

18 June 2021

Mr. Robert Cilek
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

**Subject: Trip Report – Groundwater Sampling and Well Survey – June 2021
Former Florida State Fire College
1501 W Silver Springs Blvd, Ocala, Marion County, Florida
ERIC_5641
FDEP Contract HW550, Task Assignment SOL-0A118, Subtask 5**

Dear Mr. Cilek,

Geosyntec Consultants, Inc. (Geosyntec) has prepared this Trip Report for the Florida Department of Environmental Protection (FDEP) to document activities associated with groundwater sampling and the monitoring well survey at the Former Florida State Fire College (FFSFC) located in Ocala, Florida. The objective of this investigation was to assess the extent of groundwater that was previously documented to be affected with per- and polyfluoroalkyl substances. This Trip Report also summarizes the monitoring well survey at FFSFC. Geosyntec completed activities under Task Assignment SOL-0A118.

On 14 June 2021, Geosyntec completed the following activities at FFSFC:

- Sampled nine (9) monitoring wells DEPMW-1 thru DEPMW-8 and the VISA monitoring well on site, including the collection of a duplicate sample at DEPMW-8;
- Collected two equipment blanks (EQB-42 and EQB-43) from the groundwater sampling equipment and a k-packer;
- Collected a field reagent blank (FRB-5); and
- Observed the monitoring well survey conducted by Kugelmann Land Surveying.

The monitoring well locations are depicted on **Figure 1**. Field notes are included in **Attachment A**, and a photographic log documenting representative field activities is included in **Attachment B**.

FIGURE

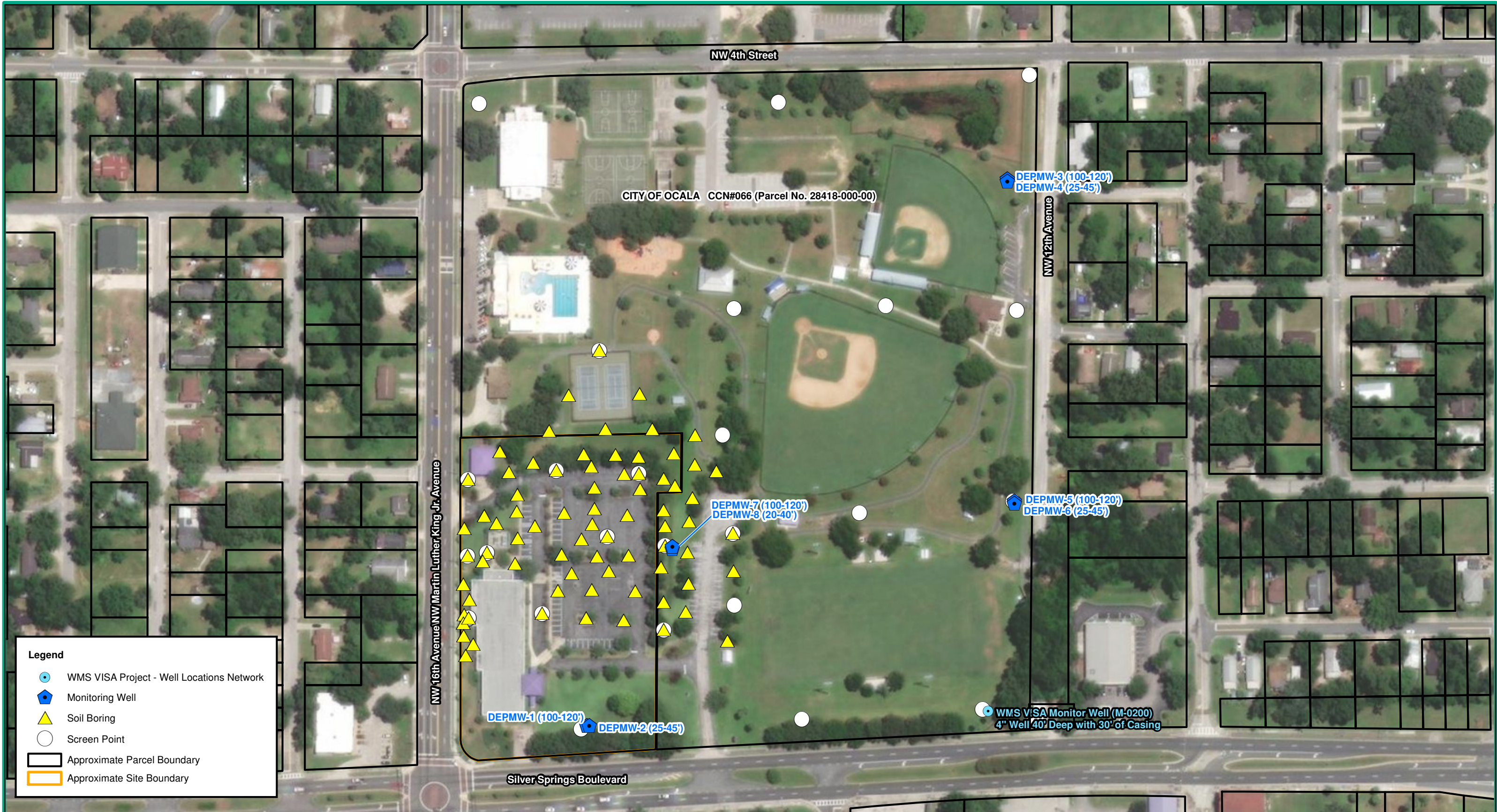
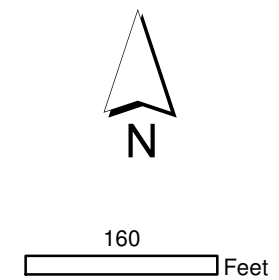


