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SCS ENGINEERS

January 16, 2012
File No. 09210021.10

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 2011
Permit No. 21375-018-SO/01

Dear Mr. Morris:

SCS Engineers (SCS) is providing the Fourth Quarter 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 final laboratory reports, field forms, and a CD containing an electronic copy of this report and the electronic data deliverable (EDD) in the "ADaPT" format provided by TestAmerica Laboratories Inc., (TestAmerica).

The leachate effluent sample was analyzed in compliance with the permit and for the quarterly parameters listed in Specific Condition Part E.9.b.2 (quarterly) of the permit. The resulting data from the quarterly sampling event are included in Attachment 1 and Table 1, Attachment 3. These concentrations are similar to historic concentrations (Table 1, Attachment 3). With the exception of arsenic, sodium, chloride, and total dissolved solids (TDS), the leachate effluent sample complied with the groundwater standards and minimum criteria referenced in Florida Administrative Code (FAC) Chapters 62-520.420 and 62-520.400, respectively.

Fourth Quarter leachate quality 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 FAC 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).

TestAmerica mobilized to the site on October 19, 2011, to collect leachate samples following the FDEP Standard Operating Procedures (SOPs) as guidance for the collection of these samples. Copies of the laboratory report and field forms are presented in Attachment 1.

Monthly samples of the leachate effluent were analyzed for the parameters listed in Specific Condition Part E.9.b.2 (monthly) of the Permit. The monthly samples are collected by the site and analyzed by their contract laboratory. The analytical laboratory reports from the monthly sampling events for October, November, and December of 2011, are included in Attachment 2 and summarized on Table 2, Attachment 3.

If you have any questions regarding this report, please contact the undersigned at (813) 621-0080.

Sincerely,

Ken Guilbeault, LEP
Project Manager

C. Ed Hilton, P.E.
Vice President
SCS ENGINEERS

KEG/CEH:ael

cc: T. Casey Stephens – Citrus County
Solid Waste Administrator, FDEP - Tallahassee

Attachments

DEP Form #: 62-701.900(31), F.A.C

Form Title: Water Quality Monitoring Certification

Effective Date January 6, 2011

Incorporated in Rule 62-701.510(9), F.A.C.

Florida Department of Environmental Protection

Bob Martinez Office Bldg. 2600 Blair Stone Road Tallahassee, Florida 32399-2400

WATER QUALITY MONITORING CERTIFICATION

PART I GENERAL INFORMATION

(1) Facility Name Citrus County Central Landfill

Address PO BOX 340

City Lecanto Zip 34460

Telephone Number (352) 527-7670

(2) WACS Facility ID 39859

(3) DEP Permit Number 21375-018-SO/01

(4) Authorized Representative Name Casey Stephens, Title Director of Solid Waste

Address PO BOX 340

City Lecanto Zip 34460

Telephone Number (352) 527-7670

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission of false information including the possibility of fine and imprisonment.

Date: 12/30/11

Signature of Owner or Authorized Representative

PART II QUALITY ASSURANCE REQUIREMENTS

Sampling Organization TestAmerica Laboratories, Inc

Analytical Lab NELAC / HRS Certification # NELAP Certifications E84282 and E81005

Lab Name TestAmerica Laboratories, Inc

Address 6712 Benjamin Road, Suite 100, Tampa, Fl 33634

Phone Number (813) 885-7427

Email address (if available) nancy.robertson@testamericainc.com

ATTACHMENT 1

LABORATORY ANALYTICAL RESULTS AND FIELD FORMS

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: 660-44193-1
Client Project/Site: Citrus County Leachate Effluent

For:
SCS Engineers
4041 Park Oaks Blvd
Suite 100
Tampa, Florida 33610

Attn: Mr. Ken Guilbeault

Authorized for release by:
10/28/2011 01:36:28 PM

Nancy Robertson
Project Manager II
nancy.robertson@testamericainc.com

Table of Contents

Definitions/Glossary

Client: SCS Engineers
Project/Site: Citrus County Leachate Effluent

TestAmerica Job ID: 660-44193-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
J1	Estimated value; value may not be accurate. Surrogate recovery outside of criteria.

Metals

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

General Chemistry

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

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
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)

Job ID: 660-44193-1

Laboratory: TestAmerica Tampa

Narrative

Job Narrative
660-44193-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
Method 8260B: The matrix spike (MS) recovery for batch 116573 was outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

GC Semi VOA
Method 8011: Surrogate recovery for the following sample was outside the upper control limit: Effluent Leachate (660-44193-2). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed. The sample is flagged with J1.

No other analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
Method 300.0: The matrix spike duplicate (MSD) recovery for batch 116721 was outside control limits for chloride. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 350.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 116666 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Detection Summary

Client: SCS Engineers
Project/Site: Citrus County Leachate Effluent

TestAmerica Job ID: 660-44193-1

Client Sample ID: Equipment Blank — Lab Sample ID: 660-44193-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ammonia as N	0.078		0.020	0.010	mg/L	1		350.1	Total/NA

Client Sample ID: Effluent Leachate — Lab Sample ID: 660-44193-2

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Field pH	8.32				SU	1		Field Sampling	Total/NA
Oxidation Reduction Potential	182.2				millivolts	1		Field Sampling	Total/NA
Oxygen, Dissolved	1.21				mg/L	1		Field Sampling	Total/NA
Specific Conductance	3675				umhos/cm	1		Field Sampling	Total/NA
Temperature	25.3				Degrees C	1		Field Sampling	Total/NA
Turbidity	5.36				NTU	1		Field Sampling	Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	35		10	4.0	ug/L	1		6010B	Total Recovera
Sodium - DL	590		10	6.2	mg/L	20		6010B	Total Recovera
Chloride	970		10	4.0	mg/L	20		300.0	Total/NA
Ammonia as N	0.22		0.020	0.010	mg/L	1		350.1	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	1600		250	250	mg/L	1		SM 2540C	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 660-44193-3

