13:12

Instrument ID: PE-01 Calib Start Date: 02/01/2012 10:57

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 02/01/2012 12:06

Lab File ID: PE09138.d Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Methoxyethanol	Ave	571860	653954		22.9	20.0	14.4	20.0
2-Ethoxyethanol	Ave	760511	871712		22.9	20.0	14.6	20.0
Propylene glycol	Ave	643218	719721		22.4	20.0	11.9	20.0
Ethylene glycol	Ave	480568	536637		22.3	20.0	11.7	20.0
Diethylene glycol	Ave	540871	584550		21.6	20.0	8.1	20.0
Triethylene Glycol	Ave	350934	324770		18.5	20.0	-7.5	20.0
1,4-Butanediol	Ave	917742	947772		51.6	50.0	3.3	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Lab Sample ID: CCV 480-50925/19 Calibration Date: 02/09/2012 13:12

Instrument ID: PE-01 Calib Start Date: 02/01/2012 10:57

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 02/01/2012 12:06

Lab File ID: PE09138.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		TO	FROM
2-Methoxyethanol	1.91	1.86	1.96
2-Ethoxyethanol	2.07	2.02	2.12
Propylene glycol	4.52	4.47	4.57
Ethylene glycol	4.78	4.73	4.83
Diethylene glycol	7.18	7.13	7.23
Triethylene Glycol	8.83	8.78	8.88
1,4-Butanediol	6.83	6.78	6.88

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Lab Sample ID: CCV 480-50925/30 Calibration Date: 02/09/2012 17:01

Instrument ID: PE-01 Calib Start Date: 02/01/2012 10:57

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 02/01/2012 12:06

Lab File ID: PE09149.d Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Methoxyethanol	Ave	571860	679877		23.8	20.0	18.9	20.0
2-Ethoxyethanol	Ave	760511	900394		23.7	20.0	18.4	20.0
Propylene glycol	Ave	643218	766358		23.8	20.0	19.1	20.0
Ethylene glycol	Ave	480568	563801		23.5	20.0	17.3	20.0
Diethylene glycol	Ave	540871	615524		22.8	20.0	13.8	20.0
Triethylene Glycol	Ave	350934	331998		18.9	20.0	-5.4	20.0
1,4-Butanediol	Ave	917742	980881		53.4	50.0	6.9	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Lab Sample ID: CCV 480-50925/30 Calibration Date: 02/09/2012 17:01

Instrument ID: PE-01 Calib Start Date: 02/01/2012 10:57

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 02/01/2012 12:06

Lab File ID: PE09149.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		TO	FROM
2-Methoxyethanol	1.92	1.87	1.97
2-Ethoxyethanol	2.08	2.03	2.13
Propylene glycol	4.52	4.47	4.57
Ethylene glycol	4.77	4.72	4.82
Diethylene glycol	7.18	7.13	7.23
Triethylene Glycol	8.83	8.78	8.88
1,4-Butanediol	6.83	6.78	6.88

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Lab Sample ID: CCV 480-50925/33 Calibration Date: 02/09/2012 17:52

Instrument ID: PE-01 Calib Start Date: 02/01/2012 10:57

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 02/01/2012 12:06

Lab File ID: PE09152.d Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Methoxyethanol	Ave	571860	649698		22.7	20.0	13.6	20.0
2-Ethoxyethanol	Ave	760511	875279		23.0	20.0	15.1	20.0
Propylene glycol	Ave	643218	719882		22.4	20.0	11.9	20.0
Ethylene glycol	Ave	480568	525725		21.9	20.0	9.4	20.0
Diethylene glycol	Ave	540871	582198		21.5	20.0	7.6	20.0
Triethylene Glycol	Ave	350934	318361		18.1	20.0	-9.3	20.0
1,4-Butanediol	Ave	917742	934577		50.9	50.0	1.8	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Lab Sample ID: CCV 480-50925/33 Calibration Date: 02/09/2012 17:52

Instrument ID: PE-01 Calib Start Date: 02/01/2012 10:57

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 02/01/2012 12:06

Lab File ID: PE09152.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		TO	FROM
2-Methoxyethanol	1.91	1.86	1.96
2-Ethoxyethanol	2.07	2.02	2.12
Propylene glycol	4.52	4.47	4.57
Ethylene glycol	4.77	4.72	4.82
Diethylene glycol	7.18	7.13	7.23
Triethylene Glycol	8.83	8.78	8.88
1,4-Butanediol	6.83	6.78	6.88

