# SCS ENGINEERS

August 24, 2007 File No. 09204060.04

Ms Marjorie Heidorn, P.G. Technical Support/Solid Hazardous Waste Florida Department of Environmental Protection 3319 Maguire Boulevard, Suite 232 Orlando, FL 32803-3767

Subject: Response to the Florida Department of Environmental Protection Comments on

the Tomoka Farms 2007 Biennial Report, Tomoka Farms Road Landfill, Volusia

County

Dear Ms. Heidorn:

On behalf of the Volusia County Solid Waste Division (The County), SCS Engineers (SCS) has prepared this response to the Florida Department of Environmental Protection (Department) request for additional information dated July 24, 2007, regarding the previously submitted Tomoka Farms Road Landfill Biennial Report dated April 30, 2007. For the ease of review, each Department comment is reiterated in bold type, followed by our response.

SCS has provided revised submittal, or replacement pages to the submittal, using a Strikethrough and <u>underline</u> format, to facilitate review. We have included the revision data as part of the header/footer for all the revised pages and the provided pages.

1. Monitoring well B33-2, adjacent to the leachate ponds, shows exceedance of sodium above background level and the G II Primary Ground Water Standard. The Department will require evaluation monitoring as stipulated in Chapter 62-701.510(7)(a), Florida Administrative Code, (F.A.C.). Please submit a plan to discuss the cause of the exceedances and define the horizontal and vertical extent of contamination.

Parameter	B34-2 Background Well Zone 1-2	MCL	"Backg	B33-2 round Well" Zone 1-2	in MPIS	Leachate
	May 2006		June 1995	May 2006	Nov 2006	Nov 2006
Sodium mg/L	43	160	28	420	980	1300
Chloride mg/L	73	250	20	530	1600	1600

**Response:** In an effort to assess the elevated sodium concentrations in the short term, SCS redeveloped the well and took samples to confirm the presence or absence of the sodium and chloride at the concentrations observed in the November 2006 sampling event. Following six

hours of redevelopment of the well B33-2, the samples were collected for sodium and chloride analysis. The samples were delivered to ELAB, Inc. for analysis. A copy of the laboratory report is included in Attachment A. The results for sodium are 530 milligrams per liter (mg/l) and chloride results are 690 mg/l. These data confirmed that the sodium and chloride concentrations are elevated in well B33-2. Since these results are similar to the June 2006 results, a plan will be prepared and submitted to the Department for review and comment to assess the vertical and horizontal extent of these compounds in the area of the well and leachate treatment ponds. This plan will include a discussion of the methodologies, sample locations, quantities, and analyses.

2. Because of the continued exceedance of ammonia above background levels and the Department's minimum criteria, the Department will require evaluation monitoring as stipulated in Chapter 62-701.510(7)(a), Florida Administration Code, (F.A.C.). Please submit a plan to discuss the cause of the exceedance and to define the horizontal and vertical extent of contamination.

**Response:** A plan will be prepared and submitted to the Department for review and comment to discuss the potential cause of the exceedance and will assess the vertical and horizontal extent of ammonia. This plan will include a discussion of the methodologies, sample locations, quantities, and analyses.

3. Please reference the rule basis for the "10% above background" for the Barium MCL in surface water as noted on the surface water data summary tables.

**Response:** The reference in the surface water data summary tables was noted in error. There is no standard for barium for Class III: Predominantly Freshwater. Included in Attachment B are replacement pages with the revisions made.

- 4. On Table 1 (under the columns labeled "Casing and Screen Characteristics") the elevation values appear to have been calculated by subtracting the depth below ground surface from the top of casing elevation (rather than the ground surface elevation). Please revise the table and include:
  - a. If appropriate, corrected total depth and screen elevations.
  - b. A column with ground surface elevations.
  - c. A column with the length of the riser pipe.
  - d. Total depth below top of casing (depths used for purging the wells).
  - e. All 53 ground water monitoring wells included in the current permit list.

**Response:** Included in Attachment C is a replacement page for: Table 1, Tomoka Farms Road Landfill Monitoring Wells Construction Details, Volusia County, Florida. Ground surface elevations were not surveyed in the 2003 McKim and Creed Survey. The length of the riser pipes are approximately three feet tall, but exact lengths should be recorded with the next survey. The total depth below the top of casing needs to be amended after a survey is completed to identify land surface elevations and the lengths of the riser pipes.

5. The water quality summary tables for B1-B, B-5, B-8, B11, FA-2C, MO5-B, and B-33-2 were not found in the submitted copy of the report. Please provide copies of these tables. In the future, please provide the well tables in the order the wells are listed in Attachment A of the MPIS or provide a Table of Contents with page numbers for each well.

**Response:** Included in Attachment D are the summary tables for B1-B, B-5, B-8, B11, FA-2C and B-33-2. In the future, the summary tables will be provided in the order they are listing in Attachment A of the MPIS or will include a Table of Contents with page numbers for each well.

6. The well B-8 sampling log for May 3, 2006 reports the total depth of the well to be 15.4 feet below TOC. The Department's records, and Table 1 in the submittal, show that B-8 is 48 feet below land surface. The Department has no record of having approved a replacement well 15.4 feet deep. Please clarify.

Response: Table 1 was originally published in the 2001 biennial for Tomoka Farms Road Landfill, authored by David N. Gomberg, Ph.D. and SCS has been relying upon this information in our reports. However, according the field notes documented during the semi-annual sampling events dating back to 2001, at the time that depth to water measurements were measured, the total depth of well was approximately 15.0 feet. A review of the of field notes indicate that during the last three sampling events this well was dry and the total depth of the well was 15.7 feet below land surface. Field notes from 2002 indicate that the total depth of the well was 15.2 feet below land surface and contained 1.76 feet of water in the well. Field measurements from 2002 to 2007 indicate that the total depth of the well became more shallow each subsequent measurement. It currently is not understood why the drop in groundwater elevation in this well and if the original well was 48 feet below land surface. Monitoring well B-8 was installed in 1987 and well construction logs for this well were not available for review. If the Department requires a deeper monitoring point in this area, an additional well will be required be installed to monitor Zone 4 in this area.

7. Page 5 notes that B35-1 and B35-2 were destroyed in June 2006. However, the two wells were sampled in November 2006. Please clarify.

**Response:** SCS contacted Elab, Inc., the sampling and analysis firm, to identify the discrepancy in sampling. SCS was informed that the construction in the vicinity of these wells made sampling during the June 2006 sampling event difficult. Sampling field notes

indicated that the well had been destroyed in the June 2006 sampling event; however, the field supervisor of sampling stated MW-35-1 and MW-35-2 had been underwater and surrounded by dense vegetation in previous sampling events and the field technician must have interpreted that as being destroyed. In the November 2006 sampling event, the wells were located and were able to be sampled. This error was due to the construction in the vicinity of the wells and a miscommunication in sampling field notes.

8. Page 6 lists the sampling water sites. Please update the list for the current MPIS which includes SW-11, SW-12, and does not include SW-10.

**Response:** Page six was updated to reflect the current sampling sites. Due to the changed page number throughout the report, Attachment E includes the entire report with the revised pages.

9. MPIS Condition # 7 requires that all ground water level measurements must be made within a one-day period. The Spring 2007 Semi-Annual Report appears to have ground water elevations read over a 4 day period (April 23 through April 26). If this is accurate, please arrange to have all future sampling comply with the permit requirement.

**Response:** SCS contacted Elab, Inc. to resolve this issue. Included in Attachment F is a copy of the original field notes for the depth to water measurements at Tomoka Farms Landfill on April 20, 2007. This document shows that all the depth to water measurements were collected on the same day, April 20, 2007.

10. MPIS Condition # 10 requires that all surface water elevations at sampling locations must be measured to the nearest 0.01 foot NGVD on the same day as ground water levels in the wells. The Spring 2006 report indicates that some surface water stations were not capable of readings to 0.01 foot accuracy or could not provide any readings at all because the staff gauge markings were above the water level. Please correct this condition so that all future sampling can comply with the permit requirement. If there is no water at the site, include the ground surface elevation along with the note that the site was dry.

**Response:** All seven staff gauges listed in the permit: SW-1, SW-2, SW-3, SW-4, SW-5, SW-11 AND SW-12 will be relocated so that water levels can be read to 0.01 foot accuracy. In the future, if the surface water location is dry, sampling crews will be instructed to include in the field notes that the location is dry and record the ground surface elevation.

11. MPIS Condition # 23 requires that the ground water elevation contour maps must incorporate adjacent and on-site surface water elevations where appropriate. The maps submitted in the Biennial Report do not include surface water elevations. In the future, all Zone 1-2 maps should incorporate the surface water elevations. If the impoundment is sealed, the water elevation shall be noted but not contoured.

**Response:** Comment noted.

12. The leachate sample for May 2006 showed detection limits for several parameters that were an order of magnitude or more above the MCLs. However, the Spring 2007 leachate sampling results appears to have acceptable detection limits. Please discuss the reason for the difference and provide assurance that future leachate sampling will have appropriate detection limits.

**Response:** SCS contacted Elab, Inc. to resolve this issue. Elab, Inc. indicated that the case narrative from the Spring 2006 report indicated that the sample formed emulsions when extracted. This necessitated the need to run dilutions of the sample which raised the detection limit values higher than the MCL. Elab, Inc. further indicated that leachate will often form emulsions when the sample is run, but that the lab always tries to run samples without dilutions whenever possible. Future leachate sampling analysis will always be run at the lowest detection limit possible.

13. The screening intervals and the ground water elevations indicate that some wells may not be screened in the Zones as listed in the MPIS and/or the Biennial Report.

Well	Current	Biennial	
Name	MPIS	Report	Revised
	Zone	Zone	Zone
B1-B	1-2	1-2	4
B5-B	1-2	1-2	4
B8-1	6	1-2	6
МО5-В	4	1-2	4

Please review all of the monitoring wells in the MPIS and advise if any wells need to have their zone designation revised in the MPIS or the Biennial Report. With the discussion please include well logs and the screen intervals for the 4 monitoring wells in the table above. If there are additional wells that may be in question, please provide well logs and screen interval for these wells also.

**Response:** Field logs for the above indicated wells were unavailable. Historical documents from David N. Gomberg, Ph.D indicate that the wells are in the correct aquifer zone. Please see Attachment G. A survey of the wells will be completed and the total depth of the wells will be confirmed in addition to the elevation at the top of casing and the elevations at ground surface. The elevations presented in the 2006 Biennial are based on the best available information including the elevations of the wells based on the 2003 survey, revised in 2006 by McKim and Creed and the total depth of the wells as presented in the 2001 Biennial authored by David N. Gomberg, Ph.D.

14. If any wells are not in the appropriate zone designation, please revise all of the Biennial Report ground water contour maps accordingly. Resubmit these maps and have them signed and sealed by the professional(s) who prepared or approved them as required by MPIS Condition # 23.

**Response:** A new survey is needed to confirm the total depth of the wells, the elevation at the top of casing, the elevation at ground surface and the length of the risers. The County intends to resurvey the wells to confirm the information provided in the 2006 Biennial Report. After the survey has been completed, the County will revise the maps as necessary and submit to the Department.

- 15. Based on the review of the Biennial Report, the Department proposes the following changes to the MPIS:
  - a. Adding semi-annual reporting of water level elevations in the leachate ponds.
  - b. Reclassify Well B-33-2 from a background well to a compliance well.
  - c. Reclassifying sampling zones of wells if appropriate.
  - d. Adding the existing Floridan well at the maintenance building to the monitoring well sampling list.

**Response:** Comments noted. The County agrees with adding semi-annual reporting of water level elevations in the leachate ponds. The County will complete a new survey of ground water wells to confirm the elevations and depths. The County will review the zones of each well after the survey is completed and reclassify wells as appropriate. A request will be prepared to the Department to reclassify monitoring well B33-2 from a Background to a Compliance well and to add the Florida aquifer monitoring well located at the maintenance building to the monitoring well sampling list. Please confirm if this will be sufficient or if a minor permit modification will be necessary to accommodate these changes.

Please contact us if the Department requires additional information in support of this request.

Sincerely,

Vanessa R.S. Barkman Staff Professional

Vanessa Barkman

Lee A. Powell, P.E. Project Director **SCS ENGINEERS** 

VRSB/LAP: vrsb

cc: Jennifer Stirk - Volusia County Solid Waste Services

Josef F. Grusauskas - Volusia County Solid Waste Services

Attachments

# Attachment A

Lab Results for the Redevelopment of B33-2

August 20, 2007

Mr. Mark Tumlin SCS Engineers 4041 Park Oaks Blvd. Suite100 Tampa, FL 33610

RE: 09204060.04/B33-2 Well Development Order No.: F07080779

Dear Mr. Mark Tumlin:

ELAB, Inc. received 2 samples on 8/15/2007 12:00:00 PM for the analyses presented in the following report.

Analyses are performed with method-required calibration and QA/QC samples whenever applicable. Method performance, which is based on the calibration and QA/QC samples, establishes the validity and certainty of the reported sample results. This data is provided along with the sample results when requested.

Thank you for this opportunity to be of service. If you have any questions regarding this data, please feel free to call me at (813)627-0003.

Sincerely,

Michael F. Valder PH # (813) 627-0003 Fax # (813) 627-0582

Cell # (813) 340-8100

hatel Note: This report was printed and authorized by :

Jell Broph

Jeff Baylor

Project Manager

ELAB, Inc. P.O. Box 468

Ormond Beach, FL 32175-0468

THIS DOCUMENT MEETS NELAC STANDARDS NELAC Certification #E83079

# The following acronyms may be utilized within this report:

%REC Percent Recovery

A Absent

ABLK Analytical Method Blank
CG Confluent Growth

CGB Confluent Growth Without Coliforms
CGC Confluent Growth With Coliforms

DUP Sample Duplicate

LCS Laboratory Control Spike (may also be appended with an abbreviation indicating spiking level)

MBLK Preparation Method Blank

MDL Laboratory Method Detection Limit

MS Matrix Spike (may also be appended with an abbreviation indicating spiking level)

MSD Matrix Spike Duplicate (may also be appended with an abbreviation indicating spiking level)

P Present

PQL Practical Quantitation Limit

QCS Alternate source Calibration Verification Standard (may also be reported as analytical LCS in some

RL Reporting Limit

RPD Relative Percent Difference

SPK Spike

TIC Tentatively Identified Compound

TNTC Too Numerous To Count

# The following notes may apply to analytical results within this report:

Residue (solids) analysis may employ a single, heated drying process of at least 12 hours duration in lieu of employing short, repeated drying cycles, which represents a deviation from the methodology.

Because the EPA-recommended holding time for pH, residual chlorine, chloramines and chlorine dioxide is 15 minutes from time of collection, these analyses are routinely performed outside of their EPA-recommended holding time when performed in the laboratory.

Analytical results for ammonia analysis, or calculated analytical results depending on ammonia analysis, do not include a sample distillation procedure. A study comparing distilled versus non-distilled analytical results has been performed to document the validity of the analysis without prior distillation, and represents equivalent results for the represented project matrices.

Since N-nitrosodiphenylamine decomposes in the GC inlet and cannot be chromatographically resolved from diphenylamine, these compounds are reported as a single analyte in the report.

Since m-cresol and p-cresol cannot be chromatographically resolved, these compounds are reported as a single analyte in the report.

# The following certifications may apply to analytical results within this report:

Alabama	DEM	41320
Arizona	DHS	AZ0640
Colorado	DPHE	FL NELAC Reciprocity
Connecticut	DPH	PH-0216
Florida	DOH	E83079
Georgia	DNR	955
Kentucky	DEP	90050
Maine	LCP	2006032
Massachusetts	DEP	M-FL020
Michigan	DEQ	9911
Mississippi	DOH	FL NELAC Reciprocity
Nevada	EP	ELAB FL-00020
New Hampshire	DES	295805
New Jersey	DEP	FL765
New York	DOH	11608
Pennsylvania	DEP	68-00547
Puerto Rico	DOH	FL 00020
South Carolina	DHEC	96027001
Tennessee	DOH	02974
Texas	CEQ	T104704184-05-TX

# **Case Narrative**

**CLIENT:** SCS Engineers

**Project:** 09204060.04/B33-2 Well Development

**Lab Order:** F07080779

# I. SAMPLE RECEIVING/ CUSTODY

The samples were received and processed by the Sample Custody section of the laboratory. There were no significant logistics or quality problems unless noted below.

## II. ANALYTICAL DATA

The samples were analyzed according to ELAB Standard Operating Procedures for the methodologies requested. There were no significant logistics or quality problems unless noted below or in the text of the report.

# III. QUALITY CONTROL

There were no significant quality control problems unless noted below or in the text of the report.

EPA160.1: Trace amounts of the target compound TDS were detected at levels between the RL and the MDL in the Method Blank associated with analytical batch 46361; however, the levels detected were insignificant when compared to the levels detected in the sample(s) associated with this analytical batch.

# **Analytical Report**

**Date:** 20-Aug-07

CLIENT: SCS Engineers Client Sample ID: 81407B332

**Lab Order:** F07080779 **Collection Date:** 8/14/2007 2:00:00 PM

**Project:** 09204060.04/B33-2 Well Development **Sample Description:** B33-2

Lab ID: F07080779-001 Matrix: Groundwater

Analyses	Result	Qual	MDL	RL Units	DF Date Analyzed	Batch ID
ICP METALS		SW6010	PrepDate:	8/17/2007 10:36:00	Analyst: TPI	
Sodium	530		0.50	1.0 mg/L	1 08/18/07 01:25	46385
ICP METALS (DISSOLVED)		SW6010	PrepDate:	8/17/2007 10:36:00	Analyst: TPI	
Sodium	530		0.50	1.0 mg/L	1 08/18/07 01:11	46384
ANIONS BY ION CHROMATOGRAPHY		E300.0	PrepDate:		Analyst: SSM	
Chloride	690	х	0.52	10 mg/L	20 08/15/07 20:47	R60041
SOLIDS, TOTAL DISSOLVED		E160.1	PrepDate:	8/16/2007	Analyst: <b>HMA</b>	
Solids, Total Dissolved	2000	V	3.7	5.0 mg/L	1 08/16/07 14:48	46361

# **Analytical Report**

**Date:** 20-Aug-07

CLIENT: SCS Engineers Client Sample ID: 81407 Field

**Lab Order:** F07080779 **Collection Date:** 8/14/2007 1:00:00 PM

**Project:** 09204060.04/B33-2 Well Development **Sample Description:** Filed

Lab ID: F07080779-002 Matrix: Groundwater

Analyses	Result	Qual	MDL	RL Units	DF	Date Analyzed	Batch ID
ICP METALS		SW6010	PrepDate:	8/17/2007 10:36:00		Analyst: <b>TPI</b>	
Sodium	280		0.50	1.0 mg/L	1	08/18/07 01:43	46385
ICP METALS (DISSOLVED)		SW6010	PrepDate:	8/17/2007 10:36:00		Analyst: TPI	
Sodium	280		0.50	1.0 mg/L	1	08/18/07 01:30	46385
ANIONS BY ION CHROMATOGRAPHY		E300.0	PrepDate:			Analyst: SSM	
Chloride	310	Х	0.52	10 mg/L	20	08/15/07 21:03	R60041
SOLIDS, TOTAL DISSOLVED		E160.1	PrepDate:	8/16/2007		Analyst: <b>HMA</b>	
Solids, Total Dissolved	1300	V	3.7	5.0 mg/L	1	08/16/07 14:50	46361

CLIENT: SCS Engineers
Work Order: F07080779

# ANALYTICAL QC SUMMARY REPORT

**Project:** 09204060.04/B33-2 Well Development

TestCode: IC300\_W

Sample ID	QCS	SampType:	QCS		TestCode: IC300_N	<b>N</b> Units	: mg/L	Prep Da	ate:		RunNo:	60041	
Client ID:	QCS	Batch ID:	R60041		TestNo: <b>E300.0</b>			Analysis D	ate: 8/15/2	2007	SeqNo:	1660684	
Analyte			Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Chloride			5.1		0.026	5.0	0	102	90	110			
Sample ID	MB	SampType:	ABLK		TestCode: IC300_\	<b>N</b> Units	: mg/L	Prep Da	ate:		RunNo:	60041	
Client ID:	MB	Batch ID:	R60041		TestNo: <b>E300.0</b>			Analysis D	ate: <b>8/15/2</b>	2007	SeqNo:	1660685	
Analyte			Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Chloride			0.026	U	0.026								
Sample ID	F07080763-001AMS	SampType:	MS		TestCode: IC300_\	<b>N</b> Units	: mg/L	Prep Da	ate:		RunNo:	60041	
		Batch ID:	R60041		TestNo: <b>E300.0</b>			Analysis D	ate: 8/15/2	2007	SeqNo:	1660692	
Analyte			Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Chloride			110	S	0.026	10	110	72.4	90	110			
Sample ID	F07080795-001AMS	SampType:	MS		TestCode: IC300_\	<b>N</b> Units	: mg/L	Prep Da	ate:		RunNo:	60041	
		Batch ID:	R60041		TestNo: <b>E300.0</b>			Analysis D	ate: 8/15/2	2007	SeqNo:	1660712	
Analyte			Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Chloride			250	S	0.052	20	240	53.4	90	110			
Sample ID	F07080763-001AMSD	SampType:	MSD		TestCode: IC300_N	<b>N</b> Units	: mg/L	Prep Da	ate:		RunNo:	60041	
		Batch ID:	R60041		TestNo: <b>E300.0</b>			Analysis D	ate: <b>8/15/2</b>	2007	SeqNo:	1660693	
Analyte			Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Chloride			110	S	0.026	10	110	69.6	90	110	110	0.239	20

Data

Analyte detected below quantitation limits

Qualifier Code Key:

S Spike Recovery outside accepted recovery limits

CLIENT: SCS Engineers
Work Order: F07080779

SCS Engineers
F07080779

ANALYTICAL QC SUMMARY REPORT

Project: 09204060.04/B33-2 Well Development TestCode: IC300\_W

Sample ID	F07080795-001AMSD SampType:	MSD		TestCode: IC300_	<b>W</b> Units	s: mg/L	Prep Da	ate:		RunNo:	60041	
	Batch ID:	R60041		TestNo: <b>E300.0</b>			Analysis D	ate: <b>8/15/2</b>	2007	SeqNo:	1660713	
Analyte		Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Chloride		250	S	0.052	20	240	53.2	90	110	250	0.0184	20

