

US EPA ARCHIVE DOCUMENT

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica St. Louis  
13715 Rider Trail North  
Earth City, MO 63045  
Tel: (314)298-8566

TestAmerica Job ID: 160-2109-1

Client Project/Site: West Lake Landfill

For:

Engineering Management Support, Inc.  
7220 W. Jefferson AVE  
Suite 406  
Lakewood, Colorado 80235

Attn: Mr. Paul Rosasco

*Rhonda Ridenhower*

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Authorized for release by:  
4/30/2013 5:08:46 PM

Rhonda Ridenhower  
Customer Service Manager  
[rhonda.ridenhower@testamericainc.com](mailto:rhonda.ridenhower@testamericainc.com)

### LINKS

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



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## Case Narrative

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

**Job ID: 160-2109-1**

**Laboratory: TestAmerica St. Louis**

**Narrative**

### CASE NARRATIVE

**Client: Engineering Management Support, Inc.**

**Project: West Lake Landfill**

**Report Number: 160-2109-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client."

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

#### RECEIPT

The samples were received on 04/16/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.0 C.

#### VOLATILE ORGANIC COMPOUNDS (GC MS)

Samples FB@PZ-100-KS (160-2109-1), PZ-100-KS (160-2109-2), I-65 (160-2109-3), DUP 08 (160-2109-5) and TRIP BLANK (160-2109-6) were analyzed for volatile organic compounds (GC MS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 04/19/2013.

#### Analytical batch 47062

ICAL-8260C-L5mL-RSD15Low

The ICAL %RSD meet the QC limits of 15%RSD or less for all compounds. The ICV %D meets the QC limits of 20%D or less for all compounds. Isobutanol was from the initial calibration lowest point due to poor response. The surrogate compounds (Dibromofluoromethane, 1,2-Dichloroethane-d4, Toluene-d8 and 4-Bromofluorobenzene) were not spiked at the initial calibration highest

## Case Narrative

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

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#### Laboratory: TestAmerica St. Louis (Continued)

point because the recoveries do not warrant the high concentration. The initial calibration still meets the TestAmerica's point selection policy. No further action is required.

No other difficulties were encountered during the VOCs analyses.

All other quality control parameters were within the acceptance limits.

#### METALS (ICP)-Dissolved

Samples PZ-100-KS (160-2109-2), I-65 (160-2109-3) and DUP 08 (160-2109-5) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 04/18/2013 and analyzed on 04/24/2013.

The following samples were diluted to bring the concentration of target analytes calcium and sodium within the calibration range: (160-2109-3 MS), (160-2109-3 MSD), (160-2109-3 SD), DUP 08 (160-2109-5), I-65 (160-2109-3). Elevated reporting limits (RLs) are provided.

Due to the high concentration of calcium, the matrix spike / matrix spike duplicate (MS/MSD) for batch 46729 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria..

No other difficulties were encountered during the ICP analyses.

All other quality control parameters were within the acceptance limits.

#### TOTAL METALS (ICP)

Samples PZ-100-KS (160-2109-2), I-65 (160-2109-3) and DUP 08 (160-2109-5) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 04/18/2013 and analyzed on 04/23/2013 and 04/24/2013.

The following samples were diluted to bring the concentration of target analytes (calcium and sodium) within the calibration range: (160-2109-3 MS), (160-2109-3 MSD), (160-2109-3 SD), DUP 08 (160-2109-5), I-65 (160-2109-3), PZ-100-KS (160-2109-2). Elevated reporting limits (RLs) are provided.

Due to the high concentration of calcium, the matrix spike / matrix spike duplicate (MS/MSD) for batch 46730 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No other difficulties were encountered during the metals analyses.

All other quality control parameters were within the acceptance limits.

#### DISSOLVED MERCURY (CVAA)

Samples PZ-100-KS (160-2109-2), I-65 (160-2109-3) and DUP 08 (160-2109-5) were analyzed for dissolved mercury (CVAA) in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 04/25/2013 and analyzed on 04/26/2013.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) for sample 2109-3; MS/MSD was instead performed on 2109-4.

No difficulties were encountered during the mercury analyses.

All quality control parameters were within the acceptance limits.

#### TOTAL MERCURY

Samples PZ-100-KS (160-2109-2), I-65 (160-2109-3) and DUP 08 (160-2109-5) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 04/25/2013 and analyzed on 04/26/2013.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) for sample 2109-3; MS/MSD was instead performed on 2109-4.

## Case Narrative

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

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### Job ID: 160-2109-1 (Continued)

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#### Laboratory: TestAmerica St. Louis (Continued)

No difficulties were encountered during the mercury analyses.

All quality control parameters were within the acceptance limits.

#### ANIONS

Samples PZ-100-KS (160-2109-2), I-65 (160-2109-3) and DUP 08 (160-2109-5) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 04/16/2013.

The following samples were diluted to bring the concentrations of Chloride and Sulfate within the calibration range in IC batch 47805: DUP 08 (160-2109-5), I-65 (160-2109-3), PZ-100-KS (160-2109-2), PZ-106-KS (160-2106-1). Elevated reporting limits (RLs) are provided.

No difficulties were encountered during the anions analyses.

All quality control parameters were within the acceptance limits.

#### ALKALINITY

Samples PZ-100-KS (160-2109-2), I-65 (160-2109-3) and DUP 08 (160-2109-5) were analyzed for alkalinity in accordance with EPA Method 310.1. The samples were analyzed on 04/29/2013.

No difficulties were encountered during the alkalinity analyses.

All quality control parameters were within the acceptance limits.

**TestAmerica St. Louis**  
 13715 Rider Trail North  
 Earth City, MO 63045  
 Phone (314) 298-8566 Fax (314) 298-8757

## Chain of Custody Record

OUR 334

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b> Company: <b>Herst &amp; Associates</b> Address: <b>4631 North St. Peters Parkway</b> City: <b>St. Charles</b> State, Zip: <b>MO, 63304</b> Phone: _____ Email: <b>jregan@herstassociates.com</b> Project Name: <b>Westlake Landfill</b> Site: _____		Lab P/N: _____ E-Mail: _____ Phone: <b>636-939-9111</b> Sampler: _____ Carrier Tracking No(s): _____		COC No: <b>160-264-117.5</b> Page: <b>Page 5 of 8</b> Job #: _____	
Due Date Requested: _____ TAT Requested (days): _____ PO #: _____ WO #: _____ Project #: _____ SSO#: _____		<b>Analysis Requested</b>			
Sample Identification <b>S-23</b> <b>ARBPZ-100-125</b> <b>PZ-100-K5</b> <b>J-65</b> <b>Purge Tank</b> <b>DUP 08</b> <b>TSP BLANK</b>		Sample Date <b>4/16/13</b>     <b>4/16/13</b>		Sample Time <b>0800</b>  <b>0840</b> <b>0850</b> <b>1047</b> <b>1145</b>       	
Sample Type (C=Comp, G=grab) Preservation Code: _____		Matrix (Water, Soil, Other) Preservation Code: _____		Field Filtered Sample (Yes or No)	
310 - Alkalinity 300 - Anions, Ion Chromatography 8260C - <b>Discard 600C, 2470A</b>		310 - Alkalinity 300 - Anions, Ion Chromatography 8260C - <b>Discard 600C, 2470A</b>		Total Number of Containers Special Instructions/Note: <b>NO SAMPLE</b>  <b>report separately</b>	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Deliverable Requested: I, II, III, IV, Other (specify) _____		Special Instructions/QC Requirements: _____			
Empty Kit Relinquished by: <b>[Signature]</b>		Method of Shipment: _____			
Relinquished by: <b>[Signature]</b>		Date: <b>4/16/13 1400</b>		Received by: <b>[Signature]</b>	
Relinquished by: _____		Date/Time: _____		Received by: _____	
Relinquished by: _____		Date/Time: _____		Received by: _____	
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: _____			



## Login Sample Receipt Checklist

Client: Engineering Management Support, Inc.

Job Number: 160-2109-1

Login Number: 2109

List Source: TestAmerica St. Louis

List Number: 1

Creator: Clarke, Jill

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Definitions/Glossary

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

### Qualifiers

#### GC/MS VOA

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits

#### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
E	Result exceeded calibration range.
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

#### General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

US EPA ARCHIVE DOCUMENT

# Method Summary

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL SL
6010C	Metals (ICP)	SW846	TAL SL
7470A	Mercury (CVAA)	SW846	TAL SL
300.0	Anions, Ion Chromatography	MCAWW	TAL SL
310.1	Alkalinity	MCAWW	TAL SL

**Protocol References:**

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.  
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

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# Sample Summary

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-2109-1	FB@PZ-100-KS	Water	04/16/13 08:40	04/16/13 14:00
160-2109-2	PZ-100-KS	Water	04/16/13 08:50	04/16/13 14:00
160-2109-3	I-65	Water	04/16/13 10:47	04/16/13 14:00
160-2109-5	DUP 08	Water	04/16/13 00:00	04/16/13 14:00
160-2109-6	TRIP BLANK	Water	04/16/13 00:00	04/16/13 14:00

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## Detection Summary

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

**Client Sample ID: FB@PZ-100-KS**

**Lab Sample ID: 160-2109-1**

No Detections.

**Client Sample ID: PZ-100-KS**

**Lab Sample ID: 160-2109-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	4.2	J	50	4.0	ug/L	1		6010C	Total/NA
Calcium	21000		1000	110	ug/L	1		6010C	Total/NA
Iron	220		100	28	ug/L	1		6010C	Total/NA
Magnesium	13000		1000	130	ug/L	1		6010C	Total/NA
Manganese	17		15	3.3	ug/L	1		6010C	Total/NA
Potassium	5000		5000	1700	ug/L	1		6010C	Total/NA
Sodium	230000	E	1000	320	ug/L	1		6010C	Total/NA
Sodium	230000		10000	3200	ug/L	10		6010C	Total/NA
Zinc	13	J	20	5.2	ug/L	1		6010C	Total/NA
Barium	4.4	J	50	4.0	ug/L	1		6010C	Dissolved
Calcium	21000		1000	110	ug/L	1		6010C	Dissolved
Iron	32	J	100	28	ug/L	1		6010C	Dissolved
Lead	1.5	J	10	1.5	ug/L	1		6010C	Dissolved
Magnesium	13000		1000	130	ug/L	1		6010C	Dissolved
Manganese	21		15	3.3	ug/L	1		6010C	Dissolved
Potassium	5100		5000	1700	ug/L	1		6010C	Dissolved
Sodium	240000	E	1000	320	ug/L	1		6010C	Dissolved
Sodium	240000		10000	3200	ug/L	10		6010C	Dissolved
Zinc	8.1	J B	20	5.2	ug/L	1		6010C	Dissolved
Nitrate as N	0.016	J	0.020	0.0040	mg/L	1		300.0	Total/NA
Bromide	0.26		0.25	0.025	mg/L	1		300.0	Total/NA
Alkalinity	520		5.0	0.54	mg/L	1		310.1	Total/NA
Chloride - DL	52		4.0	0.40	mg/L	20		300.0	Total/NA
Sulfate - DL	37		10	1.0	mg/L	20		300.0	Total/NA

**Client Sample ID: I-65**

**Lab Sample ID: 160-2109-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	1700		200	80	ug/L	1		6010C	Total/NA
Barium	280		50	4.0	ug/L	1		6010C	Total/NA
Calcium	130000	E	1000	110	ug/L	1		6010C	Total/NA
Calcium	140000		5000	530	ug/L	5		6010C	Total/NA
Cobalt	11	J	50	4.0	ug/L	1		6010C	Total/NA
Iron	2500		100	28	ug/L	1		6010C	Total/NA
Lead	8.0	J	10	1.5	ug/L	1		6010C	Total/NA
Magnesium	20000		1000	130	ug/L	1		6010C	Total/NA
Manganese	750		15	3.3	ug/L	1		6010C	Total/NA
Nickel	24	J	40	13	ug/L	1		6010C	Total/NA
Potassium	5100		5000	1700	ug/L	1		6010C	Total/NA
Sodium	56000		1000	320	ug/L	1		6010C	Total/NA
Zinc	25		20	5.2	ug/L	1		6010C	Total/NA
Barium	190		50	4.0	ug/L	1		6010C	Dissolved
Calcium	120000	E	1000	110	ug/L	1		6010C	Dissolved
Calcium	130000		5000	530	ug/L	5		6010C	Dissolved
Lead	1.6	J	10	1.5	ug/L	1		6010C	Dissolved
Magnesium	17000		1000	130	ug/L	1		6010C	Dissolved
Manganese	14	J	15	3.3	ug/L	1		6010C	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica St. Louis

# Detection Summary

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Client Sample ID: I-65 (Continued)

Lab Sample ID: 160-2109-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	4800	J	5000	1700	ug/L	1		6010C	Dissolved
Sodium	58000		1000	320	ug/L	1		6010C	Dissolved
Zinc	5.7	J B	20	5.2	ug/L	1		6010C	Dissolved
Nitrate as N	0.0087	J	0.020	0.0040	mg/L	1		300.0	Total/NA
Alkalinity	270		5.0	0.54	mg/L	1		310.1	Total/NA
Chloride - DL	67		4.0	0.40	mg/L	20		300.0	Total/NA
Sulfate - DL	91		10	1.0	mg/L	20		300.0	Total/NA