Client: Techlaw, Inc

Job Number: 480-15814-1

Surrogate Recovery Report

8015B Glycols -Direct Injection (GC/FID)

Client Matrix: Water

Lab Sample ID	Client Sample ID	14BD1 %Rec
480-15814-1	EB02	107
480-15814-2	FB08	108
480-15814-3	FB09	105
480-15814-4	FB10	105
480-15814-5	HW09	108
480-15814-6	HW09-P	108
480-15814-7	HW28A	107
480-15814-8	HW28A-P	107
480-15814-9	HW28B-P	107
480-15814-10	HW39	105
480-15814-11	HW39-P	110
480-15814-12	HW40	108
480-15814-13	HW40-P	104
480-15814-14	HW41	105
480-15814-15	HW41-P	105
480-15814-16	HW-42	104
480-15814-17	HW-42Z	106
480-15814-18	HW45	107
480-15814-19	HW46	106
480-15814-20	HW46-P	105
MB 480-50789/1-A		101
MB 480-51003/1-A		105
LCS 480-50789/2-A		103
LCS 480-51003/2-A		100
LCSD 480-50789/3-A		102
480-15814-18 MS	HW45 MS	104
480-15814-18 MSD	HW45 MSD	104

Surrogate	Acceptance Limits
14BD = 1,4-Butanediol	66-130

GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Instrument ID: PE-01 Start Date: 02/01/2012 10:57

Analysis Batch Number: 49964 End Date: 02/01/2012 19:02

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		02/01/2012 10:57	1		ZB-5 0.25(mm)
STD 480-49964/5 IC		02/01/2012 11:15	1	PE08205.d	ZB-5 0.25(mm)
STD 480-49964/6 IC		02/01/2012 11:32	1	PE08206.d	ZB-5 0.25(mm)
STD 480-49964/7 IC		02/01/2012 11:49	1	PE08207.d	ZB-5 0.25(mm)
STD 480-49964/8 IC		02/01/2012 12:06	1	PE08208.d	ZB-5 0.25(mm)
ICV 480-49964/9		02/01/2012 12:24	1		ZB-5 0.25(mm)
ZZZZZ		02/01/2012 13:43	1		ZB-5 0.25(mm)
ZZZZZ		02/01/2012 14:11	1		ZB-5 0.25(mm)
ICV 480-49964/12		02/01/2012 14:48	1		ZB-5 0.25(mm)
CCV 480-49964/13		02/01/2012 15:52	1		ZB-5 0.25(mm)
ZZZZZ		02/01/2012 16:09	1		ZB-5 0.25(mm)
ZZZZZ		02/01/2012 16:26	1		ZB-5 0.25(mm)
ZZZZZ		02/01/2012 16:44	1		ZB-5 0.25(mm)
ZZZZZ		02/01/2012 17:01	1		ZB-5 0.25(mm)
MDLV 480-49832/5-A		02/01/2012 17:18	1		ZB-5 0.25(mm)
MDLV 480-49832/6-A		02/01/2012 17:36	1		ZB-5 0.25(mm)
ZZZZZ		02/01/2012 17:53	50		ZB-5 0.25(mm)
		02/01/2012 18:10	1		ZB-5 0.25(mm)
CCV 480-49964/24		02/01/2012 19:02	1		ZB-5 0.25(mm)

8015B

GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Instrument ID: PE-01 Start Date: 02/09/2012 07:45