No Detections

Client: SCS Engineers
Project/Site: Citrus County Leachate Effluent

TestAmerica Job ID: 660-44193-1

Client Sample ID: Equipment Blank

Date Collected: 10/19/11 11:15
Date Received: 10/20/11 09:30

Lab Sample ID: 660-44193-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	ug/L			10/21/11 00:48	1
Ethylbenzene	0.44	U	1.0	0.44	ug/L			10/21/11 00:48	1
Toluene	0.51	U	1.0	0.51	ug/L			10/21/11 00:48	1
Xylenes, Total	0.50	U	3.0	0.50	ug/L			10/21/11 00:48	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			10/21/11 00:48	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*70 - 130*		*10/21/11 00:48*	*1*
Dibromofluoromethane	*96*		*70 - 130*		*10/21/11 00:48*	*1*
4-Bromofluorobenzene	*104*		*70 - 130*		*10/21/11 00:48*	*1*

Method: 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	0.0099	U	0.020	0.0099	ug/L		10/24/11 13:31	10/24/11 19:58	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1,2-Tetrachloroethane	*95*		*60 - 140*	*10/24/11 13:31*	*10/24/11 19:58*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.0	U	10	4.0	ug/L		10/24/11 09:17	10/25/11 10:51	1
Sodium	0.31	U	0.50	0.31	mg/L		10/24/11 09:17	10/25/11 10:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.20	U	0.50	0.20	mg/L			10/25/11 15:07	1
Ammonia as N	**0.078**		0.020	0.010	mg/L			10/24/11 13:20	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5.0	U	5.0	5.0	mg/L			10/24/11 15:20	1

Client: SCS Engineers
Project/Site: Citrus County Leachate Effluent

TestAmerica Job ID: 660-44193-1

Client Sample ID: Effluent Leachate

Date Collected: 10/19/11 11:30
Date Received: 10/20/11 09:30

Lab Sample ID: 660-44193-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	ug/L			10/21/11 01:33	1
Ethylbenzene	0.44	U	1.0	0.44	ug/L			10/21/11 01:33	1
Toluene	0.51	U	1.0	0.51	ug/L			10/21/11 01:33	1
Xylenes, Total	0.50	U	3.0	0.50	ug/L			10/21/11 01:33	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			10/21/11 01:33	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*70 - 130*		*10/21/11 01:33*	*1*
Dibromofluoromethane	*100*		*70 - 130*		*10/21/11 01:33*	*1*
4-Bromofluorobenzene	*101*		*70 - 130*		*10/21/11 01:33*	*1*

Method: 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	0.010	U	0.020	0.010	ug/L		10/24/11 13:31	10/24/11 20:19	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1,2-Tetrachloroethane	*328*	*J1*	*60 - 140*	*10/24/11 13:31*	*10/24/11 20:19*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**35**		10	4.0	ug/L		10/24/11 09:17	10/25/11 10:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	**590**		10	6.2	mg/L		10/24/11 09:17	10/25/11 11:21	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**970**		10	4.0	mg/L			10/25/11 17:59	20
Ammonia as N	**0.22**		0.020	0.010	mg/L			10/24/11 13:21	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1600**		250	250	mg/L			10/24/11 15:21	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**8.32**				SU			10/19/11 11:30	1
Oxidation Reduction Potential	**182.2**				millivolts			10/19/11 11:30	1
Oxygen, Dissolved	**1.21**				mg/L			10/19/11 11:30	1
Specific Conductance	**3675**				umhos/cm			10/19/11 11:30	1
Temperature	**25.3**				Degrees C			10/19/11 11:30	1
Turbidity	**5.36**				NTU			10/19/11 11:30	1

Client: SCS Engineers
Project/Site: Citrus County Leachate Effluent

TestAmerica Job ID: 660-44193-1

Client Sample ID: Trip Blank
Date Collected: 10/19/11 00:00
Date Received: 10/20/11 09:30

Lab Sample ID: 660-44193-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	ug/L			10/21/11 01:10	1
Ethylbenzene	0.44	U	1.0	0.44	ug/L			10/21/11 01:10	1
Toluene	0.51	U	1.0	0.51	ug/L			10/21/11 01:10	1
Xylenes, Total	0.50	U	3.0	0.50	ug/L			10/21/11 01:10	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			10/21/11 01:10	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*70 - 130*		*10/21/11 01:10*	*1*
Dibromofluoromethane	*96*		*70 - 130*		*10/21/11 01:10*	*1*
4-Bromofluorobenzene	*102*		*70 - 130*		*10/21/11 01:10*	*1*

Surrogate Summary

Client: SCS Engineers
Project/Site: Citrus County Leachate Effluent

TestAmerica Job ID: 660-44193-1

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		TOL	DBFM	BFB
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
660-44178-B-1 DU	Duplicate	97	96	104
660-44178-B-2 MS	Matrix Spike	102	101	99
660-44193-1	Equipment Blank	101	96	104
660-44193-2	Effluent Leachate	102	100	101
660-44193-3	Trip Blank	100	96	102
LCS 660-116573/4	Lab Control Sample	101	100	98
MB 660-116573/6	Method Blank	100	99	101

Surrogate Legend

TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane
BFB = 4-Bromofluorobenzene