Figure 1
Monitoring Well Location Map
Former Florida State Fire College
1501 West Silver Springs Boulevard
Ocala, Marion County, Florida

Notes:

- Site and parcel boundaries obtained from Florida Department of Revenue Property Tax Oversight website (https://floridarevenue.com/property/Pages/DataPortal_RequestAssessmentRollGISData.aspx), Marion County 2020.
- 2019 World Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.



Date: June 21, 2021

ATTACHMENT A
Field Notes

**Standard Operating Procedure for Groundwater Sampling of Monitoring
Wells and Analysis of Per- and Polyfluoroalkyl Substances**

Attachment A. Daily Sampling Checklist

Date: 6-14-21

Site Name: Former Florida State Fire College

Weather (temperature/precipitation): Sunny / Chance of rain 86°F

Please check all boxes that apply and describe any exceptions in the notes section below along with QA/QC methods used to assess potential sample cross-contamination as a result.

Field Clothing and PPE:

- No water- or stain-resistant boots or clothing (e.g., GORE-TEX®)
- Field boots (or overboots) are made of polyurethane, PVC, rubber, or untreated leather
 - Rain gear are made of polyurethane, PVC, vinyl, wax-coated or rubber
 - Clothing has not been recently laundered with a fabric softener
 - No coated HDPE suits (e.g., coated Tyvek® suits)
 - Field crew has not used cosmetics, moisturizers, or other related products today
 - Field crew has not used sunscreen or insect repellants today, other than products approved as PFAS-free

Field Equipment:

- Sample containers and equipment in direct contact with the sample are made of HDPE, polypropylene, silicone, acetate or stainless steel, not LDPE or glass
- Sample caps are made of HDPE or polypropylene and are not lined with Teflon™
- No materials containing Teflon™, Viton™, or fluoropolymers
- No materials containing LDPE in direct contact with the sample (e.g., LDPE tubing, Ziploc® bags)
- No plastic clipboards, binders, or spiral hard cover notebooks
- No waterproof field books
- No waterproof or felt pens or markers (e.g., certain Sharpie® products)
- No chemical (blue) ice, unless it is contained in a sealed bag
- No aluminum foil
- No sticky notes (e.g., certain Post-It® products)

Decontamination:

- Reusable field equipment (e.g., dip sampler) decontaminated prior to reuse
- "PFAS-free" water is on-site for decontamination of field equipment
- Alconox®, Liquinox® or Luminox® used as decontamination detergent

**Standard Operating Procedure for Groundwater Sampling of Monitoring
Wells and Analysis of Per- and Polyfluoroalkyl Substances**

Food and Drink:

- No food or drink on-site, except within staging area
- Food in staging area is contained in HDPE or stainless steel container