Data Qualifier Code Key: Analyte detected below quantitation limits

ELAB, Inc. **Date:** 20-Aug-07

CLIENT: **SCS** Engineers Work Order: F07080779

ANALYTICAL QC SUMMARY REPORT

**Project:** 

TestCode: ICP-6010\_D 09204060.04/B33-2 Well Development

Sample ID	MB-46384	SampType:	MBLK		TestCode:	ICP-601	0_D	Units:	μg/L		Prep D	ate:	8/17/2	007	RunNo:	60093	
Client ID:	MB-46384	Batch ID:	46384		TestNo:	SW6010	)	SW30	05A		Analysis D	ate:	8/17/2	007	SeqNo:	1665499	
Analyte			Result	Qual		MDL	SPK v	alue	SPK Ref	Val	%REC	Lov	vLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Sodium			500	U		500											
Sample ID	LCS-46384	SampType:	LCS		TestCode:	ICP-601	0_D	Units:	μg/L		Prep D	ate:	8/17/2	007	RunNo:	60093	
Client ID:	LCS-46384	Batch ID:	46384		TestNo:	SW6010	)	SW30	05A		Analysis D	ate:	8/17/2	007	SeqNo:	1665501	
Analyte			Result	Qual		MDL	SPK v	alue	SPK Ref	Val	%REC	Lov	vLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Sodium			13000			500	12	2000		0	104		85	115			
Sample ID	F07080244-002BMS	SampType:	MS		TestCode:	ICP-601	0_D	Units:	μg/L		Prep D	ate:	8/17/2	007	RunNo:	60093	
		Batch ID:	46384		TestNo:	SW6010	)	SW30	05A		Analysis D	ate:	8/17/2	007	SeqNo:	1665506	
Analyte			Result	Qual		MDL	SPK v	alue	SPK Ref	Val	%REC	Lov	vLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Sodium			14000			500	12	2000		950	104		75	125			
Sample ID	F07080244-002BMSD	SampType:	MSD		TestCode:	ICP-601	0_D	Units:	μg/L		Prep D	ate:	8/17/2	007	RunNo:	60093	
		Batch ID:	46384		TestNo:	SW6010	)	SW30	05A		Analysis D	ate:	8/17/2	007	SeqNo:	1665537	
Analyte			Result	Qual		MDL	SPK v	alue	SPK Ref	Val	%REC	Lov	vLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Sodium			14000			500	12	2000		950	104		75	125	500 U	0	20
Sample ID	MB-46385	SampType:	MBLK		TestCode:	ICP-601	0_D	Units:	μg/L		Prep D	ate:	8/17/2	007	RunNo:	60093	
Client ID:	MB-46385	Batch ID:	46385		TestNo:	SW6010	)	SW30	05A		Analysis D	ate:	8/18/2	007	SeqNo:	1665614	
Analyte			Result	Qual		MDL	SPK v	alue	SPK Ref	Val	%REC	Lov	vLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Sodium			500	U		500	_										

Data

Analyte detected below quantitation limits

Qualifier Code Key:

S Spike Recovery outside accepted recovery limits

CLIENT: SCS Engineers
Work Order: F07080779

# ANALYTICAL QC SUMMARY REPORT

**Project:** 09204060.04/B33-2 Well Development

TestCode: ICP-6010\_D

Sample ID	LCS-46385	SampType:	LCS	TestCode:	ICP-601	<b>0_D</b> Units	: μg/L	Prep Da	ate: <b>8/17/</b> 2	2007	RunNo:	60093	
Client ID:	LCS-46385	Batch ID:	46385	TestNo:	SW6010	SW30	005A	Analysis D	ate: <b>8/18/</b> 2	2007	SeqNo:	1665616	
Analyte			Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Sodium			13000		500	12000	0	105	85	115			
Sample ID	F07080815-003CMS	SampType:	MS	TestCode:	ICP-601	<b>0_D</b> Units	:: μg/L	Prep Da	ate: <b>8/17/</b> 2	2007	RunNo:	60093	
		Batch ID:	46385	TestNo:	SW6010	SW30	005A	Analysis D	ate: <b>8/18/</b> 2	2007	SeqNo:	1665638	
Analyte			Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Sodium			20000		500	12000	5800	110	75	125			
Sample ID	F07080815-003CMSE	SampType:	MSD	TestCode:	ICP-601	<b>0_D</b> Units	: μg/L	Prep Da	ate: <b>8/17/</b> 2	2007	RunNo:	60093	
		Batch ID:	46385	TestNo:	SW6010	SW30	005A	Analysis D	ate: <b>8/18/</b> 2	2007	SeqNo:	1665642	
Analyte			Result	Qual	MDL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Sodium			19000		500	12000	5800	109	75	125	500 U	0.514	20

Data Qualifier Code Key: Analyte detected below quantitation limits

CLIENT: SCS Engineers
Work Order: F07080779

# ANALYTICAL QC SUMMARY REPORT

**Project:** 09204060.04/B33-2 Well Development

TestCode: ICP-6010\_W

Sample ID	MB-46385	SampType:	MBLK	TestCode	ICP-6010_	_ <b>W</b> Units:	μg/L	Prep Da	te: <b>8/17/2</b>	007	RunNo:	60093	
Client ID:	MB-46385	Batch ID:	46385	TestNo:	SW6010	SW300	05A	Analysis Da	ate: <b>8/18/2</b>	007	SeqNo:	1665615	
Analyte			Result	Qual	MDL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Sodium			500	U	500								
Sample ID	LCS-46385	SampType:	LCS	TestCode	ICP-6010_	_ <b>W</b> Units:	μg/L	Prep Da	te: <b>8/17/2</b>	007	RunNo:	60093	
Client ID:	LCS-46385	Batch ID:	46385	TestNo:	SW6010	SW300	05A	Analysis Da	ate: <b>8/18/2</b>	007	SeqNo:	1665617	
Analyte			Result	Qual	MDL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Sodium			13000		500	12000	0	105	85	115			
Sample ID	F07080815-003CMS	SampType:	MS	TestCode	ICP-6010_	_ <b>W</b> Units:	μg/L	Prep Da	te: <b>8/17/2</b>	007	RunNo:	60093	
		Batch ID:	46385	TestNo:	SW6010	SW300	05A	Analysis Da	ate: <b>8/18/2</b>	007	SeqNo:	1665640	
								•					
Analyte			Result	Qual	MDL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Analyte Sodium			Result 20000	Qual	MDL S	SPK value 12000	SPK Ref Val	%REC 110	LowLimit 75	HighLimit	RPD Ref Val	%RPD	RPDLimit
	F07080815-003CMSI	<b>D</b> SampType:	20000			12000	5800		75	125	RPD Ref Val		RPDLimit
Sodium	F07080815-003CMSI	DSampType: Batch ID:	20000	TestCode	500	12000	5800 µg/L	110	75 te: <b>8/17/2</b>	125	RunNo:		RPDLimit
Sodium	F07080815-003CMSI	, ,,	20000 MSD	TestCode	500 ICP-6010_ SW6010	12000 _W Units: _SW300	5800 µg/L	110 Prep Da	75 te: <b>8/17/2</b> ate: <b>8/18/2</b>	125	RunNo:	60093	RPDLimit

Data Qualifier Analyte detected below quantitation limits

Qualifier Code Key:

**CLIENT:** SCS Engineers

**Work Order:** F07080779

**Project:** 09204060.04/B33-2 Well Development

# ANALYTICAL QC SUMMARY REPORT

**TestCode: SOLIDS-TD** 

Sample ID	MB-46361	SampType:	MBLK	Tes	stCode: SOLIDS-TD	Units: mg/L	Prep Date: 8/16/2007	RunNo: <b>60028</b>	
Client ID:	MB-46361	Batch ID:	46361	Т	TestNo: <b>E160.1</b>	E160.1	Analysis Date: 8/16/2007	SeqNo: <b>1664710</b>	
Analyte			Result	Qual	MDL SPK	value SPK Ref Val	%REC LowLimit HighLimit	RPD Ref Val %RPD	RPDLimit
Solids, To	tal Dissolved		4.0	I	3.7				
Sample ID	LCS-46361	SampType:	LCS	Tes	stCode: <b>SOLIDS-TD</b>	Units: mg/L	Prep Date: 8/16/2007	RunNo: <b>60028</b>	
Client ID:	LCS-46361	Batch ID:	46361	Т	TestNo: <b>E160.1</b>	E160.1	Analysis Date: 8/16/2007	SeqNo: <b>1664711</b>	
Analyte			Result	Qual	MDL SPK	value SPK Ref Val	%REC LowLimit HighLimit	RPD Ref Val %RPD	RPDLimit
Solids, Tota	al Dissolved		300		3.7	300 4.0	99.3 90 110		
Sample ID	F07080815-004EDUP	SampType:	DUP	Tes	stCode: <b>SOLIDS-TD</b>	Units: mg/L	Prep Date: 8/16/2007	RunNo: <b>60028</b>	
		Batch ID:	46361	Т	TestNo: <b>E160.1</b>	E160.1	Analysis Date: 8/16/2007	SeqNo: <b>1664732</b>	
Analyte			Result	Qual	MDL SPK	value SPK Ref Val	%REC LowLimit HighLimit	RPD Ref Val %RPD	RPDLimit
Solids, Tota	al Dissolved	•	280		3.7			3.7 U 1.09	20

Data Qualifier Analyte detected below quantitation limits

Qualifier Code Key:

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4. Cli	ent Project No.: (	<u> .000 PasePc</u>	04		inking Water	И	- VOA			1	17.		ڕؗ؈ؙ	A.			<u>`</u> `						ool Only
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		h Frizzell			cessed Water	Ш	1 = mic		g/cup	in		80	T)	,		/ 3 <sup>3</sup> /	/ ./	/	/ /	/ /.	- 11		tonochlorgacetic Acid litric Acid
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# Attachment B

Biennial Surface Water 2007 Revised 8/24/07

SW-1

						DATE OF S	SAMPLE COLLE	ECTION		
PARAMETER	MCL	UNITS	Apr-03	Oct-03	May-04	Nov-04	Jun-05	Oct-05	Apr-06	Nov-06
Inorganic Parameters:										
Total Hardness as CaCO <sub>3</sub> <sup>1</sup>	>20	mg/l	7.3	7.8	7.7	10	9.9		8.4	9
Total Dissolved Solids	NA	mg/l	52	46	54	50	61	45	44	55
Total Suspended Solids	NA	mg/l	6.9	10	5.3	5.8	3.0 I	1.4 I	< 0.77	<2.3
Total Kjeldahl Nitrogen	NA	mg/l	0.58	0.66	0.65	0.6	0.56	0.48 I		
Total Phosphorus	NA	mg/l	0.02 I	0.010 I	0.010 I	0.010 I	< 0.0064	0.01 <b>I</b>	0.021 I	< 0.05
Total Nitrogen	NA	mg/l	0.61	0.67	0.67	0.62	0.58		0.48 I	0.52
Ammonia Nitrogen -Unionized	0.02	mg/l	< 0.050	< 0.0040	< 0.0040	< 0.012	< 0.014	< 0.014	< 0.014	< 0.014
Biochemical Oxygen Demand (5-day)	NA	mg/l	<3.0	<2.0	2.7	<3.0	<2.0	<2.0	<2.0	<3
Chemical Oxygen Demand	NA	mg/l	20 I	36	19 <b>I</b>	20 I	19 I	22 I	28	52
Chlorophyll A	NA	mg/m <sup>3</sup>	5.7	9.4	10	4.7	2.1	5.0	1.1	1.4
Total Organic Carbon	NA	mg/l	5.3	9.9	7.7	6.1	6.9	5.8	1.9	5.0
Nitrate Nitrogen	NA	mg/l	0.04 I	< 0.016	0.019 I	0.040 I	< 0.0091	< 0.0091	< 0.0091	< 0.0091
Nitrogen -NO3/NO2 (NOX)	NA	mg/l	0.03 I	0.011 I	< 0.0031	0.021 I	0.023 I	0.035 I		
Antimony <sup>1</sup>	4,300	ug/L	<10	3.1 I	3.4 I	<3.0	<3.0	<3.0	<2.0	<2
Arsenic <sup>1</sup>	50	ug/L	<10	<2.0	<2.0	<2.8	<2.8	<2.8	<2.8	<2.8
Barium <sup>2</sup>	See Below NA	ug/l	3 I	2.9 I	2.7 I	3.8 I	2.0 I	1.6 I	<1.4	3.1 I
Calculated Barium MCL		ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	0.13	ug/L	0.02 I	< 0.017	< 0.017	< 0.039	< 0.039	< 0.039	< 0.039	< 0.039
Cadmium <sup>1</sup>	See Below <sup>4</sup>	ug/L	< 0.10	< 0.068	< 0.068	< 0.026	0.026 I	0.033 I	< 0.026	< 0.026
Calculated Cadmium MCL		ug/L	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Chromium <sup>1</sup>	See Below	ug/L	<5.0	< 0.60	< 0.60	< 0.60	< 0.60	2.9 I	< 0.65	< 0.65
Calculated Chromium MCL		ug/L	66.50	66.50	66.50	66.50	66.50	66.50	66.50	66.50
Cobalt	NA .	ug/L	<10	<1.5	<1.5	<1.6	<1.6	<1.6	<1.0	<1
Copper Co	See Below <sup>6</sup>	ug/L	0.3 I	0.90 I	< 0.31	< 0.37	<0.37	2.5	< 0.37	< 0.37
Calculated Copper MCL		ug/L	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62
Iron'	1,000	ug/l	83	92	90	120	120	5,300	44	40
Lead	See Below <sup>7</sup>	ug/L	<1.0	< 0.50	< 0.50	0.11 I	0.10 I	0.12 I	0.13 I	0.045 I
Calculated Lead MCL	0.012	ug/L	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Mercury <sup>l</sup>	0.012	ug/L	< 0.10	0.045 I	<0.036	<0.012	<0.012	< 0.012	<0.012	<0.012
Nickel <sup>1</sup> Calculated Nickel MCL	See Below <sup>8</sup>	ug/L ug/L	<5.0 48.80	<2.0 48.80	<2.0 48.80	<1.0 48.80	<1.0 48.80	270 48.80	<1.5 48.80	<1.5 48.80
	-		48.80 <10	48.80 <4.0	48.80 <4.0	48.80 <3.1	48.80 3.7 I	48.80 <3.1	48.80 <4.2	48.80 <4.2
Selenium <sup>1</sup> Silver <sup>1</sup>	5 0.07	ug/L ug/L	<0.070	<0.017	<0.017	<0.018	<0.018	<0.018	<0.018	<0.018
Sodium	NA	ug/L ug/L	8,200	7,300	8,800	10,000	12,000	9,000	9,400	11,000
Thallium <sup>1</sup>	6.3	ug/L ug/l	<10	<4.4	5.5 I	<1.4	<1.4	9,000 <1.4	9,400 <4.8	<4.8
Vanadium	NA	ug/I ug/L	<10	<0.40	0.85 I	<0.73	<0.73	<0.73	<1.6	<1.6
Zinc <sup>1</sup>	See Below <sup>10</sup>	ug/L ug/L	<20	9.1 I	<2.3	<3.5	<3.5	220	5.0 I	11 <b>I</b>
Calculated Zinc MCL	Sec Below	ug/L ug/L	32.75	32.75	32.75	32.75	32.75	32.75	32.75	32.75
Field Parameters:	1	ug/L	34.13	34.13	34.13	34.13	34.13	34.13	34.13	34.13
Dissolved Oxygen (Field)	>5.0	mg/l	8.13	8.57	7.65	9.06	5.90	8.49	6.23	7.43
pH (Field) <sup>1</sup>	6.5-8.5	Unit	7.40	7.72	7.45	7.82	7.42	7.20	5.87	7.44
Specific Conductance (Field) <sup>1</sup>	See Below <sup>9</sup>	umho/cm	85	71	7.43	110	132	68	75	67
Calculated Specific Conducatance MCL	Bee Below	umho/cm	NA	NA	NA	NA	NA	NA	NA	NA
Temperature (Field)	NA	Deg C	25.80	26.10	25.50	25.20	27.52	25.02	27.42	22.9
Turbidity (Field)	See Below <sup>11</sup>	NTU	1.8	2.5	2.4	1.3	3.3	7.8	2.31	1.87
Calculated Turbidity MCL	Dec Belott	NTU	NA	NA	NA	NA	NA	NA	NA NA	NA
Organic Parameters:	1									
Acetone <sup>2</sup>	1,700	ug/L	<10	< 0.91	< 0.91	<3.7	<3.7	<3.7	<2.5	<2.5
Carbon Disulfide <sup>2</sup>		ug/L	<1.0	< 0.25	< 0.25	< 0.49	<0.49	< 0.49	< 0.81	< 0.81
	110									
Chlorobenzene <sup>2</sup>	110	ug/L	<1.0	< 0.10	< 0.10	< 0.15	< 0.15	< 0.15	< 0.17	< 0.17
	17	ug/L			0.1-0	00				<0.17 <0.6
Chlorobenzene <sup>e</sup> Chloroform cis-1,2-Dichloroethene			<1.0 <1.0 <1.0	<0.10 <0.28 <0.15	<0.10 <0.28 <0.15	<0.15 <0.23 <0.17	<0.15 <0.23 <0.17	<0.15 <0.23 <0.17	<0.17 <0.6 <0.92	

#### Notes:

MCL = Maximum Contamination Level.

NA = Not Available. --- = Not Tested.

 $Shaded = Sample \ result \ above \ the \ MCL.$ 

mg/l = milligrams per liter. ug/l = micrograms per liter. <sup>1.</sup> Parameter MCL is a Surface Water Criterion (Chapter 62-302 F.A.C.).

 $^2\,$  Parameter MCL is a Surface Water Clean-up Standard (Chapter 62-777 F.A.C.).

 $^5.$  Parameter MCL is calculated by the following formula: Cr  $\leq$  e^(0.819\*[In Hardness]+1.561).

Farameter MCL is calculated by the following formula:  $Cu < e^{\alpha}(0.8548^{\circ} [ln Hardness] - 1.465)$ .

Parameter MCL is calculated by the following formula:  $Pb < e^{\alpha}(1.273^{\circ} [ln Hardness] - 1.465)$ .

 $^{8}$  Parameter MCL is calculated by the following formula: Ni < e $^{(0.846*[ln Hardness]+1.1645)}$ .

9 Parameter MCL is calculated by the following formula: not greater than 50% above background levels or 1275, which ever is greater (SW-1=background).  $\label{eq:parameter MCL} \begin{tabular}{ll} 10. Parameter MCL is calculated by the following formula: $Zn < e^(0.8473*[ln Hardness]+0.7614). \end{tabular}$ 

Parameter MCL is calculated by the following formula: not greater than or equal 29 above background (SW-1=background).

--- = Parameter not sampled.

... – r analises not sample...

I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

U Indicates that the compound was analysed for but not detected.

V Indicated that the analyte was detected in both the sample and the associated method blank.

SW-2

				SW-2	·	DATE OF S	SAMPLE COLLE	CTION		
PARAMETER	MCL	UNITS	Apr-03	Oct-03	Apr-04	Nov-04	May-05	Oct-05	Apr-06	Nov-06
Inorganic Parameters:	MCL	CITIS	71p1-05	Oct-05	21p1-04	1101-04	May-03	000-03	71p1-00	1101-00
Total Hardness as CaCO <sub>3</sub>	>20	mg/l	150	140	190	130	160		160	160
Total Dissolved Solids	NA	mg/l	250	220	300	210	230	200	220	300
Total Suspended Solids	NA	mg/l	6.1	1.9 I	5.0	2.8 I	5.2	3.4 I	1.5 I	6.4
Total Kjeldahl Nitrogen	NA	mg/l	0.92	0.94	1.0	0.95	1.5	1.2	1.5 1	0.1
Total Phosphorus	NA	mg/l	0.03 I	0.020 I	0.030 I	0.050 I	0.020 I	0.05 I	0.034 I	0.05 I
Total Nitrogen	NA	mg/l	0.93	1.0	1.0	0.030 1	1.50	0.03 1	1.0	1.60
Ammonia Nitrogen -Unionized	0.02	mg/l	< 0.050	<0.0040	< 0.0040	<0.012	0.020 I	< 0.014	< 0.014	< 0.014
Biolgical Oxygen Demand (5-day)	NA	mg/l	<2.0	2.20	3.7	<3.0	2.30	<2.0	2.2	2.2
Chemical Oxygen Demand	NA	mg/l	45	52	53	31	42	50	46	45
Chlorophyll A	NA NA	mg/m <sup>3</sup>	5.5	4	33	3.9	3.7	12	4.4	15.0
Total Organic Carbon	NA NA	mg/li	14	14	17	9.7	12	12	13	13.0
Nitrate Nitrogen	NA NA	mg/l	< 0.050	0.065	0.037 I	0.032 I	0.023 I	0.068	< 0.0091	0.036 I
Nitrogen -NO3/NO2 (NOX)	NA NA	mg/l	0.030 0.01 I	0.063	<0.0031	0.032 I 0.040 I	0.023 I 0.0070 I	0.096	<0.0091	0.036 1
, ,			<10	<2.8	<2.8	<3.0	<3.0	7.7 I	<2	
Antimony	4,300 50	ug/L	<10					4.3 I		3.3 I
Arsenic <sup>1</sup>		ug/L		<2.0	<2.0	<2.8	<2.8		<2.8	<2.8
Barium <sup>2</sup>	See Below NA	ug/l	32 3.3	26	3.0	24	26	16	26	34
Calculated Barium MCL	0.12	ug/l	<0.10	3.2 0.020 I	0.020 I	4.1 <0.039	2.2 <0.039	1.8 <0.039	1.6 <0.039	3.4 <0.039
Beryllium <sup>1</sup>	0.13	ug/L								
Cadmium	See Below <sup>4</sup>	ug/L	< 0.10	< 0.068	< 0.068	< 0.026	< 0.026	< 0.026	<0.026	< 0.026
Calculated Cadmium MCL	5	ug/L	1.56	1.48	1.88	1.39	1.64		1.64	1.64
Chromium <sup>1</sup>	See Below <sup>5</sup>	ug/L	< 5.0	< 0.60	< 0.60	0.68 I	< 0.60	4.5 I	< 0.65	0.83 I
Calculated Chromium MCL		ug/L	288.50	272.65	350.13	256.60	304.16		304.16	304.16
Cobalt	NA	ug/L	1.0 I	<1.5	<1.5	3.1 I	<1.6	3.5 I	<1	<1
Copper <sup>1</sup>	See Below <sup>6</sup>	ug/L	0.6 I	0.40 I	0.40 I	< 0.37	< 0.37	2	< 0.37	< 0.37
Calculated Copper MCL		ug/L	16.72	15.76	20.46	14.80	17.67		17.67	17.67
Iron <sup>1</sup>	1,000	ug/l	290	250	950	610	440	5200	210	880
Lead <sup>1</sup>	See Below	ug/L	0.3 I	< 0.50	< 0.50	0.10 I	< 0.038	0.14 I	0.055 I	0.25 I
Calculated Lead MCL		ug/L	5.33	4.88	7.20	4.44	5.79		5.79	5.79
Mercury <sup>1</sup>	0.012	ug/L	< 0.10	0.043 I	< 0.036	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012
Nickel <sup>1</sup>	See Below <sup>8</sup>	ug/L	< 5.0	3.4 I	< 2.0	1.9 I	<1.0	260	<1.5	<1.5
Calculated Nickel MCL		ug/L	222.18	209.59	271.37	196.85	234.65		234.65	234.65
Selenium <sup>1</sup>	5	ug/L	<10	<4.0	<4.0	<3.1	<3.1	<3.1	<4.2	<4.2
Silver <sup>1</sup>	0.07	ug/L	< 0.070	< 0.017	< 0.017	< 0.018	< 0.018	< 0.018	< 0.018	< 0.018
Sodium	NA	ug/L	21,000	19,000	28,000	17,000	20,000	16,000	20,000	34,000
Thallium <sup>1</sup>	6.3	ug/l	<10	<4.4	<4.4	3.8 I	1.9 I	1.5 I	<4.8	<4.8
Vanadium	NA	ug/L	2.0 I	3.2 I	2.2 I	2.0 I	1.1 I	4.2 I	<1.6	3 I
Zinc <sup>1</sup>	See Below <sup>10</sup>	ug/L	<20	9.5 I	2.5 I	<3.5	<3.5	220	<3.2	4.9 I
Calculated Zinc MCL		ug/L	149.44	140.96	182.58	132.38	157.84		157.84	157.84
Field Parameters:										
Dissolved Oxygen (Field)	>5.0	mg/l	7.08	3.38	6.56	9.30	8.05	6.39	4.58	5.39
pH (Field) <sup>1</sup>	6.5-8.5	Unit	7.86	7.16	7.3	6.70	9.20	7.00	7.33	7.65
Specific Conductance (Field)	See Below	umho/cm	389	338	507	3260	213	326	397	471
Calculated Specific Conducatance MCL		umho/cm	1275	1275	1275	1275	1275	1275	1275	1275
Temperature (Field)	NA	Deg C	25.4	25.7	26.5	22.9	25.8	19.34	27.92	20.15
Turbidity (Field)	See Below <sup>11</sup>	NTU	4	2.32	8.1	0.99	1.3	9.07	2.68	9.56
Calculated Turbidity MCL		NTU	30.8	31.50	31.4	30.3	32.3	36.80	31.31	30.87
Organic Parameters:	J									
Acetone <sup>2</sup>	1,700	ug/L	<10	< 0.91	< 0.91	<3.7	<3.7	<3.7	<2.5	<2.5
Carbon Disulfide <sup>2</sup>	110	ug/L ug/L	<1.0	<0.25	< 0.25	<0.49	<0.49	<0.49	< 0.81	< 0.81
Chlorobenzene <sup>2</sup>	17	ug/L ug/L	<1.0	<0.10	< 0.10	<0.15	<0.15	<0.15	<0.17	<0.17
Chloroform	NA	ug/L ug/L	<1.0	<0.10	<0.10	<0.13	<0.13	<0.13	<0.17	<0.17
cis-1,2-Dichloroethene	NA NA	ug/L ug/L	<1.0	<0.28	<0.15	<0.23	<0.23	<0.23	<0.92	<0.6
Toluene <sup>2</sup>	480	ug/L ug/L	<1.0	<0.13	<0.13	<0.17	<0.17	<0.17	<0.92	<0.92
Notes:	400	ug/L	\1.U	<b>~0.10</b>	<b>~0.10</b>	\0.33	\0.33	\0.33	\0.13	N.13

MCL = Maximum Contamination Level.