Method: 8011 - EDB

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		TCEA2
Lab Sample ID	Client Sample ID	(60-140)
660-44193-1	Equipment Blank	95
660-44032-AC-1-A MS	Matrix Spike	87
660-44032-AC-2-A DU	Duplicate	82
LCS 660-116665/2-A	Lab Control Sample	100
MB 660-116665/1-A	Method Blank	85

Surrogate Legend

TCEA = 1,1,1,2-Tetrachloroethane

Method: 8011 - EDB

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		TCEA1
Lab Sample ID	Client Sample ID	(60-140)
660-44193-2	Effluent Leachate	328 J1

Surrogate Legend

TCEA = 1,1,1,2-Tetrachloroethane

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

Lab Sample ID: MB 660-116573/6
Matrix: Water
Analysis Batch: 116573

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	ug/L			10/20/11 17:20	1
Ethylbenzene	0.44	U	1.0	0.44	ug/L			10/20/11 17:20	1
Toluene	0.51	U	1.0	0.51	ug/L			10/20/11 17:20	1
Xylenes, Total	0.50	U	3.0	0.50	ug/L			10/20/11 17:20	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			10/20/11 17:20	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*70 - 130*		*10/20/11 17:20*	*1*
Dibromofluoromethane	*99*		*70 - 130*		*10/20/11 17:20*	*1*
4-Bromofluorobenzene	*101*		*70 - 130*		*10/20/11 17:20*	*1*

Lab Sample ID: LCS 660-116573/4
Matrix: Water
Analysis Batch: 116573

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	22.2		ug/L		111	68 - 134		
Ethylbenzene			20.0	20.2		ug/L		101	70 - 130		
Toluene			20.0	22.0		ug/L		110	70 - 131		
Vinyl chloride			20.0	22.1		ug/L		111	48 - 147		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*70 - 130*
Dibromofluoromethane	*100*		*70 - 130*
4-Bromofluorobenzene	*98*		*70 - 130*

Lab Sample ID: 660-44178-B-2 MS
Matrix: Water
Analysis Batch: 116573

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	85	J3	20.0	93.6	J3	ug/L		43	68 - 134		
Ethylbenzene	0.44	U	20.0	19.6		ug/L		98	70 - 130		
Toluene	0.51	U	20.0	22.4		ug/L		112	70 - 131		
Vinyl chloride	0.50	U	20.0	19.0		ug/L		95	48 - 147		

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*70 - 130*
Dibromofluoromethane	*101*		*70 - 130*
4-Bromofluorobenzene	*99*		*70 - 130*

Lab Sample ID: 660-44178-B-1 DU
Matrix: Water
Analysis Batch: 116573

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Benzene	0.50	U		0.50	U	ug/L				NC	30
Ethylbenzene	0.44	U		0.44	U	ug/L				NC	30
Toluene	0.51	U		0.51	U	ug/L				NC	30

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

Lab Sample ID: 660-44178-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116573

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Xylenes, Total	0.50	U		0.50	U	ug/L				NC	30
Vinyl chloride	0.50	U		0.50	U	ug/L				NC	30

Surrogate	*DU % Recovery*	*DU Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*70 - 130*
Dibromofluoromethane	*96*		*70 - 130*
4-Bromofluorobenzene	*104*		*70 - 130*

Method: 8011 - EDB

Lab Sample ID: MB 660-116665/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116693 — **Prep Batch: 116665**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	0.010	U	0.020	0.010	ug/L		10/24/11 13:31	10/24/11 16:54	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,1,2-Tetrachloroethane	*85*		*60 - 140*	*10/24/11 13:31*	*10/24/11 16:54*	*1*

Lab Sample ID: LCS 660-116665/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116693 — **Prep Batch: 116665**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Ethylene Dibromide			0.252	0.255		ug/L		101	70 - 130		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
1,1,1,2-Tetrachloroethane	*100*		*60 - 140*

Lab Sample ID: 660-44032-AC-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116693 — **Prep Batch: 116665**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits		
Ethylene Dibromide	0.010		0.249	0.215		ug/L		87	70 - 130		

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
1,1,1,2-Tetrachloroethane	*87*		*60 - 140*

Lab Sample ID: 660-44032-AC-2-A DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116693 — **Prep Batch: 116665**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Ethylene Dibromide	0.0097			0.010	U	ug/L				NC	40

Method: 8011 - EDB (Continued)

Lab Sample ID: 660-44032-AC-2-A DU
Matrix: Water
Analysis Batch: 116693

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 116665

Surrogate	DU % Recovery	DU Qualifier	Limits
1,1,1,2-Tetrachloroethane	*82*		*60 - 140*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 660-116643/1-A
Matrix: Water
Analysis Batch: 116712

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 116643

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.0	U	10	4.0	ug/L		10/24/11 09:17	10/25/11 09:51	1
Sodium	0.31	U	0.50	0.31	mg/L		10/24/11 09:17	10/25/11 09:51	1

Lab Sample ID: LCS 660-116643/2-A
Matrix: Water
Analysis Batch: 116712

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 116643

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic	1000	959		ug/L		96	75 - 125
Sodium	10.0	9.20		mg/L		92	75 - 125

Lab Sample ID: 660-44213-C-1-B MS
Matrix: Water
Analysis Batch: 116712

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 116643

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic	4.0	U	1000	984		ug/L		98	75 - 125
Sodium	13		10.0	22.2		mg/L		96	75 - 125

Lab Sample ID: 660-44213-C-1-C MSD
Matrix: Water
Analysis Batch: 116712

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 116643

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Arsenic	4.0	U	1000	973		ug/L		97	75 - 125	1	20
Sodium	13		10.0	21.6		mg/L		91	75 - 125	2	20