Notes:

No overboots worn

Water proof boots worn w/o overboots

Field Team Leader Name (Print): Boone Abbott

Field Team Leader Signature: 

Date/Time: 6-14-21 0817

Table 1: Proposed Sampling Locations, Matrices, Analytes, Rationale, and Criteria
Former Florida State Fire College

Location ID	Sample ID	Date and Time	Matrix	Depth (ft BLS)	Drilling Method	Comments
Monitoring Wells						
DEPMW-1 (100-120')	DEPMW-1 (100-120')	6-14-21 1102	Groundwater	100-120	Sonic, Submersible Pump	Coincidental similar sample times
DEPMW-2 (25-45')	DEPMW-2 (25-45')	6-14-21 1102		25-45		Coincidental similar sample times
DEPMW-3 (100-120')	DEPMW-3 (100-120')	6-14-21 1456		100-120		
DEPMW-4 (25-45')	DEPMW-4 (25-45')	6-14-21 1445		25-45		
DEPMW-5 (100-120')	DEPMW-5 (100-120')	6-14-21 1621		100-120		
DEPMW-6 (25-45')	DEPMW-6 (25-45')	6-14-21 1625		25-45		
DEPMW-7 (100-120')	DEPMW-7 (100-120')	6-14-21 2038		100-120		
DEPMW-8 (20-40')	DEPMW-8 (20-40')	6-14-21 1730		20-40		
	DEPMW-8 (20-40') DUP	6-14-21 1730				
VISA MW (M-200)	VISA MW (M-200)	6-14-21 1242				30-40

Table 1: Proposed Sampling Locations, Matrices, Analytes, Rationale, and Criteria
Former Florida State Fire College

Location ID	Sample ID	Date and Time	Matrix	Depth (ft BLS)	Drilling Method	Comments		
Laboratory Quality Assurance/Quality Control Samples								
Sample Type	Sample ID	Date and Time	Matrix	Equipment sampled				
Equipment Blanks (ratio of 1:10)	EQB-21	3-23-21 1410	Water	DPT Groundwater Sampling Equipment	Boring before: SP-10 (30-40) Boring after: SP-14 (35-34) Container ID: 001036, 001112			
	EQB-22	3-24-21 0835			Boring before: SP-14 (46-50) Boring after: SP-8 (32-28) Container ID: 001112, 001112			
	EQB-23	3-29-21 1445			Boring before: SP-2 (38-40) Boring after: SP-8 (46-50) Container ID: 001334			
	EQB-24	3-30-21 1405			Boring before: SP-18 (90-95) Boring after: SP-25 (66-70) Container ID: 001334			
	EQB-25	3-31-21 1347			Boring before: SP-22 (46-50) Boring after: SP-17 (36-40) Container ID: 001334, 001334			
	EQB-26	4-2-21 0916			Boring before: SP-12 (36-40) Boring after: SP-21 (46-50) Container ID: 001334			
	EQB-27	4-5-21 1541			Boring before: SP-23 (36-40) Boring after: SP-19 (36-40) Container ID: 001334			
	EQB-28	4-6-21 1308			Boring before: SP-18 (46-50) Boring after: SP-16 (36-40) Container ID: 001334, 001334			
	EQB-29	3-22-21 1355			Boring before: SB-62 (6-5) Boring after: SB-57 (0-0.5) Container ID: 001036			
	EQB-30	3-23-21 0910			Boring before: SB-64 (4-6) Boring after: SB-8 (2-4) Container ID: 001036			
	EQB-31	3-23-21 1100			Boring before: SB-10 (4-6) Boring after: SB-61 (2-4) Container ID: 001036			
	EQB-32	3-23-21 1510			Boring before: SB-67 (4-6) Boring after: SB-45 (4-6) Container ID: 001036			
	EQB-33	3-24-21 1030		Boring before: SB-27 (4-6) Boring after: SB-70 (6-0.5) Container ID: 001036				
	EQB-34	3-24-21 1035		Boring before: SB-73 (2-4) Boring after: SB-70 (2-4) Container ID: 001036				
	EQB-35	3-24-21 1150		Boring before: SB-70 (0-0.5) Boring after: SB-69 (0-0.5) Container ID: 001036				
	EQB-36	3-24-21 1155		Boring before: SB-70 (2-4) Boring after: SB-69 (2-4) Container ID: 001036				
	EQB-37	3-24-21 0838		Boring before: SB-68 (5-10) Boring after: SB-45 (5-10) Container ID: 001036				
	EQB-38	3-24-21 0840		Boring before: SB-68 (10-15) Boring after: SB-45 (10-15) Container ID: 001036				
	EQB-39	3-24-21 1230		Boring before: SB-45 (10-15) Boring after: SB-72 (10-15) Container ID: 001036				
	EQB-40	5-19-21 1236		Boring before: DEPMW-2 (23-45) Boring after: DEPMW-3 (10-10) Container ID: 000386				
	EQB-41	5-24-21 1206		Boring before: DEPMW-5 (10-120) Boring after: DEPMW-6 (25-95) Container ID: 000273				
	EQB-42	6-14-21 1353		Boring before: DEPMW-1 (1-200) Boring after: DEPMW-3 (10-100) Container ID: 000964				
	Field Reagent Blanks	FRB-4		3-24-21 1011	DPT Groundwater Sampling	001062		
		FRB-5		6-14-21 1230	Groundwater Sampling	000838		
		FRB-6		3-24-21 0900	HA + DPT Decontamination	001105, 001062		
		FRB-7		5-19-21 1240	MW Decon MW Sampling	000273		
		FRB-8		6-14-21 1355	Extra	000964 off k-packer		
	IDW Samples							
	Drum Number	Sample ID		Matrix	IDW Source	Analytes		
		IDW-Soil-202103__		Soil	Soil cuttings	PFAS, VOCs, SVOCs, 8 RCRA Metals		
		IDW-Water-202103__		Water	Decontamination and purge water			

