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cdmsmith.com

January 11, 2013

Mr. John Morris, P.G.  
Florida Department of Environmental Protection  
Southwest District  
13051 N. Telecom Parkway  
Temple Terrace, Florida 33637-0926

Subject: Citrus County Central Landfill  
Quarterly Leachate Sampling – Fourth Quarter 2012  
Permit No. 21375-018-SO/01  
WACS ID# SWD/09/39859

Dear Mr. Morris:

CDM Smith Inc. (CDM Smith) is providing the Fourth Quarter 2012 Leachate Effluent monitoring results on behalf of the Citrus County Solid Waste Management Division (County) for the Central Landfill located in Citrus County, Florida (the site). This report provides copies of the laboratory reports, field forms, and a CD containing an electronic copy of this report and the electronic data deliverable (EDD) in the "ADaPT" format of the fourth quarter leachate effluent sample.

County personnel collect leachate flow readings and pH measurements daily as required by Specific Condition Part E.9.b.2 of the Permit. These readings are reported to the Florida Department of Environmental Protection (FDEP) under separate cover by the County. Monthly samples of the leachate effluent are collected by County personnel and analyzed by their contract laboratory for Carbonaceous Biochemical Oxygen Demand (CBOD<sub>5</sub>), Total Suspended Solids (TSS), and nitrate as required by Specific Condition Part E.9.b.2 of the Permit. The analytical laboratory reports from the monthly sampling events for October, November, and December of 2012, are included in **Attachment 1** and summarized on **Table 1, Attachment 2**.

TestAmerica Laboratories Inc., (TestAmerica) mobilized to the site on October 17, 2012, to collect the fourth quarter leachate effluent sample under supervision by CDM Smith personnel. Sampling, physical readings and measurements, and leachate quality analyses were performed by TestAmerica. Field work, sampling methodologies, data evaluation, and data Quality Assurance/Quality Control (QA/QC) were conducted in accordance with F.A.C. Chapter 62-160 Standard Operating Procedures (DEP-SOP-001/01) and the TestAmerica quality manual. Laboratory analyses were performed in accordance with Chapter 62-160, FAC DEP-SOP-001/01. TestAmerica is certified by the Florida Department of Health Environmental Laboratory Certification Program (DoH ELCP).





John Morris, P.G.  
January 11, 2013  
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The fourth quarter leachate effluent sample collected by TestAmerica was analyzed in compliance with the permit and for the quarterly parameters listed in Specific Condition Part E.9.b.2 of the permit. A hard copy of the analytical report containing the results from the quarterly sampling event is included in Attachment 1. The results for the quarterly parameters listed in Specific Condition Part E.9.b.2 of the permit are summarized in Table 1, Attachment 2. A CD containing an electronic copy of the laboratory report and the electronic data deliverable (EDD) in the "ADaPT" format provided by TestAmerica is provided in **Attachment 3**. The analytical results from the samples collected in October, November, and December are similar to historic concentrations (**Table 2**, Attachment 2). The concentrations of monitored parameters in the leachate effluent sample complied with the minimum and maximum criteria referenced in Specific Condition Part E.9.b.2 of the permit. As per Specific Condition Part E.9.b.2, arsenic, sodium, chloride, and TDS are not required to meet the groundwater standards and minimum criteria at the discharge point; however, as per Specific Condition Part E.9.b, they must comply at monitoring well MW-6 (**Table 3**, Attachment 2).

Please let me know if you have any questions or require additional information.

Sincerely,

A handwritten signature in blue ink that reads "David R. Rojas".

David R. Rojas, P.G. #2362  
Environmental Scientist  
CDM Smith Inc.

#### Attachments

cc: Solid Waste Administrator, FDEP – Tallahassee  
Casey T. Stephens – Citrus County Solid Waste Director  
Cathy Winter – Citrus County Contract Services Specialist

# **ATTACHMENT 1**

## **Laboratory Reports:**

- **Laboratory Reports for the Monthly Leachate Effluent Samples**
  - **October 2012**
  - **November 2012**
  - **December 2012**
- **Laboratory Report for the Fourth Quarter Leachate Effluent Sample collected in October 2012**

# S.A.C. ENVIRONMENTAL LABORATORY INC

## ANALYTICAL RESULTS

SOLID WASTE MANAGEMENT  
PO BOX 340  
LECANTO FL 34460

Workorder: CITRUS COUNTY UTILITIES

Project: LANDFILL LEACHATE

Lab ID: E121062

Date Collected: 10/2/12 0900

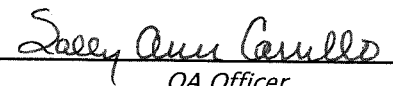
Sample ID: EFFLUENT

Date Received: 10/2/12 0955

Sample Description:

Location: WWTP

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc:					Analytical Method:			
CBOD	1.13	mg/L			SM5210-B	0.30	10/3/12 1213	
NITRATE	0.45	mg/L			SM4500 NO3-E	0.60	10/3/12 0928	
TSS	2.0	mg/L			SM2540-D	1.00	10/3/12 0923	

  
QA Officer



# S.A.C. ENVIRONMENTAL LABORATORY INC

## ANALYTICAL RESULTS

SOLID WASTE MANAGEMENT  
PO BOX 340  
LECANTO FL 34460

Workorder: CITRUS COUNTY UTILITIES

Project: LANDFILL LEACHATE

Lab ID: E121184

Date Collected: 11/5/12 1330

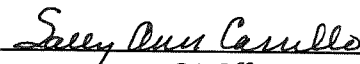
Sample ID: EFFLUENT

Date Received: 11/5/12 1422

Sample Description:

Location: WWTP

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc:					Analytical Method:			
CBOD	16.66	mg/L			SM5210-B	0.30	11/7/12 1131	
NITRATE	0.12	mg/L			SM4500 NO3-E	0.60	11/6/12 0930	
TSS	1.50	mg/L			SM2540-D	1.00	11/7/12 0944	