Analysis Batch Number: 50925 End Date: 02/09/2012 17:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 480-50925/2		02/09/2012 07:45	1	PE09121.d	ZB-5 0.25(mm)
MB 480-50789/1-A		02/09/2012 08:27	1	PE09122.d	ZB-5 0.25(mm)
LCS 480-50789/2-A		02/09/2012 08:47	1	PE09123.d	ZB-5 0.25(mm)
LCSD 480-50789/3-A		02/09/2012 09:04	1	PE09124.d	ZB-5 0.25(mm)
480-15814-1	EB02	02/09/2012 09:22	1	PE09125.d	ZB-5 0.25(mm)
480-15814-2	FB08	02/09/2012 09:39	1	PE09126.d	ZB-5 0.25(mm)
480-15814-3	FB09	02/09/2012 09:56	1	PE09127.d	ZB-5 0.25(mm)
480-15814-4	FB10	02/09/2012 10:14	1	PE09128.d	ZB-5 0.25(mm)
480-15814-5	HW09	02/09/2012 10:31	1	PE09129.d	ZB-5 0.25(mm)
480-15814-6	HW09-P	02/09/2012 10:48	1	PE09130.d	ZB-5 0.25(mm)
480-15814-7	HW28A	02/09/2012 11:06	1	PE09131.d	ZB-5 0.25(mm)
CCV 480-50925/13		02/09/2012 11:23	1	PE09132.d	ZB-5 0.25(mm)
480-15814-8	HW28A-P	02/09/2012 11:46	1	PE09133.d	ZB-5 0.25(mm)
480-15814-9	HW28B-P	02/09/2012 12:03	1	PE09134.d	ZB-5 0.25(mm)
480-15814-10	HW39	02/09/2012 12:20	1	PE09135.d	ZB-5 0.25(mm)
480-15814-11	HW39-P	02/09/2012 12:38	1	PE09136.d	ZB-5 0.25(mm)
480-15814-12	HW40	02/09/2012 12:55	1	PE09137.d	ZB-5 0.25(mm)
CCV 480-50925/19		02/09/2012 13:12	1	PE09138.d	ZB-5 0.25(mm)
MB 480-51003/1-A		02/09/2012 13:47	1	PE09139.d	ZB-5 0.25(mm)
LCS 480-51003/2-A		02/09/2012 14:11	1	PE09140.d	ZB-5 0.25(mm)
480-15814-13	HW40-P	02/09/2012 14:42	1	PE09141.d	ZB-5 0.25(mm)
480-15814-14	HW41	02/09/2012 14:59	1	PE09142.d	ZB-5 0.25(mm)
480-15814-15	HW41-P	02/09/2012 15:17	1	PE09143.d	ZB-5 0.25(mm)
480-15814-16	HW-42	02/09/2012 15:34	1	PE09144.d	ZB-5 0.25(mm)
480-15814-17	HW-42Z	02/09/2012 15:51	1	PE09145.d	ZB-5 0.25(mm)
480-15814-18	HW45	02/09/2012 16:09	1	PE09146.d	ZB-5 0.25(mm)
480-15814-18 MS	HW45 MS	02/09/2012 16:26	1	PE09147.d	ZB-5 0.25(mm)
480-15814-18 MSD	HW45 MSD	02/09/2012 16:43	1	PE09148.d	ZB-5 0.25(mm)
CCV 480-50925/30		02/09/2012 17:01	1	PE09149.d	ZB-5 0.25(mm)
480-15814-19	HW46	02/09/2012 17:18	1	PE09150.d	ZB-5 0.25(mm)
480-15814-20	HW46-P	02/09/2012 17:35	1	PE09151.d	ZB-5 0.25(mm)
CCV 480-50925/33		02/09/2012 17:52	1	PE09152.d	ZB-5 0.25(mm)

8015B

FORM II
GC VOA SURROGATE RECOVERY

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): ZB-5 ID: 0.25 (mm)

Client Sample ID	Lab Sample ID	14BD1 #
EB02	480-15814-1	107
FB08	480-15814-2	108
FB09	480-15814-3	105
FB10	480-15814-4	105
HW09	480-15814-5	108
HW09-P	480-15814-6	108
HW28A	480-15814-7	107
HW28A-P	480-15814-8	107
HW28B-P	480-15814-9	107
HW39	480-15814-10	105
HW39-P	480-15814-11	110
HW40	480-15814-12	108
HW40-P	480-15814-13	104
HW41	480-15814-14	105
HW41-P	480-15814-15	105
HW-42	480-15814-16	104
HW-42Z	480-15814-17	106
HW45	480-15814-18	107
HW46	480-15814-19	106
HW46-P	480-15814-20	105
	MB 480-50789/1-A	101
	MB 480-51003/1-A	105
	LCS 480-50789/2-A	103
	LCS 480-51003/2-A	100
	LCSD 480-50789/3-A	102
HW45 MS	480-15814-18 MS	104
HW45 MSD	480-15814-18 MSD	104

QC LIMITS
66-130

14BD = 1,4-Butanediol

Column to be used to flag recovery values

FORM II 8015B

GC VOA BATCH WORKSHEET

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Batch Number: 50789 Batch Start Date: 02/08/12 11:02 Batch Analyst: Neary, Mary Ann