Method: 300.0 - Chloride

Lab Sample ID: MB 660-116721/3
Matrix: Water
Analysis Batch: 116721

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.20	U	0.50	0.20	mg/L			10/25/11 09:21	1

Method: 300.0 - Chloride (Continued)

Lab Sample ID: LCS 660-116721/4
Matrix: Water
Analysis Batch: 116721

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	10.2		mg/L		102	90 - 110		

Lab Sample ID: 660-44077-A-6 MS
Matrix: Water
Analysis Batch: 116721

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	3.8	J3	10.0	13.2		mg/L		94	90 - 110		

Lab Sample ID: 660-44077-A-6 MSD
Matrix: Water
Analysis Batch: 116721

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	3.8	J3	10.0	15.8	J3	mg/L		120	90 - 110	18	30

Lab Sample ID: 660-44150-C-3 MS
Matrix: Water
Analysis Batch: 116721

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	0.20	U	10.0	10.0		mg/L		100	90 - 110		

Lab Sample ID: 660-44150-C-3 MSD
Matrix: Water
Analysis Batch: 116721

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	0.20	U	10.0	9.61		mg/L		96	90 - 110	4	30

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 660-116666/3
Matrix: Water
Analysis Batch: 116666

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	0.010	U	0.020	0.010	mg/L			10/24/11 12:49	1

Lab Sample ID: LCS 660-116666/4
Matrix: Water
Analysis Batch: 116666

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
Ammonia as N			0.500	0.520		mg/L		104	90 - 110		

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: 660-44189-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116666

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits		
Ammonia as N	0.33	J3	1.00	1.12	J3	mg/L		79	90 - 110		

Lab Sample ID: 660-44189-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116666

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Ammonia as N	0.33	J3	1.00	1.13	J3	mg/L		80	90 - 110	1	30

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

Lab Sample ID: MB 660-116668/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116668

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5.0	U	5.0	5.0	mg/L			10/24/11 15:12	1

Lab Sample ID: LCS 660-116668/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116668

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Total Dissolved Solids	10000	9970		mg/L		100	80 - 120

Lab Sample ID: 660-44185-A-13 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116668

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	74		74.0		mg/L		0	20

QC Association Summary

Client: SCS Engineers
Project/Site: Citrus County Leachate Effluent

TestAmerica Job ID: 660-44193-1

GC/MS VOA

Analysis Batch: 116573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-44178-B-1 DU	Duplicate	Total/NA	Water	8260B	
660-44178-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
660-44193-1	Equipment Blank	Total/NA	Water	8260B	
660-44193-2	Effluent Leachate	Total/NA	Water	8260B	
660-44193-3	Trip Blank	Total/NA	Water	8260B	
LCS 660-116573/4	Lab Control Sample	Total/NA	Water	8260B	
MB 660-116573/6	Method Blank	Total/NA	Water	8260B	

GC Semi VOA

Prep Batch: 116665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-44193-1	Equipment Blank	Total/NA	Water	8011	
660-44193-2	Effluent Leachate	Total/NA	Water	8011	
660-44032-AC-1-A MS	Matrix Spike	Total/NA	Water	8011	
660-44032-AC-2-A DU	Duplicate	Total/NA	Water	8011	
LCS 660-116665/2-A	Lab Control Sample	Total/NA	Water	8011	
MB 660-116665/1-A	Method Blank	Total/NA	Water	8011	

Analysis Batch: 116693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-44193-1	Equipment Blank	Total/NA	Water	8011	116665
660-44193-2	Effluent Leachate	Total/NA	Water	8011	116665
660-44032-AC-1-A MS	Matrix Spike	Total/NA	Water	8011	116665
660-44032-AC-2-A DU	Duplicate	Total/NA	Water	8011	116665
LCS 660-116665/2-A	Lab Control Sample	Total/NA	Water	8011	116665
MB 660-116665/1-A	Method Blank	Total/NA	Water	8011	116665

Metals

Prep Batch: 116643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-44193-1	Equipment Blank	Total Recoverable	Water	3005A	
660-44193-2	Effluent Leachate	Total Recoverable	Water	3005A	
660-44193-2 - DL	Effluent Leachate	Total Recoverable	Water	3005A	
660-44213-C-1-B MS	Matrix Spike	Total Recoverable	Water	3005A	
660-44213-C-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	
LCS 660-116643/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 660-116643/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 116712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-44193-1	Equipment Blank	Total Recoverable	Water	6010B	116643
660-44193-2	Effluent Leachate	Total Recoverable	Water	6010B	116643
660-44193-2 - DL	Effluent Leachate	Total Recoverable	Water	6010B	116643
660-44213-C-1-B MS	Matrix Spike	Total Recoverable	Water	6010B	116643
660-44213-C-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	116643
LCS 660-116643/2-A	Lab Control Sample	Total Recoverable	Water	6010B	116643
MB 660-116643/1-A	Method Blank	Total Recoverable	Water	6010B	116643

