



John E. Manning
District One

Cecil L Pendergrass
District Two

Larry Kiker
District Three

Brian Hamman
District Four

Frank Mann
District Five

Roger Desjarlais
County Manager

Richard Wm. Wesch
County Attorney

Donna Marie Collins
Hearing Examiner

June 1, 2017

Ms. Renée J. Kwiat, CHMM
Environmental Consultant
Florida Department of Environmental Protection, South District
P.O. Box 2549
Fort Myers, FL 33902-2549

**Re: Lee County Resource Recovery Facility, PA90-30H
Construction & Demolition Debris Recycling Facility
WACS ID No. 93715
First Semi-Annual 2017 Water Quality Monitoring Report**

Dear Ms. Kwiat:

Enclosed please find the First Semi-Annual 2017 Water Quality Monitoring (WQM) Report for the Lee County Resource Recovery Facility (RRF) and the Construction & Demolition Debris Recycling Facility (CDDRF). Flowers Chemical Laboratories, Inc. (FCL) sampled the RRF's six (6) shallow monitoring wells, or WTE-1S, WTE-2S, WTE-3SR, WTE-4S, WTE-5S and WTE-6S, which include the CDDRF's three (3) monitoring wells or WTE-2S, WTE-3SR and WTE-4S, on February 6, 2017.

Sampling was performed in accordance with the Facility's Ground Water Monitoring Plan (GWMP) dated August 2010 and approved by the Department on October 19, 2010. The laboratory analytical results from this WQM event were compared to the Department's water quality standards or maximum contaminant levels (MCL) established in Chapter 62-550, F.A.C., and are summarized below.

Ground Water Monitoring Data Discussion

Ground water from five (5) of the six (6) shallow monitoring wells sampled, i.e., all but WTE-6S, exceeded the secondary drinking water standard for Iron which is 0.3 milligrams per liter (mg/L) as established by Rule 62-550, F.A.C. Ground water from two (2) of the six (6) shallow wells sampled, i.e., WTE-2S and WTE-5S, exceeded the secondary drinking water standard for Total Dissolved Solids (TDS) which is 500 mg/L as established by Rule 62-550, F.A.C. The concentrations of Iron and TDS in the wells that exceeded the standards as noted



above are reported in Table 1. Note that the Iron and TDS concentrations reported are consistent with background and historical monitoring results and the ground water quality in this region.

In addition, ground water from monitoring well WTE-4S exceeded the Ground Water Clean-Up Target Level (GCTL) for Ammonia which is 2.8 mg/L as established in Chapter 62-777, F.A.C. The Ammonia concentration at WTE-4S was reported to be 4.24 mg/L which is consistent with the Ammonia results from the last 2 sample events including the March 2016 resample event which was scheduled after the February 2016 sampling results reported an Ammonia level of 19 mg/L in WTE-4S. The March 2016 resample event reported Ammonia at 4.0 mg/L and the August 2016 routine sampling event reported Ammonia at 4.4 mg/L.

Given the Ammonia concentrations from three consecutive sampling events are significantly lower than the concentration reported in February 2016 and have remained steady, along with the Department Memorandum SWM-13.10, Monitoring and Evaluation Ammonia in Ground Water at Solid Waste Management Facilities, dated December 3, 2012, no additional sampling will be performed. However, Ammonia will continue to be monitored according to the approved ground water monitoring plan.

Table 1 –Results which Exceeded Standards in Chapter 62-550, F.A.C.

Parameter (units)	WTE-1S	WTE-2S	WTE-3SR	WTE-4S	WTE-5S	WTE-6S
Iron (mg/L)	8.21	0.323	3.86	2.09	0.322	BS
TDS (mg/L)	BS	568	BS	BS	512	BS

Water Quality Standards: Iron- 0.3 mg/L; TDS- 500 mg/L; BS-Below Standard

Electronic Data Files

As required, this WQM Report includes the field and laboratory ADaPT files which are provided as separate electronic files prepared in the Department specified format.

Ground Water Elevations

The ground water elevations at the six (6) shallow (water table aquifer) and six (6) deep (sandstone aquifer) monitoring wells are provided in Table 2 below. The elevations were determined in accordance with the DEP-SOP-001/01, and specifically, FS2200, Ground Water Sampling. The data used to determine the ground water elevations is provided in the Attachments to this WQM Report.