Batch Method: 8015 Prep Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	GLY_CCV_1000 00014	GLY_SURR1000 00016		
MB 480-50789/1		8015 Prep, 8015B		.5 mL	1 mL		50 uL		
LCS 480-50789/2		8015 Prep, 8015B		.5 mL	1 mL	10 uL	50 uL		
LCSD 480-50789/3		8015 Prep, 8015B		.5 mL	1 mL	10 uL	50 uL		
480-15814-A-1	EB02	8015 Prep, 8015B	T	.5 mL	1 mL		50 uL		
480-15814-A-2	FB08	8015 Prep, 8015B	T	.5 mL	1 mL		50 uL		
480-15814-B-3	FB09	8015 Prep, 8015B	T	.5 mL	1 mL		50 uL		
480-15814-B-4	FB10	8015 Prep, 8015B	T	.5 mL	1 mL		50 uL		
480-15814-B-5	HW09	8015 Prep, 8015B	T	.5 mL	1 mL		50 uL		
480-15814-B-6	HW09-P	8015 Prep, 8015B	T	.5 mL	1 mL		50 uL		
480-15814-B-7	HW28A	8015 Prep, 8015B	T	.5 mL	1 mL		50 uL		
480-15814-B-8	HW28A-P	8015 Prep, 8015B	T	.5 mL	1 mL		50 uL		
480-15814-A-9	HW28B-P	8015 Prep, 8015B	T	.5 mL	1 mL		50 uL		
480-15814-B-10	HW39	8015 Prep, 8015B	T	.5 mL	1 mL		50 uL		
480-15814-A-11	HW39-P	8015 Prep, 8015B	T	.5 mL	1 mL		50 uL		
480-15814-A-12	HW40	8015 Prep, 8015B	T	.5 mL	1 mL		50 uL		

Batch Notes	

Basis	Basis Description
T	Total/NA

GC VOA BATCH WORKSHEET

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Batch Number: 51003 Batch Start Date: 02/09/12 13:31 Batch Analyst: Neary, Mary Ann

Batch Method: 8015 Prep Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	GLY_CCV_1000 00014	GLY_SURR1000 00016		
MB 480-51003/1		8015 Prep, 8015B		0.5 mL	1 mL		50 uL		
LCS 480-51003/2		8015 Prep, 8015B		0.5 mL	1 mL	10 uL	50 uL		
480-15814-A-13	HW40-P	8015 Prep, 8015B	T	0.5 mL	1 mL		50 uL		
480-15814-A-14	HW41	8015 Prep, 8015B	T	0.5 mL	1 mL		50 uL		
480-15814-A-15	HW41-P	8015 Prep, 8015B	T	0.5 mL	1 mL		50 uL		
480-15814-B-16	HW-42	8015 Prep, 8015B	T	0.5 mL	1 mL		50 uL		
480-15814-A-17	HW-42Z	8015 Prep, 8015B	T	0.5 mL	1 mL		50 uL		
480-15814-B-18	HW45	8015 Prep, 8015B	T	0.5 mL	1 mL		50 uL		
480-15814-A-18 MS	HW45	8015 Prep, 8015B	T	0.5 mL	1 mL	10 uL	50 uL		
480-15814-B-18 MSD	HW45	8015 Prep, 8015B	T	0.5 mL	1 mL	10 uL	50 uL		
480-15814-B-19	HW46	8015 Prep, 8015B	T	0.5 mL	1 mL		50 uL		
480-15814-B-20	HW46-P	8015 Prep, 8015B	T	0.5 mL	1 mL		50 uL		

Batch Notes	

Basis	Basis Description
T	Total/NA

FORM IV
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Lab Sample ID: MB 480-50789/1-A

Matrix: Water Date Extracted: 02/08/2012 11:02

Lab File ID:(1) PE09122.d Lab File ID:(2)

Date Analyzed:(1) 02/09/2012 08:27 Date Analyzed:(2)

Instrument ID:(1) PE-01 Instrument ID:(2)