Notes:

1. DPT indicates direct push technology.
2. ft BLS indicates feet below land surface.
3. SB indicates soil boring.
4. HA indicates hand auger.
5. PFAS indicates per- and polyfluoroalkyl substances.
6. N/A indicates not applicable.
7. EQB indicates equipment blank.
8. SP indicates screen point.

9. EQB indicates equipment blank.
10. FRB indicates field reagent blank.
11. MW indicates monitoring well.

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: FFSFC	SITE LOCATION: OCALA, FL
WELL NO: DEP MW-2 (25-45')	SAMPLE ID: DEP MW-2 (25-45')
DATE: 6-14-21	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: 25 feet to 45 feet	STATIC DEPTH TO WATER (feet): 31.70	PURGE PUMP TYPE OR BAILER: ESP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (45 feet - 31.7 feet) X 0.16 gallons/foot = 2.12 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = _____ gallons + (_____ gallons/foot X _____ feet) + _____ gallons = _____ gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 33	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 33	PURGING INITIATED AT: 1035	PURGING ENDED AT: 1101	TOTAL VOLUME PURGED (gallons): 2.6							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR
1057	2.2	2.2	0.1	31.70	7.35	25.96	597	3.19	7.21	CLR	-
1059	0.2	2.4	0.1	31.71	7.34	26.00	595	3.23	3.54	CLR	-
1101	0.2	2.6	0.1	31.71	7.34	26.01	594	3.28	2.86	CLR	-
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Kieran Galloway / G&S				SAMPLER(S) SIGNATURE(S):				SAMPLING INITIATED AT: 1102		SAMPLING ENDED AT: 1105	
PUMP OR TUBING DEPTH IN WELL (feet): 33				TUBING MATERIAL CODE: HDPE				FIELD-FILTERED: Y <input checked="" type="radio"/>		FILTER SIZE: _____ μm	
FIELD DECONTAMINATION: PUMP <input checked="" type="radio"/> Y N				TUBING <input checked="" type="radio"/> Y <input type="radio"/> N (replaced)				DUPLICATE: Y <input checked="" type="radio"/> N			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)		
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
DEP MW2 (25-45')	2	HDPE	125mL	-	-	-	W-PRAS-MS	ESP	400		
REMARKS:											
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)											
SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)											