  
QA Officer



# S.A.C. ENVIRONMENTAL LABORATORY INC

## ANALYTICAL RESULTS

SOLID WASTE MANAGEMENT  
PO BOX 340  
LECANTO FL 34460

Workorder: CITRUS COUNTY UTILITIES

Project: LANDFILL LEACHATE

Lab ID: E121298

Date Collected: 12/4/12 1005

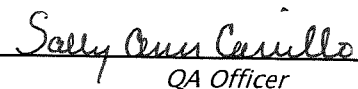
Sample ID: EFFLUENT

Date Received: 12/4/12 1040

Sample Description:

Location: WWTP

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc:					Analytical Method:			
CBOD	1.23	mg/L			SM5210-B	0.30	12/5/12 1243	
NITRATE	5.30	mg/L			SM4500 NO3-E	0.60	12/4/12 1215	
TSS	2.50	mg/L			SM2540-D	1.00	12/5/12 0959	

  
QA Officer



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Tampa  
6712 Benjamin Road  
Suite 100  
Tampa, FL 33634  
Tel: (813)885-7427

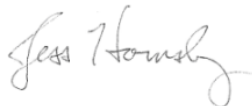
TestAmerica Job ID: 660-50671-1

Client Project/Site: Citrus Co LF Leachate Sampling

For:

CDM Smith, Inc.  
1715 North Westshore Blvd.  
Suite 875  
Tampa, Florida 33607

Attn: Mr. Aamod Sonawane



Authorized for release by:  
10/26/2012 8:15:35 AM

Jess Hornsby  
Project Manager I  
[jess.hornsby@testamericainc.com](mailto:jess.hornsby@testamericainc.com)

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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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## Sample Summary

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
660-50671-1	Leachate Plant Effluent	Water	10/17/12 09:53	10/18/12 09:00
660-50671-2	Trip Blank	Water	10/17/12 00:00	10/18/12 09:00

## Case Narrative

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

**Job ID: 660-50671-1**

**Laboratory: TestAmerica Tampa**

### Narrative

#### Receipt

The samples were received on 10/18/2012 9:00 AM; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 3.6°C.

A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain of Custody (COC).

#### GC/MS VOA

No analytical or quality issues were noted.

#### GC Semi VOA

Method 8011: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with prep batch 253877. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch. Analytical batch 253970

#### Metals

No analytical or quality issues were noted.

#### General Chemistry

Method 350.1: The matrix spike duplicate (MSD) recoveries for batch 253961 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

## Definitions/Glossary

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

### Qualifiers

#### GC/MS VOA

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.

#### GC Semi VOA

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.

#### Metals

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.

#### General Chemistry

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
L	Off-scale high. Actual value is known to be greater than the value given.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	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
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
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
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

## Detection Summary

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

### Client Sample ID: Leachate Plant Effluent

Lab Sample ID: 660-50671-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	19		10	4.0	ug/L	1		6010B	Total
Sodium - DL	380		5.0	3.1	mg/L	10		6010B	Recoverable Total
Chloride	570		25	10	mg/L	50		300.0	Recoverable Total/NA
Ammonia	0.12		0.050	0.026	mg/L	1		350.1	Total/NA
Total Dissolved Solids	1400		50	50	mg/L	1		SM 2540C	Total/NA
Color	Yellow				NONE	1		Field Sampling	Total/NA
Field pH	8.55				SU	1		Field Sampling	Total/NA
Oxygen, Dissolved	5.52				mg/L	1		Field Sampling	Total/NA
Sheen	None				NONE	1		Field Sampling	Total/NA
Specific Conductance	2702				umhos/cm	1		Field Sampling	Total/NA
Temperature	24.3				Degrees C	1		Field Sampling	Total/NA
Turbidity	3.02				NTU	1		Field Sampling	Total/NA

### Client Sample ID: Trip Blank

Lab Sample ID: 660-50671-2

No Detections

# Client Sample Results

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

## Client Sample ID: Leachate Plant Effluent

Lab Sample ID: 660-50671-1

Date Collected: 10/17/12 09:53

Matrix: Water

Date Received: 10/18/12 09:00

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	ug/L			10/19/12 16:59	1
Ethylbenzene	0.44	U	1.0	0.44	ug/L			10/19/12 16:59	1
Toluene	0.51	U	1.0	0.51	ug/L			10/19/12 16:59	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			10/19/12 16:59	1
Xylenes, Total	0.50	U	3.0	0.50	ug/L			10/19/12 16:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		70 - 130		10/19/12 16:59	1
Dibromofluoromethane	100		70 - 130		10/19/12 16:59	1
Toluene-d8 (Surr)	101		70 - 130		10/19/12 16:59	1

### Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	0.0024	U	0.021	0.0024	ug/L		10/23/12 11:50	10/23/12 16:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Pentachloroethane	111		60 - 144	10/23/12 11:50	10/23/12 16:44	1
Pentachloroethane	80		60 - 144	10/23/12 11:50	10/23/12 16:44	1

### Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	19		10	4.0	ug/L		10/22/12 12:39	10/23/12 19:18	1

### Method: 6010B - Metals (ICP) - Total Recoverable - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	380		5.0	3.1	mg/L		10/22/12 12:39	10/24/12 07:56	10

### General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	570		25	10	mg/L			10/18/12 16:02	50
Ammonia	0.12		0.050	0.026	mg/L			10/23/12 20:41	1
Total Dissolved Solids	1400		50	50	mg/L			10/22/12 11:59	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Color	Yellow				NONE			10/17/12 09:53	1
Field pH	8.55				SU			10/17/12 09:53	1
Oxygen, Dissolved	5.52				mg/L			10/17/12 09:53	1
Sheen	None				NONE			10/17/12 09:53	1
Specific Conductance	2702				umhos/cm			10/17/12 09:53	1
Temperature	24.3				Degrees C			10/17/12 09:53	1
Turbidity	3.02				NTU			10/17/12 09:53	1