## Client Sample ID: DUP 08

Lab Sample ID: 160-2109-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	2200		200	80	ug/L	1		6010C	Total/NA
Arsenic	3.0	J	10	2.0	ug/L	1		6010C	Total/NA
Barium	270		50	4.0	ug/L	1		6010C	Total/NA
Calcium	130000	E	1000	110	ug/L	1		6010C	Total/NA
Calcium	150000		5000	530	ug/L	5		6010C	Total/NA
Cobalt	14	J	50	4.0	ug/L	1		6010C	Total/NA
Iron	3100		100	28	ug/L	1		6010C	Total/NA
Lead	10		10	1.5	ug/L	1		6010C	Total/NA
Magnesium	21000		1000	130	ug/L	1		6010C	Total/NA
Manganese	850		15	3.3	ug/L	1		6010C	Total/NA
Nickel	27	J	40	13	ug/L	1		6010C	Total/NA
Potassium	5200		5000	1700	ug/L	1		6010C	Total/NA
Sodium	56000		1000	320	ug/L	1		6010C	Total/NA
Zinc	29		20	5.2	ug/L	1		6010C	Total/NA
Barium	190		50	4.0	ug/L	1		6010C	Dissolved
Calcium	120000	E	1000	110	ug/L	1		6010C	Dissolved
Calcium	130000		5000	530	ug/L	5		6010C	Dissolved
Lead	2.4	J	10	1.5	ug/L	1		6010C	Dissolved
Magnesium	17000		1000	130	ug/L	1		6010C	Dissolved
Manganese	13	J	15	3.3	ug/L	1		6010C	Dissolved
Potassium	4800	J	5000	1700	ug/L	1		6010C	Dissolved
Sodium	57000		1000	320	ug/L	1		6010C	Dissolved
Zinc	5.6	J B	20	5.2	ug/L	1		6010C	Dissolved
Nitrate as N	0.0085	J	0.020	0.0040	mg/L	1		300.0	Total/NA
Alkalinity	300		5.0	0.54	mg/L	1		310.1	Total/NA
Chloride - DL	67		4.0	0.40	mg/L	20		300.0	Total/NA
Sulfate - DL	91		10	1.0	mg/L	20		300.0	Total/NA

## Client Sample ID: TRIP BLANK

Lab Sample ID: 160-2109-6

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica St. Louis

# Client Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

**Client Sample ID: FB@PZ-100-KS**

**Lab Sample ID: 160-2109-1**

**Date Collected: 04/16/13 08:40**

**Matrix: Water**

**Date Received: 04/16/13 14:00**

**Method: 8260C - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			04/19/13 02:26	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			04/19/13 02:26	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			04/19/13 02:26	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			04/19/13 02:26	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			04/19/13 02:26	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			04/19/13 02:26	1
1,2-Dibromo-3-chloropropane	ND		10	1.2	ug/L			04/19/13 02:26	1
1,2-Dibromoethane	ND		5.0	0.44	ug/L			04/19/13 02:26	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			04/19/13 02:26	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			04/19/13 02:26	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			04/19/13 02:26	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			04/19/13 02:26	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			04/19/13 02:26	1
2-Butanone (MEK)	ND		20	0.39	ug/L			04/19/13 02:26	1
2-Hexanone	ND		20	0.59	ug/L			04/19/13 02:26	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			04/19/13 02:26	1
Acetone	ND		20	6.7	ug/L			04/19/13 02:26	1
Benzene	ND		5.0	0.25	ug/L			04/19/13 02:26	1
Bromodichloromethane	ND		5.0	0.25	ug/L			04/19/13 02:26	1
Bromoform	ND		5.0	0.37	ug/L			04/19/13 02:26	1
Bromomethane	ND		10	0.40	ug/L			04/19/13 02:26	1
Carbon disulfide	ND		5.0	0.37	ug/L			04/19/13 02:26	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			04/19/13 02:26	1
Chlorobenzene	ND		5.0	0.38	ug/L			04/19/13 02:26	1
Chloroethane	ND		10	0.38	ug/L			04/19/13 02:26	1
Chloroform	ND		5.0	0.15	ug/L			04/19/13 02:26	1
Chloromethane	ND		10	0.55	ug/L			04/19/13 02:26	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			04/19/13 02:26	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			04/19/13 02:26	1
Cyclohexane	ND		10	0.36	ug/L			04/19/13 02:26	1
Dibromochloromethane	ND		5.0	0.33	ug/L			04/19/13 02:26	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			04/19/13 02:26	1
Ethylbenzene	ND		5.0	0.30	ug/L			04/19/13 02:26	1
Isopropylbenzene	ND		5.0	0.26	ug/L			04/19/13 02:26	1
Methyl acetate	ND		5.0	2.3	ug/L			04/19/13 02:26	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			04/19/13 02:26	1
Methylcyclohexane	ND		10	0.26	ug/L			04/19/13 02:26	1
Methylene Chloride	ND		5.0	1.7	ug/L			04/19/13 02:26	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			04/19/13 02:26	1
o-Xylene	ND		5.0	0.32	ug/L			04/19/13 02:26	1
Styrene	ND		5.0	0.35	ug/L			04/19/13 02:26	1
Tetrachloroethene	ND		5.0	0.28	ug/L			04/19/13 02:26	1
Toluene	ND		5.0	1.0	ug/L			04/19/13 02:26	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			04/19/13 02:26	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			04/19/13 02:26	1
Trichloroethene	ND		5.0	0.29	ug/L			04/19/13 02:26	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			04/19/13 02:26	1
Vinyl chloride	ND		5.0	0.43	ug/L			04/19/13 02:26	1
Xylenes, Total	ND		10	0.85	ug/L			04/19/13 02:26	1

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## Client Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

**Client Sample ID: FB@PZ-100-KS**

**Lab Sample ID: 160-2109-1**

**Date Collected: 04/16/13 08:40**

**Matrix: Water**

**Date Received: 04/16/13 14:00**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		82 - 132		04/19/13 02:26	1
4-Bromofluorobenzene (Surr)	108		82 - 121		04/19/13 02:26	1
Dibromofluoromethane (Surr)	100		85 - 119		04/19/13 02:26	1
Toluene-d8 (Surr)	105		85 - 115		04/19/13 02:26	1

**Client Sample ID: PZ-100-KS**

**Lab Sample ID: 160-2109-2**

**Date Collected: 04/16/13 08:50**

**Matrix: Water**

**Date Received: 04/16/13 14:00**

**Method: 8260C - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			04/19/13 02:53	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.43	ug/L			04/19/13 02:53	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			04/19/13 02:53	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			04/19/13 02:53	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			04/19/13 02:53	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			04/19/13 02:53	1
1,2-Dibromo-3-chloropropane	ND		10	1.2	ug/L			04/19/13 02:53	1
1,2-Dibromoethane	ND		5.0	0.44	ug/L			04/19/13 02:53	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			04/19/13 02:53	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			04/19/13 02:53	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			04/19/13 02:53	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			04/19/13 02:53	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			04/19/13 02:53	1
2-Butanone (MEK)	ND		20	0.39	ug/L			04/19/13 02:53	1
2-Hexanone	ND		20	0.59	ug/L			04/19/13 02:53	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			04/19/13 02:53	1
Acetone	ND		20	6.7	ug/L			04/19/13 02:53	1
Benzene	ND		5.0	0.25	ug/L			04/19/13 02:53	1
Bromodichloromethane	ND		5.0	0.25	ug/L			04/19/13 02:53	1
Bromoform	ND		5.0	0.37	ug/L			04/19/13 02:53	1
Bromomethane	ND		10	0.40	ug/L			04/19/13 02:53	1
Carbon disulfide	ND		5.0	0.37	ug/L			04/19/13 02:53	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			04/19/13 02:53	1
Chlorobenzene	ND		5.0	0.38	ug/L			04/19/13 02:53	1
Chloroethane	ND		10	0.38	ug/L			04/19/13 02:53	1
Chloroform	ND		5.0	0.15	ug/L			04/19/13 02:53	1
Chloromethane	ND		10	0.55	ug/L			04/19/13 02:53	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			04/19/13 02:53	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			04/19/13 02:53	1
Cyclohexane	ND		10	0.36	ug/L			04/19/13 02:53	1
Dibromochloromethane	ND		5.0	0.33	ug/L			04/19/13 02:53	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			04/19/13 02:53	1
Ethylbenzene	ND		5.0	0.30	ug/L			04/19/13 02:53	1
Isopropylbenzene	ND		5.0	0.26	ug/L			04/19/13 02:53	1
Methyl acetate	ND		5.0	2.3	ug/L			04/19/13 02:53	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			04/19/13 02:53	1
Methylcyclohexane	ND		10	0.26	ug/L			04/19/13 02:53	1
Methylene Chloride	ND		5.0	1.7	ug/L			04/19/13 02:53	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			04/19/13 02:53	1

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# Client Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

**Client Sample ID: PZ-100-KS**

**Lab Sample ID: 160-2109-2**

Date Collected: 04/16/13 08:50

Matrix: Water

Date Received: 04/16/13 14:00

**Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.32	ug/L			04/19/13 02:53	1
Styrene	ND		5.0	0.35	ug/L			04/19/13 02:53	1
Tetrachloroethene	ND		5.0	0.28	ug/L			04/19/13 02:53	1
Toluene	ND		5.0	1.0	ug/L			04/19/13 02:53	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			04/19/13 02:53	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			04/19/13 02:53	1
Trichloroethene	ND		5.0	0.29	ug/L			04/19/13 02:53	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			04/19/13 02:53	1
Vinyl chloride	ND		5.0	0.43	ug/L			04/19/13 02:53	1
Xylenes, Total	ND		10	0.85	ug/L			04/19/13 02:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		82 - 121		04/19/13 02:53	1
Dibromofluoromethane (Surr)	99		85 - 119		04/19/13 02:53	1
1,2-Dichloroethane-d4 (Surr)	100		82 - 132		04/19/13 02:53	1
Toluene-d8 (Surr)	108		85 - 115		04/19/13 02:53	1

**Method: 6010C - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		200	80	ug/L		04/18/13 13:32	04/23/13 16:15	1
Antimony	ND		10	4.0	ug/L		04/18/13 13:32	04/23/13 16:15	1
Arsenic	ND		10	2.0	ug/L		04/18/13 13:32	04/23/13 16:15	1
<b>Barium</b>	<b>4.2</b>	<b>J</b>	50	4.0	ug/L		04/18/13 13:32	04/23/13 16:15	1
Beryllium	ND		5.0	0.61	ug/L		04/18/13 13:32	04/23/13 16:15	1
Cadmium	ND		5.0	0.91	ug/L		04/18/13 13:32	04/23/13 16:15	1
<b>Calcium</b>	<b>21000</b>		1000	110	ug/L		04/18/13 13:32	04/23/13 16:15	1
Chromium	ND		10	3.1	ug/L		04/18/13 13:32	04/23/13 16:15	1
Cobalt	ND		50	4.0	ug/L		04/18/13 13:32	04/23/13 16:15	1
Copper	ND		25	4.6	ug/L		04/18/13 13:32	04/23/13 16:15	1
<b>Iron</b>	<b>220</b>		100	28	ug/L		04/18/13 13:32	04/23/13 16:15	1
Lead	ND		10	1.5	ug/L		04/18/13 13:32	04/23/13 16:15	1
<b>Magnesium</b>	<b>13000</b>		1000	130	ug/L		04/18/13 13:32	04/23/13 16:15	1
<b>Manganese</b>	<b>17</b>		15	3.3	ug/L		04/18/13 13:32	04/23/13 16:15	1
Nickel	ND		40	13	ug/L		04/18/13 13:32	04/23/13 16:15	1
<b>Potassium</b>	<b>5000</b>		5000	1700	ug/L		04/18/13 13:32	04/23/13 16:15	1
Selenium	ND		15	2.7	ug/L		04/18/13 13:32	04/23/13 16:15	1
Silver	ND		10	6.0	ug/L		04/18/13 13:32	04/23/13 16:15	1
<b>Sodium</b>	<b>230000</b>	<b>E</b>	1000	320	ug/L		04/18/13 13:32	04/23/13 16:15	1
<b>Sodium</b>	<b>230000</b>		10000	3200	ug/L		04/18/13 13:32	04/24/13 15:43	10
Thallium	ND		20	4.0	ug/L		04/18/13 13:32	04/23/13 16:15	1
Vanadium	ND		50	4.1	ug/L		04/18/13 13:32	04/23/13 16:15	1
<b>Zinc</b>	<b>13</b>	<b>J</b>	20	5.2	ug/L		04/18/13 13:32	04/23/13 16:15	1

**Method: 6010C - Metals (ICP) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		200	80	ug/L		04/18/13 13:30	04/24/13 16:27	1
Antimony	ND		10	4.0	ug/L		04/18/13 13:30	04/24/13 16:27	1
Arsenic	ND		10	2.0	ug/L		04/18/13 13:30	04/24/13 16:27	1
<b>Barium</b>	<b>4.4</b>	<b>J</b>	50	4.0	ug/L		04/18/13 13:30	04/24/13 16:27	1
Beryllium	ND		5.0	0.61	ug/L		04/18/13 13:30	04/24/13 16:27	1

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# Client Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