Table 2 – Ground Water Elevations (ft., NGVD) Measured February 6, 2017

WELL ID	Elevation (ft., NGVD)	WELL ID	Elevation (ft., NGVD)
WTE-1S	16.7	WTE-1D	6.11
WTE-2S	16.07	WTE-2D	14.40
WTE-3SR	15.01	WTE-3DR	13.71
WTE-4S	13.47	WTE-4D	12.14
WTE-5S	15.89	WTE-5D	14.15
WTE-6S	12.94	WTE-6D	11.58

Note: WTE-2S, WTE-3SR and WTE-4S comprise the monitoring well network for the CDDRF

Field Documentation and Report Certification

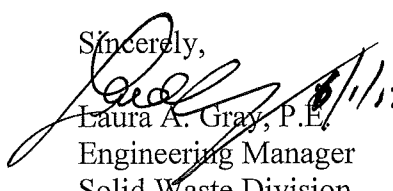
The attachments to this WQM Report include DEP Form #62-701.900(31), F.A.C., Water Quality Monitoring Certification, DEP Form FD 9000-24, Ground Water Sampling Log for each well sampled, field data sheets and sample chain of custody.

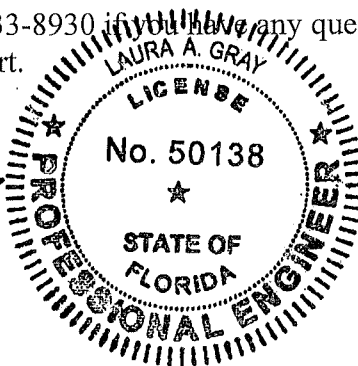
Recommendations/Conclusions

The monitoring results reported herein are consistent with prior monitoring results and background data for the RRF and the CDDRF and are typical for ground water in this geographical region with the exception of the ammonia concentration reported in WTE-4S. Given the substantial decrease in ammonia indicated by the resample and subsequent routine monitoring results along with the Department Memorandum SWM-13.10, no additional ammonia monitoring is recommended at this time. The RRF and CDDRF will continue to implement the approved ground water monitoring plan and will report the results to the Department as required.

Please call me at (239) 533-8930 if you have any questions pertaining to this Water Quality Monitoring Report.

Sincerely,


Laura A. Gray, P.E.
Engineering Manager
Solid Waste Division



Attachments

Cc: Bureau of Solid and Hazardous Waste, FDEP
Siting Coordination Office, FDEP
Keith Howard, SWD
Mike Duff, Covanta
Tyler Huffman, Covanta
File II E107

*Lee County Resource Recovery Facility, PA90-30H
Construction & Demolition Debris Recycling Facility
WACS ID No. 93715
First Semi-Annual 2017 Water Quality Monitoring Report*

Attachment A-Ground Water Monitoring Report Certification,
DEP Form # 62-701.900(31)



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

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

Form Title: Water Quality Monitoring Certification

Effective Date: January 6, 2010

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

WATER QUALITY MONITORING CERTIFICATION

PART I GENERAL INFORMATION

(1) Facility Name Lee County Solid Waste Resource Recovery Facility

Address 10500 Buckingham Road

City Fort Myers

Zip 33905

County Lee

Telephone Number (239) 533-8000

(2) WACS Facility ID 93715

(3) DEP Permit Number PA90-30H

(4) Authorized Representative's Name Keith Howard

Title Director

Address 10500 Buckingham Road

City Fort Myers

Zip 33907

County Lee

Telephone Number (239) 533-8000

Email address (if available) khoward@leegov.com

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.

5/30/17
(Date)

[Signature]
(Owner or Authorized Representative's Signature)

PART II QUALITY ASSURANCE REQUIREMENTS

Sampling Organization Flowers Chemical Laboratories, Inc.