NA = Not Available. --- = Not Tested.

 $Shaded = Sample \ result \ above \ the \ MCL.$ 

mg/l = milligrams per liter.

ug/l = micrograms per liter.

- 1. Parameter MCL is a Surface Water Criterion (Chapter 62-302 F.A.C.).
- <sup>2</sup> Parameter MCL is a Surface Water Clean-up Standard (Chapter 62-777 F.A.C.).
- ->-Parameter MCL is calculated by the following formula: not greater than 10% above background levels (SW-1=background):
- 4. Parameter MCL is calculated by the following formula: Cd < e^(0.7852\*[In Hardness]-3.49).</p>
- $^5$  . Parameter MCL is calculated by the following formula: Cr  $\!<\!e^{\wedge}(0.819*[ln\ Hardness]\!+\!1.561)$  . Parameter MCL is calculated by the following formula: Cu <e'(0.8545\*[In Hardness]-1.465).

  Parameter MCL is calculated by the following formula: Pb <e'(1.273\*[In Hardness]-4.705).

  Parameter MCL is calculated by the following formula: Ni <e'(0.846\*[In Hardness]+1.1645).

- Parameter MCL is calculated by the following formula: not greater than 50% above background levels or 1275, which ever is greater (SW-1=background).
   Parameter MCL is calculated by the following formula: Zn < e^(0.8473\*[In Hardness]+0.7614).</li>
- Parameter MCL is calculated by the following formula: not greater than or equal 29 above background (SW-1=background).
- Parameter Arc. 1. Scannance by the Monorage School and the Scannance of th
- U Indicates that the compound was analysed for but not detected.

  V Indicated that the analyte was detected in both the sample and the associated method blank.

SW-3

				SW-3		DATE OF	SAMPLE COLLE	CTION		
PARAMETER	MCL	UNITS	Apr-03	Oct-03	Ann 04	Nov-04	May-05	Oct-05	Ann 06	Nov-06
Inorganic Parameters:	MCL	UNITS	Apr-03	001-03	Apr-04	1101-04	May-05	061-05	Apr-06	1101-00
Total Hardness as CaCO <sub>3</sub>	>20	mg/l	110	160		150	82			
Total Dissolved Solids	NA	mg/l	220	260		390	160	130		
Total Suspended Solids	NA NA		7.1	3.4 I		270	4.2	90		
	NA NA	mg/l	1.4	1.0		1.7	1.7	0.9		
Total Kjeldahl Nitrogen	NA NA	mg/l	0.06 I	0.010 I		0.050 I	0.030 I	0.9 0.01 <b>I</b>		
Total Phosphorus		mg/l								
Total Nitrogen	NA 0.02	mg/l	1.4	1.0 <0.0040		1.7	1.7 <0.014			
Ammonia Nitrogen -Unionized	****	mg/l	< 0.050	010010		< 0.012	0101	< 0.014		
Biolgical Oxygen Demand (5-day)	NA	mg/l	<6.0	<2.0		5.2	<2.0	2		
Chemical Oxygen Demand	NA	mg/l	84	66		69	64	77		
Chlorophyll A	NA	mg/m <sup>3</sup>	3.4	3		50	1.1	60		
Total Organic Carbon	NA	mg/l	23	15		19	20	20		
Nitrate Nitrogen	NA	mg/l	< 0.050	< 0.016		< 0.0091	< 0.0091	< 0.0091		
Nitrogen -NO3/NO2 (NOX)	NA	mg/l	0.02 I	0.014 I		0.020 I	0.019 I	0.12		
Antimony	4,300	ug/L	<10	<2.8		<3.0	<3.0	<3.0		
Arsenic	50	ug/L	<10	<2.0		<2.8	<2.8	<2.8		
Barium <sup>2</sup>	See Below NA	ug/l	22	25		28	15	10		
Calculated Barium MCL		ug/l	3.3	3.2	3.0	4.1	2.2	1.8	1.6	3.4
Beryllium <sup>l</sup>	0.13	ug/L	0.02 I	< 0.017		< 0.039	< 0.039	< 0.039		
Cadmium	Calculated <sup>4</sup>	ug/L	< 0.10	< 0.068		< 0.026	0.033 I	< 0.026		
Calculated Cadmium MCL		ug/L	1.22	1.64		1.56	0.97			
Chromium <sup>1</sup>	See Below	ug/L	1.0 I	0.70 I		1.5 I	< 0.60	6		
Calculated Chromium MCL		ug/L	223.79	304.16		288.50	175.93			
Cobalt	NA	ug/L	<10	<1.5		3.0 I	<1.6	<1.6		
Copper <sup>1</sup>	See Below <sup>6</sup>	ug/L	0.4 I	< 0.31		< 0.37	< 0.37	5		
Calculated Copper MCL		ug/L	12.83	17.67		16.72	9.98			
Iron <sup>l</sup>	1,000	ug/l	380	150		310	420	7300		
Lead <sup>1</sup>	See Below <sup>7</sup>	ug/L	<1.0	< 0.50		0.080 I	0.056 I	0.21 I		
Calculated Lead MCL		ug/L	3.59	5.79		5.33	2.47			
Mercury <sup>1</sup>	0.012	ug/L	< 0.10	0.044 I		< 0.012	0.015 I	0.029 I		
Nickel <sup>1</sup>	See Below <sup>8</sup>	ug/L	< 5.0	<2.0		<1.0	<1.0	400		
Calculated Nickel MCL		ug/L	170.90	234.65		222.18	133.30			
Selenium <sup>1</sup>	5	ug/L	<10	<4.0		<3.1	3.7 I	<3.1		
Silver	0.07	ug/L	< 0.070	0.017 I		< 0.018	< 0.018	< 0.018		
Sodium	NA	ug/L	18.000	19.000		25.000	12.000	11.000		
Thallium <sup>1</sup>	6.3	ug/l	<10	<4.4		2.1 I	<1.4	<1.4		
Vanadium	NA	ug/L	0.5 I	0.57 I		< 0.73	0 90 I	< 0.73		
Zinc <sup>1</sup>	See Below <sup>10</sup>	ug/L	<20	4.0 I		<3.5	8.8 I	630		
Calculated Zinc MCL		ug/L	114.91	157.84		149.44	89.59			
Field Parameters:	I .	8					07.07	II.		
Dissolved Oxygen (Field)	>5.0	mg/l	1.63	4.83		10.47	5.39	2.75		
pH (Field) <sup>1</sup>	6.5-8.5	Unit	6.9	6.80		7.25	8.4	6.52		
Specific Conductance (Field) <sup>1</sup>	See Below <sup>9</sup>	umho/cm	342	363.0		342	218	143.0		
Calculated Specific Conducatance MCL	Dec Delow	umho/cm	1275	1275	1275	1275	1275	1275	1275	1275
Temperature (Field)	NA	Deg C	26.9	23.0	12/3	21.4	27.36	17.0	12/3	12/3
Turbidity (Field)	See Below <sup>11</sup>	NTU	3.1	1.49		94	75	6.4		
Calculated Turbidity MCL	See Delow	NTU	30.8	31.5	31.4	30.3	32.3	36.8	31.31	30.87
Organic Parameters:		1110	30.0	31.3	31.4	30.3	34.3	30.0	31.31	30.07
Acetone <sup>2</sup>	1.700	ug/L	<10	< 0.91		<3.7	<3.7	<3.7		
Acetone Carbon Disulfide <sup>2</sup>	1,700		<1.0	<0.91		<0.49	<0.49	<0.49		
		ug/L				<0.49	<0.49	<0.49		
Chlorobenzene <sup>2</sup>	17	ug/L	<1.0	<0.10						
Chloroform	NA	ug/L	<1.0	< 0.28		< 0.23	<0.23	<0.23		
cis-1,2-Dichloroethene	NA 400	ug/L	<1.0	< 0.15		< 0.17	<0.17	<0.17		
Toluene <sup>2</sup>	480	ug/L	0.3 I	< 0.10		< 0.35	< 0.35	< 0.35		

#### Notes:

MCL = Maximum Contamination Level.

NA = Not Available.

--- = Not Tested.  $Shaded = Sample \ result \ above \ the \ MCL.$ 

mg/l = milligrams per liter.

ug/l = micrograms per liter.

- <sup>1.</sup> Parameter MCL is a Surface Water Criterion (Chapter 62-302 F.A.C.).
- <sup>2</sup> Parameter MCL is a Surface Water Clean-up Standard (Chapter 62-777 F.A.C.).

- $^5.$  Parameter MCL is calculated by the following formula: Cr  $\leq$  e^(0.819\*[In Hardness]+1.561). Farameter MCL is calculated by the following formula:  $Cu < e^{\alpha}(0.8548^{\circ} [ln Hardness] - 1.465)$ .

  Parameter MCL is calculated by the following formula:  $Pb < e^{\alpha}(1.273^{\circ} [ln Hardness] - 1.465)$ .
- $^{8}$  Parameter MCL is calculated by the following formula: Ni < e $^{(0.846*[ln Hardness]+1.1645)}$ .
- 9 Parameter MCL is calculated by the following formula: not greater than 50% above background levels or 1275, which ever is greater (SW-1-background).
- $\label{eq:parameter MCL} \begin{tabular}{ll} 10. Parameter MCL is calculated by the following formula: $Zn < e^{0.8473*[ln Hardness]+0.7614)}. \end{tabular}$
- Parameter MCL is calculated by the following formula: not greater than or equal 29 above background (SW-1=background).
- --- = Parameter not sampled.
- ... r analises not sample...

  I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

  U Indicates that the compound was analysed for but not detected.
- V Indicated that the analyte was detected in both the sample and the associated method blank.

SW-4

				5W-4		DATE OF	SAMPLE COLLE	CTION		
PARAMETER	MCL	UNITS	Apr-03	Oct-03	Apr-04	Nov-04	May-05	Oct-05	Apr-06	Nov-06
Inorganic Parameters:	MCL	CITIS	71p1-05	Oct-05	21p1-04	1107-04	May-03	OC1-03	71p1-00	1101-00
Total Hardness as CaCO <sub>3</sub>	>20	mg/l	150	140		130	140		170	
Total Dissolved Solids	NA	mg/l	250	230		200	220	200	250	
Total Suspended Solids	NA	mg/l	6.1	4.4 I		5.5	4.8	4.4 I	6	
Total Kjeldahl Nitrogen	NA	mg/l	1	1.3		0.96	1.4	0.93		
Total Phosphorus	NA	mg/l	0.06 I	0.030 I		0.050 I	0.020 I	0.020 I	0.06 I	
Total Nitrogen	NA	mg/l	1	1.3		0.99	1.4		1.3	
Ammonia Nitrogen -Unionized	0.02	mg/l	< 0.050	< 0.0040		< 0.012	0.019 I	< 0.014	< 0.014	
Biolgical Oxygen Demand (5-day)	NA	mg/l	<3.0	<2.0		<3.0	3.9	<2.0	2.5	
Chemical Oxygen Demand	NA	mg/l	56	58		36	36	51	52	
Chlorophyll A	NA	mg/m <sup>3</sup>	5.0	4		4.9	5.7	16	8.9	
Total Organic Carbon	NA	mg/l	15	15		18.0	12	12	15	
Nitrate Nitrogen	NA	mg/l	0.04 I	0.022 I		< 0.0091	< 0.0091	< 0.0091	< 0.0091	
Nitrogen -NO3/NO2 (NOX)	NA	mg/l	0.04 I	0.032 I		0.027 I	< 0.0050	0.022 I		
Antimony	4.300	ug/L	<10	<2.8		<3.0	<3.0	<3.0	<2	
Arsenic <sup>1</sup>	50	ug/L	<10	<2.0		<2.8	4.7 I	<2.8	<2.8	
Barium <sup>2</sup>	See Below NA	ug/l	31	22		24	24	14	27	
Calculated Barium MCL	See Below 1411	ug/l	3.3	3.2	3.0	4.1	2.2	1.8	1.6	3.4
Beryllium <sup>1</sup>	0.13	ug/L	0.02 I	< 0.017		< 0.039	< 0.039	< 0.039	< 0.039	
Cadmium	See Below <sup>4</sup>	ug/L	< 0.10	< 0.068		< 0.026	< 0.026	< 0.026	< 0.026	
Calculated Cadmium MCL		ug/L	1.56	1.48		1.39	1.48		1.72	
Chromium <sup>1</sup>	See Below	ug/L	0.7 I	< 0.60		< 0.60	< 0.60	5	< 0.65	
Calculated Chromium MCL	See Below	ug/L	288.50	272.65		256.60	272.65		319.65	
Cobalt	NA	ug/L ug/L	2.0 I	<1.5		2.3 I	<1.6	2.4 I	<1	
Copper <sup>1</sup>	See Below <sup>6</sup>	ug/L	19	0 90 I		0.46 I	< 0.37	4.5	< 0.37	
Calculated Copper MCL	See Below	ug/L	16.72	15.76		14.80	15.76		18.61	
Iron <sup>1</sup>	1.000	ug/l	390	160		490	16 I	6400	190	
Lead <sup>1</sup>	See Below <sup>7</sup>	ug/L	1.9	< 0.50		0.080 I	< 0.038	0.17 I	0.76 I	
Calculated Lead MCL		ug/L	5.33	4.88		4.44	4.88		6.25	
Mercury <sup>1</sup>	0.012	ug/L	<0.10	0.046 I		< 0.012	0.026 I	0.033 I	< 0.012	
Nickel <sup>1</sup>	See Below <sup>8</sup>	ug/L	<5.0	2.3 I		<1.0	2.2 I	370	1.5 I	
Calculated Nickel MCL	See Below	ug/L	222	210		196.8	210		246.9992939	
Selenium	5	ug/L	<10	<4.0		<3.1	<3.1	<3.1	<4.2	
Silver <sup>1</sup>	0.07	ug/L	< 0.070	< 0.017		< 0.018	< 0.018	< 0.018	< 0.018	
Sodium	NA	ug/L	21.000	18,000		17.000	19.000	16.000	21000	
Thallium <sup>1</sup>	6.3	ug/l	<10	<4.4		<1.4	<1.4	<1.4	<4.8	
Vanadium	NA	ug/L	3.0 I	2.7 I		1.2 I	10	4.4 I	2.2 I	
Zinc <sup>1</sup>	Calculated <sup>10</sup>	ug/L	<20	7.3 I		7.0 I	<3.5	600	<3.2	
Calculated Zinc MCL		ug/L	149.44	141		132.38	140.96		166.16	
Field Parameters:					1					
Dissolved Oxygen (Field)	>5.0	mg/l	4.55	3.10		10.26	8.63	7.06	6.32	
pH (Field) <sup>1</sup>	6.5-8.5	Unit	7.26	7.16		7.12	9.5	7.12	7.38	
Specific Conductance (Field) <sup>1</sup>	See Below	umho/cm	342	355		286	371	315	415	
Calculated Specific Conducatance MCL	211 301011	umho/cm	1275	1275	1275	1275	1275	1275	1275	1275
Temperature (Field)	NA	Deg C	22.8	23.5		20.9	27.76	17.75	28.75	
Turbidity (Field)	See Below <sup>11</sup>	NTU	2.8	1.3		0.77	2.0	6.8	2.56	
Calculated Turbidity MCL	Dec Belon	NTU	30.8	31.5	31.4	30.3	32.3	36.8	31.31	30.87
Organic Parameters:										
Acetone <sup>2</sup>	1,700	ug/L	<10	< 0.91		<3.7	<3.7	<3.7	<2.5	
Carbon Disulfide <sup>2</sup>	110	ug/L ug/L	<1.0	<0.25		<0.49	<0.49	<0.49	<0.81	
Chlorobenzene <sup>2</sup>	17	ug/L ug/L	<1.0	< 0.10		< 0.15	<0.15	<0.15	<0.17	
Chloroform	NA	ug/L ug/L	<1.0	<0.10		<0.13	<0.13	<0.13	<0.17	
cis-1,2-Dichloroethene	NA NA	ug/L ug/L	<1.0	<0.15		< 0.17	<0.23	<0.17	<0.0	
Toluene <sup>2</sup>	480	ug/L ug/L	<1.0	<0.13		<0.17	<0.35	<0.17	<0.92	
Notes:	700	ug/L	\1.U	~0.10		\U.JJ	\0.JJ	~U.JJ	~U.1J	

#### Notes:

MCL = Maximum Contamination Level.

NA = Not Available.

--- = Not Tested.  $Shaded = Sample \ result \ above \ the \ MCL.$ 

mg/l = milligrams per liter. ug/l = micrograms per liter.  $^{\rm L}$  Parameter MCL is a Surface Water Criterion (Chapter 62-302 F.A.C.).

<sup>2</sup> Parameter MCL is a Surface Water Clean-up Standard (Chapter 62-777 F.A.C.).

- Parameter MCL is calculated by the following formula: not greater than 10% above background levels (SW-1-background):

4 Parameter MCL is calculated by the following formula: not greater than 10% above background levels (SW-1-background):

4 Parameter MCL is calculated by the following formula: Cd < e^(0.7852\*[In Hardness]-3.49).

 $^5$  . Parameter MCL is calculated by the following formula: Cr  $\!<\!e^{\wedge}(0.819*[ln\ Hardness]\!+\!1.561)$  .

Parameter MCL is calculated by the following formula: Cu < e<sup>x</sup>(0.8545\*[In Hardness]-1.465).

Parameter MCL is calculated by the following formula: Pb < e<sup>x</sup>(1.273\*[In Hardness]-4.705).

 $^{8}$  Parameter MCL is calculated by the following formula: Ni < e $^{(0.846*[ln Hardness]+1.1645)}$ .

9 Parameter MCL is calculated by the following formula: not greater than 50% above background levels or 1275, which ever is greater (SW-1=background).

10 Parameter MCL is calculated by the following formula: 2n < e^(0.8473\*[ln Hardness]\*0.7614).

11 Parameter MCL is calculated by the following formula: 2n < e^(0.8473\*[ln Hardness]\*0.7614).

12 Parameter MCL is calculated by the following formula: not greater than or equal 29 above background (SW-1=background).

--- = Parameter not sampled.

The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
 Undicates that the compound was analysed for but not detected.

V Indicated that the analyte was detected in both the sample and the associated method blank.