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: FFSFC		SITE LOCATION: Ocala, FL.	
WELL NO: DEPMW-7 (100'-120')	SAMPLE ID: DEPMW-7 (100'-120')	DATE: 6.14.21	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: 100 feet to 120 feet	STATIC DEPTH TO WATER (feet): 27.50	PURGE PUMP TYPE OR BAILER: ESP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (120 feet - 27.50 feet) X .16 gallons/foot = 14.79 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME = (BTRC) gallons + (gallons/foot X feet) + gallons = gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~29	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~29	PURGING INITIATED AT: 1720	PURGING ENDED AT: 2037	TOTAL VOLUME PURGED (gallons): 35

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR
1735	15	15	1.0								
1739	4	19									
1743	4	23									
STOPPED AFTER 12 gal due to heavy storms overhead. Well location is close to center of drainage ditch. closed off in anticipation of flooding. (RM)											
2024 Resumed purging											
2029	15	15	1.0	27.55	7.43	25.50	548	4.53	12.8	clear	None
2033	4	19	1.0	27.55	7.42	25.57	559	4.42	9.97	"	"
2037	4	23	1.0	27.55	7.39	25.58	563	4.38	8.02	"	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Rik Mathias GEOSYNTEC	SAMPLER(S) SIGNATURE(S): <i>Rik Mathias</i>	SAMPLING INITIATED AT: 2038	SAMPLING ENDED AT: 2039
PUMP OR TUBING DEPTH IN WELL (feet): ~29 (BTRC)	TUBING MATERIAL CODE: HDPE	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N	FILTER SIZE: μm
FIELD DECONTAMINATION: PUMP <input checked="" type="checkbox"/> N	TUBING Y <input checked="" type="checkbox"/> N (replaced)	DUPLICATE: Y <input checked="" type="checkbox"/> N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
DEPMW-7 (100'-120')	2	HDPE	125ml	 	 	 	W-PFAS-MS	ESP	~3800

REMARKS: **Sample Time 2038**

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: PPSFC	SITE LOCATION: SCALEA, FL
WELL NO: DEPMW-3 (20'-40')	SAMPLE ID: DEPMW-3 (20'-40')
DATE: 6-14-21	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: 20 feet to 40 feet	STATIC DEPTH TO WATER (feet): 27.54	PURGE PUMP TYPE OR BAILER: ESP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (40) feet - 27.54 feet X 0.16 gallons/foot = 1.99 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = _____ gallons + (_____ gallons/foot X _____ feet) + _____ gallons = _____ gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 29.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 29.5	PURGING INITIATED AT: 1715	PURGING ENDED AT: 1729	TOTAL VOLUME PURGED (gallons): 2.4							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) (mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1725	2.0	2.0	0.2	27.55	7.13	23.08	551	5.08	11.1	CLR	233.4
1727	0.2	2.2	0.1	27.55	7.12	23.05	551	5.13	4.5	CLR	233.5
1729	0.2	2.4	0.1	27.55	7.12	23.04	551	5.14	3.35	CLR	233.6
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Kieran Gallagher / GROSSINC				SAMPLER(S) SIGNATURE(S):				SAMPLING INITIATED AT: 1730		SAMPLING ENDED AT: 1735	
PUMP OR TUBING DEPTH IN WELL (feet): 29.5				TUBING MATERIAL CODE: HDPE				FIELD-FILTERED: Y (N) Filtration Equipment Type: _____		FILTER SIZE: _____ μm	
FIELD DECONTAMINATION: PUMP <input checked="" type="checkbox"/> N				TUBING <input checked="" type="checkbox"/> Y <input type="checkbox"/> N (replaced)				DUPLICATE: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)				INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
DEPMW-3 (20-40)	4	HDPE	125mL	ICE	-	-	W-PRAS-MS		ESP	400	
REMARKS:											
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)											
SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)											

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec Consultants
Water Quality Instrument Calibration Form