Analytical Lab NELAC / HRS Certification # E83018

Lab Name Flowers Chemical Laboratories, Inc

Address P.O. Box 150597, Altamonte Springs, FL 32715-0597

Phone Number (407) 339-5984

Email address (if available) _____

Northwest District
160 Government Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. 200 B
Jacksonville, FL 32256-7590
904-807-3300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
13051 N. Telecom Pky.
Temple Terrace, FL
813-632-7600

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33902-2549
239-332-6975

Southeast District
400 North Congress Ave.
West Palm Beach, FL 33401
561-681-6600

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South District DEP

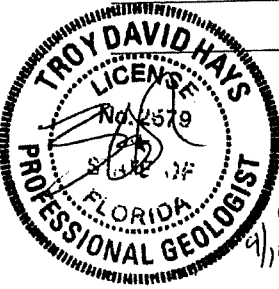
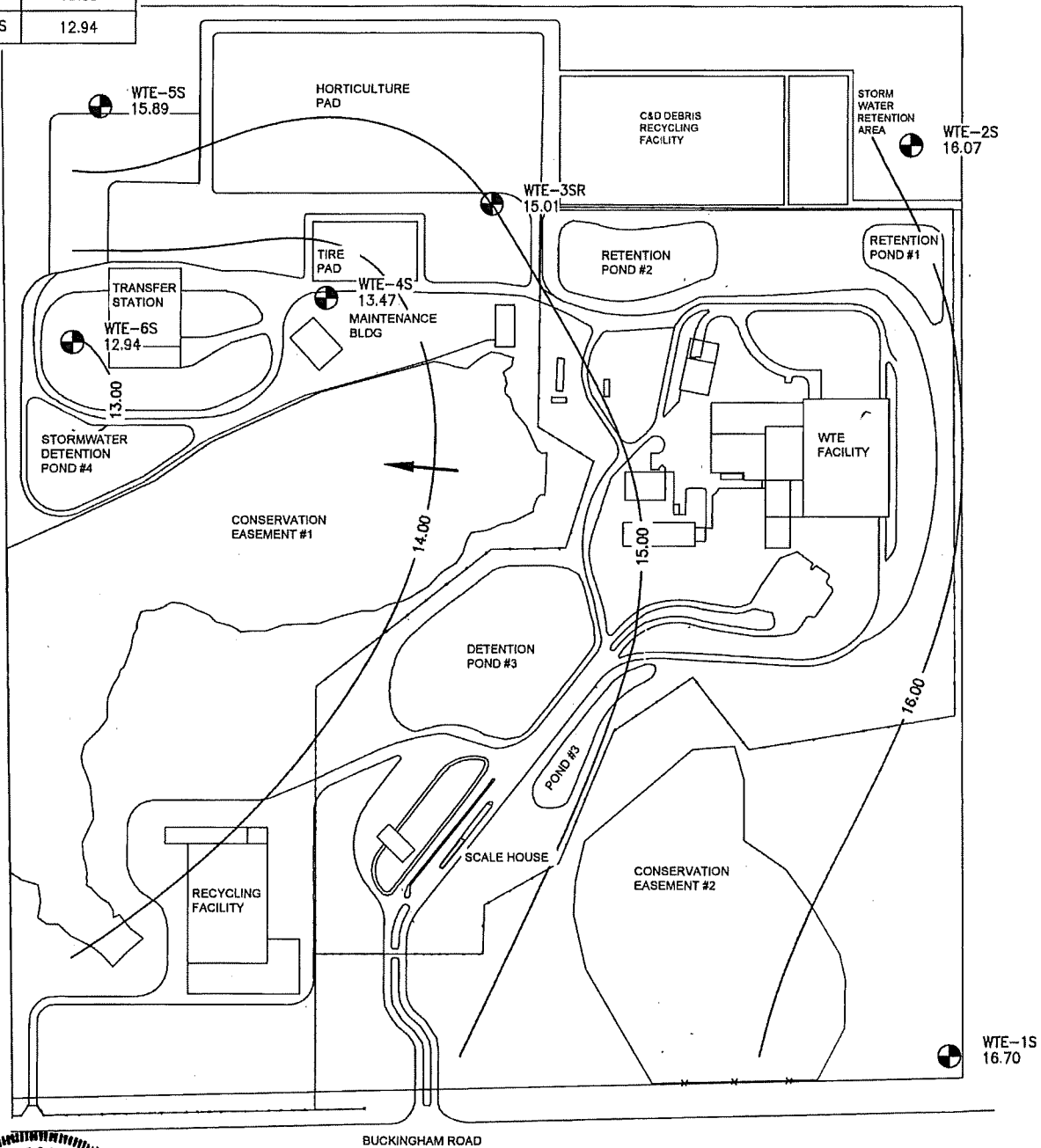
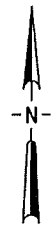
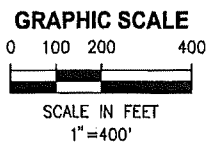