## Client Sample ID: Trip Blank

Lab Sample ID: 660-50671-2

Date Collected: 10/17/12 00:00

Matrix: Water

Date Received: 10/18/12 09:00

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	ug/L			10/19/12 11:45	1
Ethylbenzene	0.44	U	1.0	0.44	ug/L			10/19/12 11:45	1
Toluene	0.51	U	1.0	0.51	ug/L			10/19/12 11:45	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			10/19/12 11:45	1

# Client Sample Results

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 660-50671-2**

**Date Collected: 10/17/12 00:00**

**Matrix: Water**

**Date Received: 10/18/12 09:00**

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	0.50	U	3.0	0.50	ug/L			10/19/12 11:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		70 - 130					10/19/12 11:45	1
Dibromofluoromethane	99		70 - 130					10/19/12 11:45	1
Toluene-d8 (Surr)	101		70 - 130					10/19/12 11:45	1

# Surrogate Summary

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (70-130)	DBFM (70-130)	TOL (70-130)
660-50671-1	Leachate Plant Effluent	97	100	101
660-50671-2	Trip Blank	95	99	101
660-50691-A-2 DU	Duplicate	95	99	102
660-50691-B-1 MS	Matrix Spike	97	100	101
LCS 660-130571/3	Lab Control Sample	98	101	98
MB 660-130571/5	Method Blank	97	98	102
<b>Surrogate Legend</b>				
BFB = 4-Bromofluorobenzene				
DBFM = Dibromofluoromethane				
TOL = Toluene-d8 (Surr)				

## Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		achloroeth: (60-144)	achloroeth: (60-144)
660-50671-1	Leachate Plant Effluent	111	80
LCS 680-253877/10-A	Lab Control Sample	74	95
LCSD 680-253877/11-A	Lab Control Sample Dup	110	97
MB 680-253877/9-A	Method Blank	110	86
<b>Surrogate Legend</b>			
Pentachloroethane = Pentachloroethane			

# QC Sample Results

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 660-130571/5

Matrix: Water

Analysis Batch: 130571

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	ug/L			10/19/12 08:59	1
Ethylbenzene	0.44	U	1.0	0.44	ug/L			10/19/12 08:59	1
Toluene	0.51	U	1.0	0.51	ug/L			10/19/12 08:59	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			10/19/12 08:59	1
Xylenes, Total	0.50	U	3.0	0.50	ug/L			10/19/12 08:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		70 - 130		10/19/12 08:59	1
Dibromofluoromethane	98		70 - 130		10/19/12 08:59	1
Toluene-d8 (Surr)	102		70 - 130		10/19/12 08:59	1

Lab Sample ID: LCS 660-130571/3

Matrix: Water

Analysis Batch: 130571

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	19.1		ug/L		95	68 - 134
Ethylbenzene	20.0	20.6		ug/L		103	70 - 130
Toluene	20.0	18.6		ug/L		93	70 - 131
Vinyl chloride	20.0	15.5		ug/L		77	48 - 147
Xylenes, Total	60.0	60.4		ug/L		101	68 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	98		70 - 130
Dibromofluoromethane	101		70 - 130
Toluene-d8 (Surr)	98		70 - 130

Lab Sample ID: 660-50691-B-1 MS

Matrix: Water

Analysis Batch: 130571

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.50	U	20.0	20.2		ug/L		101	68 - 134
Ethylbenzene	0.44	U	20.0	21.6		ug/L		108	70 - 130
Toluene	0.51	U	20.0	20.5		ug/L		103	70 - 131
Vinyl chloride	0.50	U	20.0	16.3		ug/L		81	48 - 147
Xylenes, Total	0.50	U	60.0	63.7		ug/L		106	68 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	97		70 - 130
Dibromofluoromethane	100		70 - 130
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: 660-50691-A-2 DU

Matrix: Water

Analysis Batch: 130571

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Benzene	26		25.6		ug/L		3	30



# QC Sample Results

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

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

Lab Sample ID: 660-50691-A-2 DU

Matrix: Water

Analysis Batch: 130571

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Ethylbenzene	17		15.1		ug/L		10	30
Toluene	59		56.6		ug/L		4	30
Vinyl chloride	0.50	U	0.50	U	ug/L		NC	30
Xylenes, Total	120		113		ug/L		4	30

Surrogate	%Recovery	DU Qualifier	Limits
4-Bromofluorobenzene	95		70 - 130
Dibromofluoromethane	99		70 - 130
Toluene-d8 (Surr)	102		70 - 130

## Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Lab Sample ID: MB 680-253877/9-A

Matrix: Water

Analysis Batch: 253970

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 253877

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	0.0022	U	0.020	0.0022	ug/L		10/23/12 11:50	10/23/12 17:59	1

Surrogate	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Pentachloroethane	110		60 - 144	10/23/12 11:50	10/23/12 17:59	1
Pentachloroethane	86		60 - 144	10/23/12 11:50	10/23/12 17:59	1

Lab Sample ID: LCS 680-253877/10-A

Matrix: Water

Analysis Batch: 253970

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 253877

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide	0.100	0.102		ug/L		102	66 - 126

Surrogate	%Recovery	LCS Qualifier	Limits
Pentachloroethane	74		60 - 144
Pentachloroethane	95		60 - 144

Lab Sample ID: LCSD 680-253877/11-A

Matrix: Water

Analysis Batch: 253970

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 253877

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Ethylene Dibromide	0.100	0.0941		ug/L		94	66 - 126	8	30