**Client Sample ID: PZ-100-KS**

**Lab Sample ID: 160-2109-2**

Date Collected: 04/16/13 08:50

Matrix: Water

Date Received: 04/16/13 14:00

**Method: 6010C - Metals (ICP) - Dissolved (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		5.0	0.91	ug/L		04/18/13 13:30	04/24/13 16:27	1
<b>Calcium</b>	<b>21000</b>		1000	110	ug/L		04/18/13 13:30	04/24/13 16:27	1
Chromium	ND		10	3.1	ug/L		04/18/13 13:30	04/24/13 16:27	1
Cobalt	ND		50	4.0	ug/L		04/18/13 13:30	04/24/13 16:27	1
Copper	ND		25	4.6	ug/L		04/18/13 13:30	04/24/13 16:27	1
<b>Iron</b>	<b>32</b>	<b>J</b>	100	28	ug/L		04/18/13 13:30	04/24/13 16:27	1
<b>Lead</b>	<b>1.5</b>	<b>J</b>	10	1.5	ug/L		04/18/13 13:30	04/24/13 16:27	1
<b>Magnesium</b>	<b>13000</b>		1000	130	ug/L		04/18/13 13:30	04/24/13 16:27	1
<b>Manganese</b>	<b>21</b>		15	3.3	ug/L		04/18/13 13:30	04/24/13 16:27	1
Nickel	ND		40	13	ug/L		04/18/13 13:30	04/24/13 16:27	1
<b>Potassium</b>	<b>5100</b>		5000	1700	ug/L		04/18/13 13:30	04/24/13 16:27	1
Selenium	ND		15	2.7	ug/L		04/18/13 13:30	04/24/13 16:27	1
Silver	ND		10	6.0	ug/L		04/18/13 13:30	04/24/13 16:27	1
<b>Sodium</b>	<b>240000</b>	<b>E</b>	1000	320	ug/L		04/18/13 13:30	04/24/13 16:27	1
<b>Sodium</b>	<b>240000</b>		10000	3200	ug/L		04/18/13 13:30	04/24/13 16:56	10
Thallium	ND		20	4.0	ug/L		04/18/13 13:30	04/24/13 16:27	1
Vanadium	ND		50	4.1	ug/L		04/18/13 13:30	04/24/13 16:27	1
<b>Zinc</b>	<b>8.1</b>	<b>J B</b>	20	5.2	ug/L		04/18/13 13:30	04/24/13 16:27	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		04/25/13 10:43	04/26/13 16:12	1

**Method: 7470A - Mercury (CVAA) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		04/25/13 10:44	04/26/13 16:34	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Nitrate as N</b>	<b>0.016</b>	<b>J</b>	0.020	0.0040	mg/L			04/16/13 21:08	1
<b>Bromide</b>	<b>0.26</b>		0.25	0.025	mg/L			04/16/13 21:08	1
Iodide	ND		1.0	0.10	mg/L			04/16/13 17:24	1
<b>Alkalinity</b>	<b>520</b>		5.0	0.54	mg/L			04/29/13 10:24	1

**General Chemistry - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>52</b>		4.0	0.40	mg/L			04/16/13 21:22	20
<b>Sulfate</b>	<b>37</b>		10	1.0	mg/L			04/16/13 21:22	20

**Client Sample ID: I-65**

**Lab Sample ID: 160-2109-3**

Date Collected: 04/16/13 10:47

Matrix: Water

Date Received: 04/16/13 14:00

**Method: 8260C - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			04/19/13 03:19	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			04/19/13 03:19	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			04/19/13 03:19	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			04/19/13 03:19	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			04/19/13 03:19	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			04/19/13 03:19	1

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# Client Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

**Client Sample ID: I-65**

**Lab Sample ID: 160-2109-3**

Date Collected: 04/16/13 10:47

Matrix: Water

Date Received: 04/16/13 14:00

**Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-chloropropane	ND		10	1.2	ug/L			04/19/13 03:19	1
1,2-Dibromoethane	ND		5.0	0.44	ug/L			04/19/13 03:19	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			04/19/13 03:19	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			04/19/13 03:19	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			04/19/13 03:19	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			04/19/13 03:19	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			04/19/13 03:19	1
2-Butanone (MEK)	ND		20	0.39	ug/L			04/19/13 03:19	1
2-Hexanone	ND		20	0.59	ug/L			04/19/13 03:19	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			04/19/13 03:19	1
Acetone	ND		20	6.7	ug/L			04/19/13 03:19	1
Benzene	ND		5.0	0.25	ug/L			04/19/13 03:19	1
Bromodichloromethane	ND		5.0	0.25	ug/L			04/19/13 03:19	1
Bromoform	ND		5.0	0.37	ug/L			04/19/13 03:19	1
Bromomethane	ND		10	0.40	ug/L			04/19/13 03:19	1
Carbon disulfide	ND		5.0	0.37	ug/L			04/19/13 03:19	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			04/19/13 03:19	1
Chlorobenzene	ND		5.0	0.38	ug/L			04/19/13 03:19	1
Chloroethane	ND		10	0.38	ug/L			04/19/13 03:19	1
Chloroform	ND		5.0	0.15	ug/L			04/19/13 03:19	1
Chloromethane	ND		10	0.55	ug/L			04/19/13 03:19	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			04/19/13 03:19	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			04/19/13 03:19	1
Cyclohexane	ND		10	0.36	ug/L			04/19/13 03:19	1
Dibromochloromethane	ND		5.0	0.33	ug/L			04/19/13 03:19	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			04/19/13 03:19	1
Ethylbenzene	ND		5.0	0.30	ug/L			04/19/13 03:19	1
Isopropylbenzene	ND		5.0	0.26	ug/L			04/19/13 03:19	1
Methyl acetate	ND		5.0	2.3	ug/L			04/19/13 03:19	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			04/19/13 03:19	1
Methylcyclohexane	ND		10	0.26	ug/L			04/19/13 03:19	1
Methylene Chloride	ND		5.0	1.7	ug/L			04/19/13 03:19	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			04/19/13 03:19	1
o-Xylene	ND		5.0	0.32	ug/L			04/19/13 03:19	1
Styrene	ND		5.0	0.35	ug/L			04/19/13 03:19	1
Tetrachloroethene	ND		5.0	0.28	ug/L			04/19/13 03:19	1
Toluene	ND		5.0	1.0	ug/L			04/19/13 03:19	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			04/19/13 03:19	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			04/19/13 03:19	1
Trichloroethene	ND		5.0	0.29	ug/L			04/19/13 03:19	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			04/19/13 03:19	1
Vinyl chloride	ND		5.0	0.43	ug/L			04/19/13 03:19	1
Xylenes, Total	ND		10	0.85	ug/L			04/19/13 03:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		82 - 121		04/19/13 03:19	1
Dibromofluoromethane (Surr)	99		85 - 119		04/19/13 03:19	1
1,2-Dichloroethane-d4 (Surr)	99		82 - 132		04/19/13 03:19	1
Toluene-d8 (Surr)	108		85 - 115		04/19/13 03:19	1

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# Client Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

**Client Sample ID: I-65**

**Lab Sample ID: 160-2109-3**

Date Collected: 04/16/13 10:47

Matrix: Water

Date Received: 04/16/13 14:00

**Method: 6010C - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1700		200	80	ug/L		04/18/13 13:32	04/23/13 16:18	1
Antimony	ND		10	4.0	ug/L		04/18/13 13:32	04/23/13 16:18	1
Arsenic	ND		10	2.0	ug/L		04/18/13 13:32	04/23/13 16:18	1
Barium	280		50	4.0	ug/L		04/18/13 13:32	04/23/13 16:18	1
Beryllium	ND		5.0	0.61	ug/L		04/18/13 13:32	04/23/13 16:18	1
Cadmium	ND		5.0	0.91	ug/L		04/18/13 13:32	04/23/13 16:18	1
Calcium	130000	E	1000	110	ug/L		04/18/13 13:32	04/23/13 16:18	1
Calcium	140000		5000	530	ug/L		04/18/13 13:32	04/24/13 15:47	5
Chromium	ND		10	3.1	ug/L		04/18/13 13:32	04/23/13 16:18	1
Cobalt	11	J	50	4.0	ug/L		04/18/13 13:32	04/23/13 16:18	1
Copper	ND		25	4.6	ug/L		04/18/13 13:32	04/23/13 16:18	1
Iron	2500		100	28	ug/L		04/18/13 13:32	04/23/13 16:18	1
Lead	8.0	J	10	1.5	ug/L		04/18/13 13:32	04/23/13 16:18	1
Magnesium	20000		1000	130	ug/L		04/18/13 13:32	04/23/13 16:18	1
Manganese	750		15	3.3	ug/L		04/18/13 13:32	04/23/13 16:18	1
Nickel	24	J	40	13	ug/L		04/18/13 13:32	04/23/13 16:18	1
Potassium	5100		5000	1700	ug/L		04/18/13 13:32	04/23/13 16:18	1
Selenium	ND		15	2.7	ug/L		04/18/13 13:32	04/23/13 16:18	1
Silver	ND		10	6.0	ug/L		04/18/13 13:32	04/23/13 16:18	1
Sodium	56000		1000	320	ug/L		04/18/13 13:32	04/23/13 16:18	1
Thallium	ND		20	4.0	ug/L		04/18/13 13:32	04/23/13 16:18	1
Vanadium	ND		50	4.1	ug/L		04/18/13 13:32	04/23/13 16:18	1
Zinc	25		20	5.2	ug/L		04/18/13 13:32	04/23/13 16:18	1

**Method: 6010C - Metals (ICP) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		200	80	ug/L		04/18/13 13:30	04/24/13 16:31	1
Antimony	ND		10	4.0	ug/L		04/18/13 13:30	04/24/13 16:31	1
Arsenic	ND		10	2.0	ug/L		04/18/13 13:30	04/24/13 16:31	1
Barium	190		50	4.0	ug/L		04/18/13 13:30	04/24/13 16:31	1
Beryllium	ND		5.0	0.61	ug/L		04/18/13 13:30	04/24/13 16:31	1
Cadmium	ND		5.0	0.91	ug/L		04/18/13 13:30	04/24/13 16:31	1
Calcium	120000	E	1000	110	ug/L		04/18/13 13:30	04/24/13 16:31	1
Calcium	130000		5000	530	ug/L		04/18/13 13:30	04/24/13 17:07	5
Chromium	ND		10	3.1	ug/L		04/18/13 13:30	04/24/13 16:31	1
Cobalt	ND		50	4.0	ug/L		04/18/13 13:30	04/24/13 16:31	1
Copper	ND		25	4.6	ug/L		04/18/13 13:30	04/24/13 16:31	1
Iron	ND		100	28	ug/L		04/18/13 13:30	04/24/13 16:31	1
Lead	1.6	J	10	1.5	ug/L		04/18/13 13:30	04/24/13 16:31	1
Magnesium	17000		1000	130	ug/L		04/18/13 13:30	04/24/13 16:31	1
Manganese	14	J	15	3.3	ug/L		04/18/13 13:30	04/24/13 16:31	1
Nickel	ND		40	13	ug/L		04/18/13 13:30	04/24/13 16:31	1
Potassium	4800	J	5000	1700	ug/L		04/18/13 13:30	04/24/13 16:31	1
Selenium	ND		15	2.7	ug/L		04/18/13 13:30	04/24/13 16:31	1
Silver	ND		10	6.0	ug/L		04/18/13 13:30	04/24/13 16:31	1
Sodium	58000		1000	320	ug/L		04/18/13 13:30	04/24/13 16:31	1
Thallium	ND		20	4.0	ug/L		04/18/13 13:30	04/24/13 16:31	1
Vanadium	ND		50	4.1	ug/L		04/18/13 13:30	04/24/13 16:31	1
Zinc	5.7	J B	20	5.2	ug/L		04/18/13 13:30	04/24/13 16:31	1

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# Client Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

**Client Sample ID: I-65**

**Lab Sample ID: 160-2109-3**

Date Collected: 04/16/13 10:47

Matrix: Water

Date Received: 04/16/13 14:00

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		04/25/13 10:43	04/26/13 16:14	1

**Method: 7470A - Mercury (CVAA) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		04/25/13 10:44	04/26/13 16:35	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Nitrate as N</b>	<b>0.0087</b>	<b>J</b>	0.020	0.0040	mg/L			04/16/13 22:07	1
Bromide	ND		0.25	0.025	mg/L			04/16/13 22:07	1
Iodide	ND		1.0	0.10	mg/L			04/16/13 17:38	1
<b>Alkalinity</b>	<b>270</b>		5.0	0.54	mg/L			04/29/13 10:24	1

**General Chemistry - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>67</b>		4.0	0.40	mg/L			04/16/13 22:22	20
<b>Sulfate</b>	<b>91</b>		10	1.0	mg/L			04/16/13 22:22	20

**Client Sample ID: DUP 08**

**Lab Sample ID: 160-2109-5**

Date Collected: 04/16/13 00:00

Matrix: Water

Date Received: 04/16/13 14:00

**Method: 8260C - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			04/19/13 05:31	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			04/19/13 05:31	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			04/19/13 05:31	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			04/19/13 05:31	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			04/19/13 05:31	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			04/19/13 05:31	1
1,2-Dibromo-3-chloropropane	ND		10	1.2	ug/L			04/19/13 05:31	1
1,2-Dibromoethane	ND		5.0	0.44	ug/L			04/19/13 05:31	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			04/19/13 05:31	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			04/19/13 05:31	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			04/19/13 05:31	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			04/19/13 05:31	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			04/19/13 05:31	1
2-Butanone (MEK)	ND		20	0.39	ug/L			04/19/13 05:31	1
2-Hexanone	ND		20	0.59	ug/L			04/19/13 05:31	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			04/19/13 05:31	1
Acetone	ND		20	6.7	ug/L			04/19/13 05:31	1
Benzene	ND		5.0	0.25	ug/L			04/19/13 05:31	1
Bromodichloromethane	ND		5.0	0.25	ug/L			04/19/13 05:31	1
Bromoform	ND		5.0	0.37	ug/L			04/19/13 05:31	1
Bromomethane	ND		10	0.40	ug/L			04/19/13 05:31	1
Carbon disulfide	ND		5.0	0.37	ug/L			04/19/13 05:31	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			04/19/13 05:31	1
Chlorobenzene	ND		5.0	0.38	ug/L			04/19/13 05:31	1
Chloroethane	ND		10	0.38	ug/L			04/19/13 05:31	1
Chloroform	ND		5.0	0.15	ug/L			04/19/13 05:31	1

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# Client Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