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Attachment B –Ground Water Contour Maps (Shallow and Sandstone Wells) and Supporting Data

SAVED: 3/30/2017 9:51 AM BTHOMAS \\JECAD\GWA\JONES EDMUNDS\LEE COUNTY\GWA 2017\1751\LEE WTE_1751_SHALLOW.DWG PLOTTED: 3/30/2017 09:51 AM BRIAN THOMAS 12345-005-01

WELL	GW ELEVATION
WTE-1S	16.70
WTE-2S	16.07
WTE-3SR	15.01
WTE-4S	13.47
WTE-5S	15.89
WTE-6S	12.94



LEE COUNTY WTE LANDFILL
GROUNDWATER CONTOUR MAP
OF THE SHALLOW SURFICIAL ZONE
FEBRUARY 6, 2017
4/14/17

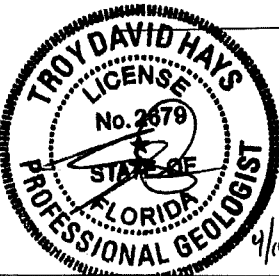
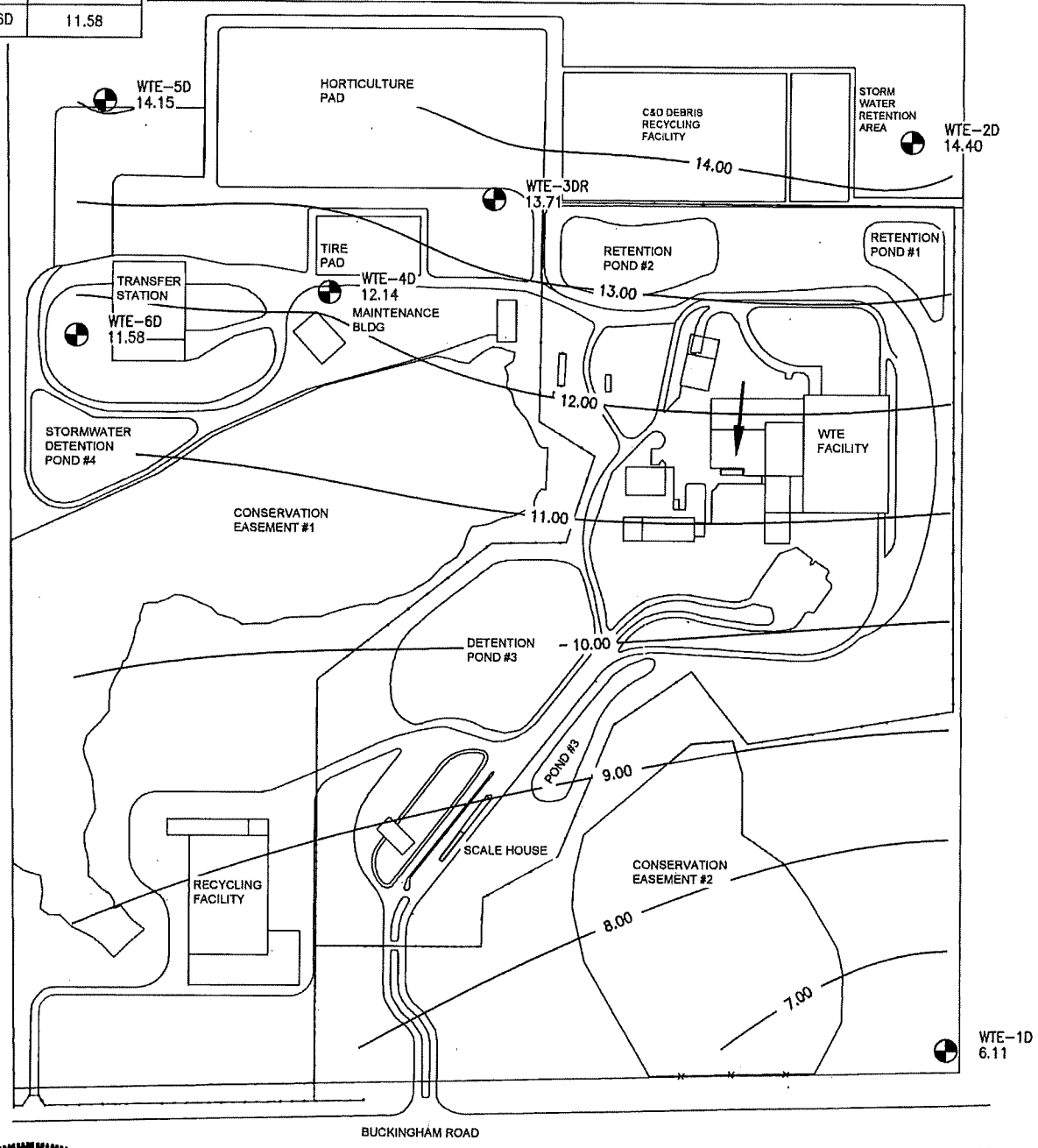
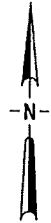
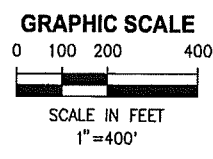
LEGEND