QC Association Summary

Client: SCS Engineers
Project/Site: Citrus County Leachate Effluent

TestAmerica Job ID: 660-44193-1

General Chemistry

Analysis Batch: 116666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-44189-A-1 MS	Matrix Spike	Total/NA	Water	350.1	
660-44189-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	
660-44193-1	Equipment Blank	Total/NA	Water	350.1	
660-44193-2	Effluent Leachate	Total/NA	Water	350.1	
LCS 660-116666/4	Lab Control Sample	Total/NA	Water	350.1	
MB 660-116666/3	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 116668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-44185-A-13 DU	Duplicate	Total/NA	Water	SM 2540C	
660-44193-1	Equipment Blank	Total/NA	Water	SM 2540C	
660-44193-2	Effluent Leachate	Total/NA	Water	SM 2540C	
LCS 660-116668/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 660-116668/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 116721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-44077-A-6 MS	Matrix Spike	Total/NA	Water	300.0	
660-44077-A-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
660-44150-C-3 MS	Matrix Spike	Total/NA	Water	300.0	
660-44150-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
660-44193-1	Equipment Blank	Total/NA	Water	300.0	
660-44193-2	Effluent Leachate	Total/NA	Water	300.0	
LCS 660-116721/4	Lab Control Sample	Total/NA	Water	300.0	
MB 660-116721/3	Method Blank	Total/NA	Water	300.0	

Field Service / Mobile Lab

Analysis Batch: 116586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-44193-2	Effluent Leachate	Total/NA	Water	Field Sampling	

Lab Chronicle

Client: SCS Engineers
Project/Site: Citrus County Leachate Effluent

TestAmerica Job ID: 660-44193-1

Client Sample ID: Equipment Blank

Lab Sample ID: 660-44193-1

Date Collected: 10/19/11 11:15

Matrix: Water

Date Received: 10/20/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	116573	10/21/11 00:48	RM	TAL TAM
Total/NA	Prep	8011			116665	10/24/11 13:31	JB	TAL TAM
Total/NA	Analysis	8011		1	116693	10/24/11 19:58	JB	TAL TAM
Total Recoverable	Prep	3005A			116643	10/24/11 09:17	GF	TAL TAM
Total Recoverable	Analysis	6010B		1	116712	10/25/11 10:51	GF	TAL TAM
Total/NA	Analysis	350.1		1	116666	10/24/11 13:20	TO	TAL TAM
Total/NA	Analysis	SM 2540C		1	116668	10/24/11 15:20	TO	TAL TAM
Total/NA	Analysis	300.0		1	116721	10/25/11 15:07	TS	TAL TAM

Client Sample ID: Effluent Leachate

Lab Sample ID: 660-44193-2

Date Collected: 10/19/11 11:30

Matrix: Water

Date Received: 10/20/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	116573	10/21/11 01:33	RM	TAL TAM
Total/NA	Prep	8011			116665	10/24/11 13:31	JB	TAL TAM
Total/NA	Analysis	8011		1	116693	10/24/11 20:19	JB	TAL TAM
Total Recoverable	Prep	3005A			116643	10/24/11 09:17	GF	TAL TAM
Total Recoverable	Analysis	6010B		1	116712	10/25/11 10:54	GF	TAL TAM
Total Recoverable	Prep	3005A	DL		116643	10/24/11 09:17	GF	TAL TAM
Total Recoverable	Analysis	6010B	DL	20	116712	10/25/11 11:21	GF	TAL TAM
Total/NA	Analysis	350.1		1	116666	10/24/11 13:21	TO	TAL TAM
Total/NA	Analysis	SM 2540C		1	116668	10/24/11 15:21	TO	TAL TAM
Total/NA	Analysis	300.0		20	116721	10/25/11 17:59	TS	TAL TAM
Total/NA	Analysis	Field Sampling		1	116586	10/19/11 11:30		TAL TAM

Client Sample ID: Trip Blank

Lab Sample ID: 660-44193-3

Date Collected: 10/19/11 00:00

Matrix: Water

Date Received: 10/20/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	116573	10/21/11 01:10	RM	TAL TAM

Laboratory References:

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

Certification Summary

Client: SCS Engineers
Project/Site: Citrus County Leachate Effluent

TestAmerica Job ID: 660-44193-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Tampa	Alabama	State Program	4	40610
TestAmerica Tampa	Florida	NELAC	4	E84282
TestAmerica Tampa	Georgia	State Program	4	905
TestAmerica Tampa	USDA	USDA		P330-11-00177

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Method Summary

Client: SCS Engineers
Project/Site: Citrus County Leachate Effluent

TestAmerica Job ID: 660-44193-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL TAM
8011	EDB	EPA	TAL TAM
6010B	Metals (ICP)	SW846	TAL TAM
300.0	Chloride	40CFR136A	TAL TAM
350.1	Nitrogen, Ammonia	MCAWW	TAL TAM
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 TAM = TestAmerica Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

Sample Summary

Client: SCS Engineers
Project/Site: Citrus County Leachate Effluent

TestAmerica Job ID: 660-44193-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
660-44193-1	Equipment Blank	Water	10/19/11 11:15	10/20/11 09:30
660-44193-2	Effluent Leachate	Water	10/19/11 11:30	10/20/11 09:30
660-44193-3	Trip Blank	Water	10/19/11 00:00	10/20/11 09:30

TestAmerica Tampa
6712 Benjamin Road Suite 100
Tampa, FL 33634
Phone (813) 885-7427 Fax (813) 885-7049

660-44193

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

10/28/2011

Client Information	Sampler: Brett Harvey	Lab PM: Robertson, Nancy	Carrier Tracking No(s):	COC No: 660-37573-12239.1
Client Contact: Mr. Ken Guilbeault	Phone:	E-Mail: nancy.robertson@testamericainc.com		Page: Page 1 of 1
Company: SCS Engineers				Job #:
Address: 4041 Park Oaks Blvd Suite 100	Due Date Requested:			
City: Tampa	TAT Requested (days):			
State, Zip: FL, 33610				
Phone:	PO #: 09-0188R-9			
Email: kguilbeault@scsengineers.com	WO #: 9210021.03			
Project Name: Citrus County Leachate Effluent	Project #: 66005072			
Site: EFF Leachate	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	350.1 - Ammonia as N	6010B - AS, NA	8260B - BTEX,Vinyl Chloride	2540C - Total Dissolved Solids	8011 - EDB	300.0_28D - Chloride	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	S	D	A	N	N	N	X	
EQ Blank	10/19/11	1115	G	Water			✓	✓	✓	✓	✓	✓		
EFF Leachate	+	1130	G	Water			✓	✓	✓	✓	✓	✓		
Trip Blank				Water					✓					