GC Column:(1) ZB-5 ID: 0.25(mm) GC Column:(2) ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 480-50789/2-A	02/09/2012 08:47	
	LCSD 480-50789/3-A	02/09/2012 09:04	
EB02	480-15814-1	02/09/2012 09:22	
FB08	480-15814-2	02/09/2012 09:39	
FB09	480-15814-3	02/09/2012 09:56	
FB10	480-15814-4	02/09/2012 10:14	
HW09	480-15814-5	02/09/2012 10:31	
HW09-P	480-15814-6	02/09/2012 10:48	
HW28A	480-15814-7	02/09/2012 11:06	
HW28A-P	480-15814-8	02/09/2012 11:46	
HW28B-P	480-15814-9	02/09/2012 12:03	
HW39	480-15814-10	02/09/2012 12:20	
HW39-P	480-15814-11	02/09/2012 12:38	
HW40	480-15814-12	02/09/2012 12:55	

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 480-50789/1-A

Matrix: Water Lab File ID: PE09122.d

Analysis Method: 8015B Date Collected:

Sample wt/vol: .5(mL) Date Analyzed: 02/09/2012 08:27

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-5 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 50925 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	ND		10	1.6
111-46-6	Diethylene glycol	0.721	J	10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	101		66-130

FORM III
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Matrix: Water Level: Low Lab File ID: PE09123.d

Lab ID: LCS 480-50789/2-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Ethylene glycol	20.0	19.3	96	62-148	
Triethylene Glycol	20.0	13.0	65	10-169	
Diethylene glycol	20.0	18.8	94	61-150	
2-Methoxyethanol	20.0	18.7	94	75-121	
2-Ethoxyethanol	20.0	19.5	98	72-122	

Column to be used to flag recovery and RPD values

FORM III 8015B

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo
Job No.: 480-15814-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 480-50789/2-A
Matrix: Water
Lab File ID: PE09123.d
Analysis Method: 8015B
Date Collected:
Sample wt/vol: .5(mL)
Date Analyzed: 02/09/2012 08:47
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: ZB-5 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 50925
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	19.3		10	0.76
112-27-6	Triethylene Glycol	13.0		10	1.6
111-46-6	Diethylene glycol	18.8		10	0.51
109-86-4	2-Methoxyethanol	18.7		10	0.76
110-80-5	2-Ethoxyethanol	19.5		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	103		66-130

FORM III
GC VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Matrix: Water Level: Low Lab File ID: PE09124.d

Lab ID: LCSD 480-50789/3-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Ethylene glycol	20.0	20.6	103	7	50	62-148	
Triethylene Glycol	20.0	18.1	91	33	50	10-169	
Diethylene glycol	20.0	19.9	100	6	50	61-150	
2-Methoxyethanol	20.0	20.2	101	8	50	75-121	
2-Ethoxyethanol	20.0	20.8	104	6	50	72-122	

Column to be used to flag recovery and RPD values

FORM III 8015B

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo
Job No.: 480-15814-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 480-50789/3-A
Matrix: Water
Lab File ID: PE09124.d
Analysis Method: 8015B
Date Collected:
Sample wt/vol: .5(mL)
Date Analyzed: 02/09/2012 09:04
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: ZB-5 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 50925
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	20.6		10	0.76
112-27-6	Triethylene Glycol	18.1		10	1.6
111-46-6	Diethylene glycol	19.9		10	0.51
109-86-4	2-Methoxyethanol	20.2		10	0.76
110-80-5	2-Ethoxyethanol	20.8		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	102		66-130

FORM IV
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Lab Sample ID: MB 480-51003/1-A

Matrix: Water Date Extracted: 02/09/2012 13:31

Lab File ID:(1) PE09139.d Lab File ID:(2)

Date Analyzed:(1) 02/09/2012 13:47 Date Analyzed:(2)

Instrument ID:(1) PE-01 Instrument ID:(2)

GC Column:(1) ZB-5 ID: 0.25(mm) GC Column:(2) ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 480-51003/2-A	02/09/2012 14:11	
HW40-P	480-15814-13	02/09/2012 14:42	
HW41	480-15814-14	02/09/2012 14:59	
HW41-P	480-15814-15	02/09/2012 15:17	
HW-42	480-15814-16	02/09/2012 15:34	
HW-42Z	480-15814-17	02/09/2012 15:51	
HW45	480-15814-18	02/09/2012 16:09	
HW45 MS	480-15814-18 MS	02/09/2012 16:26	
HW45 MSD	480-15814-18 MSD	02/09/2012 16:43	
HW46	480-15814-19	02/09/2012 17:18	
HW46-P	480-15814-20	02/09/2012 17:35	