SW-5

				SW-5		DATE OF S	SAMPLE COLLE	CTION		
PARAMETER	MCL	UNITS	Apr-03	Oct-03	Apr-04	Nov-04	May-05	Oct-05	Apr-06	Nov-06
Inorganic Parameters:	MCL	UNITS	Apr-03	Oct-03	Apr-04	N0V-04	May-05	Oct-05	Apr-00	1404-00
Total Hardness as CaCO <sub>3</sub>	>20	mg/l	270	170	310	230	190		2440	120
Total Dissolved Solids	NA	mg/l	470	280	590	360	350	190	380	350
Total Suspended Solids	NA NA	mg/l	4.0 I	15	16	5.8	6.2	3.4 I	9	7.6
Total Kjeldahl Nitrogen	NA NA	mg/l	5.7	4.9	5.0	2.5	1.9	1.4		7.0
Total Phosphorus	NA NA	mg/l	0.06 I	0.060 I	0.060 I	0.040 I	0.050 I	0.09 I	0.055 I	0.05 I
Total Nitrogen	NA NA	mg/l	6.90	5.4	5.3	3.40	2.40	0.091	1.9	1.8
Ammonia Nitrogen -Unionized	0.02		0.100	0.023	0.073	0.013 I	0.099	< 0.014	<0.014	< 0.014
Biolgical Oxygen Demand (5-day)	0.02 NA	mg/l	<6.0	3.1	5.9	2.10	3.20	<0.014	2.0 I	<0.014
		mg/l								
Chemical Oxygen Demand	NA	mg/l	89	65	99 30	54 9.1	64	9.3	95	73 10
Chlorophyll A	NA	mg/m <sup>3</sup>	6	7.8			11		16	
Total Organic Carbon	NA	mg/l	22	18	30	17	20	11	19	21
Nitrate Nitrogen	NA	mg/l	0.99	0.43	0.24	0.65	0.43	0.51	0.41	0.052
Nitrogen -NO3/NO2 (NOX)	NA	mg/l	1.20	0.46	0.28	0.85	0.47	0.52		
Antimony	4,300	ug/L	<10	<2.8	<2.8	<3.0	<3.0	<3.0	<2.0	<2
Arsenic <sup>1</sup>	50	ug/L	<10	3.6 I	<2.0	<2.8	3.8 I	3.5 I	<2.8	3.5 I
Barium <sup>2</sup>	See Below NA	ug/l	66	44	78	52	38	19	42	62
Calculated Barium MCL		ug/l	3.3	3.2	3.0	4.1	2.2	1.8	1.6	3.4
Beryllium <sup>l</sup>	0.13	ug/L	0.04 I	0.040 I	0.040 I	< 0.039	< 0.039	< 0.039	< 0.039	< 0.039
Cadmium	See Below <sup>4</sup>	ug/L	< 0.10	< 0.068	< 0.068	< 0.026	< 0.026	< 0.026	< 0.026	< 0.026
Calculated Cadmium MCL		ug/L	2.47	1.72	2.76	2.18	1.88		13.93	1.31
Chromium <sup>1</sup>	See Below	ug/L	1.0 I	1.5 I	1.7 I	0.60 I	0.73 I	6	< 0.65	0.98 I
Calculated Chromium MCL		ug/L	466.90	319.65	522.83	409.44	350.13		2832.74	240.32
Cobalt	NA	ug/L	4.0 I	<1.5	<1.5	5.6 I	<1.6	2.5 I	<1.0	<1
Copper <sup>1</sup>	See Below <sup>6</sup>	ug/L	1.1	0.50 I	1.2	< 0.37	0.74 I	5.2	< 0.37	< 0.37
Calculated Copper MCL		ug/L	27.63	18.61	31.09	24.09	20.46		181.25	13.82
Iron <sup>1</sup>	1,000	ug/l	2300	2,200	1,100	660	950	6,200	550	1000
Lead <sup>1</sup>	See Below <sup>7</sup>	ug/L	0.5 I	0.70 I	1.4	0.087 I	0.07	0.33 I	0.93 I	0.19 I
Calculated Lead MCL		ug/L	11.27	6.25	13.43	9.19	7.20		185.69	4.01
Mercury <sup>1</sup>	0.012	ug/L	< 0.10	0.048 I	< 0.036	< 0.012	< 0.012	0.017 I	< 0.012	< 0.012
Nickel <sup>1</sup>	See Below <sup>8</sup>	ug/L	4.0 I	4.1 I	6.0	9.6	3.6 I	360	4.5 I	3.5 I
Calculated Nickel MCL		ug/L	365.32	247.00	410.61	318.98	271.37		2352.16	183.96
Selenium <sup>1</sup>	5	ug/L	<10	<4.0	<4.0	<3.1	<3.1	<3.1	<4.2	<4.2
Silver	0.07	ug/L	< 0.070	< 0.017	0.018 I	< 0.018	< 0.018	< 0.018	< 0.018	< 0.018
Sodium	NA	ug/L	48,000	27,000	82,000	35,000	38,000	13,000	47.000	66,000
Thallium <sup>1</sup>	6.3	ug/l	<10	<4.4	<4.4	<1.4	<1.4	1.6 I	<4.8	<4.8
Vanadium	NA	ug/L	10 I	9.8 I	12	7.3 I	9.2 I	26	5.8 I	5.2 I
Zinc <sup>1</sup>	See Below <sup>10</sup>	ug/L	<20	6.3 I	4.3 I	<3.5	3.8 I	600	3.9 I	13 I
Calculated Zinc MCL		ug/L	245.90	166.16	276.44	214.67	182.58		1587.84	123.70
Field Parameters:		ug/L	2.0.70	100.10	270.11	211.07	102.50	ı	1507.01	123.70
Dissolved Oxygen (Field)	>5.0	mg/l	5.35	4.43	6.02	9.42	7.40	8.88	5.71	7.29
pH (Field) <sup>1</sup>	6.5-8.5	Unit	7.55	6.89	7.48	4.49	9.30	7.22	7.6	7.76
Specific Conductance (Field) <sup>1</sup>	See Below <sup>9</sup>	umho/cm	7.53	467	1116	504	556	290	678	470
Calculated Specific Conducatance MCL	SCC BCIOW	umho/cm	1275	1275	1275	1275	1275	1275	1275	1275
Temperature (Field)	NA	Deg C	27.2	29	27	23.4	26.8	12/3	28.43	21.95
Turbidity (Field)	See Below <sup>11</sup>	NTU	23	28.3	17	3.6	3.6	10.5	6.68	8.11
Calculated Turbidity MCL	SEE DEION	NTU	30.8	31.5	31.4	30.3	32.3	36.8	31.31	30.87
Organic Parameters:		INIU	30.0	31.3	31.4	30.3	34.3	30.0	31.31	30.07
Acetone <sup>2</sup>	1,700	ug/L	<10	< 0.91	< 0.91	<3.7	<3.7	<3.7	<2.5	<2.5
		Ü				<0.49				
Carbon Disulfide <sup>2</sup>	110	ug/L	<1.0	<0.25	<0.25	0.1.7	<0.49	<0.49	<0.81	< 0.81
Chlorobenzene <sup>2</sup>	17	ug/L	<1.0	< 0.10	< 0.10	< 0.15	<0.15	<0.15	<0.17	<0.17
Chloroform	NA	ug/L	<1.0	<0.28	< 0.28	< 0.23	<0.23	< 0.23	<0.6	<0.6
cis-1,2-Dichloroethene	NA	ug/L	<1.0	< 0.15	< 0.15	< 0.17	< 0.17	< 0.17	< 0.92	< 0.92
Toluene <sup>2</sup>	480	ug/L	<1.0	< 0.10	< 0.10	< 0.35	< 0.35	< 0.35	< 0.15	< 0.15

MCL = Maximum Contamination Level.

NA = Not Available.

--- = Not Tested.  $Shaded = Sample \ result \ above \ the \ MCL.$ 

mg/l = milligrams per liter. ug/l = micrograms per liter.

- $^{\rm L}$  Parameter MCL is a Surface Water Criterion (Chapter 62-302 F.A.C.).
- <sup>2</sup> Parameter MCL is a Surface Water Clean-up Standard (Chapter 62-777 F.A.C.).
- Parameter MCL is calculated by the following formula: not greater than 10% above background levels (SW-1-background):

  4 Parameter MCL is calculated by the following formula: not greater than 10% above background levels (SW-1-background):

  4 Parameter MCL is calculated by the following formula: Cd < e^(0.7852\*[In Hardness]-3.49).
- $^5$  . Parameter MCL is calculated by the following formula: Cr  $\!<\!e^{\wedge}(0.819*[ln\ Hardness]\!+\!1.561)$  .
- Parameter MCL is calculated by the following formula: Cu < e<sup>x</sup>(0.8545\*[In Hardness]-1.465).

  Parameter MCL is calculated by the following formula: Pb < e<sup>x</sup>(1.273\*[In Hardness]-4.705).
- $^{8}$  Parameter MCL is calculated by the following formula: Ni < e $^{(0.846*[ln Hardness]+1.1645)}$ .
- 9 Parameter MCL is calculated by the following formula: not greater than 50% above background levels or 1275, which ever is greater (SW-1=background).
- 10 Parameter MCL is calculated by the following formula: 2n < e^(0.8473\*[ln Hardness]\*0.7614).

  11 Parameter MCL is calculated by the following formula: 2n < e^(0.8473\*[ln Hardness]\*0.7614).

  12 Parameter MCL is calculated by the following formula: not greater than or equal 29 above background (SW-1=background).
- --- = Parameter not sampled.
- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
   Undicates that the compound was analysed for but not detected.
- V Indicated that the analyte was detected in both the sample and the associated method blank.

#### SW-6

				5W-6		DATE OF S	SAMPLE COLLE	CTION		
PARAMETER	MCL	UNITS	Apr-04	Oct-03	Apr-04	Nov-04	May-05	Oct-05	Apr-06	Nov-06
Inorganic Parameters:	MCL	011110	/1p1-04	000-00	/1p1-0-4	1101-04	may-05	000-03	7 ipi -00	1101-00
Total Hardness as CaCO <sub>3</sub>	>20	mg/l	240			310				
Total Dissolved Solids	NA	mg/l	400			260				
Total Suspended Solids	NA	mg/l	13			4.9 I				
Total Kjeldahl Nitrogen	NA	mg/l	0.91			1.1				
Total Phosphorus	NA	mg/l	0.06 I			0.14				
Total Nitrogen	NA	mg/l	0.94			1.10				
Ammonia Nitrogen -Unionized	0.02	mg/l	< 0.050			< 0.024				
Biolgical Oxygen Demand (5-day)	NA	mg/l	< 6.0			<6.0				
Chemical Oxygen Demand	NA	mg/l	74			63				
Chlorophyll A	NA	mg/m <sup>3</sup>	2.9			14.0				
Total Organic Carbon	NA	mg/l	25			17.0				
Nitrate Nitrogen	NA	mg/l	0.03 I			< 0.0091				
Nitrogen -NO3/NO2 (NOX)	NA	mg/l	0.03 I			0.0080 I				
Antimony	4.300	ug/L	<10			<3.0				
Arsenic <sup>1</sup>	50	ug/L	3.0 I			3.9 I				
Barium <sup>2</sup>	See Below NA	ug/l	46			50.0				
Calculated Barium MCL		ug/l	3.3	3.2	3.0	4.1	2.2	1.8	1.6	3.4
Beryllium <sup>1</sup>	0.13	ug/L	0.22			0.091 I				
Cadmium	Calculated4	ug/L	< 0.10			< 0.026				
Calculated Cadmium MCL		ug/L	2.26			2.76				
Chromium <sup>1</sup>	See Below <sup>3</sup>	ug/L	6.7			5.2				
Calculated Chromium MCL		ug/L	423.96			522.83				
Cobalt	NA	ug/L	3.0 I			5.7 I				
Copper <sup>1</sup>	See Below <sup>6</sup>	ug/L	1.3			1.1				
Calculated Copper MCL		ug/L	24.98			31.09				
Iron <sup>1</sup>	1,000	ug/l	3500			6,400				
Lead <sup>1</sup>	See Below <sup>7</sup>	ug/L	2.7			1.9				
Calculated Lead MCL		ug/L	9.70			13.43				
Mercury <sup>1</sup>	0.012	ug/L	< 0.10			0.019 I				
Nickel <sup>1</sup>	See Below <sup>8</sup>	ug/L	< 5.0			1.2 I				
Calculated Nickel MCL		ug/L	330.67			410.61				
Selenium <sup>1</sup>	5	ug/L	<10			<3.1				
Silver <sup>l</sup>	0.07	ug/L	< 0.070			< 0.018				
Sodium	NA	ug/L	22,000			27,000				
Thallium <sup>1</sup>	6.3	ug/l	2.0 I			<1.4				
Vanadium	NA	ug/L	12			10				
Zinc <sup>1</sup>	Calculated10	ug/L	<20			4.7 I				
Calculated Zinc MCL		ug/L	222.55			276.44				
Field Parameters:										
Dissolved Oxygen (Field)	>5.0	mg/l	6.67			9.20				
pH (Field) <sup>1</sup>	6.5-8.5	Unit	7.55			7.62				
Specific Conductance (Field) <sup>1</sup>	See Below <sup>9</sup>	umho/cm	517			508				
Calculated Specific Conducatance MCL		umho/cm	1275	1275	1275	1275	1275	1275	1275	1275
Temperature (Field)	NA	Deg C	27.9			24.3				
Turbidity (Field)	See Below <sup>11</sup>	NTU	65			0.77				
Calculated Turbidity MCL		NTU	30.8	31.5	31.4	30.3	32.3	36.8	31.31	30.87
Organic Parameters:										
Acetone <sup>2</sup>	1,700	ug/L	<10			<3.7				
Carbon Disulfide <sup>2</sup>	110	ug/L	<1.0			< 0.49				
Chlorobenzene <sup>2</sup>	17	ug/L	<1.0			< 0.15				
Chloroform	NA	ug/L	<1.0			< 0.23				
cis-1,2-Dichloroethene	NA	ug/L	<1.0			< 0.17				
Toluene <sup>2</sup>	480	ug/L	<1.0			< 0.35				

#### Notes:

MCL = Maximum Contamination Level.

NA = Not Available.

--- = Not Tested.

 $Shaded = Sample \ result \ above \ the \ MCL.$ mg/l = milligrams per liter.

ug/l = micrograms per liter.

 $^{\rm L}$  Parameter MCL is a Surface Water Criterion (Chapter 62-302 F.A.C.).

<sup>2</sup> Parameter MCL is a Surface Water Clean-up Standard (Chapter 62-777 F.A.C.).

- Parameter MCL is calculated by the following formula: not greater than 10% above background levels (SW-1-background):

4 Parameter MCL is calculated by the following formula: not greater than 10% above background levels (SW-1-background):

4 Parameter MCL is calculated by the following formula: Cd < e^(0.7852\*[In Hardness]-3.49).

 $^5$  . Parameter MCL is calculated by the following formula: Cr  $\!<\!e^{\wedge}(0.819*[ln\ Hardness]\!+\!1.561)$  .

Parameter MCL is calculated by the following formula: Cu < e<sup>x</sup>(0.8545\*[In Hardness]-1.465).

Parameter MCL is calculated by the following formula: Pb < e<sup>x</sup>(1.273\*[In Hardness]-4.705).

 $^{8}$  Parameter MCL is calculated by the following formula: Ni < e $^{(0.846*[ln Hardness]+1.1645)}$ .

9 Parameter MCL is calculated by the following formula: not greater than 50% above background levels or 1275, which ever is greater (SW-1=background).

10 Parameter MCL is calculated by the following formula: 2n < e^(0.8473\*[ln Hardness]\*0.7614).

11 Parameter MCL is calculated by the following formula: 2n < e^(0.8473\*[ln Hardness]\*0.7614).

12 Parameter MCL is calculated by the following formula: not greater than or equal 29 above background (SW-1=background).

--- = Parameter not sampled.

The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
 Undicates that the compound was analysed for but not detected.

V Indicated that the analyte was detected in both the sample and the associated method blank.

#### SW-10

II .				SW-10	,	DATE OF C	SAMPLE COLLE	CTION		
PARAMETER	MCL	UNITS	Apr-04	Oct-03	Apr-04	Nov-04	May-05	Oct-05	Apr-06	Nov-06
Inorganic Parameters:	MCL	UNITS	Apr-04	Oct-03	Apr-04	N0V-04	May-05	001-05	Apr-00	1107-00
Total Hardness as CaCO <sub>3</sub>	>20	mg/l	200				210			
Total Dissolved Solids	NA	mg/l	300				410			
Total Suspended Solids		ŭ								
	NA NA	mg/l	5.1 2.0				16 3.0			
Total Kjeldahl Nitrogen	NA	mg/l								
Total Phosphorus	NA	mg/l	0.2 I 2.10				0.070 I			
Total Nitrogen	NA	mg/l					3.70			
Ammonia Nitrogen -Unionized	0.02	mg/l	0.050				0.650			
Biolgical Oxygen Demand (5-day)	NA	mg/l	<6.0				6.30			
Chemical Oxygen Demand	NA	mg/l	58				77			
Chlorophyll A	NA	mg/m <sup>3</sup>	22				36			
Total Organic Carbon	NA	mg/l	14				21			
Nitrate Nitrogen	NA	mg/l	0.065				0.560			
Nitrogen -NO3/NO2 (NOX)	NA	mg/l	2.0				0.7			
Antimony	4,300	ug/L	<10				<3.0			
Arsenic <sup>1</sup>	50	ug/L	<10				3.2 I			
Barium <sup>2</sup>	See Below NA	ug/l	36				30			
Calculated Barium MCL		ug/l	3.3	3.2	3.0	4.1	2.2	1.8	1.6	3.4
Beryllium <sup>1</sup>	0.13	ug/L	< 0.10				< 0.039			
Cadmium	See Below <sup>4</sup>	ug/L	< 0.10				0.034 I			
Calculated Cadmium MCL		ug/L	1.95				2.03			
Chromium <sup>1</sup>	See Below	ug/L	< 5.0				1.6 I			
Calculated Chromium MCL		ug/L	365.16				380.04			
Cobalt	NA	ug/L	2.0 I				2.7 I			
Copper <sup>1</sup>	See Below <sup>6</sup>	ug/L	<1.0				0.79 I			
Calculated Copper MCL	See Below	ug/L	21.38				22.29			
Iron <sup>1</sup>	1.000	ug/l	74				200			
Lead <sup>1</sup>	See Below <sup>7</sup>	ug/L	0.3 I				0.31 I			
Calculated Lead MCL	See Below	ug/L ug/L	7.69				8.18			
Mercury <sup>1</sup>	0.012	ug/L ug/L	<0.10				0.016 I			
Nickel <sup>1</sup>	See Below <sup>8</sup>	ug/L ug/L	<5.0				3.7 I			
Calculated Nickel MCL	See Below	ug/L ug/L	283.40				295.35			
Selenium <sup>1</sup>	5	ug/L ug/L	<10				<3.1			
Silver <sup>1</sup>	0.07	_	<0.070				<0.018			
	NA	ug/L	27,000							
Sodium	6.3	ug/L	3.0 I				47,000			
Thallium <sup>1</sup>		ug/l					3.4 I			
Vanadium	NA	ug/L	2.0 I				3.7 I			
Zinc <sup>1</sup>	See Below <sup>10</sup>	ug/L	<20				5.7 I			
Calculated Zinc MCL		ug/L	190.69				198.74			
Field Parameters:				1	1	1				<b></b>
Dissolved Oxygen (Field)	>5.0	mg/l	7.75				7.60			
pH (Field) <sup>1</sup>	6.5-8.5	Unit	7.87				10.00			
Specific Conductance (Field) <sup>1</sup>	See Below <sup>9</sup>	umho/cm	484				627			
Calculated Specific Conducatance MCL		umho/cm	1275	1275	1275	1275	1275	1275	1275	1275
Temperature (Field)	NA	Deg C	26.8				26.6			
Turbidity (Field)	See Below <sup>11</sup>	NTU	3.4				82			
Calculated Turbidity MCL		NTU	30.8	31.5	31.4	30	32.3	37	31	31
Organic Parameters:										
Acetone <sup>2</sup>	1,700	ug/L	<10				<3.7			
Carbon Disulfide <sup>2</sup>	110	ug/L	<1.0				< 0.49			
Chlorobenzene <sup>2</sup>	17	ug/L	<1.0				< 0.15			
Chloroform	NA	ug/L	<1.0				<0.23			
cis-1,2-Dichloroethene	NA	ug/L	<1.0				< 0.17			
Toluene <sup>2</sup>	480	ug/L	<1.0				<0.35			
Notes:							****		•	

MCL = Maximum Contamination Level.

NA = Not Available.

--- = Not Tested.  $Shaded = Sample \ result \ above \ the \ MCL.$ 

mg/l = milligrams per liter. ug/l = micrograms per liter.

Parameter MCL is a Surface Water Criterion (Chapter 62-302 F.A.C.).
 Parameter MCL is a Surface Water Clean-up Standard (Chapter 62-777 F.A.C.).

- Parameter MCL is calculated by the following formula: not greater than 10% above background levels (SW-1-background):

4 Parameter MCL is calculated by the following formula: not greater than 10% above background levels (SW-1-background):

4 Parameter MCL is calculated by the following formula: Cd < e^(0.7852\*[In Hardness]-3.49).

 $^{5.}$  Parameter MCL is calculated by the following formula: Cr  $\leq$  e^(0.819\*[ln Hardness]+1.561).

Parameter MCL is calculated by the following formula: Cu < e^(0.8545\*[In Hardness]-1.465).

Parameter MCL is calculated by the following formula: Pb < e^(1.273\*[In Hardness]-4.705).

 $^{8}$  Parameter MCL is calculated by the following formula: Ni < e $^{(0.846*[ln Hardness]+1.1645)}$ . 9 Parameter MCL is calculated by the following formula: not greater than 50% above background levels or 1275, which ever is greater (SW-1=background).

 $^{10.}$  Parameter MCL is calculated by the following formula: Zn  $\,\leq\,$  e^(0.8473\*[ln Hardness]+0.7614).

Parameter MCL is calculated by the following formula: not greater than or equal 29 above background (SW-1=background).

12 ... = Parameter not sampled.
I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

U Indicates that the compound was analysed for but not detected.

V Indicated that the analyte was detected in both the sample and the associated method blank.

SW-11

				SW-1		DATE OF S	SAMPLE COLLE	CTION		
PARAMETER	MCL	UNITS	Apr-04	Oct-03	Apr-04	Nov-04	Jun-05	Oct-05	Apr-06	Nov-06
Inorganic Parameters:				•		•		•		
Total Hardness as CaCO <sub>3</sub>	>20	mg/l					160		300	270
Total Dissolved Solids	NA	mg/l					340	170	530	460
Total Suspended Solids	NA	mg/l					34	3.8 I	15	13
Total Kjeldahl Nitrogen	NA	mg/l					1.9	1.1		
Total Phosphorus	NA	mg/l					0.15	0.23	0.079 I	< 0.05
Total Nitrogen	NA	mg/l					2.10		1.9	1.2
Ammonia Nitrogen -Unionized	0.02	mg/l					0.020 I	< 0.014	< 0.014	< 0.014
Biolgical Oxygen Demand (5-day)	NA	mg/l					9.10	2.6	3.7	<3
Chemical Oxygen Demand	NA	mg/l					68	91	120	97
Chlorophyll A	NA	mg/m³					22	29	7.3	7.5
Total Organic Carbon	NA	mg/l					25	24	34	22
Nitrate Nitrogen	NA	mg/l					0.180	0.067	< 0.0091	< 0.0091
Nitrogen -NO3/NO2 (NOX) Antimony	NA 4,300	mg/l					0.2 <3.0	0.093 <3.0	2.2.7	2.6 I
,		ug/L							3.2 I	
Arsenic	50	ug/L					2.8 I	<2.8	<2.8	<2.8
Barium <sup>2</sup>	See Below NA	ug/l					28	9.2 I	13	36
Calculated Barium MCL		ug/l	3.3	3.2	3.0	4.1	2.2	1.8	1.6	3.4
Beryllium <sup>1</sup>	0.13	ug/L					0.18	0.047 I	< 0.039	< 0.039
Cadmium	See Below <sup>4</sup>	ug/L					0.076 I	< 0.026	< 0.026	< 0.026
Calculated Cadmium MCL		ug/L					1.64		2.69	2.47
Chromium <sup>1</sup>	See Below <sup>5</sup>	ug/L					6.3	9	2.5 I	1.9 I
Calculated Chromium MCL	See Below	ug/L ug/L					304.16		508.97	466.90
Cobalt	NA	ug/L					<1.6	1.7 I	<1.0	<1
Copper <sup>1</sup>	See Below <sup>6</sup>	ug/L					0.91 I	6.1	0.84 I	0.46 I
Calculated Copper MCL	See Below	ug/L ug/L					17.67	0.1	30.23	27.63
	1.000									
Iron <sup>1</sup>	1,000	ug/l					1,900	6500	1100	580
Lead	See Below	ug/L					2.9	2.1	0.58 I	0.33 I
Calculated Lead MCL		ug/L					5.79		12.88	11.27
Mercury <sup>1</sup>	0.012	ug/L					< 0.012	0.081 I	< 0.012	< 0.012
Nickel <sup>1</sup>	See Below <sup>8</sup>	ug/L					1.4 I	360	4.1 I	2 I
Calculated Nickel MCL		ug/L					234.65		399.37	365.32
Selenium <sup>1</sup>	5	ug/L					3.6 I	<3.1	<4.2	<4.2
Silver <sup>1</sup>	0.07	ug/L					0.023 I	< 0.018	< 0.018	< 0.018
Sodium	NA	ug/L					31,000	10000	64000	42000
Thallium <sup>1</sup>	6.3	ug/l					<1.4	<1.4	<4.8	<4.8
Vanadium	NA	ug/L					13	4.8 I	3.8 I	2.9 I
Zinc <sup>1</sup>	See Below <sup>10</sup>						4.7 I	640		
Calculated Zinc MCL	See Below	ug/L ug/L					157.84	640	3.8 I 268.87	8 I 245.90
Field Parameters:		ug/L					137.04		200.07	243.90
Dissolved Oxygen (Field)	>5.0	mg/l				I	6.28	8.12	5.33	7
pH (Field) <sup>1</sup>	6.5-8.5	Unit					8.03	6.84	7.72	7.82
Specific Conductance (Field) <sup>1</sup>	See Below <sup>9</sup>	umho/cm	1075	1075	1075	1075	486	193	803	680
Calculated Specific Conducatance MCL	NT A	umho/cm	1275	1275	1275	1275	1275	1275	1275	1275
Temperature (Field)	NA	Deg C					26.1	19.3	27.63	21.57
Turbidity (Field)	See Below <sup>11</sup>	NTU					75	109	25.9	14.9
Calculated Turbidity MCL		NTU	30.8	31.5	31.4	30	32.3	36.8	31.31	30.9
Organic Parameters:					1	1		1	1	1
Acetone <sup>2</sup>	1,700	ug/L					<3.7	<3.7	<2.5	<2.5
Carbon Disulfide <sup>2</sup>	110	ug/L					< 0.49	< 0.49	< 0.81	< 0.81
Chlorobenzene <sup>2</sup>	17	ug/L					< 0.15	< 0.15	< 0.17	< 0.17
Chloroform	NA	ug/L					<0.23	<0.23	<0.6	<0.6
cis-1,2-Dichloroethene	NA	ug/L					< 0.17	< 0.17	< 0.92	< 0.92
Toluene <sup>2</sup>	480	ug/L					< 0.35	< 0.35	<0.15	<0.15
Notes:	700	ug/L					~0.33	~0.33	N.13	~0.13

#### Notes:

MCL = Maximum Contamination Level.