Surrogate	%Recovery	LCSD Qualifier	Limits
Pentachloroethane	110		60 - 144
Pentachloroethane	97		60 - 144

# QC Sample Results

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 660-130641/1-A

Matrix: Water

Analysis Batch: 130693

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 130641

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.0	U	10	4.0	ug/L		10/22/12 12:39	10/23/12 18:00	1
Sodium	0.31	U	0.50	0.31	mg/L		10/22/12 12:39	10/23/12 18:00	1

Lab Sample ID: LCS 660-130641/2-A

Matrix: Water

Analysis Batch: 130693

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 130641

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1000	958		ug/L		96	80 - 120
Sodium	10.0	9.76		mg/L		98	80 - 120

Lab Sample ID: 640-40861-D-1-B MS

Matrix: Water

Analysis Batch: 130693

Client Sample ID: Matrix Spike

Prep Type: Total Recoverable

Prep Batch: 130641

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	4.0	U	1000	962		ug/L		96	80 - 120
Sodium	2.0		10.0	11.9		mg/L		99	80 - 120

Lab Sample ID: 640-40861-D-1-C MSD

Matrix: Water

Analysis Batch: 130693

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total Recoverable

Prep Batch: 130641

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	4.0	U	1000	964		ug/L		96	80 - 120	0	20
Sodium	2.0		10.0	11.9		mg/L		99	80 - 120	0	20

## Method: 300.0 - Chloride

Lab Sample ID: MB 660-130556/4

Matrix: Water

Analysis Batch: 130556

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.20	U	0.50	0.20	mg/L			10/18/12 09:45	1

Lab Sample ID: LCS 660-130556/5

Matrix: Water

Analysis Batch: 130556

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.3		mg/L		103	90 - 110

Lab Sample ID: 660-50654-B-1 MS ^4

Matrix: Water

Analysis Batch: 130556

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	140		40.0	179	L	mg/L		90	90 - 110

# QC Sample Results

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

## Method: 300.0 - Chloride (Continued)

Lab Sample ID: 660-50654-B-1 MSD ^4

Matrix: Water

Analysis Batch: 130556

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	140		40.0	179	L	mg/L		90	90 - 110	0	30

## Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 680-253961/2

Matrix: Water

Analysis Batch: 253961

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.026	U	0.050	0.026	mg/L			10/23/12 20:40	1

Lab Sample ID: LCS 680-253961/1

Matrix: Water

Analysis Batch: 253961

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.960		mg/L		96	90 - 110

Lab Sample ID: 640-40861-F-1 MS

Matrix: Water

Analysis Batch: 253961

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.055	J3	1.00	1.03		mg/L		97	90 - 110

Lab Sample ID: 640-40861-F-1 MSD

Matrix: Water

Analysis Batch: 253961

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.055	J3	1.00	1.43	J3	mg/L		137	90 - 110	33	30

Lab Sample ID: 640-40810-C-1 DU

Matrix: Water

Analysis Batch: 253961

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ammonia	0.032	I	0.026	U	mg/L		NC	30

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 660-130635/1

Matrix: Water

Analysis Batch: 130635

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5.0	U	5.0	5.0	mg/L			10/22/12 11:59	1

# QC Sample Results

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

## Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 660-130635/2

Matrix: Water

Analysis Batch: 130635

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	10000	9910		mg/L		99	80 - 120

Lab Sample ID: 640-40831-A-2 DU

Matrix: Water

Analysis Batch: 130635

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	190		213		mg/L		10	20

# QC Association Summary

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

## GC/MS VOA

### Analysis Batch: 130571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-50671-1	Leachate Plant Effluent	Total/NA	Water	8260B	
660-50671-2	Trip Blank	Total/NA	Water	8260B	
660-50691-A-2 DU	Duplicate	Total/NA	Water	8260B	
660-50691-B-1 MS	Matrix Spike	Total/NA	Water	8260B	
LCS 660-130571/3	Lab Control Sample	Total/NA	Water	8260B	
MB 660-130571/5	Method Blank	Total/NA	Water	8260B	

## GC Semi VOA

### Prep Batch: 253877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-50671-1	Leachate Plant Effluent	Total/NA	Water	8011	
LCS 680-253877/10-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 680-253877/11-A	Lab Control Sample Dup	Total/NA	Water	8011	
MB 680-253877/9-A	Method Blank	Total/NA	Water	8011	

### Analysis Batch: 253970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-50671-1	Leachate Plant Effluent	Total/NA	Water	8011	253877
LCS 680-253877/10-A	Lab Control Sample	Total/NA	Water	8011	253877
LCSD 680-253877/11-A	Lab Control Sample Dup	Total/NA	Water	8011	253877
MB 680-253877/9-A	Method Blank	Total/NA	Water	8011	253877

## Metals

### Prep Batch: 130641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
640-40861-D-1-B MS	Matrix Spike	Total Recoverable	Water	3005A	
640-40861-D-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	
660-50671-1	Leachate Plant Effluent	Total Recoverable	Water	3005A	
660-50671-1 - DL	Leachate Plant Effluent	Total Recoverable	Water	3005A	
LCS 660-130641/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 660-130641/1-A	Method Blank	Total Recoverable	Water	3005A	

### Analysis Batch: 130693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
640-40861-D-1-B MS	Matrix Spike	Total Recoverable	Water	6010B	130641
640-40861-D-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	130641
660-50671-1	Leachate Plant Effluent	Total Recoverable	Water	6010B	130641
LCS 660-130641/2-A	Lab Control Sample	Total Recoverable	Water	6010B	130641
MB 660-130641/1-A	Method Blank	Total Recoverable	Water	6010B	130641

### Analysis Batch: 130725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-50671-1 - DL	Leachate Plant Effluent	Total Recoverable	Water	6010B	130641