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date: 10/18/11	Time: 950	Method of Shipment: Sampled by Orlando			
Relinquished by:	Date/Time: 10/19/11 1330	Company	Received by: Carol McNulty	Date/Time: 10/20/11 0930	Company		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.7°C CU07

Meter #'s: M-1 T-2 PAGE: ____ of ____

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

CLIENT NAME: SCS ENGINEERS SAMPLERS: Brett Harvey

SURVEY/PROJECT: Citrus County Landfill Leachate Time Out: 930

Time In: ____

SAMPLE ID	TIME HR:MIN	TOTAL DEPTH (feet)	SECCHI (feet)	SAMPLE DEPTH (feet)	WATER TEMP (Celsius)	DO (mg/L)	FIELD Ox-Red (mV)	Cond (µS/cm)	SALINITY (ppt)	PH (su)	TURBIDITY (NTU)	Comments
Eff Leachate	1130	6.0	N/a	Surface	25.3	1.21	182.2	3675	N/a	8.32	5.36	No Sheen Yellowish Color
EQ Blank	1115											

Instrument Calibrations: YSI 3500 Calibrated to pH 7.00,slope to pH 4.00, pH 6.00= see calibration Log Sheet,

KCL Conductivity Standards: 0.001M = ____ (147µΩ/cm) 0.01M = ____ (1413µΩ/cm) YSI 85 D.O. Meter Calibrated to ___mg/L @ ___°C Cooler Temp: ___°C

Signature: Brett Harvey Relinquished by: Brett Harvey Date: 10/19/11 Time: 1330

Date Completed: 10/19/11 Received by: ____ Date: / / Time: ____

FIELD CONDITIONS FOR STATION# ____ AT TIME ____:		
CLOUD COVER (%): 100 %	WIND DIRECTION: NW	TIDAL STAGE: N/a
PREVIOUS RAINFALL: 1 to 2 inches	WIND SPEED (MPH/KNOTS): 20 mph	WAVE CONDITIONS: N/a

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

10/28/2011

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SCS Engineers

TestAmerica, 8010 Sunport Drive, Ste. 116, Orlando, FL 32809
Field Calibration Logbook

Name: Brett Halsey Date: 10/19/11 Instrument #: M-1 T-2 Make/Model: YSI 556 / Hach 2100P

pH:

	pH Buffer	Element #	Exp. Date	Time	Inst. Response	Calibrated (Y / N)	Type (ICV, CCV)	Temp. (°C)
Initial	7.00	NJ04056	1/13	800	7.00	Y	ICV	24.9
	4.00	NJ04620	3/12	802	4.00	Y	"	"
	10.00							
Post	7.00	"	"	1340	7.00	N	CCV	22.1
	4.00	"	"	1341	4.00	N	"	"
	10.00							

CONDUCTIVITY STANDARD:

	Conductivity (uS/cm)	Element #	Exp. Date	Time	Inst. Response	Calibrated (Y / N)	Type (ICV, CCV)
Initial	100						
	1000	NJ05208	3/13	834	998	N	CCV
	10000						
Post	100						
	1000	"	"	1342	999	N	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	24.9	8.27	844	8.27	Y	ICV
Post	25.1	8.24	1344	8.24	N	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	229		4/12	846	24.6	229	Y	ICV
Post	229		1	1342	25.1	229	N	CCV

TURBIDITY:

	Turbidity (NTU)	Element #	Exp. Date	Time	Inst. Response	Calibrated (Y / N)	Type (ICV, CCV)
Initial	<0.10	0201	~~8/11~~ 12/11	848	.20	N	CCV
	20	0231	12/11	849	20.5	|	|
	100	0223	12/11	950	101	|	|
	800	0224	12/11	951	799	|	|
Post	<0.10	"	12/11	1349	.20	N	CCV
	20	"	|	1350	20.5	|	|
	100	"	|	1351	101	|	|
	800	"	|	1352	799	|	|

Acceptance Criteria: 1-10 NTU=10%, 11-40 NTU=8%, 41-100 NTU=6.5%, >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: Brett Halsey Date: 10/19/11

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 660-44193-1

Login Number: 44193
List Number: 1
Creator: McNulty, Carol

List Source: TestAmerica Tampa

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	3.7 degrees C CU-07
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 sample IDs on the containers 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	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

ATTACHMENT 2

MONTHLY LEACAHATE QUALITY ANALYTICAL RESULTS FOR OCTOBER, NOVEMBER, AND DECEMBER 2011

S.A.C. ENVIRONMENTAL LABORATORY INC
FLDOH CERTIFICATION #84492
ANALYTICAL REPORT

SOLID WASTE MANAGEMENT
PO BOX 340
LECANTO FL 34460

Invoice Number 11953

Client	CITRUS COUNTY UTILITIES	***Sample Number***	E111771	
Project	LANDFILL LEACHATE PLANT	***Date/Time Sampled***	10/11/11	0905 HRS
Sample Description	WWTP/EFF	***Date/Time Received***	10/11/11	1036 HRS