NA = Not Available.

--- = Not Tested. Shaded = Sample result above the MCL.

mg/l = milligrams per liter.

ug/l = micrograms per liter.

- 1. Parameter MCL is a Surface Water Criterion (Chapter 62-302 F.A.C.).
- <sup>2</sup> Parameter MCL is a Surface Water Clean-up Standard (Chapter 62-777 F.A.C.).
- $^4$  Parameter MCL is calculated by the following formula: Cd  $\leq$  e^(0.7852\*[ln Hardness]-3.49).
- Parameter MCL is calculated by the following formula: Cr < e'(0.854\*fln Hardness)+1.661).

  Parameter MCL is calculated by the following formula: Cr < e'(0.854\*fln Hardness)+1.661).

  Parameter MCL is calculated by the following formula: Cu < e'(0.854\*fln Hardness)+1.465).

  Parameter MCL is calculated by the following formula: Pb < e'(1.273\*fln Hardness)+1.4705).
- $^{8.}$  Parameter MCL is calculated by the following formula: Ni  $\,\leq\!e^{\wedge}(0.846*[ln\ Hardness]+1.1645).$
- Parameter MCL is calculated by the following formula: not greater than 50% above background levels or 1275, which ever is greater (SW-1=background).
  Parameter MCL is calculated by the following formula: Zn < e^(0.8473\*[In Hardness]+0.7614).</p>
- Parameter MCL is calculated by the following formula: not greater than or equal 29 above background (SW-1=background). = Parameter not sample.

  The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- U Indicates that the compound was analysed for but not detected. V Indicated that the analyte was detected in both the sample and the associated method blank.

SW-12

				SW-12	4	DATE OF S	SAMPLE COLLE	CTION		
PARAMETER	MCL	UNITS	Apr-04	Oct-03	Apr-04	Nov-04	Jun-05	Oct-05	Apr-06	Nov-06
Inorganic Parameters:										
Total Hardness as CaCO <sub>3</sub>	>20	mg/l					200		220	140
Total Dissolved Solids	NA	mg/l					410	440	470	440
Total Suspended Solids	NA	mg/l					13	13	12	14
Total Kjeldahl Nitrogen	NA	mg/l					2.6	9.5		
Total Phosphorus	NA	mg/l					0.040 I	0.05 I	0.061 I	< 0.05
Total Nitrogen	NA	mg/l					3.00		6.3	3
Ammonia Nitrogen -Unionized	0.02	mg/l					0.040 I	0.14	0.17	< 0.014
Biolgical Oxygen Demand (5-day)	NA	mg/l					9.80	8.2	5.4	3.1
Chemical Oxygen Demand	NA	mg/l					80	110	94	96
Chlorophyll A	NA	mg/m³					38	77	26	36
Total Organic Carbon	NA	mg/l					23	29	24	24
Nitrate Nitrogen	NA	mg/l					0.210	0.023 I	1.4	< 0.0091
Nitrogen -NO3/NO2 (NOX)	NA	mg/l					0.4	0.06		
Antimony	4,300	ug/L					<3.0	<3.0	<2	2.7 I
Arsenic <sup>1</sup>	50	ug/L					3.8 I	5.8 I	4.2 I	4.1 I
Barium <sup>2</sup>	See Below NA	ug/l					21	24	38	21
Calculated Barium MCL		ug/l	3.3	3.2	3.0	4.1	2.2	1.8	1.6	3.4
Beryllium <sup>1</sup>	0.13	ug/L					< 0.039	< 0.039	< 0.039	< 0.039
Cadmium	See Below <sup>4</sup>	ug/L					0.036 I	0.059 I	< 0.026	< 0.026
Calculated Cadmium MCL	See Below	ug/L ug/L					1.95	0.057 1	2.11	1.48
Chromium <sup>1</sup>	See Below <sup>5</sup>	ug/L					0.84 I	7.5	1.8 I	1.8 I
Calculated Chromium MCL	See Below	ug/L ug/L					365.16	7.3	394.80	272.65
Cobalt	NA	ug/L ug/L					<1.6	<1.6	<1	<1
							0.91 I	6	0.8 I	<0.37
Copper <sup>1</sup>	See Below <sup>6</sup>	ug/L ug/L							23.19	15.76
Calculated Copper MCL							21.38			
Iron <sup>1</sup>	1,000	ug/l					63	6200	41	44
Lead <sup>1</sup>	See Below	ug/L					0.13 I	0.37 I	0.092 I	0.056 I
Calculated Lead MCL		ug/L					7.69		8.68	4.88
Mercury <sup>1</sup>	0.012	ug/L					< 0.012	0.032 I	< 0.012	< 0.012
Nickel <sup>l</sup>	See Below <sup>8</sup>	ug/L					6.1	390	10	6
Calculated Nickel MCL		ug/L					283.40		307.20	209.59
Selenium <sup>1</sup>	5	ug/L					<3.1	3.7 I	<4.2	<4.2
Silver <sup>1</sup>	0.07	ug/L					0.022 I	< 0.018	< 0.018	< 0.018
Sodium	NA	ug/L ug/L					50,000	58000	65000	70000
	6.3	,						<1.4	<4.8	
Thallium <sup>1</sup>	NA	ug/l					<1.4 3.4 I	<1.4 4.0 I	4.8 4.3 I	<4.8 3.1 I
Vanadium		ug/L								
Zinc <sup>1</sup>	See Below <sup>10</sup>	ug/L					<3.5	660	<3.2	8.1 I
Calculated Zinc MCL		ug/L					190.69		206.73	140.96
Field Parameters:	>5.0						6.40	4.02	7.2	7.5
Dissolved Oxygen (Field)		mg/l						4.83	7.2	7.5
pH (Field) <sup>1</sup>	6.5-8.5	Unit					8.15	7.6	8.18	7.75
Specific Conductance (Field) <sup>1</sup>	See Below <sup>9</sup>	umho/cm					669	753	750	536
Calculated Specific Conducatance MCL		umho/cm	1275	1275	1275	1275	1275	1275	1275	1275
Temperature (Field)	NA	Deg C					26.6	24.2	27.93	22.8
Turbidity (Field) <sup>l</sup>	See Below <sup>11</sup>	NTU					7.1	19.8	14.4	16.4
Calculated Turbidity MCL		NTU	30.8	31.5	31.4	30	32.3	36.8	31.31	30.9
Organic Parameters:										
Acetone <sup>2</sup>	1,700	ug/l					<3.7	3.8 I	<2.5	<2.5
Carbon Disulfide <sup>2</sup>	110	ug/l					< 0.49	< 0.49	< 0.81	< 0.81
Chlorobenzene <sup>2</sup>	17	ug/l					<0.15	<0.15	< 0.17	< 0.71
Chloroform	NA	ug/I ug/l					<0.13	<0.15	<0.17	<0.71
cis-1,2-Dichloroethene	NA NA	ug/I ug/l					<0.23	<0.23	<0.92	<0.92
- ' .										
Toluene <sup>2</sup> Notes:	480	ug/l					< 0.35	< 0.35	< 0.15	< 0.15

#### Notes:

MCL = Maximum Contamination Level.

NA = Not Available.

--- = Not Tested. Shaded = Sample result above the MCL.

mg/l = milligrams per liter.

ug/l = micrograms per liter.

- 1. Parameter MCL is a Surface Water Criterion (Chapter 62-302 F.A.C.).
- <sup>2</sup> Parameter MCL is a Surface Water Clean-up Standard (Chapter 62-777 F.A.C.).
- $^4\cdot$  Parameter MCL is calculated by the following formula: Cd < e^(0.7852\*[ln Hardness]-3.49).
- 5. Parameter MCL is calculated by the following formula:  $Cr \le e^{(0.819*[ln Hardness]+1.561)}$ . 6 Parameter MCL is calculated by the following formula: Cu <e^(0.845\*|In Hardness]-1.465).
  7 Parameter MCL is calculated by the following formula: Pb <e^(1.273\*|In Hardness]-4.705).
- $^{8}$  Parameter MCL is calculated by the following formula: Ni < e $^{(0.846*[ln Hardness]+1.1645)}$ .
- Parameter MCL is calculated by the following formula: not greater than 50% above background levels or 1275, which ever is greater (SW-1=background).
   Parameter MCL is calculated by the following formula: An <='(0.8473\*|In Hardness|+0.7614).</li>
   Parameter MCL is calculated by the following formula: not greater than or equal 29 above background (SW-1=background).
   —= Parameter not sampled.

- I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- U Indicates that the compound was analysed for but not detected.

  V Indicated that the analyte was detected in both the sample and the associated method blank.

# Attachment C

2007 Biennial, Tomoka Farms, Volusia County, Florida Zone 1 and 2 Monitoring Well Data Summary

### Zone 1 and 2 Monitoring Well B1-B Data Summary

					DATE	OF SAMPL	E COLLEG	CTION		
PARAMETER	MCL	UNITS	Spring		Spring	OT SILVILLE	Spring	Fall	Spring	
			2003	Fall 2003	2004	Fall 2004	2005	2005	2006	Fall 2006
Inorganic Parameters:		/7		1	1	ı	ı		ı	
Antimony	6	ug/L	0.57 U	0.348 U	0.35 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Arsenic <sup>1</sup>	50 / 10*	ug/L	2.7 U	1.97 U	2.8 I	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U
Barium <sup>1</sup>	2,000	ug/L	240	290	270	240	110	270	310	360
Beryllium	4		0.079 U	0.116 U	0.12 U	0.056 U	0.068 I	0.056 U	0.16 U	0.16 U
Cadmium <sup>1</sup>	5	ug/L	0.45 U	0.239 U	0.24 U	0.34 U	0.34 U	0.34 U	0.36 U	0.36 U
Chromium <sup>1</sup>	100	ug/L	1.5 I	1.1 I	1.4 I	0.65 I	0.63 I	1.3 I	1.9 I	1.9 I
Cobalt <sup>3</sup>	140	ug/L	6.9 I	1.47 U	1.5 U	14	6.2 I	1.6 U	2 I	1.1 I
Copper <sup>2</sup>	1,000	ug/L	1.1 I	2.3 I	0.58 U	0.47 U	1.6 I	2 I	2.1 U	2.1 U
Iron <sup>2</sup>	300	ug/L	23000	24000	24000	23000	7200	24000	25000	28000
Lead <sup>1</sup>	15	ug/L	1.5 U	3.2 I	1.8 U	2.2 U	2.2 U	2.2 U	2.6 U	2.6 U
Mercury <sup>1</sup>	2	ug/L	0.052 U	0.039 I	0.036 U	0.012 U	0.012 U	0.012 U	0.012 U	0.097 I
Nickel <sup>1</sup>	100	ug/L	1.5 U	2.4 I	2 U	1.2 I	1 U	1.6 I	1.5 U	1.5 U
Selenium <sup>1</sup>	50	ug/L	2.8 U	4 U	4 U	3.1 U	3.1 U	3.1 U	4.2 U	4.2 U
Silver <sup>2</sup>	100	ug/L	1.2 U	1.4 U	1.4 U	0.93 U	0.93 U	0.93 U	0.91 U	0.91 U
Sodium <sup>1</sup>	160	mg/L	73	79	69	57	29	68	83	90
Thallium <sup>1</sup>	2	ug/L	0.3 U	0.254 U	0.25 U	0.12 U	0.12 U	0.19 IV	0.12 U	0.12 U
Vanadium <sup>3</sup>	49	ug/L	2.9 I	2.6 I	2.6 I	1.3 I	0.86 I	1.3 I	2.9 I	2.7 I
Zinc <sup>2</sup>	5,000	ug/L	7.8 U	5.6 I	39	3.5 U	9.6 I	5.8 I	6 I	6.1 I
Chloride <sup>2</sup>	250	mg/L	130	140	150	120	110	130	130	130
Sulfate <sup>2</sup>	250	mg/L	3	6	16	50	58	44	26	17
Total Dissolved Solids <sup>2</sup>	500	mg/L	770	850	850	830	840	720	950	1000
Nitrogen, Nitrate <sup>1</sup>	10	mg/L	0.16 I	0.016 U	0.042 I	0.091	0.19	0.018 U	0.046 U	0.046 U
Nitrogen Ammonia (As N) <sup>3</sup>	2.8	mg/L	13	17	15	13	0.18	14	12	14
Field Parameters:			_						1	
Specific Conductance (Field)	NA	umho/cm	1338	1392	1411	1297	611	1362	1620	1583
pH (Field) <sup>2</sup>	6.5-8.5	Unit	6.26	6.09	6.21	5.82	5.95	6.00	6.08	6.13
Temperature (Field)	NA	Deg C	22.5	23	22.2	23.3	21.78	22.92	22.03	22.94
Turbidity (Field)	NA	NTU	1.6	2.3	13	2.77	7.1	9.83	4.22	10
Dissolved Oxygen (Field) Organic Parameters:	NA	mg/L	0.79	0.48	0.73	1.36	5.08	2.61	0.54	4.38
1.1-Dichloroethane <sup>3</sup>	70	ug/L	0.3 U	0.3 U	0.3 U	0.26 U	0.26 U	0.26 U	0.81 U	0.81 U
1,2-Dibromo-3-chloropropane <sup>1</sup>	0.2	ug/L								
1,2-Diolino-3-cinoropropane	600		0.0041 U 0.1 U	0.0041 U 0.1 U	0.0041 U 0.1 U	0.0014 U 0.19 U	0.0055 U 0.19 U	0.0055 U 0.19 U	0.006 U 0.86 U	0.006 U 0.86 U
2-Butanone (MEK) <sup>3</sup>	4,200	ug/L ug/L								
2-Butanone (MEK) 2-Hexanone (MBK) <sup>3</sup>	280	ug/L ug/L	0.29 U	0.29 U	0.29 U	1.8 U	1.8 U	1.8 U	0.65 U	0.65 U
Acetone <sup>3</sup>	6300	ug/L ug/L	0.26 U	0.26 U	0.26 U	0.28 U	0.28 U	0.28 U	0.59 U	0.59 U
	1	ug/L ug/L	43 I	0.91 U	0.91 U	3.7 U	3.7 U	3.7 U	2.5 U	2.5 U
Benzene <sup>1</sup>	700		0.31 U		0.31 U	0.23 U	0.23 U	0.23 U	0.16 U	0.16 U
Carbon Disulfide <sup>3</sup>	100	ug/L	0.25 U	0.25 U	0.25 U	0.49 U	0.49 U	0.49 U	0.81 U	0.81 U
Chlorobenzene <sup>1</sup>			2				0.15 U	0.15 U	1	0.17 U
Chloroethane <sup>3</sup>	12		0.16 U		0.16 U	0.51 U	0.51 U	0.51 U	0.52 U	0.52 U
cis-1,2-Dichloroethene <sup>1</sup>	70		0.15 U		0.15 U	0.17 U	0.17 U	0.17 U	0.92 U	0.92 U
Ethylbenzene <sup>1</sup>	700 / 30		0.12 U				0.2 U	0.2 U	0.47 U	0.47 U
Methylene Chloride <sup>1</sup>	5	ug/L	0.26 U		0.26 U	2 U	2 U	2 U	0.33 U	0.33 U
Toluene <sup>1</sup>	1,000	ug/L	0.1 U		0.1 U	0.35 U	0.35 U	0.35 U	0.15 U	0.15 U
Vinyl Chloride <sup>1</sup> Total Xylenes <sup>1</sup>	1	ug/L	0.14 U	0.14 U	0.14 U	0.43 U	0.43 U	0.43 U	0.37 U	0.37 U
	10,000	ug/L	0.29 U	0.29 U	0.29 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U

# Notes:

 $MCL = Maximum\ Contaminant\ Level.$ 

NA = Not Available.

--- = Not Tested.

- 1 Parameter MCL is a Primary Drinking Water Standard (62-550 F.A.C.).
- 2 Parameter MCL is a Secondary Drinking Water Standard (62-550 F.A.C.).
- 3 Parameter MCL is a Groundwater Clean-up Target Level (62-777 F.A.C.).
- I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- $\,U\,$  Indicates that the compound was analysed for but not detected.
- V Indicated that the analyte was detected in both the sample and the associated method blank.
- \* Arsenic had a MCL of 50 ug/l until December 2004 and a MCL of 10 ug/l after January  $f^t$ , 2005.

### Zone 1 and 2 Monitoring Well B-5 Data Summary

					DATE C	F SAMPI	AMPLE COLLECTION Fall Spring Fall Spring				
PARAMETER	MCL	UNITS	Spring		Spring	Fall	Spring	Fall	Spring		
			2003	Fall 2003	2004	2004	2005	2005	2006	Fall 2006	
Inorganic Parameters:		ı or	1	ı		ı	ı		ı		
Antimony	6	ug/L	0.57 U	0.348 U	0.35 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	
Arsenic <sup>1</sup>	50 / 10*	ug/L	2.7 U	1.97 U	2 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	
Barium <sup>1</sup>	2,000	ug/L	110.0	97.0	85.0	98.0	86.0	87.0	92.0	96.0	
Beryllium <sup>1</sup>	4	ug/L	0.079 U	0.116 U	0.12 U	0.056 U	0.11 IV	0.056 U	0.16 U	0.16 U	
Cadmium <sup>1</sup>	5	ug/L	0.45 U	0.239 U	0.24 U	0.34 U	0.34 U	0.34 U	0.36 U	0.36 U	
Chromium <sup>1</sup>	100	ug/L	0.66 U	0.597 U	0.6 U	0.6 U	0.6 U	0.6 U	0.65 U	0.65 U	
Cobalt <sup>3</sup>	140	ug/L	4.5 I	1.47 U	1.5 U	10 I	3.3 I	1.6 U	1.5 I	1 U	
Copper <sup>2</sup>	1,000	ug/L	2.7 I	0.575 U	0.58 U	0.47 U	0.47 U	0.47 U	2.1 U	2.1 U	
Iron <sup>2</sup>	300	ug/L	18000	17000	17000	16000	17000	16000	17000	18000	
Lead <sup>1</sup>	15	ug/L	6.6	1.78 U	1.8 U	2.2 U	2.2 U	2.2 U	2.6 U	2.6 U	
Mercury <sup>1</sup>	2	ug/L	0.052 U	0.038 I	0.036 U	0.012 U	0.012 U	0.033 IV	0.016 I	0.016 I	
Nickel <sup>1</sup>	100	ug/L	1.5 U	2.03 U	2 U	1 U	1 U	1 U	1.5 U	1.5 U	
Selenium <sup>1</sup>	50	ug/L	2.8 U	4 U	4 U	3.1 U	3.1 U	3.1 U	4.2 U	4.2 U	
Silver <sup>2</sup>	100	ug/L	1.2 U	1.4 U	1.4 U	0.93 U	0.93 U	0.93 U	0.91 U	0.91 U	
Sodium <sup>1</sup>	160	mg/L	47.0	38.0	32.0	44.0	34.0	33.0	34.0	47.0	
Thallium <sup>1</sup>	2	ug/L	0.3 U	0.3 I	0.25 U	0.13 VI	0.12 U	0.12 U	0.12 U	0.12 U	
Vanadium <sup>3</sup>	49	ug/L	0.63 I	0.3 I 0.4 U	0.23 U						
Zinc <sup>2</sup>	5,000	ug/L				0.86 I	0.73 U	0.73 U	1.6 U	1.6 U	
Chloride <sup>2</sup>	250	mg/L	7.8 U	5.6 I	8 I	3.5 U	3.7 I	10 I	3.2 U	3.2 U	
Sulfate <sup>2</sup>	250		35.0	32.0	30.0	34.0	27.0	28.0	28.0	43.0	
	500	mg/L mg/L	4.1	11.0	20.0	9.1	16.0	25.0	20.0	2.5	
Total Dissolved Solids <sup>2</sup>			530.0	550.0	530.0	550.0	510.0	520.0	500.0	680.0	
Nitrogen, Nitrate <sup>1</sup>	10 2.8	mg/L	0.03 I	0.016 U	0.2	0.0091 U	0.018 U	0.05 I	0.029 I	0.018 U	
Nitrogen Ammonia (As N) <sup>3</sup>	2.8	mg/L	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	
Field Parameters: Specific Conductance (Field)	NA	umho/cm	858.0	879.0	856.0	919.0	922.0	829.0	1656.0	1064.0	
pH (Field) <sup>2</sup>	6.5-8.5	Unit	6.5	6.4	6.6	6.0	6.4	6.6	6.7	6.4	
Temperature (Field)	NA	Deg C	22.5	24.0	22.5	23.9	22.4	26.4	22.7	23.4	
Turbidity (Field)	NA	NTU	4.3	1.7	6.6	6.4	4.50	2.61	11.80	1.42	
Dissolved Oxygen (Field)	NA	mg/L	0.5	0.7	0.4	1.3	2.88	1.02	1.12	0.27	
Organic Parameters:											
1,1-Dichloroethane <sup>3</sup>	70	ug/L	0.3 U	0.3 U	0.3 U	0.26 U	0.26 U	0.26 U	0.81 U	0.81 U	
1,2-Dibromo-3-chloropropane <sup>1</sup>	0.2	ug/L	0.0041 U	0.0041 U	0.0041 U	0.0014 U	0.0055 U	0.0055 U	0.006 U	0.006 U	
1,2-Dichlorobenzene <sup>1</sup>	600	ug/L	0.1 U	0.1 U	0.1 U	0.19 U	0.19 U	0.19 U	0.86 U	0.86 U	
2-Butanone (MEK) <sup>3</sup>	4,200	ug/L	0.29 U	0.29 U	0.29 U	1.8 U	1.8 U	1.8 U	0.65 U	0.65 U	
2-Hexanone (MBK) <sup>3</sup>	280	ug/L	0.26 U	0.26 U	0.26 U	0.28 U	0.28 U	0.28 U	0.59 U	0.59 U	
Acetone <sup>3</sup>	6300	ug/L	0.91 U	0.91 U	0.91 U	3.7 U	3.7 U	3.7 U	2.5 U	2.5 U	
Benzene <sup>1</sup>	1	ug/L	0.31 U	0.31 U	0.31 U	0.23 U	0.23 U	0.23 U	0.16 U	0.16 U	
Carbon Disulfide <sup>3</sup>	700	ug/L	0.25 U	0.25 U	0.25 U	0.49 U	0.49 U	0.49 U	0.81 U	0.81 U	
Chlorobenzene <sup>1</sup>	100	ug/L	0.1 U	0.1 U	0.1 U	0.15 U	0.15 U	0.15 U	0.17 U	0.17 U	
Chloroethane <sup>3</sup>	12	ug/L	0.16 U	0.16 U	0.16 U	0.51 U	0.51 U	0.51 U	0.52 U	0.52 U	
cis-1,2-Dichloroethene <sup>1</sup>	70	ug/L	0.15 U	0.15 U	0.36 I	0.17 U	0.17 U	0.36 I	0.92 U	0.92 U	
Ethylbenzene <sup>1</sup>	700 / 30	ug/L	0.12 U	0.12 U	0.12 U	0.2 U	0.2 U	0.2 U	0.47 U	0.47 U	
Methylene Chloride <sup>1</sup>	5	ug/L	0.12 U	0.12 U	0.12 U	2 U	2 U	2 U	0.47 U	0.33 U	
Toluene <sup>1</sup>	1,000	ug/L	0.1 U	0.1 U	0.1 U	0.35 U	0.35 U	0.35 U	0.33 U	0.15 U	
Vinyl Chloride <sup>1</sup>	1	ug/L	0.14 U	0.14 U	1.3	0.43 U	2.6	1.2	1.8	0.13 U	
Total Xylenes <sup>1</sup>	10,000	ug/L	0.14 U	0.14 U	0.29 U	0.43 U	0.32 U	0.32 U	0.32 U	0.37 U	
Notes:	10,000	W.D. 2	U.29 U	0.29 U	U.29 U	U.32 U	0.32 U	0.32 U	0.32 0	0.32 U	

## Notes:

MCL = Maximum Contaminant Level.