- WTE-1S 16.70
- GROUNDWATER MONITORING WELL
- GROUNDWATER ELEVATION
- 16.00
- GROUNDWATER CONTOUR AT 1.00 FOOT INTERVALS
-
- GROUNDWATER FLOW DIRECTION



PLOTTED: 4/3/2017 10:29 AM BRIAN THOMAS 12345-005-01
 SAVED: 4/3/2017 10:28 AM BTHOMAS \\JEDACAD\GWA\JONES EDMUNDS\LEE COUNTY WTE PLANT\GWA 2017\175\1\LEE WTE_175L_DEEP.DWG

WELL	GW ELEVATION
WTE-1D	6.11
WTE-2D	14.40
WTE-3DR	13.71
WTE-4D	12.14
WTE-5D	14.15
WTE-6D	11.58



LEE COUNTY WTE LANDFILL
 GROUNDWATER CONTOUR MAP
 OF THE DEEP SURFICIAL ZONE
 FEBRUARY 6, 2017

LEGEND

- WTE-2D 14.40
GROUNDWATER MONITORING WELL
GROUNDWATER ELEVATION
- 14.00
GROUNDWATER CONTOUR
AT 1.00 FOOT INTERVALS
- GROUNDWATER FLOW DIRECTION



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Lee County Resource Recovery Facility
Ground Water Elevations for Feb. 6, 2017

Well ID	GW Elevation (ft, NGVD)	Well ID	GW Elevation (ft, NGVD)
WTE-1S	16.7	WTE-1D	6.11
WTE-2S	16.07	WTE-2D	14.4
WTE-3SR	15.01	WTE-3DR	13.71
WTE-4S	13.47	WTE-4D	12.14
WTE-5S	15.89	WTE-5D	14.15
WTE-6S	12.94	WTE-6D	11.58

All deep wells are 4 inch diameter and all shallow well are 2 inches diameter

Well No.	Elev. TOC, NGVD	Depth to Water, ft.	Water Elevation, Ft., NGVD
WTE-1S	21.91	5.21	16.7
WTE-1D	22.96	16.85	6.11
WTE-2S	24.18	8.11	16.07
WTE-2D	23.52	9.12	14.4
WTE-3SR	23.98	8.97	15.01
WTE-3DR	23.91	10.20	13.71
WTE-4S	22.48	9.01	13.47
WTE-4D	23.81	11.67	12.14
WTE-5S	23.81	7.92	15.89
WTE-5D	24.5	10.35	14.15
WTE-6S	23.66	10.72	12.94
WTE-6D	22.91	11.33	11.58



RECEIVED June 2, 2017
South District DEP

*Lee County Resource Recovery Facility, PA90-30H
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Attachment C – Ground Water Monitoring Well Inspection and
Water Level Measurement Form (Shallow and Sandstone Wells)

Ground Water Monitoring Well Inspections & Water Level Measurements

Date: 2-6-17 Inspector Name: Dustin Rayburn
 Site and/or Well Network Name: WTE Plant