Method	Analytes	Units	Results	MDL	Analyst	Analysis Date/Time
SM5210-B	CBOD	mg/L	1.66	0.30 mg/L	SJL	10/12/11 1112 HRS
SM2540-D	TSS	mg/L	2.00	1.00 mg/L	SJL	10/12/11 0946 HRS
SM4500-NO3-E	NITRATE	mg/L	1.39	0.06 mg/L	SJL	10/11/11 1230 HRS

Sally Ann Carrillo
Laboratory Manager

These results relate only to this sample.
For all results qualified with an I, the PQL is defined to be 4 times the MDL

S.A.C. ENVIRONMENTAL LABORATORY INC
FLDOH CERTIFICATION #84492
ANALYTICAL REPORT

SOLID WASTE MANAGEMENT
PO BOX 340
LECANTO FL 34460

Invoice Number 12009

Client	CITRUS COUNTY UTILITIES	***Sample Number***	E111863	
Project	LANDFILL LEACHATE PLANT	***Date/Time Sampled***	11/1/11	0830 HRS
Sample Description	WWTP/EFF	***Date/Time Received***	11/1/11	0932 HRS

Method	Analytes	Units	Results	MDL	Analyst	Analysis Date/Time
SM5210-B	CBOD	mg/L	2.33	0.30 mg/L	SJL	11/2/11 1346 HRS
SM2540-D	TSS	mg/L	3.00	1.00 mg/L	SJL	11/2/11 0923 HRS
SM4500-NO3-E	NITRATE	mg/L	0.59	0.06 mg/L	SJL	11/1/11 0945 HRS

Sally Ann Casullo
Laboratory Manager

These results relate only to this sample.
For all results qualified with an I, the PQL is defined to be 4 times the MDL

S.A.C. ENVIRONMENTAL LABORATORY INC
FLDOH CERTIFICATION #84492
ANALYTICAL REPORT

SOLID WASTE MANAGEMENT
PO BOX 340
LECANTO FL 34460

Invoice Number 12072

Client	CITRUS COUNTY UTILITIES	***Sample Number***	E112054	
Project	LANDFILL LEACHATE PLANT	***Date/Time Sampled***	12/15/11	0955 HRS
Sample Description	WWTP/EFF	***Date/Time Received***	12/15/11	1141 HRS

Method	Analytes	Units	Results	MDL	Analyst	Analysis Date/Time
SM5210-B	CBOD	mg/L	2.43	0.30 mg/L	SJL	12/15/11 1418 HRS
SM2540-D	TSS	mg/L	5.50	1.00 mg/L	SJL	12/16/11 0910 HRS
SM4500-NO3-E	NITRATE	mg/L	3.01	0.06 mg/L	SJL	12/15/11 0956 HRS

Sally Ann Carrillo
Laboratory Manager

These results relate only to this sample.
For all results qualified with an I, the PQL is defined to be 4 times the MDL