**Client Sample ID: DUP 08**

**Lab Sample ID: 160-2109-5**

**Date Collected: 04/16/13 00:00**

**Matrix: Water**

**Date Received: 04/16/13 14:00**

**Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		10	0.55	ug/L			04/19/13 05:31	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			04/19/13 05:31	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			04/19/13 05:31	1
Cyclohexane	ND		10	0.36	ug/L			04/19/13 05:31	1
Dibromochloromethane	ND		5.0	0.33	ug/L			04/19/13 05:31	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			04/19/13 05:31	1
Ethylbenzene	ND		5.0	0.30	ug/L			04/19/13 05:31	1
Isopropylbenzene	ND		5.0	0.26	ug/L			04/19/13 05:31	1
Methyl acetate	ND		5.0	2.3	ug/L			04/19/13 05:31	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			04/19/13 05:31	1
Methylcyclohexane	ND		10	0.26	ug/L			04/19/13 05:31	1
Methylene Chloride	ND		5.0	1.7	ug/L			04/19/13 05:31	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			04/19/13 05:31	1
o-Xylene	ND		5.0	0.32	ug/L			04/19/13 05:31	1
Styrene	ND		5.0	0.35	ug/L			04/19/13 05:31	1
Tetrachloroethene	ND		5.0	0.28	ug/L			04/19/13 05:31	1
Toluene	ND		5.0	1.0	ug/L			04/19/13 05:31	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			04/19/13 05:31	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			04/19/13 05:31	1
Trichloroethene	ND		5.0	0.29	ug/L			04/19/13 05:31	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			04/19/13 05:31	1
Vinyl chloride	ND		5.0	0.43	ug/L			04/19/13 05:31	1
Xylenes, Total	ND		10	0.85	ug/L			04/19/13 05:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		82 - 121		04/19/13 05:31	1
Dibromofluoromethane (Surr)	101		85 - 119		04/19/13 05:31	1
1,2-Dichloroethane-d4 (Surr)	101		82 - 132		04/19/13 05:31	1
Toluene-d8 (Surr)	107		85 - 115		04/19/13 05:31	1

**Method: 6010C - Metals (ICP)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Aluminum</b>	<b>2200</b>		200	80	ug/L		04/18/13 13:32	04/23/13 16:43	1
Antimony	ND		10	4.0	ug/L		04/18/13 13:32	04/23/13 16:43	1
<b>Arsenic</b>	<b>3.0</b>	<b>J</b>	10	2.0	ug/L		04/18/13 13:32	04/23/13 16:43	1
<b>Barium</b>	<b>270</b>		50	4.0	ug/L		04/18/13 13:32	04/23/13 16:43	1
Beryllium	ND		5.0	0.61	ug/L		04/18/13 13:32	04/23/13 16:43	1
Cadmium	ND		5.0	0.91	ug/L		04/18/13 13:32	04/23/13 16:43	1
<b>Calcium</b>	<b>130000</b>	<b>E</b>	1000	110	ug/L		04/18/13 13:32	04/23/13 16:43	1
<b>Calcium</b>	<b>150000</b>		5000	530	ug/L		04/18/13 13:32	04/24/13 16:05	5
Chromium	ND		10	3.1	ug/L		04/18/13 13:32	04/23/13 16:43	1
<b>Cobalt</b>	<b>14</b>	<b>J</b>	50	4.0	ug/L		04/18/13 13:32	04/23/13 16:43	1
Copper	ND		25	4.6	ug/L		04/18/13 13:32	04/23/13 16:43	1
<b>Iron</b>	<b>3100</b>		100	28	ug/L		04/18/13 13:32	04/23/13 16:43	1
<b>Lead</b>	<b>10</b>		10	1.5	ug/L		04/18/13 13:32	04/23/13 16:43	1
<b>Magnesium</b>	<b>21000</b>		1000	130	ug/L		04/18/13 13:32	04/23/13 16:43	1
<b>Manganese</b>	<b>850</b>		15	3.3	ug/L		04/18/13 13:32	04/23/13 16:43	1
<b>Nickel</b>	<b>27</b>	<b>J</b>	40	13	ug/L		04/18/13 13:32	04/23/13 16:43	1
<b>Potassium</b>	<b>5200</b>		5000	1700	ug/L		04/18/13 13:32	04/23/13 16:43	1
Selenium	ND		15	2.7	ug/L		04/18/13 13:32	04/23/13 16:43	1

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# Client Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

**Client Sample ID: DUP 08**

**Lab Sample ID: 160-2109-5**

Date Collected: 04/16/13 00:00

Matrix: Water

Date Received: 04/16/13 14:00

**Method: 6010C - Metals (ICP) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		10	6.0	ug/L		04/18/13 13:32	04/23/13 16:43	1
<b>Sodium</b>	<b>56000</b>		1000	320	ug/L		04/18/13 13:32	04/23/13 16:43	1
Thallium	ND		20	4.0	ug/L		04/18/13 13:32	04/23/13 16:43	1
Vanadium	ND		50	4.1	ug/L		04/18/13 13:32	04/23/13 16:43	1
<b>Zinc</b>	<b>29</b>		20	5.2	ug/L		04/18/13 13:32	04/23/13 16:43	1

**Method: 6010C - Metals (ICP) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		200	80	ug/L		04/18/13 13:30	04/24/13 16:48	1
Antimony	ND		10	4.0	ug/L		04/18/13 13:30	04/24/13 16:48	1
Arsenic	ND		10	2.0	ug/L		04/18/13 13:30	04/24/13 16:48	1
<b>Barium</b>	<b>190</b>		50	4.0	ug/L		04/18/13 13:30	04/24/13 16:48	1
Beryllium	ND		5.0	0.61	ug/L		04/18/13 13:30	04/24/13 16:48	1
Cadmium	ND		5.0	0.91	ug/L		04/18/13 13:30	04/24/13 16:48	1
<b>Calcium</b>	<b>120000</b>	<b>E</b>	1000	110	ug/L		04/18/13 13:30	04/24/13 16:48	1
<b>Calcium</b>	<b>130000</b>		5000	530	ug/L		04/18/13 13:30	04/24/13 17:25	5
Chromium	ND		10	3.1	ug/L		04/18/13 13:30	04/24/13 16:48	1
Cobalt	ND		50	4.0	ug/L		04/18/13 13:30	04/24/13 16:48	1
Copper	ND		25	4.6	ug/L		04/18/13 13:30	04/24/13 16:48	1
Iron	ND		100	28	ug/L		04/18/13 13:30	04/24/13 16:48	1
<b>Lead</b>	<b>2.4</b>	<b>J</b>	10	1.5	ug/L		04/18/13 13:30	04/24/13 16:48	1
<b>Magnesium</b>	<b>17000</b>		1000	130	ug/L		04/18/13 13:30	04/24/13 16:48	1
<b>Manganese</b>	<b>13</b>	<b>J</b>	15	3.3	ug/L		04/18/13 13:30	04/24/13 16:48	1
Nickel	ND		40	13	ug/L		04/18/13 13:30	04/24/13 16:48	1
<b>Potassium</b>	<b>4800</b>	<b>J</b>	5000	1700	ug/L		04/18/13 13:30	04/24/13 16:48	1
Selenium	ND		15	2.7	ug/L		04/18/13 13:30	04/24/13 16:48	1
Silver	ND		10	6.0	ug/L		04/18/13 13:30	04/24/13 16:48	1
<b>Sodium</b>	<b>57000</b>		1000	320	ug/L		04/18/13 13:30	04/24/13 16:48	1
Thallium	ND		20	4.0	ug/L		04/18/13 13:30	04/24/13 16:48	1
Vanadium	ND		50	4.1	ug/L		04/18/13 13:30	04/24/13 16:48	1
<b>Zinc</b>	<b>5.6</b>	<b>J B</b>	20	5.2	ug/L		04/18/13 13:30	04/24/13 16:48	1

**Method: 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		04/25/13 10:43	04/26/13 16:26	1

**Method: 7470A - Mercury (CVAA) - Dissolved**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		04/25/13 10:44	04/26/13 16:48	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Nitrate as N</b>	<b>0.0085</b>	<b>J</b>	0.020	0.0040	mg/L			04/16/13 23:07	1
Bromide	ND		0.25	0.025	mg/L			04/16/13 23:07	1
Iodide	ND		1.0	0.10	mg/L			04/16/13 18:07	1
<b>Alkalinity</b>	<b>300</b>		5.0	0.54	mg/L			04/29/13 10:24	1

**General Chemistry - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>67</b>		4.0	0.40	mg/L			04/16/13 23:22	20
<b>Sulfate</b>	<b>91</b>		10	1.0	mg/L			04/16/13 23:22	20

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# Client Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 160-2109-6**

**Date Collected: 04/16/13 00:00**

**Matrix: Water**

**Date Received: 04/16/13 14:00**

**Method: 8260C - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			04/19/13 00:41	1
1,1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			04/19/13 00:41	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			04/19/13 00:41	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			04/19/13 00:41	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			04/19/13 00:41	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			04/19/13 00:41	1
1,2-Dibromo-3-chloropropane	ND		10	1.2	ug/L			04/19/13 00:41	1
1,2-Dibromoethane	ND		5.0	0.44	ug/L			04/19/13 00:41	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			04/19/13 00:41	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			04/19/13 00:41	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			04/19/13 00:41	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			04/19/13 00:41	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			04/19/13 00:41	1
2-Butanone (MEK)	ND		20	0.39	ug/L			04/19/13 00:41	1
2-Hexanone	ND		20	0.59	ug/L			04/19/13 00:41	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			04/19/13 00:41	1
Acetone	ND		20	6.7	ug/L			04/19/13 00:41	1
Benzene	ND		5.0	0.25	ug/L			04/19/13 00:41	1
Bromodichloromethane	ND		5.0	0.25	ug/L			04/19/13 00:41	1
Bromoform	ND		5.0	0.37	ug/L			04/19/13 00:41	1
Bromomethane	ND		10	0.40	ug/L			04/19/13 00:41	1
Carbon disulfide	ND		5.0	0.37	ug/L			04/19/13 00:41	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			04/19/13 00:41	1
Chlorobenzene	ND		5.0	0.38	ug/L			04/19/13 00:41	1
Chloroethane	ND		10	0.38	ug/L			04/19/13 00:41	1
Chloroform	ND		5.0	0.15	ug/L			04/19/13 00:41	1
Chloromethane	ND		10	0.55	ug/L			04/19/13 00:41	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			04/19/13 00:41	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			04/19/13 00:41	1
Cyclohexane	ND		10	0.36	ug/L			04/19/13 00:41	1
Dibromochloromethane	ND		5.0	0.33	ug/L			04/19/13 00:41	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			04/19/13 00:41	1
Ethylbenzene	ND		5.0	0.30	ug/L			04/19/13 00:41	1
Isopropylbenzene	ND		5.0	0.26	ug/L			04/19/13 00:41	1
Methyl acetate	ND		5.0	2.3	ug/L			04/19/13 00:41	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			04/19/13 00:41	1
Methylcyclohexane	ND		10	0.26	ug/L			04/19/13 00:41	1
Methylene Chloride	ND		5.0	1.7	ug/L			04/19/13 00:41	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			04/19/13 00:41	1
o-Xylene	ND		5.0	0.32	ug/L			04/19/13 00:41	1
Styrene	ND		5.0	0.35	ug/L			04/19/13 00:41	1
Tetrachloroethene	ND		5.0	0.28	ug/L			04/19/13 00:41	1
Toluene	ND		5.0	1.0	ug/L			04/19/13 00:41	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			04/19/13 00:41	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			04/19/13 00:41	1
Trichloroethene	ND		5.0	0.29	ug/L			04/19/13 00:41	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			04/19/13 00:41	1
Vinyl chloride	ND		5.0	0.43	ug/L			04/19/13 00:41	1
Xylenes, Total	ND		10	0.85	ug/L			04/19/13 00:41	1

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# Client Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 160-2109-6**

**Date Collected: 04/16/13 00:00**

**Matrix: Water**

**Date Received: 04/16/13 14:00**

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dichloroethane-d4 (Surr)	100		82 - 132		04/19/13 00:41	1
4-Bromofluorobenzene (Surr)	115		82 - 121		04/19/13 00:41	1
Dibromofluoromethane (Surr)	102		85 - 119		04/19/13 00:41	1
Toluene-d8 (Surr)	109		85 - 115		04/19/13 00:41	1

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# QC Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 160-47062/2**