NA = Not Available.

--- = Not Tested.

- 1 Parameter MCL is a Primary Drinking Water Standard (62-550 F.A.C.).
- 2 Parameter MCL is a Secondary Drinking Water Standard (62-550 F.A.C.).
- 3 Parameter MCL is a Groundwater Clean-up Target Level (62-777 F.A.C.).
- I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- U Indicates that the compound was analysed for but not detected.
- V Indicated that the analyte was detected in both the sample and the associated method blank.
- \* Arsenic had a MCL of 50 ug/l until December 2004 and a MCL of 10 ug/l after January  $f^t$ , 2005.

### Zone 1 and 2 Monitoring Well B8-1 Data Summary

					DATE O	F SAMPI	LE COLL	ECTION		
PARAMETER	MCL	UNITS	Spring		Spring	Fall	Spring	Fall	Spring	
			2003	Fall 2003	2004	2004	2005	2005	2006	Fall 2006
Inorganic Parameters:	6	ис/Г	0.=							ı
Antimony		ug/L	0.57 U	0.348 U		0.4 U	0.4 U	0.4 U		
Arsenic <sup>1</sup>	50 / 10*	ug/L	2.7 U	1.97 U		2.8 U	2.8 U	2.8 U		
Barium <sup>1</sup>	2,000	ug/L	23.0	20.0		23.0	17.0	22.0		
Beryllium	4	ug/L	0.079 U	0.116 U		0.056 U	0.056 U	0.056 U		
Cadmium <sup>1</sup>	5	ug/L	0.45 U	0.239 U		0.34 U	0.34 U	0.34 U		
Chromium <sup>1</sup>	100	ug/L	0.66 U	0.597 U		0.6 U	0.6 U	0.63 I		
Cobalt <sup>3</sup>	140	ug/L	2.6 I	1.47 U		4.2 I	2.4 I	1.6 U		
Copper <sup>2</sup>	1,000	ug/L	1.1 I	1.1 I		0.47 U	1.4 I	0.47 U		
Iron <sup>2</sup>	300	ug/L	2200	37 I		39 I	170	320		
Lead <sup>1</sup>	15	ug/L	1.5 U	1.78 U		2.2 U	2.2 U	2.2 U		
Mercury <sup>1</sup>	2	ug/L	0.052 U	0.046 I		0.012 U	0.012 U	0.012 U		
Nickel <sup>1</sup>	100	ug/L	1.5 U	2.2 I		1 U	1 U	1 U		
Selenium <sup>1</sup>	50	ug/L	2.8 U	4 U		3.1 U	4.4 I	3.1 U		
Silver <sup>2</sup>	100	ug/L	1.2 U	1.4 U		0.93 U	0.93 U	0.93 U		
Sodium <sup>1</sup>	160	mg/L	28.0	27.0		29.0	29.0	32.0		
Thallium <sup>1</sup>	2	ug/L								
Vanadium <sup>3</sup>	49	ug/L ug/L	0.3 U	0.254 U		0.12 U	0.16 I	0.12 U		
Zinc <sup>2</sup>	5,000	ug/L ug/L	0.38 I	0.4 U		0.73 U	0.73 U	0.73 U		
Chloride <sup>2</sup>	250	mg/L	7.8 U	2.3 I		6.5 I	32.0	3.5 U		
			29.0	28.0		26.0	28.0	32.0		
Sulfate <sup>2</sup>	250	mg/L	21.0	21.0		25.0	25.0	21.0		
Total Dissolved Solids <sup>2</sup>	500	mg/L	300	290		300	300	240		
Nitrogen, Nitrate <sup>1</sup>	10	mg/L	0.053 I	0.016 U		0.038 VI	0.0091 U	0.0091 U		
Nitrogen Ammonia (As N) <sup>3</sup>	2.8	mg/L	1.3	2.9		3.0	3.9	1.6		
Field Parameters:	374	1 /	407.0	511.0		(20.0	522.0	512.0		
Specific Conductance (Field)	NA 6.5-8.5	umho/cm Unit	497.0	511.0		620.0	522.0	513.0		
pH (Field) <sup>2</sup>			6.7	6.5		6.1	6.2	6.5		
Temperature (Field) Turbidity (Field)	NA NA	Deg C NTU	24.4 1.30	25.6 0.50		26.1 0.97	21.5	26.1 0.55		
Dissolved Oxygen (Field)	NA NA	mg/L	0.77	1.08		1.47	1.73	0.33		
Organic Parameters:	1111	mg/L	0.77	1.00		1.47	1.73	0.00		
1,1-Dichloroethane <sup>3</sup>	70	ug/L	0.3 U	0.3 U		0.26 U	0.26 U	0.26 U		
1,2-Dibromo-3-chloropropane <sup>1</sup>	0.2	ug/L		0.0041 U		0.0014 U				
1,2-Dichlorobenzene <sup>1</sup>	600	ug/L	0.1 U	0.1 U		0.19 U	0.19 U	0.19 U		
2-Butanone (MEK) <sup>3</sup>	4,200	ug/L	0.29 U	0.29 U		1.8 U	1.8 U	1.8 U		
2-Hexanone (MBK) <sup>3</sup>	280	ug/L	0.26 U	0.29 U		0.28 U	0.28 U	0.28 U		
Acetone <sup>3</sup>	6300	ug/L	0.20 U	0.20 U						
Benzene <sup>1</sup>	1	ug/L	0.91 U	0.91 U		3.7 U 0.23 U	3.7 U 0.23 U	3.7 U 0.23 U		
Carbon Disulfide <sup>3</sup>	700	ug/L								
Chlorobenzene <sup>1</sup>	100	ug/L ug/L	0.25 U	0.25 U		0.49 U	1.0	0.49 U		
	12	ug/L ug/L	0.1 U	0.1 U		0.15 U	0.15 U	0.15 U		
Chloroethane <sup>3</sup>	70		0.16 U	0.16 U		0.51 U	0.51 U	0.51 U		
cis-1,2-Dichloroethene <sup>1</sup>		ug/L	0.15 U	0.15 U		0.17 U	0.17 U	0.17 U		
Ethylbenzene <sup>1</sup>	700 / 30	ug/L	0.12 U	0.12 U		0.2 U	0.2 U	0.2 U		
Methylene Chloride <sup>1</sup>	5	ug/L	0.26 U	0.26 U		2 U	2 U	2 U		
Toluene <sup>1</sup>	1,000	ug/L	0.1 U	0.1 U		0.35 U	0.35 U	0.35 U		
Vinyl Chloride <sup>1</sup>	1	ug/L	0.14 U	0.14 U		0.43 U	0.43 U	0.43 U		
Total Xylenes <sup>1</sup>	10,000	ug/L	0.29 U	0.29 U		0.46 I	0.32 U	0.32 U		

# Notes:

MCL = Maximum Contaminant Level.

NA = Not Available.

--- = Not Tested.

- 1 Parameter MCL is a Primary Drinking Water Standard (62-550 F.A.C.).
- 2 Parameter MCL is a Secondary Drinking Water Standard (62-550 F.A.C.).
- 3 Parameter MCL is a Groundwater Clean-up Target Level (62-777 F.A.C.).
- I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- U Indicates that the compound was analysed for but not detected.
- V Indicated that the analyte was detected in both the sample and the associated method blank.
- \* Arsenic had a MCL of 50 ug/l until December 2004 and a MCL of 10 ug/l after January  $f^t$ , 2005.

### Zone 1 and 2 Monitoring Well B11 Data Summary

	MCL	UNITS	DATE OF SAMPLE COLLECTION							
PARAMETER			Spring		Spring	Fall	Spring	Fall	Spring	
			2003	Fall 2003	2004	2004	2005	2005	2006	Fall 2006
Inorganic Parameters:		~	1			1	1	1	1	
Antimony <sup>1</sup>	6	ug/L	0.57 U	0.348 U	0.35 U	0.4 U	0.4 U	0.51 I	0.4 U	0.4 U
Arsenic <sup>1</sup>	50 / 10*	ug/L	2.7 U	1.97 U	2 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U
Barium <sup>1</sup>	2,000	ug/L	51.0	49.0	55.0	73.0	76.0	55.0	36.0	39.0
Beryllium	4	ug/L	0.097 I	0.22 I	0.38 I	0.63 I	0.54 I	0.54 I	0.51 I	0.72 I
Cadmium <sup>1</sup>	5	ug/L	0.45 U	0.239 U	0.24 U	0.34 U	0.34 U	0.34 U	0.36 U	0.36 U
Chromium <sup>1</sup>	100	ug/L	2.7 I	2.6 I	2.7 I	3.4 I	3 I	2.8 I	4.9 I	6.1
Cobalt <sup>3</sup>	140	ug/L	1.2 U	1.47 U	1.5 U	1.7 I	1.8 I	1.6 U	1 U	1.1 I
Copper <sup>2</sup>	1,000	ug/L	0.96 I	1.1 I	0.72 VI	0.47 U	0.47 U	0.47 U	2.1 U	2.1 U
Iron <sup>2</sup>	300	ug/L	3200	3100	3900	6200 V	5500	3900	3200	2800
Lead <sup>1</sup>	15	ug/L	1.5 U	1.78 U	1.8 U	2.2 U	2.2 U	2.2 U	2.6 U	2.6 U
Mercury <sup>1</sup>	2	ug/L	0.052 U	0.047 I	0.036 U	0.012 U	0.012 U	0.014 IV	0.053 VI	0.012 U
Nickel <sup>1</sup>	100	ug/L	2.2 I	2.03 U	2 U	1.3 I	1.4 I	1 U	1.5 U	2.4 I
Selenium <sup>1</sup>	50	ug/L	2.8 U	4 U	4 U	3.1 U	3.1 U	3.1 U	4.2 U	4.2 U
Silver <sup>2</sup>	100	ug/L	1.2 U	1.4 U	1.4 U	0.93 U	0.93 U	0.93 U	0.91 U	1.3 I
Sodium <sup>1</sup>	160	mg/L	8.4	8.4	11.0	16 V	13.0	9.7	9.7	9.6
Thallium <sup>1</sup>	2	ug/L	0.3 U	0.3 I	0.25 U	0.12 U				
Vanadium <sup>3</sup>	49	ug/L	14.0	14.0	14.0	15.0	18.0	18.0	29.0	32.0
Zine <sup>2</sup>	5,000	ug/L	7.8 U	2.33 U	2.3 U	3.5 U	3.5 U	5 I	3.4 I	14 I
Chloride <sup>2</sup>	250	mg/L	7	6	11	15	17	12	9	9
Sulfate <sup>2</sup>	250	mg/L	25	25	35	44	35	19	7	5
Total Dissolved Solids <sup>2</sup>	500	mg/L	130	140	140	160	180	160	100	96
Nitrogen, Nitrate <sup>1</sup>	10	mg/L	0.032 U	0.016 U	0.0091 U	0.017 I	0.018 U	0.021 I	0.015 I	0.150
Nitrogen Ammonia (As N) <sup>3</sup>	2.8	mg/L	0.5	0.48	0.5	0.36	0.53	0.47	0.22	1
Field Parameters:										
Specific Conductance (Field)	NA	umho/cm	216	200	191	278	234	164	230	108
pH (Field) <sup>2</sup>	6.5-8.5	Unit	5.4	5.3	5.1	5.4	5.0	5.1	4.9	4.4
Temperature (Field)	NA	Deg C	21.7	25.0	21.5	24.3	22.7	26.20	22.23	26.5
Turbidity (Field)	NA	NTU	1.50	0.90	1.20	2.41	0.75	0.59	0.72	1.51
Dissolved Oxygen (Field) Organic Parameters:	NA	mg/L	0.54	0.55	0.36	1.17	0.24	0.61	1.12	0.61
1,1-Dichloroethane <sup>3</sup>	70	ug/L	0.3 U	0.3 U	0.3 U	0.26 U	0.26 U	0.26 11	0.81 U	0.81 U
1,2-Dibromo-3-chloropropane <sup>1</sup>	0.2	ug/L						0.26 U		
1,2-Dichlorobenzene <sup>1</sup>	600	ug/L ug/L	0.0041 U	0.0041 U	0.0041 U	0.0014 U	0.0055 U	0.0055 U	0.006 U	0.006 U
	4,200	ug/L ug/L	0.1 U	0.1 U	0.1 U	0.19 U	0.19 U	0.19 U	0.86 U	0.86 U
2-Butanone (MEK) <sup>3</sup>	280	ug/L ug/L	0.29 U	0.29 U	0.29 U	1.8 U	1.8 U	1.8 U	0.65 U	0.65 U
2-Hexanone (MBK) <sup>3</sup>	6300		0.26 U	0.26 U	0.26 U	0.28 U	0.28 U	0.28 U	0.59 U	0.59 U
Acetone <sup>3</sup>	1	ug/L	0.91 U	0.91 U	0.91 U	3.7 U	3.7 U	3.7 U	2.5 U	2.5 U
Benzene <sup>1</sup>	700	ug/L	0.31 U	0.31 U	0.31 U	0.23 U	0.23 U	0.23 U	0.16 U	0.16 U
Carbon Disulfide <sup>3</sup>		ug/L	0.25 U	0.25 U	0.25 U	0.49 U	0.49 U	0.49 U	0.81 U	0.81 U
Chlorobenzene <sup>1</sup>	100	ug/L	0.1 U	0.1 U	0.1 U	0.15 U	0.15 U	0.15 U	0.17 U	0.17 U
Chloroethane <sup>3</sup>	12	ug/L	0.16 U	0.16 U	0.16 U	0.51 U	0.51 U	0.51 U	0.52 U	0.52 U
cis-1,2-Dichloroethene <sup>1</sup>	70	ug/L	0.15 U	0.15 U	0.15 U	0.17 U	0.17 U	0.17 U	0.92 U	0.92 U
Ethylbenzene <sup>1</sup>	700 / 30	ug/L	0.12 U	0.12 U	0.12 U	0.2 U	0.2 U	0.2 U	0.47 U	0.47 U
Methylene Chloride <sup>l</sup>	5	ug/L	0.26 U	0.26 U	0.26 U	2 U	2 U	2 U	0.33 U	0.33 U
Toluene <sup>1</sup>	1,000	ug/L	0.1 U	0.1 U	0.1 U	0.35 U	0.35 U	0.35 U	0.15 U	0.15 U
Vinyl Chloride <sup>1</sup>	1	ug/L	0.14 U	0.14 U	0.14 U	0.43 U	0.43 U	0.43 U	0.37 U	0.37 U
Total Xylenes <sup>1</sup>	10,000	ug/L	0.29 U	0.29 U	0.29 U	0.32 U				

## Notes:

MCL = Maximum Contaminant Level.

NA = Not Available.

--- = Not Tested.

- 1 Parameter MCL is a Primary Drinking Water Standard (62-550 F.A.C.).
- 2 Parameter MCL is a Secondary Drinking Water Standard (62-550 F.A.C.).
- 3 Parameter MCL is a Groundwater Clean-up Target Level (62-777 F.A.C.).
- I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- U Indicates that the compound was analysed for but not detected.
- V Indicated that the analyte was detected in both the sample and the associated method blank.
- \* Arsenic had a MCL of 50 ug/l until December 2004 and a MCL of 10 ug/l after January  $f^t$ , 2005.

#### 2007 Biennial, Tomoka Farms, Volusia County, Florida

#### Zone 1 and 2 Monitoring Well B33-2 Data Summary

					DATE C	F SAMPI	E COLLI	ECTION		
PARAMETER	MCL	UNITS	Spring 2003	Fall 2003	Spring 2004	Fall 2004	Spring 2005	Fall 2005	Spring 2006	Fall 2006
Inorganic Parameters:	1	1						1		
Antimony	6	ug/L			0.55 I	0.63 I	0.62 I	0.69 I	0.6 I	2 U
Arsenic <sup>1</sup>	50 / 10*	ug/L			3.1 I	17.0	10.0	14.0	8.5 I	7.9 I
Barium <sup>1</sup>	2,000	ug/L			130 V	160	120	130	150	290
Beryllium <sup>1</sup>	4	ug/L			0.12 U	0.14 I	0.056 U	0.056 U	0.16 U	0.16 U
Cadmium <sup>1</sup>	5	ug/L			0.24 U	0.34 U	0.34 U	0.34 U	0.36 U	0.36 U
Chromium <sup>1</sup>	100	ug/L			12.0	16.0	9.9	13.0	12.0	20.0
Cobalt <sup>3</sup>	140	ug/L			3.8 I	20.0	9.6 I	9.7 I	6.7 I	13.0
Copper <sup>2</sup>	1,000	ug/L			2.9 VI	1.5 I	1.2 I	1.7 I	2.1 U	2.1 U
Iron <sup>2</sup>	300	ug/L			10000	30000 V	17000	16000	20000	23000
Lead <sup>1</sup>	15	ug/L			2 I	3.3 I	2.2 U	2.2 U	2.6 U	2.6 U
Mercury <sup>1</sup>	2	ug/L			0.036 U	0.019 I	0.012 U	0.03 IV	0.022 I	0.17 I
Nickel <sup>1</sup>	100	ug/L			45	63	52	48	44	96
Selenium <sup>1</sup>	50	ug/L			4 U	3.1 U	3.1 U	3.1 U	4.5 I	6.3 I
Silver <sup>2</sup>	100	ug/L			1.4 U	0.93 U	0.93 U	0.93 U	0.91 U	1.1 I
Sodium <sup>1</sup>	160	mg/L			340	440	450	490	420 V	980
Thallium <sup>1</sup>	2	ug/L			0.35 I	0.12 U	0.12 U	0.12 U	0.12 U	0.58 U
Vanadium <sup>3</sup>	49	ug/L			8 I	25.0	11.0	13.0	15.0	16.0
Zinc <sup>2</sup>	5,000	ug/L			9.2 VI	12 I	6.6 I	13 I	6.5 I	11 I
Chloride <sup>2</sup>	250	mg/L			51	580	520	560	530	1600
Sulfate <sup>2</sup>	250	mg/L			1.8	4.7 I	15.0	0.54 I	1.0	19.0
Total Dissolved Solids <sup>2</sup>	500	mg/L			1400	2000	1800	1800	1800	3900
Nitrogen, Nitrate <sup>1</sup>	10	mg/L			0.0042 U	0.0042 U	0.091 U	0.046 U	0.018 I	0.18 U
Nitrogen Ammonia (As N) <sup>3</sup>	2.8	mg/L			7.4	6.7	1.2	1.1	1.0	0.5
Field Parameters:	!	<u> </u>						l.		
Specific Conductance (Field)	NA	umho/cm			3201	4122	2821	2662	5492	6400
pH (Field) <sup>2</sup>	6.5-8.5	Unit			6.5	6.2	6.7	6.6	6.6	6.4
Temperature (Field)	NA	Deg C			24.9	23.8	21.2	20.10	23.19	25.1
Turbidity (Field)	NA NA	NTU			31.00	44.20	23.00	22.50	19.50	8.12
Dissolved Oxygen (Field) Organic Parameters:	NA	mg/L			0.23	1.36	0.28	0.83	0.44	1.10
1.1-Dichloroethane <sup>3</sup>	70	ug/L			0.3 U	0.26 U	0.26 U	0.26 U	0.81 U	0.81 U
1,2-Dibromo-3-chloropropane <sup>1</sup>	0.2	ug/L			0.0041 U	0.20 U	0.20 U	0.0055 U	0.006 U	0.006 U
1,2-Dichlorobenzene <sup>1</sup>	600	ug/L			0.0041 U	0.19 U	0.011 U	0.19 U	0.86 U	0.86 U
2-Butanone (MEK) <sup>3</sup>	4,200	ug/L			0.1 U	1.8 U	1.8 U	1.8 U	0.65 U	0.65 U
2-Hexanone (MBK) <sup>3</sup>	280	ug/L			0.29 U	0.28 U	0.28 U	0.28 U	0.65 U	0.65 U
Acetone <sup>3</sup>	6300	ug/L ug/L			0.26 U			3.7 U	4 I	2.5 U
Benzene <sup>1</sup>	1	ug/L ug/L			0.91 U	11.0 0.23 U	8.4 I 0.23 U	0.23 U	0.16 U	0.16 U
Carbon Disulfide <sup>3</sup>	700	ug/L ug/L				0.23 U 0.49 U	0.23 U 0.49 U	0.23 U 0.49 U		
Chlorobenzene <sup>1</sup>	100	ug/L ug/L			0.25 U				0.81 U	0.81 U
Chloroethane <sup>3</sup>	12	ug/L ug/L			0.1 U	0.15 U 0.51 U	0.15 U	0.15 U	0.17 U	0.17 U
cis-1,2-Dichloroethene <sup>1</sup>	70	ug/L ug/L			0.16 U		0.51 U	0.51 U	0.52 U	0.52 U
Ethylbenzene <sup>1</sup>	700 / 30	ug/L ug/L			0.15 U	0.17 U	0.17 U	0.17 U	0.92 U	0.92 U
Methylene Chloride <sup>1</sup>	5	ug/L ug/L			0.12 U	0.2 U	0.2 U	0.2 U	0.47 U	0.47 U
	1,000	ug/L ug/L			0.26 U	2 U	2 U	2 U	0.33 U	0.33 U
Toluene <sup>1</sup>	1,000				0.1 U	0.35 U	0.35 U	0.35 U	0.15 U	0.15 U
Vinyl Chloride <sup>1</sup>	10,000	ug/L			0.14 U	0.43 U	0.43 U	0.43 U	0.37 U	0.37 U
Total Xylenes <sup>1</sup>	10,000	ug/L			0.29 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U

#### Notes:

MCL = Maximum Contaminant Level.