Project/Site: FPS FC

Project #: FR7522A

Field Personnel: KIERAN GALLAGHER

Water Quality Meter - Model/Serial #: YSI 556

Turbidimeter - Model/Serial #: Hach 2100Q

Dissolved Oxygen	DEP SOP FT 1500	Date	Time	Temp (°C)	Saturation (mg/L) ¹	Reading (mg/L)	Reading (%)	Pass or Fail
Acceptance Criteria: +/- 0.3 mg/L								
CAL ICV CCV		<u>6-14-21</u>	<u>0817</u>	<u>21.6</u>	<u>8.81</u>	<u>8.89</u>	<u>100.9</u>	<input checked="" type="radio"/> P <input type="radio"/> F
CAL ICV CCV		<u>u</u>	<u>2021</u>	<u>21.2</u>	<u>8.880</u>	<u>8.71</u>	<u>100.1</u>	<input checked="" type="radio"/> P <input type="radio"/> F
CAL ICV CCV								<input type="radio"/> P <input type="radio"/> F
CAL ICV CCV								<input type="radio"/> P <input type="radio"/> F

Specific Conductance	DEP SOP FT 1200	Date	Time	Standard (mS/cm)	Standard Lot #	Standard Exp. Date	Reading (mS/cm)	Pass or Fail
Acceptance Criteria: +/- 5%								
CAL ICV CCV		<u>6-14-21</u>	<u>0819</u>	<u>1413</u>	<u>168572</u>	<u>2/22</u>	<u>1420</u>	<input checked="" type="radio"/> P <input type="radio"/> F
CAL ICV CCV		<u>u</u>	<u>2021</u>	<u>1413</u>	<u>u</u>	<u>u</u>	<u>1422</u>	<input checked="" type="radio"/> P <input type="radio"/> F
CAL ICV CCV								<input type="radio"/> P <input type="radio"/> F
CAL ICV CCV								<input type="radio"/> P <input type="radio"/> F

pH	DEP SOP FT 1100	Date	Time	Standard (SU)	Standard Lot #	Standard Exp. Date	Reading (SU)	Pass or Fail
Acceptance Criteria: +/- 0.2 SU								
CAL ICV CCV		<u>6-14-21</u>	<u>0827</u>	<u>4</u>	<u>168316</u>	<u>2/23</u>	<u>4.12</u>	<input checked="" type="radio"/> P <input type="radio"/> F
CAL ICV CCV			<u>0830</u>	<u>7</u>	<u>168200</u>	<u>2/23</u>	<u>7.01</u>	<input checked="" type="radio"/> P <input type="radio"/> F
CAL ICV CCV			<u>0833</u>	<u>10</u>	<u>16065931</u>	<u>10/22</u>	<u>10.12</u>	<input checked="" type="radio"/> P <input type="radio"/> F
CAL ICV CCV		<u>u</u>	<u>2035</u>	<u>7</u>	<u>168200</u>	<u>2/23</u>	<u>7.03</u>	<input checked="" type="radio"/> P <input type="radio"/> F
CAL ICV CCV								<input type="radio"/> P <input type="radio"/> F
CAL ICV CCV								<input type="radio"/> P <input type="radio"/> F

ORP	SOP N/A	Date	Time	Std. mV @ Temp °C	Standard Lot #	Standard Exp. Date	Reading (mV)	Pass or Fail
Geosyntec Acceptance Criteria: +/- 5%								
CAL ICV CCV		<u>6-14-21</u>	<u>0824</u>	<u>240</u>	<u>168052</u>	<u>11/21</u>	<u>230</u>	<input checked="" type="radio"/> P <input type="radio"/> F
CAL ICV CCV		<u>u</u>	<u>2040</u>	<u>u</u>	<u>u</u>	<u>u</u>	<u>232</u>	<input checked="" type="radio"/> P <input type="radio"/> F
CAL ICV CCV								<input type="radio"/> P <input type="radio"/> F

0.1 - 10 NTU	Std <u>20</u> NTU	Date	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 10%				
CAL ICV CCV		<u>6-14-21</u>	<u>10.1</u>	<input checked="" type="radio"/> P <input type="radio"/> F
CAL ICV CCV		<u>u</u>	<u>10</u>	<input checked="" type="radio"/> P <input type="radio"/> F
CAL ICV CCV				<input type="radio"/> P <input type="radio"/> F
CAL ICV CCV				<input type="radio"/> P <input type="radio"/> F