**Matrix: Water**

**Analysis Batch: 47062**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.29	ug/L			04/18/13 23:48	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.43	ug/L			04/18/13 23:48	1
1,1,2-Trichloroethane	ND		5.0	0.57	ug/L			04/18/13 23:48	1
1,1-Dichloroethane	ND		5.0	0.39	ug/L			04/18/13 23:48	1
1,1-Dichloroethene	ND		5.0	0.37	ug/L			04/18/13 23:48	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/L			04/18/13 23:48	1
1,2-Dibromo-3-chloropropane	ND		10	1.2	ug/L			04/18/13 23:48	1
1,2-Dibromoethane	ND		5.0	0.44	ug/L			04/18/13 23:48	1
1,2-Dichlorobenzene	ND		5.0	0.28	ug/L			04/18/13 23:48	1
1,2-Dichloroethane	ND		5.0	0.37	ug/L			04/18/13 23:48	1
1,2-Dichloropropane	ND		5.0	0.32	ug/L			04/18/13 23:48	1
1,3-Dichlorobenzene	ND		5.0	0.23	ug/L			04/18/13 23:48	1
1,4-Dichlorobenzene	ND		5.0	0.35	ug/L			04/18/13 23:48	1
2-Butanone (MEK)	ND		20	0.39	ug/L			04/18/13 23:48	1
2-Hexanone	ND		20	0.59	ug/L			04/18/13 23:48	1
4-Methyl-2-pentanone (MIBK)	ND		20	0.33	ug/L			04/18/13 23:48	1
Acetone	ND		20	6.7	ug/L			04/18/13 23:48	1
Benzene	ND		5.0	0.25	ug/L			04/18/13 23:48	1
Bromodichloromethane	ND		5.0	0.25	ug/L			04/18/13 23:48	1
Bromoform	ND		5.0	0.37	ug/L			04/18/13 23:48	1
Bromomethane	ND		10	0.40	ug/L			04/18/13 23:48	1
Carbon disulfide	ND		5.0	0.37	ug/L			04/18/13 23:48	1
Carbon tetrachloride	ND		5.0	0.36	ug/L			04/18/13 23:48	1
Chlorobenzene	ND		5.0	0.38	ug/L			04/18/13 23:48	1
Chloroethane	ND		10	0.38	ug/L			04/18/13 23:48	1
Chloroform	ND		5.0	0.15	ug/L			04/18/13 23:48	1
Chloromethane	ND		10	0.55	ug/L			04/18/13 23:48	1
cis-1,2-Dichloroethene	ND		5.0	0.16	ug/L			04/18/13 23:48	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/L			04/18/13 23:48	1
Cyclohexane	ND		10	0.36	ug/L			04/18/13 23:48	1
Dibromochloromethane	ND		5.0	0.33	ug/L			04/18/13 23:48	1
Dichlorodifluoromethane	ND		10	0.45	ug/L			04/18/13 23:48	1
Ethylbenzene	ND		5.0	0.30	ug/L			04/18/13 23:48	1
Isopropylbenzene	ND		5.0	0.26	ug/L			04/18/13 23:48	1
Methyl acetate	ND		5.0	2.3	ug/L			04/18/13 23:48	1
Methyl tert-butyl ether	ND		5.0	0.40	ug/L			04/18/13 23:48	1
Methylcyclohexane	ND		10	0.26	ug/L			04/18/13 23:48	1
Methylene Chloride	ND		5.0	1.7	ug/L			04/18/13 23:48	1
m-Xylene & p-Xylene	ND		5.0	0.57	ug/L			04/18/13 23:48	1
o-Xylene	ND		5.0	0.32	ug/L			04/18/13 23:48	1
Styrene	ND		5.0	0.35	ug/L			04/18/13 23:48	1
Tetrachloroethene	ND		5.0	0.28	ug/L			04/18/13 23:48	1
Toluene	ND		5.0	1.0	ug/L			04/18/13 23:48	1
trans-1,2-Dichloroethene	ND		5.0	0.18	ug/L			04/18/13 23:48	1
trans-1,3-Dichloropropene	ND		5.0	0.35	ug/L			04/18/13 23:48	1
Trichloroethene	ND		5.0	0.29	ug/L			04/18/13 23:48	1
Trichlorofluoromethane	ND		5.0	0.22	ug/L			04/18/13 23:48	1
Vinyl chloride	ND		5.0	0.43	ug/L			04/18/13 23:48	1

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# QC Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 160-47062/2**

**Matrix: Water**

**Analysis Batch: 47062**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		10	0.85	ug/L			04/18/13 23:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		82 - 121		04/18/13 23:48	1
1,2-Dichloroethane-d4 (Surr)	99		82 - 132		04/18/13 23:48	1
Dibromofluoromethane (Surr)	101		85 - 119		04/18/13 23:48	1
Toluene-d8 (Surr)	106		85 - 115		04/18/13 23:48	1

**Lab Sample ID: LCS 160-47062/4**

**Matrix: Water**

**Analysis Batch: 47062**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	49.4		ug/L		99	85 - 115
1,1,1-Trichloroethane	50.0	49.5		ug/L		99	85 - 115
1,1,2,2-Tetrachloroethane	50.0	47.0		ug/L		94	84 - 115
1,1,2-Trichloroethane	50.0	47.2		ug/L		94	85 - 115
1,1-Dichloroethane	50.0	50.2		ug/L		100	85 - 115
1,1-Dichloroethene	50.0	48.8		ug/L		98	85 - 118
1,1-Dichloropropene	50.0	50.7		ug/L		101	85 - 115
1,2,3-Trichlorobenzene	50.0	49.5		ug/L		99	72 - 120
1,2,3-Trichloropropane	50.0	48.7		ug/L		97	80 - 115
1,2,4-Trichlorobenzene	50.0	49.9		ug/L		100	75 - 124
1,2,4-Trimethylbenzene	50.0	52.7		ug/L		105	85 - 115
1,2-Dibromo-3-chloropropane	50.0	46.2		ug/L		92	71 - 123
1,2-Dibromoethane	50.0	48.0		ug/L		96	85 - 115
1,2-Dichloro-1,1,2,2-tetrafluoroethane	50.0	48.5		ug/L		97	47 - 130
1,2-Dichlorobenzene	50.0	49.9		ug/L		100	85 - 115
1,2-Dichloroethane	50.0	48.3		ug/L		97	79 - 122
1,2-Dichloropropane	50.0	50.2		ug/L		100	85 - 115
1,3,5-Trimethylbenzene	50.0	53.5		ug/L		107	85 - 117
1,3-Dichlorobenzene	50.0	50.7		ug/L		101	85 - 115
1,3-Dichloropropane	50.0	48.5		ug/L		97	84 - 115
1,4-Dichlorobenzene	50.0	49.6		ug/L		99	85 - 115
1,4-Dioxane	1000	998		ug/L		100	26 - 141
1-Butanol	500	484		ug/L		97	49 - 132
2,2-Dichloropropane	50.0	51.0		ug/L		102	85 - 127
2-Butanone (MEK)	50.0	50.7		ug/L		101	71 - 123
2-Chloro-1,3-butadiene	50.0	53.4		ug/L		107	70 - 115
2-Chloroethyl vinyl ether	50.0	37.7		ug/L		75	64 - 125
2-Chlorotoluene	50.0	52.0		ug/L		104	83 - 119
2-Hexanone	50.0	45.7		ug/L		91	66 - 121
2-Nitropropane	100	89.7		ug/L		90	63 - 115
4-Chlorotoluene	50.0	52.6		ug/L		105	84 - 118
4-Isopropyltoluene	50.0	53.6		ug/L		107	85 - 119
4-Methyl-2-pentanone (MIBK)	50.0	48.1		ug/L		96	74 - 123
Acetone	50.0	46.5		ug/L		93	51 - 140

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# QC Sample Results

Client: Engineering Management Support, Inc.  
 Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 160-47062/4

Matrix: Water

Analysis Batch: 47062

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetonitrile	250	234		ug/L		93	44 - 140
Acrolein	250	222		ug/L		89	79 - 115
Acrylonitrile	250	244		ug/L		98	78 - 126
Allyl chloride	50.0	50.7		ug/L		101	76 - 119
Benzene	50.0	49.2		ug/L		98	85 - 115
Bromobenzene	50.0	51.8		ug/L		104	85 - 115
Bromochloromethane	50.0	48.7		ug/L		97	84 - 117
Bromodichloromethane	50.0	49.5		ug/L		99	85 - 117
Bromoform	50.0	48.9		ug/L		98	85 - 115
Bromomethane	50.0	48.0		ug/L		96	70 - 135
Carbon disulfide	50.0	48.7		ug/L		97	85 - 123
Carbon tetrachloride	50.0	49.9		ug/L		100	85 - 118
Chlorobenzene	50.0	49.9		ug/L		100	85 - 115
Chloroethane	50.0	50.3		ug/L		101	75 - 125
Chloroform	50.0	49.0		ug/L		98	85 - 115
Chloromethane	50.0	46.9		ug/L		94	73 - 132
cis-1,2-Dichloroethene	50.0	49.8		ug/L		100	85 - 115
cis-1,3-Dichloropropene	50.0	50.5		ug/L		101	85 - 127
Cyclohexane	50.0	51.6		ug/L		103	73 - 115
Cyclohexanone	500	510		ug/L		102	29 - 122
Dibromochloromethane	50.0	49.0		ug/L		98	85 - 115
Dibromomethane	50.0	47.9		ug/L		96	85 - 115
Dichlorodifluoromethane	50.0	44.9		ug/L		90	62 - 115
Ethyl acetate	100	92.3		ug/L		92	67 - 119
Ethyl ether	100	96.0		ug/L		96	77 - 115
Ethyl methacrylate	50.0	44.7		ug/L		89	67 - 115
Ethylbenzene	50.0	51.0		ug/L		102	85 - 115
Hexachlorobutadiene	50.0	49.8		ug/L		100	74 - 127
Iodomethane	50.0	49.8		ug/L		100	83 - 124
Isobutanol	1000	907		ug/L		91	51 - 136
Isopropylbenzene	50.0	54.3		ug/L		109	85 - 124
Methacrylonitrile	250	246		ug/L		98	70 - 115
Methyl acetate	50.0	45.3		ug/L		91	73 - 135
Methyl methacrylate	50.0	45.9		ug/L		92	61 - 115
Methyl tert-butyl ether	50.0	48.5		ug/L		97	73 - 115
Methylcyclohexane	50.0	51.9		ug/L		104	85 - 134
Methylene Chloride	50.0	49.0		ug/L		98	84 - 115
m-Xylene & p-Xylene	100	104		ug/L		104	85 - 115
Naphthalene	50.0	47.9		ug/L		96	70 - 123
n-Butylbenzene	50.0	52.1		ug/L		104	85 - 116
n-Hexane	50.0	50.6		ug/L		101	85 - 139
N-Propylbenzene	50.0	54.2		ug/L		108	85 - 117
o-Xylene	50.0	53.9		ug/L		108	85 - 115
Propionitrile	250	236		ug/L		94	66 - 115
sec-Butylbenzene	50.0	53.1		ug/L		106	85 - 118
Styrene	50.0	54.0		ug/L		108	85 - 115
tert-Butylbenzene	50.0	54.2		ug/L		108	85 - 124
Tetrachloroethene	50.0	50.5		ug/L		101	85 - 115

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# QC Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 160-47062/4**

**Matrix: Water**

**Analysis Batch: 47062**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrahydrofuran	250	231		ug/L		93	63 - 117
Toluene	50.0	51.3		ug/L		103	85 - 115
trans-1,2-Dichloroethene	50.0	48.6		ug/L		97	85 - 115
trans-1,3-Dichloropropene	50.0	49.4		ug/L		99	85 - 123
trans-1,4-Dichloro-2-butene	50.0	43.4		ug/L		87	77 - 115
Trichloroethene	50.0	48.4		ug/L		97	85 - 115
Trichlorofluoromethane	50.0	49.0		ug/L		98	85 - 116
Vinyl acetate	50.0	49.3		ug/L		99	39 - 124
Vinyl chloride	50.0	47.8		ug/L		96	68 - 133
1,2-Dichloroethene, Total	100	98.4		ug/L		98	85 - 115
Xylenes, Total	150	158		ug/L		105	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		82 - 121
1,2-Dichloroethane-d4 (Surr)	97		82 - 132
Dibromofluoromethane (Surr)	102		85 - 119
Toluene-d8 (Surr)	103		85 - 115

**Lab Sample ID: 160-2109-3 MS**

**Matrix: Water**

**Analysis Batch: 47062**

**Client Sample ID: I-65**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		50.0	51.5		ug/L		103	85 - 115
1,1,1-Trichloroethane	ND		50.0	50.0		ug/L		100	85 - 118
1,1,1,2-Tetrachloroethane	ND		50.0	53.8		ug/L		108	85 - 116
1,1,2-Trichloroethane	ND		50.0	54.5		ug/L		109	85 - 115
1,1-Dichloroethane	ND		50.0	51.0		ug/L		102	85 - 115
1,1-Dichloroethene	ND		50.0	48.0		ug/L		96	85 - 118
1,1-Dichloropropene	ND		50.0	51.5		ug/L		103	85 - 115
1,2,3-Trichlorobenzene	ND		50.0	46.1		ug/L		92	70 - 120
1,2,3-Trichloropropene	ND		50.0	52.2		ug/L		104	80 - 115
1,2,4-Trichlorobenzene	ND		50.0	46.3		ug/L		93	75 - 124
1,2,4-Trimethylbenzene	ND		50.0	51.6		ug/L		103	85 - 115
1,2-Dibromo-3-chloropropane	ND		50.0	51.1		ug/L		102	71 - 123
1,2-Dibromoethane	ND		50.0	54.1		ug/L		108	85 - 115
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		50.0	47.4		ug/L		95	47 - 130
1,2-Dichlorobenzene	ND		50.0	49.4		ug/L		99	84 - 115
1,2-Dichloroethane	ND		50.0	51.0		ug/L		102	80 - 125
1,2-Dichloropropane	ND		50.0	51.1		ug/L		102	85 - 117
1,3,5-Trimethylbenzene	ND		50.0	52.4		ug/L		105	85 - 116
1,3-Dichlorobenzene	ND		50.0	50.1		ug/L		100	84 - 115
1,3-Dichloropropane	ND		50.0	53.3		ug/L		107	85 - 115
1,4-Dichlorobenzene	ND		50.0	49.3		ug/L		99	85 - 115
1,4-Dioxane	ND		1000	1230		ug/L		123	36 - 157
1-Butanol	ND		500	619		ug/L		124	53 - 140
2,2-Dichloropropane	ND		50.0	49.3		ug/L		99	80 - 122

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# QC Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 160-2109-3 MS