## General Chemistry

### Analysis Batch: 130556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-50654-B-1 MS ^4	Matrix Spike	Total/NA	Water	300.0	

## QC Association Summary

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

### General Chemistry (Continued)

#### Analysis Batch: 130556 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-50654-B-1 MSD ^4	Matrix Spike Duplicate	Total/NA	Water	300.0	
660-50671-1	Leachate Plant Effluent	Total/NA	Water	300.0	
LCS 660-130556/5	Lab Control Sample	Total/NA	Water	300.0	
MB 660-130556/4	Method Blank	Total/NA	Water	300.0	

#### Analysis Batch: 130635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
640-40831-A-2 DU	Duplicate	Total/NA	Water	SM 2540C	
660-50671-1	Leachate Plant Effluent	Total/NA	Water	SM 2540C	
LCS 660-130635/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 660-130635/1	Method Blank	Total/NA	Water	SM 2540C	

#### Analysis Batch: 253961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
640-40810-C-1 DU	Duplicate	Total/NA	Water	350.1	
640-40861-F-1 MS	Matrix Spike	Total/NA	Water	350.1	
640-40861-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	
660-50671-1	Leachate Plant Effluent	Total/NA	Water	350.1	
LCS 680-253961/1	Lab Control Sample	Total/NA	Water	350.1	
MB 680-253961/2	Method Blank	Total/NA	Water	350.1	

### Field Service / Mobile Lab

#### Analysis Batch: 130814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-50671-1	Leachate Plant Effluent	Total/NA	Water	Field Sampling	

## Lab Chronicle

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

### Client Sample ID: Leachate Plant Effluent

Date Collected: 10/17/12 09:53

Date Received: 10/18/12 09:00

### Lab Sample ID: 660-50671-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	130571	10/19/12 16:59	EC	TAL TAM
Total/NA	Prep	8011			253877	10/23/12 11:50	SMP	TAL SAV
Total/NA	Analysis	8011		1	253970	10/23/12 16:44	SMP	TAL SAV
Total Recoverable	Prep	3005A			130641	10/22/12 12:39	SR	TAL TAM
Total Recoverable	Analysis	6010B		1	130693	10/23/12 19:18	SR	TAL TAM
Total Recoverable	Prep	3005A	DL		130641	10/22/12 12:39	SR	TAL TAM
Total Recoverable	Analysis	6010B	DL	10	130725	10/24/12 07:56	GF	TAL TAM
Total/NA	Analysis	300.0		50	130556	10/18/12 16:02	KW	TAL TAM
Total/NA	Analysis	SM 2540C		1	130635	10/22/12 11:59	TO	TAL TAM
Total/NA	Analysis	350.1		1	253961	10/23/12 20:41	RW	TAL SAV
Total/NA	Analysis	Field Sampling		1	130814	10/17/12 09:53	JJH	TAL TAM

### Client Sample ID: Trip Blank

Date Collected: 10/17/12 00:00

Date Received: 10/18/12 09:00

### Lab Sample ID: 660-50671-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	130571	10/19/12 11:45	EC	TAL TAM

#### Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TAL TAM = TestAmerica Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

## Method Summary

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL TAM
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	TAL SAV
6010B	Metals (ICP)	SW846	TAL TAM
300.0	Chloride	40CFR136A	TAL TAM
350.1	Nitrogen, Ammonia	MCAWW	TAL SAV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL TAM
Field Sampling	Field Sampling	EPA	TAL TAM

### Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TAL TAM = TestAmerica Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427



# Certification Summary

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

## Laboratory: TestAmerica Tampa

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40610	06-30-13
Florida	NELAC	4	E84282	06-30-13
Georgia	State Program	4	905	11-30-12
USDA	Federal		P330-11-00177	04-20-14

## Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		0399-01	02-28-13
A2LA	ISO/IEC 17025		399.01	02-28-13
Alabama	State Program	4	41450	06-30-13
Alaska (UST)	State Program	10	UST-104	06-19-13
Arkansas DEQ	State Program	6	88-0692	02-01-13
California	NELAC	9	3217CA	07-31-13
Colorado	State Program	8	N/A	12-31-12
Connecticut	State Program	1	PH-0161	03-31-13
Florida	NELAC	4	E87052	06-30-13
GA Dept. of Agriculture	State Program	4	N/A	12-31-12
Georgia	State Program	4	N/A	06-30-13
Georgia	State Program	4	803	06-30-13
Guam	State Program	9	09-005r	04-17-13
Hawaii	State Program	9	N/A	06-30-13
Illinois	NELAC	5	200022	11-30-12
Indiana	State Program	5	N/A	06-30-13
Iowa	State Program	7	353	07-01-13
Kentucky	State Program	4	90084	12-31-12
Kentucky (UST)	State Program	4	18	02-28-13
Louisiana	NELAC	6	30690	06-30-13
Louisiana	NELAC	6	LA100015	12-31-12
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-12
Massachusetts	State Program	1	M-GA006	06-30-13
Michigan	State Program	5	9925	06-30-13
Mississippi	State Program	4	N/A	06-30-13
Montana	State Program	8	CERT0081	12-31-12
Nebraska	State Program	7	TestAmerica-Savannah	06-30-13
New Jersey	NELAC	2	GA769	06-30-13
New Mexico	State Program	6	N/A	06-30-13
New York	NELAC	2	10842	04-01-13
North Carolina DENR	State Program	4	269	12-31-13
North Carolina DHHS	State Program	4	13701	07-31-13
Oklahoma	State Program	6	9984	08-31-13
Pennsylvania	NELAC	3	68-00474	06-30-13
Puerto Rico	State Program	2	GA00006	01-01-13
Rhode Island	State Program	1	LAO00244	12-30-12
South Carolina	State Program	4	98001	06-30-13
Tennessee	State Program	4	TN02961	06-30-13
Texas	NELAC	6	T104704185-08-TX	11-30-12
USDA	Federal		SAV 3-04	04-07-14
Vermont	State Program	1	87052	11-16-12
Virginia	NELAC	3	460161	06-14-13
Washington	State Program	10	C1794	06-10-13