11 - 40 NTU	Std <u>20</u> NTU	Date	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 8%				
CAL ICV CCV		<u>6-14-21</u>	<u>20.4</u>	<input checked="" type="radio"/> P <input type="radio"/> F
CAL ICV CCV		<u>u</u>	<u>20.2</u>	<input checked="" type="radio"/> P <input type="radio"/> F
CAL ICV CCV				<input type="radio"/> P <input type="radio"/> F
CAL ICV CCV				<input type="radio"/> P <input type="radio"/> F

41 - 100 NTU	Std <u>100</u> NTU	Date	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 6.5%				
CAL ICV CCV		<u>6-14-21</u>	<u>97.5</u>	<input checked="" type="radio"/> P <input type="radio"/> F
CAL ICV CCV				<input type="radio"/> P <input type="radio"/> F
CAL ICV CCV				<input type="radio"/> P <input type="radio"/> F
CAL ICV CCV				<input type="radio"/> P <input type="radio"/> F
CAL ICV CCV				<input type="radio"/> P <input type="radio"/> F
CAL ICV CCV				<input type="radio"/> P <input type="radio"/> F
CAL ICV CCV				<input type="radio"/> P <input type="radio"/> F
CAL ICV CCV				<input type="radio"/> P <input type="radio"/> F

>100 NTU	Std <u>200</u> NTU	Date	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 5%				
CAL ICV CCV		<u>6-14-21</u>	<u>775</u>	<input checked="" type="radio"/> P <input type="radio"/> F
CAL ICV CCV				<input type="radio"/> P <input type="radio"/> F
CAL ICV CCV				<input type="radio"/> P <input type="radio"/> F

Specific Conductance Probe Cleaned? Yes No Dissolved Oxygen membrane Changed? Yes No

1. See Table FS 2200-2 on the back of this form

CAL - Initial Calibration

ICV - Initial Calibration Verification

CCV - Continuing Calibration Verification

Allow adequate time for the dissolved oxygen sensor to equilibrate during air calibration

Calibrate specific conductance using at least two standards that bracket the range of expected sample readings (unless readings < 0.1 mS/cm then one standard of 0.1 mS/cm is acceptable)

Calibrate pH using at least two standards (typ. pH 4 and 7) that bracket the range of expected sample readings; always start with pH 7; add a third calibration point if needed (i.e. pH > 7)

If parameter fails to calibrate within SOP acceptance criteria then append sample results with a "J" qualifier

Comments: _____

Geosyntec
consultants

**Geosyntec Consultants
Water Quality Instrument Calibration Form**

Project/Site: **FFSFC**

Project #: **FR7522A**

Field Personnel: **Rik Mathias**

Water Quality Meter - Model/Serial #: **YSI 556 14A100108**

Turbidimeter - Model/Serial #: **HACH 200 Q 18110C 072188**

Dissolved Oxygen	DEP SOP FT 1500	Date	Time	Temp (°C)	Saturation (mg/L) ¹	Reading (mg/L)	Reading (%)	Pass or Fail
Acceptance Criteria: +/- 0.3mg/L								
CAL (ICV) CCV		6-14-21	0818	25.51	8.188	8.23	100.6	(P) F
CAL ICV (CCV)		11	2100	23.74	8.46	8.41	99.8	(P) F
CAL ICV CCV								P F
CAL ICV CCV								P F

0.1 - 10 NTU	Std 10 NTU	Date	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 10%				
CAL (ICV) CCV		6-14-21	10.2	(P) F
CAL ICV (CCV)		11	10.0	(P) F
CAL ICV CCV				P F
CAL ICV CCV				P F

Specific Conductance	DEP SOP FT 1200	Date	Time	Standard (mS/cm)	Standard Lot #	Standard Exp. Date	Reading (mS/cm)	Pass or Fail
Acceptance Criteria: +/- 5%								
CAL (ICV) CCV		6-14-21	0822	1413	16B572	2/22	1412	(P) F
CAL ICV (CCV)		4	2104	11	11	11	1410	(P) F
CAL ICV (CCV)								P F
CAL ICV CCV								P F