Matrix: Water

Analysis Batch: 47062

Client Sample ID: I-65

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
2-Butanone (MEK)	ND		50.0	54.5		ug/L		109	73 - 133
2-Chloro-1,3-butadiene	ND		50.0	52.1		ug/L		104	70 - 115
2-Chloroethyl vinyl ether	ND		50.0	ND	F	ug/L		0	15 - 147
2-Chlorotoluene	ND		50.0	51.4		ug/L		103	84 - 117
2-Hexanone	ND		50.0	53.3		ug/L		107	66 - 121
2-Nitropropane	ND		100	114		ug/L		114	64 - 118
4-Chlorotoluene	ND		50.0	52.1		ug/L		104	85 - 115
4-Isopropyltoluene	ND		50.0	51.8		ug/L		104	85 - 116
4-Methyl-2-pentanone (MIBK)	ND		50.0	56.3		ug/L		113	77 - 134
Acetone	ND		50.0	51.2		ug/L		102	38 - 150
Acetonitrile	ND		250	282		ug/L		113	44 - 141
Acrolein	ND		250	270		ug/L		108	60 - 122
Acrylonitrile	ND		250	281		ug/L		112	78 - 128
Allyl chloride	ND		50.0	50.9		ug/L		102	76 - 119
Benzene	ND		50.0	50.0		ug/L		100	85 - 115
Bromobenzene	ND		50.0	51.4		ug/L		103	85 - 115
Bromochloromethane	ND		50.0	50.1		ug/L		100	85 - 115
Bromodichloromethane	ND		50.0	51.7		ug/L		103	56 - 119
Bromoform	ND		50.0	53.2		ug/L		106	84 - 116
Bromomethane	ND		50.0	47.1		ug/L		94	70 - 135
Carbon disulfide	ND		50.0	50.9		ug/L		102	85 - 127
Carbon tetrachloride	ND		50.0	49.2		ug/L		98	85 - 121
Chlorobenzene	ND		50.0	50.9		ug/L		102	85 - 115
Chloroethane	ND		50.0	49.3		ug/L		99	73 - 123
Chloroform	ND		50.0	49.5		ug/L		99	85 - 115
Chloromethane	ND		50.0	48.1		ug/L		96	67 - 130
cis-1,2-Dichloroethene	ND		50.0	50.7		ug/L		101	80 - 116
cis-1,3-Dichloropropene	ND		50.0	52.3		ug/L		105	85 - 124
Cyclohexane	ND		50.0	52.1		ug/L		104	73 - 115
Cyclohexanone	ND		500	480		ug/L		96	26 - 121
Dibromochloromethane	ND		50.0	53.0		ug/L		106	85 - 115
Dibromomethane	ND		50.0	51.6		ug/L		103	85 - 115
Dichlorodifluoromethane	ND		50.0	47.7		ug/L		95	85 - 119
Ethyl acetate	ND		100	107		ug/L		107	71 - 116
Ethyl ether	ND		100	107		ug/L		107	79 - 115
Ethyl methacrylate	ND		50.0	50.8		ug/L		102	67 - 115
Ethylbenzene	ND		50.0	52.2		ug/L		104	85 - 115
Hexachlorobutadiene	ND		50.0	45.7		ug/L		91	64 - 134
Iodomethane	ND		50.0	48.3		ug/L		97	78 - 126
Isobutanol	ND		1000	1190		ug/L		119	51 - 137
Isopropylbenzene	ND		50.0	53.6		ug/L		107	85 - 124
Methacrylonitrile	ND		250	280		ug/L		112	70 - 118
Methyl acetate	ND		50.0	51.0		ug/L		102	49 - 150
Methyl methacrylate	ND		50.0	54.0		ug/L		108	61 - 115
Methyl tert-butyl ether	ND		50.0	54.5		ug/L		109	75 - 115
Methylcyclohexane	ND		50.0	51.5		ug/L		103	85 - 137
Methylene Chloride	ND		50.0	50.0		ug/L		100	85 - 115
m-Xylene & p-Xylene	ND		100	106		ug/L		106	85 - 115

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# QC Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 160-2109-3 MS**

**Matrix: Water**

**Analysis Batch: 47062**

**Client Sample ID: I-65**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
Naphthalene	ND		50.0	45.4		ug/L		91	70 - 123
n-Butylbenzene	ND		50.0	50.1		ug/L		100	85 - 115
n-Hexane	ND		50.0	50.3		ug/L		101	85 - 137
N-Propylbenzene	ND		50.0	53.2		ug/L		106	85 - 115
o-Xylene	ND		50.0	55.9		ug/L		112	85 - 118
Propionitrile	ND		250	279		ug/L		112	69 - 120
sec-Butylbenzene	ND		50.0	52.2		ug/L		104	83 - 117
Styrene	ND		50.0	54.0		ug/L		108	85 - 115
tert-Butylbenzene	ND		50.0	53.4		ug/L		107	85 - 122
Tetrachloroethene	ND		50.0	48.9		ug/L		98	85 - 118
Tetrahydrofuran	ND		250	289	F	ug/L		116	63 - 115
Toluene	ND		50.0	52.6		ug/L		105	85 - 118
trans-1,2-Dichloroethene	ND		50.0	48.6		ug/L		97	84 - 115
trans-1,3-Dichloropropene	ND		50.0	55.5		ug/L		111	85 - 127
trans-1,4-Dichloro-2-butene	ND		50.0	50.5		ug/L		101	76 - 115
Trichloroethene	ND		50.0	48.3		ug/L		97	85 - 115
Trichlorofluoromethane	ND		50.0	49.2		ug/L		98	85 - 115
Vinyl acetate	ND		50.0	57.7		ug/L		115	24 - 136
Vinyl chloride	ND		50.0	48.5		ug/L		97	63 - 129
1,2-Dichloroethene, Total	ND		100	99.3		ug/L		99	85 - 115
Xylenes, Total	ND		150	162		ug/L		108	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	106		82 - 121
1,2-Dichloroethane-d4 (Surr)	103		82 - 132
Dibromofluoromethane (Surr)	104		85 - 119
Toluene-d8 (Surr)	104		85 - 115

**Lab Sample ID: 160-2109-3 MSD**

**Matrix: Water**

**Analysis Batch: 47062**

**Client Sample ID: I-65**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		50.0	51.6		ug/L		103	85 - 115	0	20	
1,1,1-Trichloroethane	ND		50.0	49.3		ug/L		99	85 - 118	1	20	
1,1,2,2-Tetrachloroethane	ND		50.0	51.7		ug/L		103	85 - 116	4	20	
1,1,2-Trichloroethane	ND		50.0	52.4		ug/L		105	85 - 115	4	20	
1,1-Dichloroethane	ND		50.0	50.4		ug/L		101	85 - 115	1	20	
1,1-Dichloroethene	ND		50.0	49.1		ug/L		98	85 - 118	2	20	
1,1-Dichloropropene	ND		50.0	51.1		ug/L		102	85 - 115	1	20	
1,2,3-Trichlorobenzene	ND		50.0	49.5		ug/L		99	70 - 120	7	20	
1,2,3-Trichloropropane	ND		50.0	50.2		ug/L		100	80 - 115	4	20	
1,2,4-Trichlorobenzene	ND		50.0	49.2		ug/L		98	75 - 124	6	20	
1,2,4-Trimethylbenzene	ND		50.0	51.1		ug/L		102	85 - 115	1	20	
1,2-Dibromo-3-chloropropane	ND		50.0	51.8		ug/L		104	71 - 123	1	20	
1,2-Dibromoethane	ND		50.0	53.8		ug/L		108	85 - 115	1	20	
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		50.0	48.5		ug/L		97	47 - 130	2	20	

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# QC Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 160-2109-3 MSD

Matrix: Water

Analysis Batch: 47062

Client Sample ID: I-65

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
1,2-Dichlorobenzene	ND		50.0	50.3		ug/L		101	84 - 115	2	20
1,2-Dichloroethane	ND		50.0	50.8		ug/L		102	80 - 125	0	20
1,2-Dichloropropane	ND		50.0	51.4		ug/L		103	85 - 117	1	20
1,3,5-Trimethylbenzene	ND		50.0	51.8		ug/L		104	85 - 116	1	20
1,3-Dichlorobenzene	ND		50.0	49.6		ug/L		99	84 - 115	1	20
1,3-Dichloropropane	ND		50.0	53.0		ug/L		106	85 - 115	0	20
1,4-Dichlorobenzene	ND		50.0	49.6		ug/L		99	85 - 115	1	20
1,4-Dioxane	ND		1000	1260		ug/L		126	36 - 157	3	20
1-Butanol	ND		500	633		ug/L		127	53 - 140	2	20
2,2-Dichloropropane	ND		50.0	48.2		ug/L		96	80 - 122	2	20
2-Butanone (MEK)	ND		50.0	58.0		ug/L		116	73 - 133	6	20
2-Chloro-1,3-butadiene	ND		50.0	53.0		ug/L		106	70 - 115	2	20
2-Chloroethyl vinyl ether	ND		50.0	ND	F	ug/L		0	15 - 147	NC	20
2-Chlorotoluene	ND		50.0	50.9		ug/L		102	84 - 117	1	20
2-Hexanone	ND		50.0	57.5		ug/L		115	66 - 121	8	20
2-Nitropropane	ND		100	112		ug/L		112	64 - 118	2	20
4-Chlorotoluene	ND		50.0	51.4		ug/L		103	85 - 115	1	20
4-Isopropyltoluene	ND		50.0	51.6		ug/L		103	85 - 116	0	20
4-Methyl-2-pentanone (MIBK)	ND		50.0	59.4		ug/L		119	77 - 134	5	20
Acetone	ND		50.0	48.5		ug/L		97	38 - 150	5	20
Acetonitrile	ND		250	274		ug/L		110	44 - 141	3	20
Acrolein	ND		250	271		ug/L		108	60 - 122	0	20
Acrylonitrile	ND		250	270		ug/L		108	78 - 128	4	20
Allyl chloride	ND		50.0	51.0		ug/L		102	76 - 119	0	20
Benzene	ND		50.0	49.4		ug/L		99	85 - 115	1	20
Bromobenzene	ND		50.0	51.5		ug/L		103	85 - 115	0	20
Bromochloromethane	ND		50.0	50.9		ug/L		102	85 - 115	2	20
Bromodichloromethane	ND		50.0	50.9		ug/L		102	56 - 119	2	20
Bromoform	ND		50.0	52.5		ug/L		105	84 - 116	1	20
Bromomethane	ND		50.0	48.4		ug/L		97	70 - 135	3	20
Carbon disulfide	ND		50.0	49.6		ug/L		99	85 - 127	3	20
Carbon tetrachloride	ND		50.0	48.8		ug/L		98	85 - 121	1	20
Chlorobenzene	ND		50.0	51.7		ug/L		103	85 - 115	2	20
Chloroethane	ND		50.0	49.2		ug/L		98	73 - 123	0	20
Chloroform	ND		50.0	49.5		ug/L		99	85 - 115	0	20
Chloromethane	ND		50.0	47.8		ug/L		96	67 - 130	0	20
cis-1,2-Dichloroethene	ND		50.0	50.1		ug/L		100	80 - 116	1	20
cis-1,3-Dichloropropene	ND		50.0	51.2		ug/L		102	85 - 124	2	20
Cyclohexane	ND		50.0	52.0		ug/L		104	73 - 115	0	20
Cyclohexanone	ND		500	580		ug/L		116	26 - 121	19	20
Dibromochloromethane	ND		50.0	53.8		ug/L		108	85 - 115	1	20
Dibromomethane	ND		50.0	51.3		ug/L		103	85 - 115	1	20
Dichlorodifluoromethane	ND		50.0	47.6		ug/L		95	85 - 119	0	20
Ethyl acetate	ND		100	109		ug/L		109	71 - 116	1	20
Ethyl ether	ND		100	106		ug/L		106	79 - 115	1	20
Ethyl methacrylate	ND		50.0	53.3		ug/L		107	67 - 115	5	20
Ethylbenzene	ND		50.0	52.3		ug/L		105	85 - 115	0	20
Hexachlorobutadiene	ND		50.0	48.1		ug/L		96	64 - 134	5	20

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# QC Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 160-2109-3 MSD

Client Sample ID: I-65

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 47062

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
Iodomethane	ND		50.0	50.5		ug/L		101	78 - 126	4	20
Isobutanol	ND		1000	1170		ug/L		117	51 - 137	1	20
Isopropylbenzene	ND		50.0	52.4		ug/L		105	85 - 124	2	20
Methacrylonitrile	ND		250	273		ug/L		109	70 - 118	2	20
Methyl acetate	ND		50.0	53.7		ug/L		107	49 - 150	5	20
Methyl methacrylate	ND		50.0	54.1		ug/L		108	61 - 115	0	20
Methyl tert-butyl ether	ND		50.0	53.6		ug/L		107	75 - 115	2	20
Methylcyclohexane	ND		50.0	51.1		ug/L		102	85 - 137	1	20
Methylene Chloride	ND		50.0	49.2		ug/L		98	85 - 115	2	20
m-Xylene & p-Xylene	ND		100	107		ug/L		107	85 - 115	1	20
Naphthalene	ND		50.0	50.7		ug/L		101	70 - 123	11	20
n-Butylbenzene	ND		50.0	50.1		ug/L		100	85 - 115	0	20
n-Hexane	ND		50.0	49.4		ug/L		99	85 - 137	2	20
N-Propylbenzene	ND		50.0	52.5		ug/L		105	85 - 115	1	20
o-Xylene	ND		50.0	56.4		ug/L		113	85 - 118	1	20
Propionitrile	ND		250	276		ug/L		110	69 - 120	1	20
sec-Butylbenzene	ND		50.0	51.8		ug/L		104	83 - 117	1	20
Styrene	ND		50.0	55.0		ug/L		110	85 - 115	2	20
tert-Butylbenzene	ND		50.0	52.4		ug/L		105	85 - 122	2	20
Tetrachloroethene	ND		50.0	50.2		ug/L		100	85 - 118	3	20
Tetrahydrofuran	ND		250	275		ug/L		110	63 - 115	5	20
Toluene	ND		50.0	53.4		ug/L		107	85 - 118	1	20
trans-1,2-Dichloroethene	ND		50.0	49.1		ug/L		98	84 - 115	1	20
trans-1,3-Dichloropropene	ND		50.0	55.0		ug/L		110	85 - 127	1	20
trans-1,4-Dichloro-2-butene	ND		50.0	49.2		ug/L		98	76 - 115	3	20
Trichloroethene	ND		50.0	48.0		ug/L		96	85 - 115	1	20
Trichlorofluoromethane	ND		50.0	48.6		ug/L		97	85 - 115	1	20
Vinyl acetate	ND		50.0	57.8		ug/L		116	24 - 136	0	20
Vinyl chloride	ND		50.0	47.9		ug/L		96	63 - 129	1	20
1,2-Dichloroethene, Total	ND		100	99.2		ug/L		99	85 - 115	0	20
Xylenes, Total	ND		150	163		ug/L		109	70 - 130	1	20