## Certification Summary

Client: CDM Smith, Inc.  
Project/Site: Citrus Co LF Leachate Sampling

TestAmerica Job ID: 660-50671-1

### Laboratory: TestAmerica Savannah (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia	State Program	3	9950C	12-31-12
West Virginia DEP	State Program	3	94	06-30-13
Wisconsin	State Program	5	999819810	08-31-13
Wyoming	State Program	8	8TMS-Q	06-30-13

Phone (800) 851-2560 Fax (407) 856-0886

666-50671

## Chain of Custody Record

**TestAmerica**

THE UNIVERSITY OF CHICAGO PRESS

[illegible]

PAGE: 1 of 1

Meter #s: M-1 / T-33

## Form FD 9000-7: Field Parameter Data Sheet for Surface Water

SAMPLERS: Shawn Victory

Time Out: \_\_\_\_\_  
Time In: \_\_\_\_\_

CLIENT NAME: DM Smith Inc  
SURVEY/PROJECT: Grus 10 LE Leachate Sampling

[illegible]

Instrument Calibrations: YSI 3500 Calibrated to pH 7.00, slope to pH 4.00, pH 6.00 = See Calibration log

KCL Conductivity Standards: 0.001M = \_\_\_\_\_ (147  $\mu\text{S}/\text{cm}$ ) 0.01M = \_\_\_\_\_ (1413  $\mu\text{S}/\text{cm}$ )  
YSI 85 D. O. Meter Calibrated to \_\_\_\_\_ mg/L @ \_\_\_\_\_ °C  
Cooler Temp: \_\_\_\_\_

Signature: [Signature] Relinquished by: [Signature] Date: 10/17/12 Time: 3:15

Date Completed: 10/17/12 Received by: \_\_\_\_\_ Date: 1/1 Time: \_\_\_\_\_  
AT TIME \_\_\_\_\_

FIELD CONDITIONS FOR STATION# \_\_\_\_\_ AT TIME \_\_\_\_\_

CLOUD COVER (%): 100 % WIND DIRECTION: Nor th

WIND SPEED (MPH/KNOTS): 5-10 WAVE CONDITIONS:

Note: This Sheet is used for recording Sample Data -- Calibration information must also be documented

## Field Calibration Logbook

Name: Shawn Victory Date: 10/17/12 Instrument #: MD/T-3 Make/Model: YSI 556/attach 2100P

pH:

	pH Buffer	Element #	Exp. Date	Time	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)	Temp. (°C)
Initial	7.00	116554	11/2013	748	7.03	ND	CCV	23.1
	4.00	NU08540	9/2013	749	4.05	+	+	23.2
	10.00		11/2013					
Post	7.00	116554	9/2013	1202	7.06	ND	CCV	24.5
	4.00	NU08540	11/2013	1203	4.06	+	+	24.4
	10.00							

## CONDUCTIVITY STANDARD:

	Conductivity (uS/cm)	Element #	Exp. Date	Time	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)
Initial	100						
	1000	NU01053	3/2013	751	996	ND	CCV
	10000						
Post	100						
	1000	NU01053	3/2013	1207	995	ND	CCV
	10000						

## DISSOLVED OXYGEN: (Reference Table FS2200-2)\*

Temperature Probe Annual Calibration: Date:

NIST Therm. ID#:

	Temp. (°C)	DO*(mg/L)	Time	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)
Initial	16.7	9.72	944	16.7/9.81	YES	ICV
Post	20.4	9.02	1205	20.4/9.33	ND	CCV

## ORP: (Reference Table 6.2 Zobell Solution Values)\*

	ORP (milliVolts)*	Element #	Exp. Date	Time	Temp. (°C)	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)
Initial	257	2206506	3/2013	943	5.5	257.2	YES	ICV
Post	257	2206506	3/2013	1209	5.7	257.3	ND	CCV

## TURBIDITY:

	Turbidity (NTU)	Element #	Exp. Date	Time	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)
Initial	<0.10	NU01372	1/2013	759	.13	ND	CCV
	20	↓	↓	↓	19.5	↓	↓
	100	↓	↓	↓	106	↓	↓
	800	↓	↓	↓	798	↓	↓
Post	<0.10	NU01372	1/2013	1210	.14	ND	CCV
	20	↓	↓	↓	19.5	↓	↓
	100	↓	↓	↓	108	↓	↓
	800	↓	↓	↓	796	↓	↓

Acceptance Criteria: 1-10 NTU=10%, 11-40 NTU=8%, 41-100 NTU=6.5%, &gt;100 NTU=5%

Calibrated only in Calibrate Mode

ICV- Initial Calibration Verification (perform only in Run Mode)

CCV- Continuing Calibration Verification (perform only in Run Mode)

Signature: [Signature]Date: 10/17/12

## Login Sample Receipt Checklist

Client: CDM Smith, Inc.

Job Number: 660-50671-1

Login Number: 50671

List Source: TestAmerica Tampa

List Number: 1

Creator: McNulty, Carol

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.	True	
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?	True	
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	

## Login Sample Receipt Checklist

Client: CDM Smith, Inc.