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo
Job No.: 480-15814-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 480-51003/1-A
Matrix: Water
Lab File ID: PE09139.d
Analysis Method: 8015B
Date Collected:
Sample wt/vol: 0.5(mL)
Date Analyzed: 02/09/2012 13:47
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: ZB-5 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 50925
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	0.76
112-27-6	Triethylene Glycol	4.26	J	10	1.6
111-46-6	Diethylene glycol	0.724	J	10	0.51
109-86-4	2-Methoxyethanol	ND		10	0.76
110-80-5	2-Ethoxyethanol	ND		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	105		66-130

FORM III
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Matrix: Water Level: Low Lab File ID: PE09140.d

Lab ID: LCS 480-51003/2-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Ethylene glycol	20.0	19.0	95	62-148	
Triethylene Glycol	20.0	13.3	67	10-169	
Diethylene glycol	20.0	18.8	94	61-150	
2-Methoxyethanol	20.0	18.8	94	75-121	
2-Ethoxyethanol	20.0	23.2	116	72-122	

Column to be used to flag recovery and RPD values

FORM III 8015B

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo
Job No.: 480-15814-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 480-51003/2-A
Matrix: Water
Lab File ID: PE09140.d
Analysis Method: 8015B
Date Collected:
Sample wt/vol: 0.5(mL)
Date Analyzed: 02/09/2012 14:11
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: ZB-5 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 50925
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	19.0		10	0.76
112-27-6	Triethylene Glycol	13.3		10	1.6
111-46-6	Diethylene glycol	18.8		10	0.51
109-86-4	2-Methoxyethanol	18.8		10	0.76
110-80-5	2-Ethoxyethanol	23.2		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	100		66-130

FORM III
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Matrix: Water Level: Low Lab File ID: PE09147.d

Lab ID: 480-15814-18 MS Client ID: HW45 MS

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
Ethylene glycol	20.0	ND	20.4	102	50-150	
Triethylene Glycol	20.0	ND	13.3	67	50-150	
Diethylene glycol	20.0	0.55 J	19.3	94	50-150	
2-Methoxyethanol	20.0	ND	21.4	107	50-150	
2-Ethoxyethanol	20.0	ND	21.4	107	50-150	

Column to be used to flag recovery and RPD values

FORM III 8015B

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW45 MS | Lab Sample ID: 480-15814-18 MS

Matrix: Water | Lab File ID: PE09147.d

Analysis Method: 8015B | Date Collected: 02/06/2012 10:28

Sample wt/vol: 0.5(mL) | Date Analyzed: 02/09/2012 16:26

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-5 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 50925 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	20.4		10	0.76
112-27-6	Triethylene Glycol	13.3		10	1.6
111-46-6	Diethylene glycol	19.3		10	0.51
109-86-4	2-Methoxyethanol	21.4		10	0.76
110-80-5	2-Ethoxyethanol	21.4		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	104		66-130

FORM III
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Buffalo Job No.: 480-15814-1

SDG No.:

Matrix: Water Level: Low Lab File ID: PE09148.d

Lab ID: 480-15814-18 MSD Client ID: HW45 MSD

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Ethylene glycol	20.0	19.3	97	6	50	50-150	
Triethylene Glycol	20.0	16.1	81	19	50	50-150	
Diethylene glycol	20.0	19.5	95	1	50	50-150	
2-Methoxyethanol	20.0	19.9	99	7	50	50-150	
2-Ethoxyethanol	20.0	20.0	100	7	50	50-150	

Column to be used to flag recovery and RPD values

FORM III 8015B

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-15814-1

SDG No.:

Client Sample ID: HW45 MSD | Lab Sample ID: 480-15814-18 MSD

Matrix: Water | Lab File ID: PE09148.d

Analysis Method: 8015B | Date Collected: 02/06/2012 10:28

Sample wt/vol: 0.5(mL) | Date Analyzed: 02/09/2012 16:43

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: ZB-5 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 50925 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	19.3		10	0.76
112-27-6	Triethylene Glycol	16.1		10	1.6
111-46-6	Diethylene glycol	19.5		10	0.51
109-86-4	2-Methoxyethanol	19.9		10	0.76
110-80-5	2-Ethoxyethanol	20.0		10	0.94

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	104		66-130