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	103		82 - 121
1,2-Dichloroethane-d4 (Surr)	102		82 - 132
Dibromofluoromethane (Surr)	103		85 - 119
Toluene-d8 (Surr)	105		85 - 115

## Method: 6010C - Metals (ICP)

Lab Sample ID: MB 160-46729/1-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 47746

Prep Batch: 46729

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aluminum	ND		200	80	ug/L		04/18/13 13:30	04/24/13 16:09	1
Antimony	ND		10	4.0	ug/L		04/18/13 13:30	04/24/13 16:09	1
Arsenic	ND		10	2.0	ug/L		04/18/13 13:30	04/24/13 16:09	1

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# QC Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 160-46729/1-A

Matrix: Water

Analysis Batch: 47746

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 46729

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		50	4.0	ug/L		04/18/13 13:30	04/24/13 16:09	1
Beryllium	ND		5.0	0.61	ug/L		04/18/13 13:30	04/24/13 16:09	1
Cadmium	ND		5.0	0.91	ug/L		04/18/13 13:30	04/24/13 16:09	1
Calcium	ND		1000	110	ug/L		04/18/13 13:30	04/24/13 16:09	1
Chromium	ND		10	3.1	ug/L		04/18/13 13:30	04/24/13 16:09	1
Cobalt	ND		50	4.0	ug/L		04/18/13 13:30	04/24/13 16:09	1
Copper	ND		25	4.6	ug/L		04/18/13 13:30	04/24/13 16:09	1
Iron	ND		100	28	ug/L		04/18/13 13:30	04/24/13 16:09	1
Lead	ND		10	1.5	ug/L		04/18/13 13:30	04/24/13 16:09	1
Magnesium	ND		1000	130	ug/L		04/18/13 13:30	04/24/13 16:09	1
Manganese	ND		15	3.3	ug/L		04/18/13 13:30	04/24/13 16:09	1
Nickel	ND		40	13	ug/L		04/18/13 13:30	04/24/13 16:09	1
Potassium	ND		5000	1700	ug/L		04/18/13 13:30	04/24/13 16:09	1
Selenium	ND		15	2.7	ug/L		04/18/13 13:30	04/24/13 16:09	1
Silver	ND		10	6.0	ug/L		04/18/13 13:30	04/24/13 16:09	1
Sodium	ND		1000	320	ug/L		04/18/13 13:30	04/24/13 16:09	1
Thallium	ND		20	4.0	ug/L		04/18/13 13:30	04/24/13 16:09	1
Vanadium	ND		50	4.1	ug/L		04/18/13 13:30	04/24/13 16:09	1
Zinc	6.60	J	20	5.2	ug/L		04/18/13 13:30	04/24/13 16:09	1

Lab Sample ID: LCS 160-46729/2-A

Matrix: Water

Analysis Batch: 47746

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 46729

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	10000	10000		ug/L		100	80 - 120
Antimony	500	533		ug/L		107	80 - 120
Arsenic	1000	1030		ug/L		103	80 - 120
Barium	1000	998		ug/L		100	80 - 120
Beryllium	1000	999		ug/L		100	80 - 120
Cadmium	1000	1050		ug/L		105	80 - 120
Calcium	10000	10600		ug/L		106	80 - 120
Chromium	1000	1060		ug/L		106	80 - 120
Cobalt	1000	1080		ug/L		108	80 - 120
Copper	1000	1070		ug/L		107	80 - 120
Iron	10000	10100		ug/L		101	80 - 120
Lead	1000	1080		ug/L		108	80 - 120
Magnesium	10000	10100		ug/L		101	80 - 120
Manganese	1000	1030		ug/L		103	80 - 120
Nickel	1000	1090		ug/L		109	80 - 120
Potassium	10000	9700		ug/L		97	80 - 120
Selenium	1000	1040		ug/L		104	80 - 120
Silver	100	97.6		ug/L		98	80 - 120
Sodium	10000	9750		ug/L		98	80 - 120
Thallium	200	224		ug/L		112	80 - 120
Vanadium	1000	1000		ug/L		100	80 - 120
Zinc	1000	1060		ug/L		106	80 - 120

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# QC Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 160-46730/1-A

Matrix: Water

Analysis Batch: 47506

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 46730

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		200	80	ug/L		04/18/13 13:32	04/23/13 16:04	1
Antimony	ND		10	4.0	ug/L		04/18/13 13:32	04/23/13 16:04	1
Arsenic	ND		10	2.0	ug/L		04/18/13 13:32	04/23/13 16:04	1
Barium	ND		50	4.0	ug/L		04/18/13 13:32	04/23/13 16:04	1
Beryllium	ND		5.0	0.61	ug/L		04/18/13 13:32	04/23/13 16:04	1
Cadmium	ND		5.0	0.91	ug/L		04/18/13 13:32	04/23/13 16:04	1
Calcium	ND		1000	110	ug/L		04/18/13 13:32	04/23/13 16:04	1
Chromium	ND		10	3.1	ug/L		04/18/13 13:32	04/23/13 16:04	1
Cobalt	ND		50	4.0	ug/L		04/18/13 13:32	04/23/13 16:04	1
Copper	ND		25	4.6	ug/L		04/18/13 13:32	04/23/13 16:04	1
Iron	ND		100	28	ug/L		04/18/13 13:32	04/23/13 16:04	1
Lead	ND		10	1.5	ug/L		04/18/13 13:32	04/23/13 16:04	1
Magnesium	ND		1000	130	ug/L		04/18/13 13:32	04/23/13 16:04	1
Manganese	ND		15	3.3	ug/L		04/18/13 13:32	04/23/13 16:04	1
Nickel	ND		40	13	ug/L		04/18/13 13:32	04/23/13 16:04	1
Potassium	ND		5000	1700	ug/L		04/18/13 13:32	04/23/13 16:04	1
Selenium	ND		15	2.7	ug/L		04/18/13 13:32	04/23/13 16:04	1
Silver	ND		10	6.0	ug/L		04/18/13 13:32	04/23/13 16:04	1
Sodium	ND		1000	320	ug/L		04/18/13 13:32	04/23/13 16:04	1
Thallium	ND		20	4.0	ug/L		04/18/13 13:32	04/23/13 16:04	1
Vanadium	ND		50	4.1	ug/L		04/18/13 13:32	04/23/13 16:04	1
Zinc	ND		20	5.2	ug/L		04/18/13 13:32	04/23/13 16:04	1

Lab Sample ID: LCS 160-46730/2-A

Matrix: Water

Analysis Batch: 47506

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 46730

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10000	9750		ug/L		98	80 - 120
Antimony	500	524		ug/L		105	80 - 120
Arsenic	1000	1030		ug/L		103	80 - 120
Barium	1000	1010		ug/L		101	80 - 120
Beryllium	1000	1010		ug/L		101	80 - 120
Cadmium	1000	1010		ug/L		101	80 - 120
Calcium	10000	10300		ug/L		103	80 - 120
Chromium	1000	1040		ug/L		104	80 - 120
Cobalt	1000	1050		ug/L		105	80 - 120
Copper	1000	1040		ug/L		104	80 - 120
Iron	10000	10100		ug/L		101	80 - 120
Lead	1000	1060		ug/L		106	80 - 120
Magnesium	10000	9850		ug/L		98	80 - 120
Manganese	1000	1000		ug/L		100	80 - 120
Nickel	1000	1050		ug/L		105	80 - 120
Potassium	10000	9580		ug/L		96	80 - 120
Selenium	1000	1030		ug/L		103	80 - 120
Silver	100	94.8		ug/L		95	80 - 120
Sodium	10000	9630		ug/L		96	80 - 120
Thallium	200	211		ug/L		105	80 - 120

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# QC Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Method: 6010C - Metals (ICP) (Continued)

**Lab Sample ID: LCS 160-46730/2-A**  
**Matrix: Water**  
**Analysis Batch: 47506**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 46730**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vanadium	1000	973		ug/L		97	80 - 120
Zinc	1000	1030		ug/L		103	80 - 120

**Lab Sample ID: 160-2109-3 MS**  
**Matrix: Water**  
**Analysis Batch: 47506**

**Client Sample ID: I-65**  
**Prep Type: Total/NA**  
**Prep Batch: 46730**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	1700		10000	11700		ug/L		100	75 - 125
Antimony	ND		500	515		ug/L		103	75 - 125
Arsenic	ND		1000	1010		ug/L		101	75 - 125
Barium	280		1000	1260		ug/L		98	75 - 125
Beryllium	ND		1000	1010		ug/L		101	75 - 125
Cadmium	ND		1000	994		ug/L		99	75 - 125
Calcium	130000	E	10000	136000	E 4	ug/L		87	75 - 125
Chromium	ND		1000	1010		ug/L		101	75 - 125
Cobalt	11	J	1000	998		ug/L		99	75 - 125
Copper	ND		1000	1020		ug/L		102	75 - 125
Iron	2500		10000	11800		ug/L		93	75 - 125
Lead	8.0	J	1000	1010		ug/L		100	75 - 125
Magnesium	20000		10000	29100		ug/L		95	75 - 125
Manganese	750		1000	1710		ug/L		96	75 - 125
Nickel	24	J	1000	1010		ug/L		98	75 - 125
Potassium	5100		10000	15200		ug/L		100	75 - 125
Selenium	ND		1000	1010		ug/L		101	75 - 125
Silver	ND		100	92.4		ug/L		92	75 - 125
Sodium	56000		10000	66300	4	ug/L		103	75 - 125
Thallium	ND		200	200		ug/L		100	75 - 125
Vanadium	ND		1000	965		ug/L		97	75 - 125
Zinc	25		1000	1020		ug/L		99	75 - 125

**Lab Sample ID: 160-2109-3 MS**  
**Matrix: Water**  
**Analysis Batch: 47746**

**Client Sample ID: I-65**  
**Prep Type: Total/NA**  
**Prep Batch: 46730**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	140000		10000	152000	4	ug/L		92	75 - 125

**Lab Sample ID: 160-2109-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 47506**

**Client Sample ID: I-65**  
**Prep Type: Total/NA**  
**Prep Batch: 46730**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Aluminum	1700		10000	12200		ug/L		104	75 - 125	4	20
Antimony	ND		500	519		ug/L		104	75 - 125	1	20
Arsenic	ND		1000	1020		ug/L		102	75 - 125	0	20
Barium	280		1000	1260		ug/L		98	75 - 125	0	20
Beryllium	ND		1000	1000		ug/L		100	75 - 125	0	20
Cadmium	ND		1000	1000		ug/L		100	75 - 125	1	20

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# QC Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 160-2109-3 MSD

Matrix: Water

Analysis Batch: 47506

Client Sample ID: I-65

Prep Type: Total/NA

Prep Batch: 46730

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Calcium	130000	E	10000	137000	E 4	ug/L		97	75 - 125	1	20
Chromium	ND		1000	1010		ug/L		101	75 - 125	0	20
Cobalt	11	J	1000	1010		ug/L		100	75 - 125	1	20
Copper	ND		1000	1030		ug/L		103	75 - 125	0	20
Iron	2500		10000	12200		ug/L		96	75 - 125	3	20
Lead	8.0	J	1000	1020		ug/L		101	75 - 125	1	20
Magnesium	20000		10000	29300		ug/L		97	75 - 125	1	20
Manganese	750		1000	1750		ug/L		100	75 - 125	2	20
Nickel	24	J	1000	1020		ug/L		99	75 - 125	1	20
Potassium	5100		10000	15400		ug/L		102	75 - 125	2	20
Selenium	ND		1000	1030		ug/L		103	75 - 125	2	20
Silver	ND		100	92.5		ug/L		93	75 - 125	0	20
Sodium	56000		10000	66400	4	ug/L		104	75 - 125	0	20
Thallium	ND		200	201		ug/L		101	75 - 125	1	20
Vanadium	ND		1000	970		ug/L		97	75 - 125	0	20
Zinc	25		1000	1040		ug/L		101	75 - 125	2	20

Lab Sample ID: 160-2109-3 MSD

Matrix: Water

Analysis Batch: 47746

Client Sample ID: I-65

Prep Type: Total/NA

Prep Batch: 46730

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Calcium	140000		10000	157000	4	ug/L		140	75 - 125	3	20