ATTACHMENT 3

TABLES

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

Parameter	Standard	MCL	Units	Leachate Effluent														
				10/15/2008	1/27/2009	4/20/2009	7/21/2009	9/9/2009	10/14/2009	1/26/2010	5/12/2010	7/27/2010	9/9/2010	10/27/2010	1/19/2011	4/28/2011	5/25/2011	7/20/2011	10/19/2011
								Resample					Resample					Resample		
Volatile Organics																			
Acetone	GCTL	6300	ug/L	---	---	---	21	---	---	---	---	40	15 **I**	---	---	---	---	9.9 **U J3**	---
Benzene	PDWS	1	ug/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**	0.5 **U**
Carbon Tetrachloride	PDWS	3	ug/L	---	---	---	1 **U**	---	---	---	---	1.2	0.45 **I**	---	---	---	---	0.42 **U**	---
Chlorobromomethane	GCTL	91	ug/L	---	---	---	0.58 **U**	0.58 **U**	---	---	---	5.7	0.58 **U**	---	---	---	---	0.58 **U**	---
Chloromethane	GCTL	2.7	ug/L	---	---	---	1 **U**	---	---	---	---	2.4 **I**	1.0 **U**	---	---	---	---	1.0 **U**	---
Dibromomethane	GCTL	70	ug/L	---	---	---	0.41 **U**	---	---	---	---	5.8	0.41 **U**	---	---	---	---	0.41 **U**	---
Ethylbenzene	SDWS	30	ug/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**
Ethylene Dibromide	PDWS	0.02	ug/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**	0.011 **U**	---	0.010 **U**	0.010 **U**
Toluene	SDWS	40	ug/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**
Vinyl chloride	PDWS	1	ug/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**	---	0.50 **U**	0.5 **U**
Xylenes, Total	SDWS	20	ug/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**	---	0.50 **U**	0.5 **U**
Trihalomethanes																			
Bromodichloromethane	e Total THMs		ug/L	---	14	---	410	0.35 **U**	---	13	---	870	170	0.35 **U**	0.35 **U**	---	---	30	---
Bromoform	e Total THMs		ug/L	---	2.9	---	71	0.58 **U**	---	7	---	190	36	0.58 **U**	0.58 **U**	---	---	8.5	---
Chloroform	e Total THMs		ug/L	---	11	---	370	0.90 **U**	---	8.3	---	900	110	0.90 **U**	0.9 **U**	---	---	25	---
Dibromochloromethane	e Total THMs		ug/L	---	6.9	---	280	0.58 **U**	---	9.7	---	670	110	0.34 **U**	0.34 **U**	---	---	19	---
Total THMs	Permit	100	ug/L	---	34.8	---	1131	**Not Detected**	**---**	38	---	2630	426	**Not Detected**	**Not Detected**	---	---	82.5	---
Metals																			
Antimony	PDWS	0.006	mg/L	---	---	---	---	---	---	---	---	0.0031 **I**	---	---		---	---	0.0092 **U**	---
Arsenic	PDWS	0.01	mg/L	---	---	---	0.0091 **I**	---	---	---	---	0.025	0.02	0.034	0.012	0.036	---	0.046	0.035
Barium	PDWS	2	mg/L	---	---	---	0.058	---	---	---	---	0.081	---	---	---	---	---	0.011	---
Cobalt	GCTL	0.14	mg/L	---	---	---	0.011	---	---	---	---	0.019	---	---	---	---	---	0.022	---
Chromium	PDWS	0.1	mg/L	---	---	---	0.0058 **I**	---	---	---	---	0.0066	---	---	---	---	---	0.0063	---
Copper	SDWS	1	mg/L	---	---	---	0.014	---	---	---	---	0.024	---	---	---	---	---	0.0027	---
Lead	PDWS	0.015	mg/L				0.002 **U**					0.0031	---	---		---	---	0.00020 **U**	---
Nickel	PDWS	0.1	mg/L	---	---	---	0.046	---	---	---	---	0.071	---	---	---	---	---	0.077	---
Iron	SDWS	0.3	mg/L	---	---	---	0.068 **I**	---	---	---	---	0.058 **I**	---	---	---	---	---	0.076 **I**	---
Zinc	SDWS	5	mg/L	---	---	---	0.020 **I**	---	---	---	---	0.031	---	---	---	---	---	0.03	---
General Chemistry																			
Ammonia, Total	GCTL	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
Chloride	SDWS	250	mg/L	940	1300	1500	710	---	910	1000	1200	1300	---	1000	750	960	---	1200	970
Cyanide	PDWS	0.2	mg/L	---	---	---	0.014	---	---	---	---	---	---	---	---	---	---	---	---
Sodium	PDWS	160	mg/L	570	800	820	430	---	570	580	750	830	---	670	400	630	---	800	590
TDS	SDWS	500	mg/L	2400	2800	3000	1800	---	2000	2200	2900	1500	---	2500	1600	2400	---	2800	1600
TOC	NS	NS	mg/L	---	---	---	---	---	---	---	---	---	---	140	---	---	---	---	---
General Field Parameters																			
Conductivity	NS	NS	umhos/cm	3929	4907	4820	3462	2786	3772	3475	4752	4617	4167	4358	3176	3780	4701	3963	3675
Dissolved Oxygen	NS	NS	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
pH	SDWS	6.5-8.5	pH Units	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
Oxygen Reduction Potential	NS	NS	mV	---	---	---	---	---	---	228	25.8	350.7	-1.8	164.3	40.2	197.6	216.7	109.4	182.2
Temperature, Water	NS	NS	deg 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
Turbidity	NS	NS	NTU	1.07	1.65	5	---	6.67	4.73	1.84	7.94	3.4	2.71	4.55	---	10.8	7.04	2.69	5.36

Notes

1 . PDWS = Primary Drinking Water Standard (62-550 F.A.C.).
2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.).
3. GCTL = Groundwater Clean-up Target Level (62-777 F.A.C.).
4. THMs = Trihalomethanes
5. NS = No numeric standard has been set for this analyte.
6. --- = Parameter not analyzed.
7. mg/l: milligrams per liter.
8. ug/l: micrograms per liter.
9. NTU: nephelometric turbidity units.
10. Yellow Shaded values indicate parameter concentrations exceeded primary, secondary Drinking Water Standards or groundwater cleanup target levels.
11. **I** = Analyte detected below quantitation limits.
12. **U** = Analyte concentration was below the laboratory detection limit (value shown).
13. **J3** = Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

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

Parameter	Standard	MCL	Units	1/5/2011	2/2/2011	3/9/2011	4/14/2011	5/10/2011	6/16/2011	7/6/2011	8/3/2011	9/8/2011	10/11/2011	11/1/2011	12/15/2011
CBOD	Permit	20	mg/L	3.11	6.44	17.13	4.42	3.74	2.5	3.17	2.43	6.72	1.66	2.33	2.43
TSS	Permit	20	mg/L	<1	3	15.5	7.5	2.5	3.5	4	4.5	8.5	2	3	5.5
Nitrate	Permit	10	mg/L	0.12	2.48	0.42	0.28	0.24	0.94	4.6	3.84	4.09	1.39	0.59	3.01

Notes

1. mg/l: milligrams per liter.
2. ug/l: micrograms per liter.
3. Yellow Shaded values indicate parameter concentrations exceeded Permit MCL levels.
4. **I** = Analyte detected below quantitation limits.
5. **U** = Analyte concentration was below the laboratory detection limit (value shown).

Table 3. 2010 and 2011 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	1/19/2011	7/20/2011
Arsenic	PDWS	10	mg/L	1.3 **U**	1.3 **U**	1.3 **U**	1.3 **U**
Sodium	PDWS	160	mg/L	120	100	100	90
Chloride	SDWS	250	mg/L	220	220	220	13
TDS	SDWS	500	mg/L	400	400	380	370

Notes

1 . PDWS = Primary Drinking Water Standard (62-550 F.A.C.).
2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.).
3. mg/l: milligrams per liter.
4. ug/l: micrograms per liter.
5. Yellow Shaded values indicate parameter concentrations exceeded primary or secondary Drinking Water Standards.
6. **I** = Analyte detected below quantitation limits.
7. **U** = Analyte concentration was below the laboratory detection limit (value shown).

ATTACHMENT 4

COMPACT DISK CONTAINING
REPORT IN PDF FORMAT AND
ADaPT FILE