NA = Not Available.

--- = Not Tested.

Shaded = Sample result above the MCL.

- 1 Parameter MCL is a Primary Drinking Water Standard (62-550 F.A.C.).
- 2 Parameter MCL is a Secondary Drinking Water Standard (62-550 F.A.C.).
- 3 Parameter MCL is a Groundwater Clean-up Target Level (62-777 F.A.C.).
- I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- U Indicates that the compound was analysed for but not detected.
- V Indicated that the analyte was detected in both the sample and the associated method blank.
- \* Arsenic had a MCL of 50 ug/l until December 2004 and a MCL of 10 ug/l after January  $f^t$ , 2005.

#### 2007 Biennial, Tomoka Farms, Volusia County, Florida

#### Zone 1 and 2 Monitoring Well MO5-B Data Summary

				DATE OF SAMPLE COLLECTION						
PARAMETER	MCL	UNITS	Spring		Spring	Fall	Spring	Fall	Spring	
			2003	Fall 2003	2004	2004	2005	2005	2006	Fall 2006
Inorganic Parameters:				I		I		ı	ı	
Antimony	6	ug/L	0.57 U	0.348 U	0.35 U	0.4 U	0.4 U	0.4 U	0.8 U	0.4 U
Arsenic <sup>1</sup>	50 / 10*	ug/L	2.7 U	1.97 U	2 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U
Barium	2,000	ug/L	180.0	200.0	220 V	220.0	160.0	210.0	220.0	200.0
Beryllium <sup>1</sup>	4	ug/L	0.079 U	0.116 U	0.12 U	0.056 U	0.062 I	0.056 U	0.16 U	0.16 U
Cadmium	5	ug/L	0.45 U	0.239 U	0.24 U	0.34 U	0.34 U	0.34 U	0.36 U	0.36 U
Chromium <sup>1</sup>	100	ug/L	1.5 I	1.2 I	1.4 I	1.4 I	0.74 I	2.2 I	2.9 I	2.2 I
Cobalt <sup>3</sup>	140	ug/L	5 I	1.47 U	1.5 U	14.0	8 I	1.6 U	1 U	1 U
Copper <sup>2</sup>	1,000	ug/L	1.6 I	0.78 I	0.58 U	0.47 U	3.6 I	2.2 I	2.1 U	2.1 U
Iron <sup>2</sup>	300	ug/L	11000	15000	18000	16000	1300	16000	17000	13000
Lead <sup>1</sup>	15	ug/L	1.6 I	1.78 U	1.8 U	2.2 U	2.2 U	2.2 U	2.6 U	2.6 U
Mercury <sup>1</sup>	2	ug/L	0.052 U	0.036 U	0.036 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Nickel <sup>1</sup>	100	ug/L	1.5 U	2.03 U	2 U	1.3 I	1 U	2.2 I	1.8 I	1.5 U
Selenium <sup>1</sup>	50	ug/L	2.8 U	4 U	4 U	3.1 U	3.1 U	3.1 U	4.2 U	4.2 U
Silver <sup>2</sup>	100	ug/L	1.2 U	1.4 U	1.4 U	0.93 U	0.93 U	0.93 U	0.91 U	0.91 U
Sodium <sup>1</sup>	160	mg/L	34.0	40.0	47.0	54.0	46.0	65.0	82.0	67.0
Thallium <sup>1</sup>	2	ug/L	0.3 U	0.254 U	0.25 U	0.12 U	0.12 U	0.12 U	0.23 U	0.12 U
Vanadium <sup>3</sup>	49	ug/L	1.2 I	0.81 I	1.1 I	0.94 I	0.73 U	1.3 I	1.6 U	1.7 I
Zinc <sup>2</sup>	5,000	ug/L	7.8 U	2.33 U	71.0	3.5 U	30.0	4.4 I	7.3 I	6.4 I
Chloride <sup>2</sup>	250	mg/L	110	160	200	190	160	200	200	200
Sulfate <sup>2</sup>	250	mg/L	140	170	200	190	140	160	120	74
Total Dissolved Solids <sup>2</sup>	500	mg/L	1400	950	1000	1000	800	770	1100	920
Nitrogen, Nitrate <sup>1</sup>	10	mg/L	0.032 U	0.016 U	0.018 U	0.0091 U	2.0	0.018 U	0.072 I	0.6
Nitrogen Ammonia (As N) <sup>3</sup>	2.8	mg/L	1.8	1.0	1.1	1.0	0.1	1.0	0.8	0.9
Field Parameters:		!								
Specific Conductance (Field)	NA	umho/cm	982	1143	1308	1234	1141	1221	1360	1174
pH (Field) <sup>2</sup>	6.5-8.5	Unit	6.1	5.8	5.8	6.0	5.8	5.5	5.9	5.9
Temperature (Field)	NA	Deg C	22.3	22.5	22.2	22.8	21.5	23.0	21.6	23.1
Turbidity (Field)	NA	NTU	0.85	0.45	3.40	0.58	4.20	2.30	6.34	5.20
Dissolved Oxygen (Field) Organic Parameters:	NA	mg/L	1.51	0.62	0.73	0.81	3.49	2.21	1.53	5.51
1,1-Dichloroethane <sup>3</sup>	70	ug/L	0.3 U	0.3 U	0.3 U	0.26 11	0.26 11	0.26 U	0.01.11	0.01.11
1,2-Dibromo-3-chloropropane <sup>1</sup>	0.2	ug/L ug/L				0.26 U	0.26 U		0.81 U	0.81 U
1,2-Dichlorobenzene <sup>1</sup>	600	ug/L ug/L	0.0041 U	0.0041 U		0.0014 U		0.0055 U		0.006 U
2-Butanone (MEK) <sup>3</sup>	4,200	ug/L ug/L	0.1 U	0.1 U	0.1 U	0.19 U	0.19 U	0.19 U	0.86 U	0.86 U
2-Butanone (MEK) 2-Hexanone (MBK) <sup>3</sup>	280	ug/L ug/L	0.29 U	0.29 U	0.29 U	1.8 U	1.8 U	1.8 U	0.65 U	0.65 U
	6300		0.26 U	0.26 U	0.26 U	0.28 U	0.28 U	0.28 U	0.59 U	0.59 U
Acetone <sup>3</sup>	1	ug/L	0.91 U	0.91 U	0.91 U	3.7 U	3.7 U	3.7 U	2.5 U	2.5 U
Benzene <sup>1</sup>	700	ug/L	0.31 U	0.31 U	0.31 U	0.23 U	0.23 U	0.23 U	0.16 U	0.16 U
Carbon Disulfide <sup>3</sup>		ug/L	0.25 U	0.25 U	0.25 U	0.49 U	0.49 U	0.49 U	0.81 U	0.81 U
Chlorobenzene <sup>1</sup>	100	ug/L	0.1 U	0.1 U	0.1 U	0.15 U	0.15 U	0.15 U	0.17 U	0.17 U
Chloroethane <sup>3</sup>	12	ug/L	0.16 U	0.16 U	0.16 U	0.51 U	0.51 U	0.51 U	0.52 U	0.52 U
cis-1,2-Dichloroethene <sup>1</sup>	70	ug/L	0.15 U	0.15 U	0.15 U	0.17 U	0.17 U	0.17 U	0.92 U	0.92 U
Ethylbenzene <sup>1, 2</sup>	700 / 30	ug/L	0.12 U	0.12 U	0.12 U	0.2 U	0.2 U	0.2 U	0.47 U	0.47 U
Methylene Chloride <sup>1</sup>	5	ug/L	0.26 U	0.26 U	0.26 U	2 U	2 U	2 U	0.33 U	0.33 U
Toluene <sup>1</sup>	1,000	ug/L	0.1 U	0.1 U	0.1 U	0.35 U	0.35 U	0.35 U	0.15 U	0.15 U
Vinyl Chloride <sup>1</sup>	1	ug/L	0.14 U	0.14 U	0.14 U	0.43 U	0.43 U	0.43 U	0.37 U	0.37 U
Total Xylenes <sup>1</sup>	10,000	ug/L	0.29 U	0.29 U	0.29 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U

#### Notes:

MCL = Maximum Contaminant Level.

NA = Not Available.

--- = Not Tested.

Shaded = Sample result above the MCL.

- 1 Parameter MCL is a Primary Drinking Water Standard (62-550 F.A.C.).
- 2 Parameter MCL is a Secondary Drinking Water Standard (62-550 F.A.C.).
- 3 Parameter MCL is a Groundwater Clean-up Target Level (62-777 F.A.C.).
- I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- U Indicates that the compound was analysed for but not detected.
- V Indicated that the analyte was detected in both the sample and the associated method blank.
- \* Arsenic had a MCL of 50 ug/l until December 2004 and a MCL of 10 ug/l after January  $f^t$ , 2005.

### Attachment D

Table 1. Tomoka Farms Landfill Monitoring Wells Construction Details, Volusia County, Florida

	<del></del>			1	1				(	Casing and Screen Characteristics				
				Year					Bottom of Casing Screen Interval					
Well ID	Also Known as	Well Type	Latitude	Longitude		Monitored Zone	Zone Well Diameter	TOC Elevation	Depth (Feet BLS)	Elevation (Feet NGVD)	Depth	Elevation Top/Bottom (feet NGVD)		
B1-B	B-1B	CO	29°07'57"	-81°05'14"	1987	Zone 1-2	2	28.63	33	-0.69	28 / 33	-28.69 /-33.69		
B-2		BG	29°07'58"	-81°06'09"	2005	Zone 1-2	2	31.55	24	7.55	19 / 24	-11.45 /-16.45		
B-5	В5-В	CO	29°07'40"	-81°05'37"	1991	Zone 1-2	2	32.57	23	14.66	18 / 23	-3.34 /-8.34		
B8	B8-1	IM	29°08'14"	-81°06'11"	1987	Zone 1-2	2	32.91	48	-9.98	43 / 48	-52.98 /-57.98		
B8-2		IM	29°08'14"	-81°06'11"	1994	Zone 4	2	33.28	30	13.30	20 / 30	-6.7 /-16.7		
B11	B-11B, B- 11	BG	29°08'02"	-81°06'14"	1989	Zone 1-2	2	32.93	14	26.63	4 / 14	22.63 /12.63		
B-32	11	BG	29°08'17"	-81°06'14"	1994	Zone 4	2	30.86	30	10.51	20 / 30	-9.49 /-19.49		
B33-1		BG	29°08'11"	-81°06'14"	1991	Zone 4	2	34.57	32	10.82	22 / 32	-11.18 /-21.18		
B33-2		BG	29°08'11"	-81°06'14"	1994	Zone 1-2	2	35.23	15	27.10	5 / 15	22.1 /12.1		
B34-1		BG	29°07'51"	-81°06'11"	1994	Zone 4	2	31.16	32	9.18	22 / 32	-12.82 /-22.82		
B34-2		BG	29°0751 "	-81°06'11"	1994	Zone 1-2	2	31.17	15	26.21	5 / 15	21.21 /11.21		
B35-1		BG	29°07'39"	-81°05'46"	1994	Zone 4	2	29.26	32	7.29	22 / 32	-14.71 /-24.71		
B35-2		BG	29°07'39"	-81°05'46"	1994	Zone 1-2	2	29.32	15	24.36	5 / 15	19.36 /9.36		
B36	B-36	BG	29°07'39"	-81°05'31"	1994	Zone 4	2	29.22	33	6.27	23 / 33	-16.73 /-26.73		
B37-1		CO	29°07'39"	-81°05'25"	1994	Zone 4	2	28.52	37	1.59	27 / 37	-25.41 /-35.41		
B37-2		CO	29°07'39"	-81°05'25"	1994	Zone 1-2	2	28.65	15	23.72	5 / 15	18.72 /8.72		
B38-1		CO	29°07'40"	-81°05'13"	1994	Zone 4	2	28.09	37	1.22	27 / 37	-25.78 /-35.78		
B38-2		CO	29°07'40"	-81°05'13"	1994	Zone 1-2	2	27.96	15	23.08	5 / 15	18.08 /8.08		
B-39		CO	29°07'40"	-81°05'08"	1994	Zone 1-2	2	28.94	15	24.06	5 / 15	19.06 /9.06		
B40-1		CO	29°0743"	-81°05'07"	1994	Zone 4	2	27.64	28	9.64	18 / 28	-8.36 /-18.36		
B40-2		CO	29°0743"	-81°05'07"	1994	Zone 1-2	2	27.55	15	22.68	5 / 15	17.68 /7.68		
B41-1		CO	29°07'53"	-81°05'11"	1994	Zone 4	2	29.03	37	2.14	27 / 37	-24.86 /-34.86		
B41-2		CO	29°07'53"	-81°05'11"	1994	Zone 1-2	2	29.13	15	24.26	5 / 15	19.26 /9.26		
B42-1		CO	29°08'01"	-81°05'16"	1994	Zone 4	2	28.14	30	8.50	20 / 30	-11.5 /-21.5		
B42-2		CO	29°08'01"	-81°05'16"	1994	Zone 1-2	2	28.36	12	23.36	5 / 12	18.36 /11.36		
B43-1		CO	29°08'07"	-81°05'23"	1994	Zone 3-4	2	27.94	27	11.07	17 / 27	-5.93 /-15.93		
B43-2		CO	29°08'10"	-81°05'26"	1994	Zone 1-2	2	28.08	12	23.21	5 / 12	18.21 /11.21		
B44	B-44	CO	29°08'07"	-81°05'27"	1994	Zone 1-2	2	29.89	12	25.02	5 / 12	20.02 /13.02		
B45-1		CO	29°08'07"	-81°05'32"	1994	Zone 4	2	30.15	35	5.24	25 / 35	-19.76 /-29.76		
B45-2		CO	29°08'07"	-81°05'32"	1994	Zone 1-2	2	30.22	15	25.31	5 / 15	20.31 /10.31		
B59-1R		CO	29°08'23" 29°08'23"	-81°06'05"	2005	Zone 4	2 2	33.04 32.38		1.04 17.38	5 / 15	-3.96 /-13.96		
B59-2R B-60		CO	29°08'23" 29°08'24"	-81°06'05" -81°05'59"	2005 1994	Zone 1-2 Zone 4	2	28.85	30	8.84	22 / 32 20 / 30	-4.62 /-14.62 -11.16 /-21.16		
B-61R	B-61	CO	29°08'05"	-81 03 39 -81°05'52"	2002	Zone 4 Zone 1-2	2	39.33	25	24.82	15 / 25	9.82 /-0.18		
B62-1R	D-01	CO	29°08'05"	-81°05'44"	2002	Zone 4	2	39.33	35	19.73	20 / 35	-0.27 /-15.27		
B62-1R B62-2R		CO	29°08'05"	-81°05'44"	2002	Zone 1-2	2	39.19	18	28.71	11 / 18	17.71 /10.71		
B63-1		CO	29°07'39"	-81°05'59"	1994	Zone 4	2	30.01	29	11.06	19 / 29	-7.94 /-17.94		
B63-2		CO	29°07'39"	-81°05'59"	1994	Zone 1-2	2	30.35	12	25.42	5 / 12	20.42 /13.42		
B-64		CO	29°07'40"	-81°05'19"	1994	Zone 1-2	2	28.06	12	23.19	5 / 12	18.19 /11.19		
B-65		CO	29°07'48"	-81°05'09"	1994	Zone 1-2	2	27.87	15	23.04	5 / 15	18.04 /8.04		
B-66		CO	29°08'06"	-81°05'38"	1994	Zone 1-2	2	31.12	15	26.27	5 / 15	21.27 /11.27		
B-68		CO	29°08'23"	-81°06'10"	1994	Zone 4	2	32.93	30	9.73	20 / 30	-10.27 /-20.27		
B70-1		CI	29°08'11 "	-81°05'37"	2003	Zone 4		31.16	35	31.16	25 / 35	6.16 /-3.84		
B70-2		DE	29°08'10"	-81°05'37"	2003	Zone 1-2	2	31.41	18	31.41	3 / 18	28.41 /13.41		
B71		DE	29°08'15"	-81°05'37"	2003	Zone 1-2	2	30.66	18	30.66	3 / 18	27.66 /12.66		
B72		DE	29°08'20"	-81°05'39"	2003	Zone 1-2	2	28.86	18	28.86	3 / 18	25.86 /10.86		
B73-1		CO	29°08'24"	-81°05'42"	2003	Zone 4	2	29.1	35	29.10	25 / 35	4.1 /-5.9		
B73-2		DE	29°08'24"	-81°05'42"	2003	Zone 1-2	2	28.85	18	28.85	3 / 18	25.85 /10.85		
B74		DE	29°08'24"	-81°05'48"	2003	Zone 1-2	2	29.98	18	29.98	3 / 18	26.98 /11.98		
B75		DE	29°08'24"	-81°05'53"	2003	Zone 1-2	2	31.57	18	31.57	3 / 18	28.57 /13.57		
FA-1B		BG	29°07'51"	-81°06'11"	1987	Floridan	2	32.2	92	-58.84	91 / 92	-149.84 /-150.84		
FA-2C		CO	29°08'31"	-81°05'32"	1991	Floridan	2	28.01	100	-67.10	94 / 100	-161.1 /-167.1		
	MO-													
MO5B	5B,MO5	CO	29°08'06"	-81°05'18"	1987	Zone 1-2	2	29.65	32	2.24	27 / 32	-24.76 /-29.76		

#### Notes:

- 1 Ground Surface elevations were not surveyed in the 2003 survey performed by McKim and Creed.
- 2 Riser pipe elvations were not surveyed in the 2003 survey performed by McKim and Creed.

<sup>&</sup>lt;sup>3</sup> Total depth below top of casing can not be determined at this time because ground surface elevations were not surveyed in the 2003 survey performed by McKim and Creed.

## Attachment E

April 2003 Through May 2006 Biennial Report, Tomoka Farms Road Landfill, Revised 8/24/07

April 30, 2007 File No. 09204060.04

Mr. Tom Lubozynski Solid Waste Program Manager Florida Department of Environmental Protection 3319 Maguire Boulevard Suite 232 Orlando, Florida 32803-3767

Subject: Revised August 24, 2007

April 2003 Through May 2006 Biennial Report, Tomoka Farms Road Landfill, Volusia County, Florida, FDEP Permit Number SO64-0078767-016 and SO64-0078767-015

Dear Mr. Lubozynski:

On behalf of Volusia County Solid Waste Division (County), SCS Engineers (SCS) is pleased to provide the Central District of the Florida Department of Environmental Protection (FDEP) with two copies of the biennial report of the semi-annual water monitoring activities for the Tomoka Farms Road Landfill (the site), Volusia County, Florida. This report provides site background information, a summary of the monitoring program, groundwater flow assessment, a summary and interpretation of the data, and assessment of the monitoring program.

#### BACKGROUND

The Tomoka Farms Land Fill operates under the following FDEP permit numbers:

- The North Class I Landfill cell operates under FDEP permit no. SO64-0078767-016 and SO64-0078767-015.
- The Class III Landfill cell operates under FDEP permit no. SO64-0078767-019.
- The South Class I cell is being closed under closure permit no. SO64-0078767-011.

Specific conditions of the permits require that a report "be submitted to the FDEP by the Permittee summarizing and interpreting the water quality data and water level measurements collected during the past four years." The monitoring period discussed within this report includes eight semi-annual sampling events conducted from April 2003 through May 2006.

April 2003 Through May 2006 Biennial Report, Tomoka Farms Road Landfill, Volusia County, Florida

#### MONITORING PROGRAM SUMMARY

The monitoring program consists of surficial aquifer groundwater, Floridan aquifer groundwater, surface water monitoring, and leachate water quality monitoring. The following sections provide a summary of the current monitoring program for each media.

#### Groundwater

The groundwater monitoring system is described in Specific Conditions in the permits. Groundwater is monitored through Background and Compliance wells in the surficial and Floridan aquifers.

A construction detail summary for the 51 monitoring wells included in the monitoring systems is presented on Table 1 in Attachment A. Well locations for each monitored zone are shown Figure 1 included in Attachment B. The monitoring wells for each monitored zone are listed below:

Zone 1-2 Wells	Zone 4 Wells
MO5-B	B2-B
B1-B	B8-2
B5-B	B32
B8-1	B33-1
B11-B	B34-1
B33-2	B35-1
B34-2	B36
B35-2	B37-1
B37-2	B38-1
B38-2	B40-1
B39	B41-1
B40-2	B42-1
B41-2	B43-1
B42-2	B45-1
B43-2	B60
B44	B62-1
B45-2	B63-1
B59-2	B68
B59-2R	B70-1
B61	B73-1
B62-2	
B63-2	
B64	
B65	
B66	
B70-2	
B71	
B72	

April 2003 Through May 2006 Biennial Report, Tomoka Farms Road Landfill, Volusia County, Florida

B73-2	
B74	
B75	

There are two Floridan monitoring wells at the site. The Floridan well locations are shown on Figure 1 included in Attachment B. The Floridan wells are identified as follows:

- FA-1B
- FA-2C

Groundwater samples are collected semi-annually and analyzed by an approved environmental laboratory for the parameters identified in the FDEP permits. The results of the laboratory analyses are summarized in tables in Attachment A. The monitoring data discussed in this biennial report (reporting period) include the following sampling periods:

- April 2003
- October 2003
- April 2004
- November 2004
- May 2005
- October 2005
- April 2006
- November 2006

Due to low water level conditions, flooding, or well destruction, samples could not be obtained from the following monitoring wells or surface water sample locations:

- All surface water locations (June 2006)
- SW-6 (October 2003, May 2004, May 2005, October 2005)
- SW-9 (May 2003, October 2003, May 2004, November 2004, May 2005, October 2005)
- SW-10 (October 2003, May 2004, November 2004)
- SW-3 (June 2006)
- SW-4 (December 2006)
- B8-1 (June 2006, December 2006)

April 2003 Through May 2006 Biennial Report, Tomoka Farms Road Landfill, Volusia County, Florida

- B 33-2 (October 2003, May 2003, May 2004)
- B 35-1 (May 2005, October 2005)
- B35-2 (May 2005, October 2005)
- B38-1 (May 2005)
- B38-2 (May 2005)
- B-44 (May 2005)
- B-42-4 (December 2006)
- B63-1 (May 2005)
- B63-2 (May 2005)

#### Special conditions for sampling:

- Monitoring wells: B-32, B-36, B-38-1, B38-2, B63-1, B63-2, and B-64 were sampled on October 2005; however, the monitoring wells were surrounded by water.
- Monitoring well B-36 was re-sampled on December 17, 2004 due to unusually high concentrations observed at the November 2004 sampling event.