11 - 40 NTU	Std 20 NTU	Date	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 8%				
CAL (ICV) CCV		6-14-21	20.1	(P) F
CAL ICV (CCV)		4	19.9	(P) F
CAL ICV CCV				P F
CAL ICV CCV				P F

pH	DEP SOP FT 1100	Date	Time	Standard (SU)	Standard Lot #	Standard Exp. Date	Reading (SU)	Pass or Fail
Acceptance Criteria: +/- 0.2 SU								
CAL (ICV) CCV		6-14-21	0826	7.00	16B200	2/2023	7.12	(P) F
CAL (ICV) CCV		1	0831	4.00	16B396	2/2023	4.04	(P) F
CAL (ICV) CCV		1	0836	10.00	16A961	1/23	10.10	(P) F
CAL ICV (CCV)		1	2109	7.00	16B200	2/2023	7.10	(P) F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

41 - 100 NTU	Std 100 NTU	Date	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 6.5%				
CAL (ICV) CCV		6-14-21	103	(P) F
CAL ICV CCV				P F
CAL ICV CCV				P F
CAL ICV CCV				P F
CAL ICV CCV				P F
CAL ICV CCV				P F
CAL ICV CCV				P F
CAL ICV CCV				P F

ORP	SOP N/A	Date	Time	Std. mV @ Temp °C	Standard Lot #	Standard Exp. Date	Reading (mV)	Pass or Fail
Geosyntec Acceptance Criteria: +/- 5%								
CAL (ICV) CCV		6-14-21	0842	240.0	16A114	009/21	238.9	(P) F
CAL ICV (CCV)		11	2115	11	11	11	238.2	(P) F
CAL ICV CCV								P F

>100 NTU	Std 500 NTU	Date	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 5%				
CAL (ICV) CCV		6-14-21	793	(P) F
CAL ICV CCV				P F
CAL ICV CCV				P F

Specific Conductance Probe Cleaned? Yes **(No)** Dissolved Oxygen membrane Changed? Yes **(No)**

- 1. See Table FS 2200-2 on the back of this form
- CAL - Initial Calibration
- ICV - Initial Calibration Verification
- CCV - Continuing Calibration Verification

Comments: _____

Allow adequate time for the dissolved oxygen sensor to equilibrate during air calibration
 Calibrate specific conductance using at least two standards that bracket the range of expected sample readings (unless readings < 0.1 mS/cm then one standard of 0.1 mS/cm is acceptable)
 Calibrate pH using at least two standards (typ. pH 4 and 7) that bracket the range of expected sample readings; always start with pH 7; add a third calibration point if needed (i.e. pH > 7)
 If parameter fails to calibrate within SOP acceptance criteria then append sample results with a "J" qualifier



ATTACHMENT B
Photographic Log

GEOSYNTEC CONSULTANTS
Photographic Record



Client: Florida Department of Environmental Protection

Project Number: FR7522A

Site Name: Former Florida State Fire College (FFSFC)

Site Location: 1501 W Silver Springs Blvd, Ocala, FL

Photograph 1

Date: 14 June 2021 9:44

Direction: NW

Comments: View of equipment decontamination. All equipment was rinsed and scrubbed in a five (5) bucket sequence with Liquinox and PFAS-free water.



Photograph 2

Date: 14 June 2021 10:52

Direction: S

Comments: Kugelmann Land Surveying surveyed the newly installed monitoring wells and the WMS VISA monitoring well.



GEOSYNTEC CONSULTANTS
Photographic Record



Client: Florida Department of Environmental Protection

Project Number: FR7522A

Site Name: Former Florida State Fire College (FFSFC)

Site Location: 1501 W Silver Springs Blvd, Ocala, FL

Photograph 3

Date: 14 June 2021 12:45

Direction: S

Comments: Groundwater sampling activities at the WMS VISA monitoring well.



Photograph 4

Date: 17 June 2021 10:26

Direction: NW

Comments: Three drums were staged at the end of the groundwater sampling event, and they were removed from the site on 17 June 2021.



GEOSYNTEC CONSULTANTS
Photographic Record



Client: Florida Department of Environmental Protection

Project Number: FR7522A

Site Name: Former Florida State Fire College (FFSFC)

Site Location: 1501 W Silver Springs Blvd, Ocala, FL

Photograph 5

Date: 15 June 2021 17:25

Direction: NA

Comments: Samples were shipped on 15 June 21 and arrived on 16 June 21. Samples were placed on top of ice, covered with ice, and shipped with the chain of custody, RQ, and the cooler checklists taped to the cooler lid.