Lab Sample ID: 160-2109-3 MS

Matrix: Water

Analysis Batch: 47746

Client Sample ID: I-65

Prep Type: Dissolved

Prep Batch: 46729

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Aluminum	ND		10000	10100		ug/L		101	75 - 125		
Antimony	ND		500	524		ug/L		105	75 - 125		
Arsenic	ND		1000	1020		ug/L		102	75 - 125		
Barium	190		1000	1200		ug/L		101	75 - 125		
Beryllium	ND		1000	1000		ug/L		100	75 - 125		
Cadmium	ND		1000	1030		ug/L		103	75 - 125		
Calcium	120000	E	10000	130000	E 4	ug/L		86	75 - 125		
Chromium	ND		1000	1020		ug/L		102	75 - 125		
Cobalt	ND		1000	1020		ug/L		102	75 - 125		
Copper	ND		1000	1020		ug/L		102	75 - 125		
Iron	ND		10000	10200		ug/L		102	75 - 125		
Lead	1.6	J	1000	1020		ug/L		101	75 - 125		
Magnesium	17000		10000	27000		ug/L		100	75 - 125		
Manganese	14	J	1000	1030		ug/L		101	75 - 125		
Nickel	ND		1000	1030		ug/L		103	75 - 125		
Potassium	4800	J	10000	14900		ug/L		101	75 - 125		
Selenium	ND		1000	1020		ug/L		102	75 - 125		
Silver	ND		100	95.4		ug/L		95	75 - 125		
Sodium	58000		10000	68200	4	ug/L		106	75 - 125		
Thallium	ND		200	210		ug/L		105	75 - 125		

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# QC Sample Results

Client: Engineering Management Support, Inc.  
 Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 160-2109-3 MS

Matrix: Water

Analysis Batch: 47746

Client Sample ID: I-65

Prep Type: Dissolved

Prep Batch: 46729

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Vanadium	ND		1000	1010		ug/L		101		75 - 125
Zinc	5.7	J B	1000	1030		ug/L		103		75 - 125

Lab Sample ID: 160-2109-3 MS

Matrix: Water

Analysis Batch: 47746

Client Sample ID: I-65

Prep Type: Dissolved

Prep Batch: 46729

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Calcium	130000		10000	146000	4	ug/L		137		75 - 125

Lab Sample ID: 160-2109-3 MSD

Matrix: Water

Analysis Batch: 47746

Client Sample ID: I-65

Prep Type: Dissolved

Prep Batch: 46729

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	
	Result	Qualifier	Added	Result	Qualifier						RPD	Limit
Aluminum	ND		10000	10300		ug/L		103		75 - 125	2	20
Antimony	ND		500	534		ug/L		107		75 - 125	2	20
Arsenic	ND		1000	1050		ug/L		105		75 - 125	3	20
Barium	190		1000	1210		ug/L		103		75 - 125	1	20
Beryllium	ND		1000	1020		ug/L		102		75 - 125	2	20
Cadmium	ND		1000	1060		ug/L		106		75 - 125	3	20
Calcium	120000	E	10000	134000	E 4	ug/L		126		75 - 125	3	20
Chromium	ND		1000	1040		ug/L		104		75 - 125	2	20
Cobalt	ND		1000	1050		ug/L		105		75 - 125	3	20
Copper	ND		1000	1050		ug/L		105		75 - 125	3	20
Iron	ND		10000	10200		ug/L		102		75 - 125	1	20
Lead	1.6	J	1000	1050		ug/L		105		75 - 125	3	20
Magnesium	17000		10000	27400		ug/L		105		75 - 125	2	20
Manganese	14	J	1000	1050		ug/L		103		75 - 125	2	20
Nickel	ND		1000	1070		ug/L		107		75 - 125	3	20
Potassium	4800	J	10000	15000		ug/L		102		75 - 125	1	20
Selenium	ND		1000	1060		ug/L		106		75 - 125	4	20
Silver	ND		100	96.9		ug/L		97		75 - 125	2	20
Sodium	58000		10000	69300	4	ug/L		117		75 - 125	2	20
Thallium	ND		200	214		ug/L		107		75 - 125	2	20
Vanadium	ND		1000	1030		ug/L		103		75 - 125	1	20
Zinc	5.7	J B	1000	1070		ug/L		106		75 - 125	3	20

Lab Sample ID: 160-2109-3 MSD

Matrix: Water

Analysis Batch: 47746

Client Sample ID: I-65

Prep Type: Dissolved

Prep Batch: 46729

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	
	Result	Qualifier	Added	Result	Qualifier						RPD	Limit
Calcium	130000		10000	148000	4	ug/L		153		75 - 125	1	20

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# QC Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 160-47767/1-A

Matrix: Water

Analysis Batch: 48038

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		04/25/13 10:43	04/26/13 16:06	1

Lab Sample ID: LCS 160-47767/2-A

Matrix: Water

Analysis Batch: 48038

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47767

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.00	1.01		ug/L		101	80 - 120

Lab Sample ID: MB 160-47768/1-A

Matrix: Water

Analysis Batch: 48038

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47768

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.060	ug/L		04/25/13 10:44	04/26/13 16:28	1

Lab Sample ID: LCS 160-47768/2-A

Matrix: Water

Analysis Batch: 48038

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47768

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.00	0.975		ug/L		98	80 - 120

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 160-47801/3

Matrix: Water

Analysis Batch: 47801

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iodide	ND		1.0	0.10	mg/L			04/16/13 16:12	1

Lab Sample ID: LCS 160-47801/4

Matrix: Water

Analysis Batch: 47801

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iodide	4.00	3.96		mg/L		99	90 - 110

Lab Sample ID: MB 160-47805/9

Matrix: Water

Analysis Batch: 47805

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.020	0.0040	mg/L			04/16/13 19:08	1
Chloride	ND		0.20	0.020	mg/L			04/16/13 19:08	1
Bromide	ND		0.25	0.025	mg/L			04/16/13 19:08	1
Sulfate	ND		0.50	0.050	mg/L			04/16/13 19:08	1

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## QC Sample Results

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

### Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 160-47805/10

Matrix: Water

Analysis Batch: 47805

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.400	0.386		mg/L		96	90 - 110
Chloride	2.00	1.94		mg/L		97	90 - 110
Bromide	2.00	1.98		mg/L		99	90 - 110
Sulfate	8.00	7.71		mg/L		96	90 - 110

### Method: 310.1 - Alkalinity

Lab Sample ID: MB 160-48101/1

Matrix: Water

Analysis Batch: 48101

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		1.3	0.14	mg/L			04/29/13 10:24	1

Lab Sample ID: LCS 160-48101/3

Matrix: Water

Analysis Batch: 48101

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	400	374		mg/L		94	90 - 110

Lab Sample ID: LLCS 160-48101/2

Matrix: Water

Analysis Batch: 48101

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	188		mg/L		94	90 - 110

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# QC Association Summary

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## GC/MS VOA

### Analysis Batch: 47062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2109-1	FB@PZ-100-KS	Total/NA	Water	8260C	
160-2109-2	PZ-100-KS	Total/NA	Water	8260C	
160-2109-3	I-65	Total/NA	Water	8260C	
160-2109-3 MS	I-65	Total/NA	Water	8260C	
160-2109-3 MSD	I-65	Total/NA	Water	8260C	
160-2109-5	DUP 08	Total/NA	Water	8260C	
160-2109-6	TRIP BLANK	Total/NA	Water	8260C	
LCS 160-47062/4	Lab Control Sample	Total/NA	Water	8260C	
MB 160-47062/2	Method Blank	Total/NA	Water	8260C	

## Metals

### Prep Batch: 46729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2109-2	PZ-100-KS	Dissolved	Water	3010A	
160-2109-3	I-65	Dissolved	Water	3010A	
160-2109-3 MS	I-65	Dissolved	Water	3010A	
160-2109-3 MSD	I-65	Dissolved	Water	3010A	
160-2109-5	DUP 08	Dissolved	Water	3010A	
LCS 160-46729/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-46729/1-A	Method Blank	Total/NA	Water	3010A	

### Prep Batch: 46730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2109-2	PZ-100-KS	Total/NA	Water	3010A	
160-2109-3	I-65	Total/NA	Water	3010A	
160-2109-3 MS	I-65	Total/NA	Water	3010A	
160-2109-3 MSD	I-65	Total/NA	Water	3010A	
160-2109-5	DUP 08	Total/NA	Water	3010A	
LCS 160-46730/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-46730/1-A	Method Blank	Total/NA	Water	3010A	

### Analysis Batch: 47506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2109-2	PZ-100-KS	Total/NA	Water	6010C	46730
160-2109-3	I-65	Total/NA	Water	6010C	46730
160-2109-3 MS	I-65	Total/NA	Water	6010C	46730
160-2109-3 MSD	I-65	Total/NA	Water	6010C	46730
160-2109-5	DUP 08	Total/NA	Water	6010C	46730
LCS 160-46730/2-A	Lab Control Sample	Total/NA	Water	6010C	46730
MB 160-46730/1-A	Method Blank	Total/NA	Water	6010C	46730

### Analysis Batch: 47746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2109-2	PZ-100-KS	Total/NA	Water	6010C	46730
160-2109-2	PZ-100-KS	Dissolved	Water	6010C	46729
160-2109-2	PZ-100-KS	Dissolved	Water	6010C	46729
160-2109-3	I-65	Total/NA	Water	6010C	46730
160-2109-3	I-65	Dissolved	Water	6010C	46729
160-2109-3	I-65	Dissolved	Water	6010C	46729

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# QC Association Summary

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Metals (Continued)

### Analysis Batch: 47746 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2109-3 MS	I-65	Dissolved	Water	6010C	46729
160-2109-3 MS	I-65	Dissolved	Water	6010C	46729
160-2109-3 MS	I-65	Total/NA	Water	6010C	46730
160-2109-3 MSD	I-65	Dissolved	Water	6010C	46729
160-2109-3 MSD	I-65	Dissolved	Water	6010C	46729
160-2109-3 MSD	I-65	Total/NA	Water	6010C	46730
160-2109-5	DUP 08	Total/NA	Water	6010C	46730
160-2109-5	DUP 08	Dissolved	Water	6010C	46729
160-2109-5	DUP 08	Dissolved	Water	6010C	46729
LCS 160-46729/2-A	Lab Control Sample	Total/NA	Water	6010C	46729
MB 160-46729/1-A	Method Blank	Total/NA	Water	6010C	46729

### Prep Batch: 47767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2109-2	PZ-100-KS	Total/NA	Water	7470A	
160-2109-3	I-65	Total/NA	Water	7470A	
160-2109-5	DUP 08	Total/NA	Water	7470A	
LCS 160-47767/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 160-47767/1-A	Method Blank	Total/NA	Water	7470A	

### Prep Batch: 47768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2109-2	PZ-100-KS	Dissolved	Water	7470A	
160-2109-3	I-65	Dissolved	Water	7470A	
160-2109-5	DUP 08	Dissolved	Water	7470A	
LCS 160-47768/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 160-47768/1-A	Method Blank	Total/NA	Water	7470A	

### Analysis Batch: 48038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2109-2	PZ-100-KS	Total/NA	Water	7470A	47767
160-2109-2	PZ-100-KS	Dissolved	Water	7470A	47768
160-2109-3	I-65	Total/NA	Water	7470A	47767
160-2109-3	I-65	Dissolved	Water	7470A	47768
160-2109-5	DUP 08	Total/NA	Water	7470A	47767
160-2109-5	DUP 08	Dissolved	Water	7470A	47768
LCS 160-47767/2-A	Lab Control Sample	Total/NA	Water	7470A	47767
LCS 160-47768/2-A	Lab Control Sample	Total/NA	Water	7470A	47768
MB 160-47767/1-A	Method Blank	Total/NA	Water	7470A	47767
MB 160-47768/1-A	Method Blank	Total/NA	Water	7470A	47768

## General Chemistry

### Analysis Batch: 47801

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2109-2	PZ-100-KS	Total/NA	Water	300.0	
160-2109-3	I-65	Total/NA	Water	300.0	
160-2109-5	DUP 08	Total/NA	Water	300.0	
LCS 160-47801/4	Lab Control Sample	Total/NA	Water	300.0	
MB 160-47801/3	Method Blank	Total/NA	Water	300.0	

TestAmerica St. Louis



# QC Association Summary

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## General Chemistry (Continued)

### Analysis Batch: 47805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2109-2	PZ-100-KS	Total/NA	Water	300.0	
160-2109-2 - DL	PZ-100-KS	Total/NA	Water	300.0	
160-2109-3	I-65	Total/NA	Water	300.0	
160-2109-3 - DL	I-65	Total/NA	Water	300.0	
160-2109-5	DUP 08	Total/NA	Water	300.0	
160-2109-5 - DL	DUP 08	Total/NA	Water	300.0	
LCS 160-47805/10	Lab Control Sample	Total/NA	Water	300.0	
MB 160-47805/9	Method Blank	Total/NA	Water	300.0	

### Analysis Batch: 48101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-2109-2	PZ-100-KS	Total/NA	Water	310.1	
160-2109-3	I-65	Total/NA	Water	310.1	
160-2109-5	DUP 08	Total/NA	Water	310.1	
LCS 160-48101/3	Lab Control Sample	Total/NA	Water	310.1	
LLCS 160-48101/2	Lab Control Sample	Total/NA	Water	310.1	
MB 160-48101/1	Method Blank	Total/NA	Water	310.1	

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# Surrogate Summary

Client: Engineering Management Support, Inc.  
Project/Site: West Lake Landfill

TestAmerica Job ID: 160-2109-1

## Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	12DCE	BFB	DBFM	TOL
		(82-132)	(82-121)	(85-119)	(85-115)
160-2109-1	FB@PZ-100-KS	98	108	100	105
160-2109-2	PZ-100-KS	100	115	99	108
160-2109-3	I-65	99	112	99	108
160-2109-3 MS	I-65	103	106	104	104
160-2109-3 MSD	I-65	102	103	103	105
160-2109-5	DUP 08	101	115	101	107
160-2109-6	TRIP BLANK	100	115	102	109
LCS 160-47062/4	Lab Control Sample	97	107	102	103
MB 160-47062/2	Method Blank	99	109	101	106

### Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

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