Job Number: 660-50671-1

Login Number: 50671

List Source: TestAmerica Savannah

List Number: 1

List Creation: 10/18/12 03:41 PM

Creator: Barnett, Eddie T

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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?	True	
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## **ATTACHMENT 2**

### **Tables:**

- **Table 1**  
**Summary of Leachate Effluent**  
**Quality Analytical Results**  
**October 2008 - October 2012**
- **Table 2**  
**Twelve Month Summary of**  
**Leachate Effluent Monthly**  
**Analytical Results**  
**January 2012 - December 2012**
- **Table 3**  
**2010, 2011, and 2012 Summary**  
**of Monitoring Well MW-6 for**  
**Arsenic, Sodium, Chloride, and**  
**TDS**



Table 1. Summary of Leachate Effluent Quality Analytical Results  
Citrus County Central Landfill

Parameter	Permit Criteria	Units	Leachate Effluent																			
			10/15/2008	1/27/2009	4/20/2009	7/21/2009	9/9/2009 Re-sample	10/14/2009	1/26/2010	5/12/2010	7/27/2010	9/9/2010 Re-sample	10/27/2010	1/19/2011	4/28/2011	5/25/2011 Re-sample	7/20/2011	10/19/2011	1/18/2012	5/1/2012	7/18/2012	10/17/2012
Volatile Organics																						
Acetone	N/A	µg/L	---	---	---	21	---	---	---	---	40	15 I	---	---	---	---	9.9 U J3	---	---	---	9.9 U	---
Benzene	1	µg/L	0.5 U	1 U	0.5 U	0.5 U	---	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	---	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U
Carbon Tetrachloride	N/A	µg/L	---	---	---	1 U	---	---	---	---	1.2	0.45 I	---	---	---	---	0.42 U	---	---	---	0.42 U	---
Chlorobromomethane	N/A	µg/L	---	---	---	0.58 U	0.58 U	---	---	---	5.7	0.58 U	---	---	---	0.58 U	0.58 U	---	---	---	0.58 U	---
Chloromethene	N/A	µg/L	---	---	---	1 U	---	---	---	---	2.4 I	1.0 U	---	---	---	---	1.0 U	---	---	---	1.0 U	---
Dibromomethane	N/A	µg/L	---	---	---	0.41 U	---	---	---	---	5.8	0.41 U	---	---	---	---	0.41 U	---	---	---	0.41 U	---
Ethylbenzene	30	µg/L	0.5 U	1 U	0.5 U	0.44 U	---	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	---	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Ethylene Dibromide	0.02	µg/L	0.0061 U	0.0064 U	0.0064 U	0.5 U	---	0.0061 U	0.0098 U	0.0096 U	0.010 U	---	0.010 U	0.0097 U	0.010 U	---	0.010 U	0.010 U	0.010 U	0.010 U	0.0096 U	0.0024 U
Toluene	40	µg/L	0.5 U	1 U	0.5 U	0.51 U	---	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	---	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Vinyl chloride	1	µg/L	0.53 U	1.1 U	0.53 U	0.5 U	---	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	---	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U
Xylenes, Total	20	µg/L	1 U	2.1 I	1 U	0.5 U	---	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	---	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U
Trihalomethanes																						
Bromodichloromethane	See Total THMs	µg/L	---	14	---	410	0.35 U	---	13	---	870	170	0.35 U	0.35 U	---	---	30	---	8.7	---	0.35 U	---
Bromoform	See Total THMs	µg/L	---	2.9	---	71	0.58 U	---	7	---	190	36	0.58 U	0.58 U	---	---	8.5	---	0.58 U	---	0.58 U	---
Chloroform	See Total THMs	µg/L	---	11	---	370	0.90 U	---	8.3	---	900	110	0.90 U	0.90 U	---	---	25	---	9.9	---	1.6	---
Dibromochloromethane	See Total THMs	µg/L	---	6.9	---	280	0.58 U	---	9.7	---	670	110	0.34 U	0.34 U	---	---	19	---	2.4	---	0.34 U	---
Total THMs	100	µg/L	---	34.8	---	1131	Not Detected	---	38	---	2630	426	Not Detected	Not Detected	---	---	82.5	---	21	---	1.6	---
Metals																						
Antimony	N/A	mg/L	---	---	---	---	---	---	---	---	0.0031 I	---	---	---	---	---	0.0092 U	---	---	---	0.0029 I	---
Arsenic	N/A	mg/L	---	---	---	0.0091 I	---	---	---	---	0.025	0.02	0.034	0.012	0.036	---	0.046	0.035	0.031	0.032	0.017	0.019
Barium	2	mg/L	---	---	---	0.058	---	---	---	---	0.081	---	---	---	---	---	0.011	---	---	---	0.064	---
Cadmium	0.005	mg/L	---	---	---	---	---	---	---	---	0.000095 U	---	---	---	---	---	0.000095 U	---	---	---	0.000095 U	---
Chromium	0.1	mg/L	---	---	---	0.0058 I	---	---	---	---	0.0066	---	---	---	---	---	0.0063	---	---	---	0.0037 I	---
Cobalt	N/A	mg/L	---	---	---	0.011	---	---	---	---	0.019	---	---	---	---	---	0.022	---	---	---	0.0045	---
Copper	N/A	mg/L	---	---	---	0.014	---	---	---	---	0.024	---	---	---	---	---	0.0027	---	---	---	0.0056	---
Iron	0.3	mg/L	---	---	---	0.068 I	---	---	---	---	0.058 I	---	---	---	---	---	0.076 I	---	---	---	0.26	---
Lead	0.015	mg/L	---	---	---	0.002 U	---	---	---	---	0.0031	---	---	---	---	---	0.00020 U	---	---	---	0.00020 U	---
Mercury	0.002	mg/L	---	---	---	---	---	---	---	---	0.000091 U	---	---	---	---	---	0.000091 U	---	---	---	0.000091 U	---
Nickel	N/A	mg/L	---	---	---	0.046	---	---	---	---	0.071	---	---	---	---	---	0.077	---	---	---	0.021	---
Selenium	0.05	mg/L	---	---	---	---	---	---	---	---	0.001 U	---	---	---	---	---	0.001 U	---	---	---	0.001 U	---
Silver	0.1	mg/L	---	---	---	---	---	---	---	---	0.00025 U	---	---	---	---	---	0.00025 U	---	---	---	0.00025 U	---
Zinc	N/A	mg/L	---	---	---	0.020 I	---	---	---	---	0.031	---	---	---	---	---	0.03	---	---	---	0.015 I	---
General Chemistry																						
Ammonia, Total	2.8	mg/L	0.094	1.1	0.19	0.16	---	0.010 U	0.086	0.17	0.09	---	0.013 I	0.01	10	0.7	0.3	0.22	1.4	0.097	0.91	0.12
Chloride	N/A	mg/L	940	1300	1500	710	---	910	1000	1200	1300	---	1000	750	960	---	1200	970	1000	1100	570	570
Sodium	N/A	mg/L	570	800	820	430	---	570	580	750	830	---	670	400	630	---	800	590	760	610	260	380
TDS	N/A	mg/L	2400	2800	3000	1800	---	2000	2200	2900	1500	---	2500	1600	2400	---	2800	1600	2600	2200	1400	1400
General Field Parameters																						
Conductivity	N/A	µmhos/cm	3929	4907	4820	3462	2786	3772	3475	4752	4617	4167	4358	3176	3780	4701	3963	3675	4526	4181	2281	2702
Dissolved Oxygen	N/A	mg/L	2.96	0.93	2.78	1.34	0.3	0.72	7.01	0.75	1.22	1.42	1.36	6.01	8.38	0.14	1.81	1.21	2.28	4.34	7.34	5.52
pH	6.5 - 8.5	S.U.	7.87	7.79	7.68	7.49	7.94	7.83	7.27	7.52	7.37	7.69	8.1	7.52	8.13	7.81	7.65	8.32	7.03	7.44	7.21	8.55
Oxygen Reduction Potential	N/A	mV	---	---	---	---	---	---	228	25.8	350.7	-1.8	164.3	40.2	197.6	216.7	109.4	182.2	217.8	58	-118	-185
Temperature, Water	N/A	°C	26.55	17.35	24.83	31.5	27.9	27.9	17.1	27.2	28.5	29.4	26.2	---	27.3	27.5	29.1	25.3	15.9	26.1	27.2	24.3
Turbidity	N/A	NTU	1.07	1.65	5.00	---	6.67	4.73	1.84	7.94	3.40	2.71	4.55	---	10.8	7.04	2.69	5.36	8.33	3.64	6.34	3.02