Well ID	Well TOC, ft., NGVD	Time*	Distance to Water, ft.	Elevation, ft., NGVD	Well in Good Condition (Y/N)? **
WTE-1S	21.91	11:19	5.21		Y
WTE-1D	22.96	11:18	16.85		Y
WTE-2S	24.18	7:49	8.11		Y
WTE-2D	23.52	7:48	9.12		Y
WTE-3SR	23.98	8:29	8.97		Y
WTE-3DR	23.91	8:28	10.20		Y
WTE-4S	22.48	9:04	9.01		Y
WTE-4D	23.81	9:03	11.67		Y
WTE-5S	23.81	9:44	7.92		Y
WTE-5D	24.5	9:43	10.35		Y
WTE-6S	23.66	10:29	10.72		Y
WTE-6D	22.91	10:28	11.33		Y

*Enter date too if different than noted above.

** If 'N' entered, explain below. Attach additional sheets if needed.

Enter Comments Below As Needed. Ensure well ID is clearly noted for each comment.

Additional Pages Attached (Y/N)?

Inspector Signature: Dustin Rayburn

2-6-17

Revised 3/19/15



*Lee County Resource Recovery Facility, PA90-30H
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WACS ID No. 93715
First Semi-Annual 2017 Water Quality Monitoring Report*

Attachment D – Sampling Documentation (Shallow Wells Only)

- Ground Water (GW) Sampling Logs, FD 9000-24
- Field Sheets
 - Calibration Sheet
 - Field Data Sheet
 - Chain of Custody

*Lee County Resource Recovery Facility, PA90-30H
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Ground Water (GW) Sampling Logs, FD 9000-24

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. Stabilization Criteria for range of variation of last three consecutive readings (see FS 2212, section 3)
pH: ± 0.2 units Temperature: $\pm 0.2^{\circ}\text{C}$ Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2);
optionally, $+0.2\text{ mg/L}$ or $+10\%$ (whichever is greater) Turbidity: all readings $< 20\text{ NTU}$; optionally $+5\text{ NTU}$ or $+10\%$ (whichever is greater)

NOTES 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. Stabilization Criteria for range of variation of last three consecutive readings (see FS 2212, section 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

GROUNDWATER SAMPLING LOG

[illegible]

NOTES 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. Stabilization Criteria for range of variation of last three consecutive readings (see FS 2212, section 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2);
optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

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optionally, $+ 0.2$ mg/L or $+ 10\%$ (whichever is greater) Turbidity: all readings < 20 NTU; optionally $+ 5$ NTU or $+ 10\%$ (whichever is greater)

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optionally, $+ 0.2$ mg/L or $+ 10\%$ (whichever is greater) Turbidity: all readings < 20 NTU; optionally $+ 5$ NTU or $+ 10\%$ (whichever is greater)

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*Lee County Resource Recovery Facility, PA90-30H
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- Field Sheets
 - Calibration Sheet
 - Field Data Sheet
 - Chain of Custody

*Lee County Resource Recovery Facility, PA90-30H
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Calibration Sheet

FCL Field

Calibration Sheet

Sampler: Dustin Rayburn

Project: LEE COUNTY-SWERF-S/A MW'S

Date: 02/06/17

Sample Site I.D.'s

Equipment Used: RFPP

Weather conditions: SUNNY/HOT

C. Rayburn

Starting Calibration Values:

07:20:00 AM

	Unit	Standard	Reading	Standard	Reading	Standard	Reading
pH	pH	4.00	4.00	7.00	7.00	10.00	10.00
Conductivity	us	1413	1413	25000			
Turbidity	NTU	1.00		10.00	10.00		
DO%			1.00				

Ending Calibration Values:

06:00:00 PM

	Unit	Standard	Reading
pH	pH	7.00	7.00
Conductivity	us	1413	1413
Turbidity	NTU	10.00	10.05
DO%			99.20