#### Turbidity:

- Monitoring wells B-2, B-59-2 and B73-2 had turbidity readings greater than 60 NTUs at the October 2005 sampling event.
- December 2006 sampling event:
  - B-59-2R and B61R had turbidity readings greater than 60 NTUs at the time of sampling.
  - B34-1, B45-1, B45-2, B59-1R, B62-1R, B70-2, B72 and B72-1 had turbidity above 20 NTU and below 60 NTUs
- June 2006 sampling event

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- B-59-2R and B61R had turbidity readings greater than 60 NTUs.
- B34-1, B45-1, B45-2, B59-1R, B62-1R, B70-2, B72 and B72-1 had turbidity above 20 NTU and below 60 NTUs.

Abandon, destroyed, or moved sampling locations:

- Monitoring wells: B58-2, B 59-1, B 59-2, B67 and B58-1, were abandoned in the 2003 expansion construction and are no longer sampled.
- Monitoring well B-2B was destroyed in the May 2005.
- Monitoring wells B35-1 and B35-2 were destroyed in the June 2006.

Installed, reinstalled, or moved wells or sampling locations:

- The Monitoring wells: B70-1, B70-2, B71, B72, B73-1, B73-2, B74 and B75 were installed in 2002.
- Monitoring well B59-2 was re-installed in October 2005.

#### SURFACE WATER

The surface water system is described in Specific Conditions in the permit. Surface water is monitored through the collection of surface water samples from the following sampling locations:

- SW-1
- SW-2
- SW-3
- SW-4
- SW-5
- SW-10

Surface water sampling locations are shown on Figure 1 in Attachment B.

Surface water sampling locations SW-6 and SW-9 were no longer present due to construction activities after the October 2005 sampling event. Surface water sampling location SW-4 was moved to the north side of the surface water pond due to overgrowth in the original sampling location.

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Due to low surface water conditions or other obstructions to sampling, samples could not be obtained from the following surface water sampling locations:

- SW-1 no exceptions to sampling.
- SW-2 no exceptions to sampling.
- SW-3 (April 2004, April 2006, and November 2006).
- SW-4 (April 2004 and November 2006).
- SW-5 no exceptions to sampling.
- SW 6 (October 2003, April 2004, May 2005, October 2005, April 2006, and November 2006).

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- SW-10 (October 2003, April 2004, May 2005, October 2005, April 2006, and November 2006).
- SW-11 (April 2004, October 2003, April, 2004, and November 2004).
- SW-12 (April 2004, October 2003, April, 2004, and November 2004).

#### Leachate

Leachate monitoring is described in Specific Conditions in the permit. Leachate is monitored through the collection of leachate samples from the North Leachate Pond.

#### SEMI-ANNUAL QUALITY DATA SUMMARY

A summary of water quality data collected from the monitoring wells and surface water monitoring locations at the site is presented in the following sections. This summary includes groundwater and surface water quality data collected from these locations during the monitoring period. Information concerning groundwater and surface water quality data also was presented to the FDEP in the semi-annual water quality data monitoring reports.

#### Groundwater Quality Regulatory Exceedences and Trend Analysis

Attachment A includes summary tables of groundwater monitoring well water quality detections and exceedences compiled by SCS from laboratory analyses and previous semi-

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annual water quality data monitoring reports. Attachment C includes trend analyses charts compiled from the exceedences data tables. Trend analyses charts were developed for those leachate key indicator parameters and for those constituents with concentrations in excess of the FDEP groundwater standards or criteria.

Constituents detected in groundwater samples at concentrations above FDEP primary and secondary drinking water standards and FDEP Groundwater cleanup target levels include the following:

- arsenic
- benzene
- beryllium
- chloride
- iron
- lead
- nitrogen ammonia (as N)
- pH
- sodium
- sulfate
- total dissolved solids (TDS)
- vanadium
- vinyl chloride

Exceedences were detected in both background and detection monitoring wells. Discussions of the trends for those parameters that exceed the regulatory criteria from the eight sampling events during the monitoring period are provided below.

Arsenic – Arsenic was detected above the PDWS of  $50\mu g/l$  before December 2004 and 10  $\mu g/l$  after January 2005 at variable sampling periods in surficial monitoring wells B33-2 (October 2005), B59-2 (October 2005) and B75(October 2006). Surficial monitoring wells B33-2, B59-2 and B75 are in hydraulically down-gradient and cross-gradient locations at the site. No definitive trends were observed for Arsenic concentrations for the monitoring wells. Arsenic was not detected above the GCTL in the Floridan monitoring wells.

**Ammonia Nitrogen** – Although not a PDWS or SDWS, ammonia nitrogen was consistently detected above the GCTL of 2.8 milligrams per liter (mg/l) in surficial monitoring wells B1-B, B8-1, B62-2, B62-2R, B61, B41-1, B43-1, B62-1, and B62-1R . Surficial monitoring wells B1-B, B8-1, B62-2, B62-2R, B61, B41-1, B43-1, B62-1, and B62-1R are in hydraulically down-gradient locations at the site. Ammonia nitrogen was detected above the GCTL in surficial monitoring wells B75, B40-2, B33-2 and B38-2 B59-1 at variable sampling

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periods. Surficial monitoring wells B75, B40-2, B33-2 and B38-2 B59-1 are in down-gradient and cross-gradient locations at the site. Surficial monitoring well B-2B is in an upgradient location at the site. No definitive trends were observed for ammonia concentrations for the monitoring wells. Ammonia was not detected above the GCTL in the Floridan monitoring wells.

Benzene – Benzene was consistently detected above the PDWS of 1.0  $\mu$ g/l in surficial monitoring wells B37-1, B36, B41-1, B43-1, B45-1 and B62-1. Surficial monitoring wells B37-1, B41-1, B43-1, B45-1 and B62-1 are in hydraulically down-gradient and cross-gradient locations at the site and surficial monitoring well B-36 is in an up-gradient location at the site. A benzene concentration was detected above the PDWS of 1  $\mu$ g/l in surficial monitoring wells: B62-1R for the sampling period in May 2005, B45-2 in May 2006. Surficial monitoring well B45-2 and B62 are down gradient at the site. No benzene detection trends were observed for the reporting period. Benzene was not detected above the PDWS in the Floridan monitoring wells.

**Beryllium** – Beryllium was detected above the PDWS of 4 µg/l in surficial monitoring wells: B70-1 (October 2005) and B-2 (October 2005). No beryllium detection trends were observed for the reporting period. Beryllium was not detected above the PDWS in the Floridan monitoring wells.

**Chloride** – Chloride was consistently detected above SDWS of 250 mg/l in surficial monitoring wells B33-2, B62-1 and B62-1R. Chloride was detected above the SDWS in surficial monitoring well B45-2 (May 2004 and May 2006) and B37-1 (May 2003). These wells are in down-gradient and cross-gradient locations at the site. Concentrations appear to be decreasing for B45-1, B62-1 and B62-1R. Concentrations appear to be increasing for B33-2. Chloride was not detected above the SDWS in the Floridan monitoring wells.

**Iron** – Iron was consistently detected above the SDWS of 300 µg/l in all monitored surficial monitoring wells. These wells are in up-gradient, cross-gradient, and down-gradient locations at the site. There were no definitive trends in iron concentrations observed during the reporting period. Iron was consistently detected above the SDWS in the Floridan monitoring well FA-1B. There is an upward trend in iron concentrations observed in the Floridan monitoring well FA-1B.

**Lead** – Lead was detected above the PDWS of 15  $\mu$ g/l at variable sampling periods in surficial monitoring wells B59-2 (October 2005) and B-2 (May 2003 and October 2005). Surficial monitoring wells B59-2 and B-2 are in hydraulically down-gradient and crossgradient locations at the site. No definitive trends were observed for lead concentrations for the monitoring wells. Lead was not detected above the GCTL in the Floridan monitoring wells.

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**pH** – The pH measurements consistently have been outside (below) the SDWS range of 6.5-8.5 in surficial monitoring wells. Floridan well FA-2C consistently exceeds 8.5 in pH and FA-1B exceeded the 8.5 limit on May 2005. There are no apparent significant decreases and increases in pH measurements observed during the reporting period for the monitoring wells.

Sodium – Sodium was consistently detected above the SDWS of 160 mg/l in surficial monitoring wells B37-1, B45-1, B62-1 and B33-2. These wells are in down-gradient and cross-gradient locations at the site. Sodium was detected above the PDWS in surficial monitoring wells B41-1(from May 2003 to October 2004), B60 (May 2005 and October 2006), B33-2 (October 2006) and B62-2 (May 2004). There was an increasing trend in sodium concentrations for surficial monitoring well B37-1 and B33-2. There was a decreasing trend in sodium concentrations for surficial monitoring well B45-1. No other definitive trends were observed for sodium concentrations for the other monitoring wells. Sodium was not detected above the SDWS in the Floridan monitoring wells.

Sulfate – Sulfate was detected above the SDWS of 250 mg/l in surficial monitoring wells B34-2 (October 2006), B59-2 (October 2005), B59-2R (May 2006), B61 (May 2003) and B72 (May 2005). Sulfate was consistently detected above the SDWS of 250 mg/l in surficial monitoring well B42-1. Wells B34-2, B59-2, B59-2R, B61 and B72 are in down-gradient and cross-gradient locations at the site. No definitive trends were observed for sulfate concentrations for the other monitoring wells. Sulfate was not detected above the SDWS in the Floridan monitoring wells

TDS – Total dissolved solids (TDS) were consistently detected above the SDWS of 500 mg/l in surficial monitoring wells, B1-B, B33-2, B41-2, B59-2R, MO5-B, B61, B62-2, B62-2R, B64, B75, B-2, B36, B37-1, B41-1, B42-1, B43-1, B45-1 and B62-1. These wells are in upgradient, cross gradient, and down-gradient locations of the site. TDS concentrations were detected above the SDWS in surficial monitoring wells B34-2, B45-2, B59-2B65, B72, B34-1 and B62-1R at variable time periods. TDS was not detected above the SDWS in the Floridan monitoring wells. There was an increasing trend in TDS concentrations for surficial monitoring wells B33-2, B64, B75 and B42-1. There was a decreasing trend in TDS concentrations for surficial monitoring wells B61, B62-2, B62-2R, B2, B41-1, B45-1 and B62-1.

**Vanadium** –Although not a PDWS or SDWS, vanadium was detected above the GCTL of 49  $\mu$ g/l in surficial monitoring wells B59-2 (October 2005), B59-2R (May 2006) and B-2 (October 2005). Surficial monitoring well B-2 is up-gradient and B59-2 and B59-2R are down-gradient. No definitive trends were observed for vanadium concentrations for the other monitoring wells. Vanadium was not detected above the PDWS in the Floridan monitoring wells.

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**Vinyl Chloride** – Vinyl chloride was consistently detected above the PDWS of 1  $\mu$ g/l in surficial monitoring wells B-36 and B37-2. Surficial monitoring well B37-2 is cross-gradient at the site. Vinyl chloride was also detected above the PDWS in surficial monitoring well B59-2 (October 2005), B59-2R (May 2006) and B36 (October 2005). There is a decreasing trend in vinyl chloride concentrations observed for well B37-2 during the reporting period. Vinyl Chloride was not detected above the PDWS in the Floridan monitoring wells.

#### SURFACE WATER QUALITY REGULATORY EXCEEDENCES

Summary tables of the surface water monitoring samples SW-1 through SW-6, SW-10, SW-11 and SW-12 are included in Attachment A. Surface water sampling locations are indicated on Figure 1 in Attachment B.

Several constituents were detected in concentrations above surface water criteria and surface water cleanup target levels during the monitoring period including the following:

- Ammonia unionized
- Barium
- Beryllium
- Total hardness
- pH
- Dissolved oxygen
- Specific Conductance
- Turbidity
- Barium
- Beryllium
- Iron
- Mercury
- Zinc
- Thallium

The maximum contaminant level (MCL) is defined in Chapter 62-302.530 Florida Administrative Code (FAC); however, the MCL requires a calculation based on hardness concentration for several compounds. The formulas used and the calculated MCL are shown on the surface water tables in Attachment A. Attachment C includes trend analyses charts compiled from the exceedences data tables. The following summarize the findings:

**Ammonia** – Ammonia concentrations were detected above the MCL of 0.02 mg/l in surface water sampling locations SW-5, SW-10 and SW-12 at various time periods through

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November 2006. No definitive trends were observed for ammonia concentrations for the other surface water sampling locations.

**Barium** – Barium concentrations have consistently exceeded the calculated MCLs in surface water samples at all surface water locations except for SW-1 during the monitoring period. There were no definitive trends in barium concentrations observed during the reporting period.

**Beryllium** – Beryllium concentrations were detected above the MCL of  $0.13 \mu g/l$  in surface water sampling location SW-11(June 2005). No other definitive beryllium trends were observed during the monitoring period.

**Dissolved Oxygen** – DO concentrations have been below the lower limit of greater than or equal to 5 mg/l in surface water samples SW-2, SW-3, SW-4, SW-5 and SW-12 at various times during the monitoring period. No other definitive dissolved oxygen trends were observed during the monitoring period.

**Iron** – Iron concentrations have exceeded the MCL of  $1000 \mu g/l$  in surface water samples SW-2, SW-5, SW-6, SW-11 and SW-12 at various times during the monitoring period. No definitive iron trends were observed during the monitoring period.

**Mercury** – Mercury concentrations have exceeded the MCL of 0.012 μg/l in surface water samples SW-2, SW-4, SW-5, SW-10, SW-11, SW-12 at various times during the monitoring period. No definitive mercury trends were observed during the monitoring period.

**pH** – pH measurements have been above the upper limit of 8.5 units in surface water sample location SW-4 at various times during the monitoring period. pH measurements have been below the lower limit of 6.5 units in surface water sample locations SW-1, SW-2, SW-5 and SW-10 at various times during the monitoring period. No definitive pH trends were observed during the monitoring period.

**Specific Conductance** – Specific Conductance concentrations have consistently been below the calculated limit in surface water sample locations SW-2, SW-10 and SW-11 during the monitoring period. No definitive specific conductance trends were observed during the monitoring period.

**Total Hardness** – Total hardness concentrations have consistently been below the lower limit of greater than or equal to 20 mg/l in surface water sample SW-1 during the monitoring period. No definitive total hardness trends were observed during the monitoring period.

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**Turbidity** – Turbidity concentrations were detected above the calculated MCL in surface water sampling locations SW-3, SW-6, SW-10 and SW11 at various time periods. No definitive turbidity trends were observed during the monitoring period.

**Zinc** – Zinc concentrations were detected above the calculated MCL in surface water sampling location SW-1 (April 2003). No definitive zinc trends were observed during the monitoring period.

#### LEACHATE WATER QUALITY REGULATORY EXCEEDENCES

Leachate water quality data have been collected from one leachate monitoring location at the site. Leachate data were available for all of the eight reporting periods. A summary table of the leachate monitoring samples from the North Leachate Pond is included in Attachment A.

No constituents were detected in concentrations above toxicity concentrations listed 40 Code of Federal Regulations (CFR) Part 261.24, Table 1, during the monitoring period.

#### SEMI-ANNUAL GROUNDWATER FLOW ASSESSMENT

Groundwater flow assessment activities were conducted for the shallow zone and deep zone surficial aquifer during each of the previous monitoring periods extending from May 2003 through October 2006. The assessment activities included the collection of groundwater depth intervals, the calculation of groundwater elevations in the site wells, and plotting the data onto site figures depicting the estimated groundwater flow direction. Copies of the groundwater flow diagrams generated for each monitoring event are presented in Attachment B. The estimated groundwater flow direction during these periods in the shallow zone and deep zone surficial aquifer generally is to the north and east.

Groundwater flow rates were calculated in David N. Gomberg, Ph.D.'s, July 16, 2001, <u>Tomoka Landfill: Biennial Evaluation of Monitoring Results</u>. Site groundwater flow conditions have not substantively changed since the July 2001 report; consequently, groundwater flow rates are assumed to be consistent with Dr. Gomberg's calculations.

Hydrographs depicting the groundwater elevations within each well for each sampling event over the monitoring period were generated and presented in Attachment C. The groundwater level calculations indicated higher groundwater table elevations in the fall monitoring events and lower groundwater table elevations in the spring monitoring events. These data are consistent with previous biennial reporting data.

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down-gradient monitoring wells and 1,500-foot spacing for background monitoring wells as required by Chapter 62-701, FAC. This spacing, the various aguifer units monitored, and the frequency of sampling appears to adequately detect concentrations of constituents in the surficial aquifer and Floridan aquifer on the downgradient, cross-gradient, and up-gradient sides of the landfill. The compliance monitoring protocol specified in the operating permit provides an appropriate monitoring program for the Tomoka Farms Road Landfill at this time.

Please contact us if you have any questions or comments regarding this correspondence.

Very truly yours,

Vanessa Barkman

Associate Staff Professional

SCS ENGINEERS

Robert L. Westly, P.G., CPC

Senior Hydrogeologist

SCS ENGINEERS

VRB/RLW:vb Attachments

cc: Josefph F. Grusauskas, Volusia County, Solid Waste

Jennifer Stirk, Volusia County, Solid Waste

## Attachment F

Monitor Well Water Level Field Data

# Monitor Well Water Level Field Data

Page 1 of 3

Landfill:

**TOMOKA ROAD** 

Date:

4/20/07

Measured By:

JEBN

Data

ata			
Well No.	Depth to Water (ft.)TOC	Total Well Depth(ft.)TOC	
B1B	13.70	35.90	1~
B2	9.40	27.35	1
B 5B	7.40	25-60	1
B 8-1	OK Y	15.48	<b>V</b>
B 8-2	8.00	33.01	V
B 11	7.30	16.85	6
B 32	5,35	41.35	1
B 33-1	9.80	39.60	٨
B 33-2	7,00	17380	~
B 34-1	7-81	34.00	1 4
B 34-2	7.00	16.95	v
B 35-1	5,30	33.95	1
B 35-2	5,50	17.75	1
B 36	3.45	34.35	,~
B 37-1 :	3.50	37.75	
B 37-2	3.10	17.00	
B 38-1	8,30	39.45	~
B 38-2	6.70	17:55	1
B 39	11.20	17:70	1
B 40-1	11.50	29.65	\ <u></u>
B 40-2	10.70	17.45	V
B 41-1	13.40	39.00	1
B 41-2	12.35	17,90	V
B 42-1	13.00	31.90	<b>V</b>
B 42-2	11.80	14.90	~
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Approved by:	Date:	
		_

## Monitor Well Water Level Field Data

Page 2 of 3

TOMOKA ROAD

Date:

4/20/07

Measured By:

JR BH

Data

ıta				
	Well No.	Depth to Water (ft.)TO	Total Well Depth(ft.)TOC	
	B 43-1	9.40	29.00	_
	B 43-2	9.40	14.80	✓
	B 44	9.30	14.70	<b>-</b>
	B 45-1	8.80	37,40	J
	B 45-2	8.80	17.75	] ~
	B 58-1	ABANDONED		1
<u> </u>	B 58-2	ABANDONED		1
	B 59-1	7.50	35.20	FRANKA AFF
	B 59-2	7.50	17,90	FENCED OFF V
	B 60	7.85	35,78	FENCED OFF V
	B 61	17.30	29,15	$\triangleright$
	B 62-1	16.30	38.10	<b>i</b> √
	B 62-2	16.40	22.05	v
	B 63-1	6.10	30:50	*/
	B 63-2	6.30	14.40	11/
	B 64	4-35	17.55	]
<u> </u>	B 65	11.50	18.00	1
	B 66	8,4	17.25	<b> </b> ✓
	B 67	ABANDONED		1
	B 68	7.70	36 35.85	<b>レ</b>
	FA-1B	17.70	102-60	
	FA-2C	16.50	97.00	V
	MO-5B	15.05	36,30	V
	B70-1	11.90	38.20	V
	B70-2	12.20	22.00	~
			<del></del>	4

Approved by:	Date:	
	 Date.	

## Monitor Well Water Level Field Data

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Landfill:	TOMOKA ROAD	<del></del>		
Date:	4/20/07	·		
Measured By:	JR BH	<del>_</del>		
Data	<b>1</b>			
	Well No.	Depth to Water (ft.)TOC	Total Well Depth(ft.)TOC	3
	B71	11.60	04،15	٦,
	B72	11.60	21.80	],
	B73-1	10.70	37,35	],
	B73-2	9.80	20.40	۱
	B74A	15.00	21.55	۱,
	B75	11,90	20.90	٦
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Approved by:

Date:

### Attachment G

Table 1. Well Data Dr. Gomberg from 2001 Biennial Report

Table 1. Well Data

Well	screened or open hole depth (ft)	zone monitored <sup>1</sup>	when constructed
B1-B	28 -33	1-2 (4)	3/87
B2-B	19-24	4	8/94
B5-B	18-23	1-2 (4)	3/91
B8-1	43-48	1-2 (6)	3/87
B8-2	20-30	4	8/94
B11-B	4-14	1-2	12/89
B32	20-30	4	8/94
B33-1	22-32	4	8/91
B33-2	5-15	1-2	8/94
B34-1	22-32	4	8/94
B34-2	5-15	1-2	8/94
B35-1	22-32	4	8/94
B35-2	5-15	1-2	8/94
B36	23-33	4	8/94
B37-1	27-37	4	8/94
B37-2	5-15	1-2	8/94
B38-1	27-37	4	8/94
B38-2	5-15	1-2	8/94
B39	5-15	1-2	8/94
B40-1	18-28	4	8/94
B40-2	5-15	1-2	8/94·
B41-1	27-37	4	8/94
B41-2	5-15	1-2	8/94
B42-1	20-30	4	8/94
B42-2	5-12	1-2	8/94
B43-1	17-27	3-4	8/94
B43-2	5-12	1-2	8/94
B44	5-12	1-2	8/94
B45-1	25-35	4	8/94
B45-2	5-15	1-2	8/94
B58-1	18-28	4	8/94
B58-2	5-12	1-2	8/94
B59-1	22-32	4	8/94
B59-2	5-15	1-2	8/94
B60	20-30	4	8/94
B63-1	19-29	4	8/94
B63-2	5-12	1-2	8/94
B64	5-12	1-2	8/94
B65	5-15	1-2	8/94
B66	5-15	1-2	8/94
B67	18-28	4	8/94
B68	20-30	4	8/94
FA-1B	91-92	Floridan	3/87
	94-100	Floridan	9/91
FA-2C M05-B	27-32	1-2(4)	3/87

<sup>&</sup>lt;sup>1</sup>In 4 cases, the zone monitored is different from the zone indicated on the FDEP permit. The correct zone is shown in the table in parenthesis ( ).