**NOTES:**  
Permit Criteria - Maximum permitted values in Specific Condition Part E.9.b.2 of Permit (pH is also assigned a minimum permitted value).  
N/A - No maximum permitted value has been assigned for this analyte in the Permit.  
THMs - Trihalomethanes  
--- - Parameter not analyzed  
mg/L - milligrams per liter  
µg/L - micrograms per liter  
NTU - nephelometric turbidity units  
Yellow Shaded Value - Indicates the concentration of this parameter exceeds the Permit Criteria.  
I - analyte detected below the quantitation limit  
U - analyte concentration is below the laboratory method detection limit (MDL) and the MDL is shown.  
J3 - estimated value. The value may not be accurate. Spike recovery or RPD is outside of criteria.

**Table 2. Twelve Month Summary of Leachate Effluent Monthly Analytical Results  
Citrus County Central Landfill**

Parameter	Standard	Permit Criteria	Units	Leachate Effluent											
				1/4/2012	2/1/2012	3/27/2012	4/3/2012	5/2/2012	6/13/2012	7/3/2010	8/9/2010	9/6/2012	10/2/2011	11/5/2012	12/4/2012
CBOD <sub>5</sub>	Permit	20	mg/L	1.75	2.38	8.70	1.36	1.65	1.45	2.33	2.66	1.64	1.13	16.66	1.23
TSS	Permit	20	mg/L	5.00	7.50	3.50	1.0 U	1.00	4.00	15.00	2.50	1.00	2.00	1.50	2.50
Nitrate	Permit	10	mg/L	7.48	5.02	2.62	3.96	5.73	0.68	1.52	1.18	0.19	0.45	0.12	5.30

**NOTES:**

CBOD<sub>5</sub> - Carbonaceous Biochemical Oxygen Demand

TSS - Total Suspended Solids

Permit Criteria - Maximum permitted values in Specific Condition Part E.9.b.2 of Permit.

mg/L - milligrams per liter

Yellow Shaded Value - Indicates the concentration of this parameter exceeds the Permit Criteria

U - analyte concentration is below the laboratory method detection limit (MDL) and the MDL is shown.

**Table 3. 2010, 2011, and 2012 Summary of Monitoring Well MW-6  
for Arsenic, Sodium, Chloride, and TDS  
Citrus County Central Landfill**

Parameter	Standard	MCL	Units	MW-6					
				1/26/2010	7/27/2010	1/19/2012	7/20/2011	1/19/2012	7/18/2012
Arsenic	PDWS	10	mg/L	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Sodium	PDWS	160	mg/L	120	100	100	90	110	120 J
Chloride	SDWS	250	mg/L	220	220	220	13	250 J	240
TDS	SDWS	500	mg/L	400	400	380	370	350	420

**NOTES:**

PDWS - Primary Drinking Water Standard (62-550 F.A.C.)

SDWS - Secondary Drinking Water Standard (62-550 F.A.C.)

mg/L - milligrams per liter

Yellow Shaded Value - Indicates the concentration of this parameter exceeds the standard value.

U - analyte concentration is below the laboratory method detection limit (MDL) and the MDL is shown.

J - estimated value. The value may not be accurate. Spike recovery or RPD is outside of criteria.

## **ATTACHMENT 3**

### **CD Containing:**

- **ZIP file of Fourth Quarter  
Leachate Effluent ADaPT Files -  
October 2012**
- **PDF file of this Report**