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Field Data Sheet

Field SOP2.08
Determination of Field

INST. Field											
Analyst:	DCR	Date:									
Employee#:		Time:									
Sample#			Field DO	Field Temp	Field Cond	Field pH	Field Turbi	Field Elevation	Field Water	TOC	ID
Unit			mg/L	oC	umhos/cm	pH	NTU	ft	ft	ft	
322668GW1			1.24	21.6	701.0	7.07	6.01	16.07	8.11	24.18	WTE-2S
322668GW2			1.06	25.8	634.0	6.97	27.90	15.01	8.97	23.98	WTE-3SR
322668GW3			1.03	27.3	585.0	6.89	24.01	13.47	9.01	22.48	WTE-4S
322668GW4			1.06	25.6	705.0	6.98	7.07	15.89	7.92	23.81	WTE-5S
322668GW5			0.50	27.8	495.0	7.22	10.45	12.94	10.72	23.66	WTE-6S
322668GW6			0.48	23.3	577.0	6.91	17.54	16.70	35.21	21.91	WTE-1S

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Chain of Custody

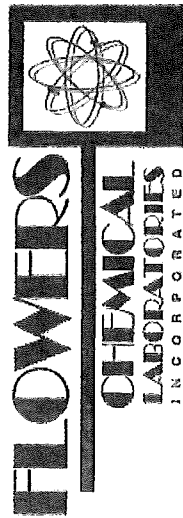
Check Box That Applies To Your Location

☐ Flowers Chemical Laboratories, Inc.
481 Newburyport Ave.
Altamonte Springs, FL 32701
Bus: 407-339-5984
Fax: 407-260-6110

☐ Flowers Chemical Labs-South
West Park Industrial Plaza
571 N.W. Mercantile Pl., Ste. 111
Port St. Lucie, FL 34986
Bus: 772-343-8006
Fax: 772-343-8089

☐ Flowers Chemical Labs-North
812 S.W. Harvey Greene Dr.
Madison, FL 32340
Bus: 850-973-6878
Fax: 850-973-6878

☐ Flowers Chemical Labs-Keys
3980 Overseas Highway, Ste. 103
Marathon, FL 33050
Bus: 305-743-8598
Fax: 305-743-8598



DOWNLOAD REPORTS, INVOICES AND CHAINS OF CUSTODY www.flowerslabs.com

Client: Lee County Solid Waste P.O. # #USE Quicklist:
Address: SWERF - WTE Wells - S/A FAX: "Lee Co - WTE New permit"
FOL Project Manager E-MAIL:

Phone: Requested Due Date 2-6-17 OR Rush Charges May Apply
10 Day Standard

Sampled By (PRINCIPAL): Dustin Rayburn Date Sampled: 2-6-17
Sampler Signature: [Signature]

Sampler Signature		Date Sampled		PRESERVATIVES										ANALYSES REQUEST		COMMENTS		Total # Containers									
Date Sampled		Date		Time		MATRIX		(LAB USE ONLY) LAB NO.		NONE		H ₂ SO ₄		HNO ₃		HCl		Na ₂ S ₂ O ₃		ANALYSES REQUEST		COMMENTS		Total # Containers			
GW - ground water		DW - drinking water		WW - wastewater		SL - sludge		HW - waste																			
SW - surface water		SO - soil/solid																									
ITEM NO.	SAMPLE ID	DATE	TIME	MATRIX	(LAB USE ONLY) LAB NO.	NONE	H ₂ SO ₄	HNO ₃	HCl	Na ₂ S ₂ O ₃	NH ₄	TS	Cl	SO ₄	NO ₃	Fe	Na	Al	EPA 8260 Lee								
1	WTE-2S	2-6-17	8:04	GW	322668Gw1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	5	
2	WTE-3SR		8:44																								
3	WTE-4S		9:19																								
4	WTE-5S		10:04																								
5	WTE-6S		10:47																								
6	WTE-1S		11:37																								
7	Trip Blank																									2	
8																											
9																											
10																											
Relinquished By / Affiliation		Date		Time		Accepted By / Affiliation		Date		Time		Relinquished By / Affiliation		Date		Time		Accepted By / Affiliation		Date		Time		Accepted By / Affiliation		Date	
[Signature]		2-6-17		14:10		[Signature]		2-6-17		14:10		[Signature]		2-6-17		15:30		[Signature]		2-6-17		10:32		[Signature]		2-6-17	

FINANCE CHARGES APPLIED TO PAST DUE INVOICES

• WHITE - Lab Copy - To Be Scanned

• YELLOW - Client Copy

RECEIVED June 2, 2017
South District DEP