



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2017

PAGE 1 OF 1

Data Qualified?

Yes / No

STORET Station Name: Santa Fe Hollingsworth Bluff Date: 4/5/2017

(mm/dd/yyyy)

STORET Station ID: 21030145 WBID: _____ Latitude: 29.8690

(Decimal Degrees)

County: Sumner RQ: 2017-04-03-16 ORG ID: 21 FLA Longitude: 82.7445

(Decimal Degrees)

Receiving Body of Water: _____ Field ID: 61NE0524

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment		
<u>Oranish</u> <u>B. Davis</u>					☒	☒	☒	☒	☒	☒ Sample Container	☐ Van Dorn	☐ Pole
										☐ Carboy	☐ Syringe	
										☐ Dipper	☐ Other	
										Equipment ID <u>Ortho Kit #</u>		
										Collection Method		
										☐ Wading	☒ Via Boat	
										☐ From Shore	☒ Canoe/Kayak	
										☐ Other (note below)	☐ Electric Motor	
										☐ Gasoline Motor		

Water Level: Dry / Pooled / Low / Normal / High / Flooded Matrix: Fresh / Marine / DI

Meter ID# YSI#3 Photos: Yes / No Tide Falling: Yes / No / NA

Time Zone	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk (m)	Sp COND (umhos/cm)	Temp. (C°)
EST	1130	0.3	2.0	5.60	64.7	7.57	0.21	VOR	430	22.48
CEN	1135	1.5		5.57	65.5	7.53	0.19	2.05	402	22.25

Biological Samples Collected: None HA SCI RPS Algae ID LVS LVI Other _____

SBIO ID Numbers: SBIO-ID: _____ RPS-ID: _____ Macrophyte-ID: _____ LIMS#: _____

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4			☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO2			☐ <2
Filtered Nutrients	☒ W-PO4-F ☐ Field Filtered 0.45 um Filter	☒ Ice			
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CI-IC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice			
Physical/Aggregate (Marine)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☒ MI-FW-QLDC	☒ Formalin			
Periphyton	☐ ALGAE-ID	☐ Ice			
Microbiology	☐ E Coli ☐ F Coli ☐ Enteroc ☐ PCR-FILTER	☐ Ice			
Tracers	☐ W-LCMS-DU ☐ W-UHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PCL-SQ-R ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other			

Notes:

Field ID:

G1NE0624 04052017

Santa Fe R @ Hollingsworth Bluff STORET

21030145

Signature: Jerry P. ... Date: 4/5/2017

Field Parameters Entered into LIMS: 9/4/17 (Initials/Date)

Field Parameters QC in LIMS: _____ (Initials/Date)

Date Migrated to STORET: _____ (Initials/Date)

Field Sheets Scanned/Saved: _____ (Initials/Date)

DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID 21FWA LATITUDE _____
 COUNTY Suwannee STORET # 21030145 LONGITUDE _____
 DATE 4/5/17 TIME 1130 SAMPLING AGENCY FWP/NE
 SITE NAME Santa Fe Hailingsworth
 FIELD ID/NAME 21030145 RECEIVING BODY OF WATER Suwannee River

RIPARIAN ZONE / STREAM FEATURES

Meter ID: YSI #3

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>80</u> Silviculture <u>15</u> Field/Pasture <u>5</u> Agricultural <u>5</u> Residential <u>5</u> Commercial <u>5</u> Industry <u>5</u> Other (Specify) <u>5</u>								Landscape Development Intensity Index (LDI) <u> </u>	
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy Local Watershed NPS Pollution: ☐ No evidence ☒ Slight ☐ Moderate ☐ Heavy						Typical Width (m) Depth (m) Velocity (m/sec) Transect <u>35</u> m wide <u>0.26</u> m/s <u>2</u> m deep			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>46</u> Right Bank: <u>18</u>				Hydrologic Modification Score (per FT 3101) <u>3-4</u>					
High Water Mark: <u>2</u> + <u>4</u> = <u>6</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☐ No					
Artificially ☒ No ☐ Mostly recovered, more sinuous Channelized: ☐ Some recovery ☐ Recent, severe				Canopy Cover % ☒ Open ☐ Lightly Shaded (11-45%) ☐ Heavily Shaded ☐ Moderate Shaded (46-80%)					

SEDIMENT / SUBSTRATE

Sediment Oils ☒ Absent ☐ Slight ☐ Moderate ☐ Profuse			Sediment Odors ☒ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify): _____			Smothering of Substrates Sand Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐ Silt Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐ Algae Smothering: None ☐ Slight ☐ Moderate ☒ Severe ☐				
SUBSTRATE TYPE Assessment Tool: ☒ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon			WATER QUALITY							
Invert ☐ PERI ☐ % Coverage # Times Sampled # Times Sampled			Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Woody Debris (Snags)			<u>0.3</u>	<u>22.48</u>	<u>7.57</u>	<u>5.6</u>	<u>64.7</u>	<u>430</u>	<u>0.21</u>	<u>VOB</u>
Undercut Banks / Roots										
Leaf Packs or Mat										
Aquatic Vegetation										
Rock or Shell Rubble										
Sand										
Mud / Muck / Silt										
Other <u>shell 20</u>										
Other <u>17250</u>										
Other										
System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) _____			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐				
Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____			Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) _____			Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐				

ABUNDANCE Not Obs. Rare Common Abundant
 Periphyton: ☐ ☐ ☐ ☒
 Fish: ☐ ☐ ☐ ☒
 Aquatic Plants: ☐ ☐ ☐ ☒
 Iron/Sulfur Bacteria: ☐ ☒ ☐ ☐

AMBIENT FIELD CONDITIONS / NOTES:

Hydrologic Disturbance Scoring ☐ 1-2 ☒ 3-4 ☐ 5-6 ☐ 7-8 ☐ 9-10
☐ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM

Jeremy Lamb / B. Parris

SIGNATURE:

Jeremy Lamb

4/5/17

RPS 8656

5410
77512
4/14/17

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Santa Fe Hollow with BLK</u>					County: <u>Sumner</u>		Date: <u>4/5/17</u>		Investigators: <u>J. P. Smith</u>	
Transect (m)	Point 1=right	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Transect (m)	Point 1=right	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	
0	1	5	N		60	1	5	N		
	2	5	N			2	5	N		
	3	N	Y			3	N	Y		
	4	N	Y			4	N	Y		
	5	N	Y	12		5	N	Y	0	
	6	N	Y			6	N	Y		
	7	N	Y			7	N	Y		
	8	4	N			8	5	N		
	9	4	N			9	5	N		
10	1	5	N		70	1	5	N		
	2	5	N			2	5	N		
	3	N	Y			3	N	Y		
	4	N	Y			4	N	Y		
	5	N	Y	4		5	N	Y	0	
	6	N	Y			6	N	Y		
	7	4	N			7	5	N		
	8	4	N			8	5	N		
	9	4	N			9	5	N		
20	1	5	N		80	1	5	N		
	2	5	N			2	5	N		
	3	N	Y			3	N	Y		
	4	N	Y			4	N	Y		
	5	N	Y	0		5	N	Y	0	
	6	N	Y			6	N	Y		
	7	4	N			7	5	N		
	8	5	N			8	5	N		
	9	5	N			9	5	N		
30	1	5	N		90	1	5	N		
	2	5	N			2	5	N		
	3	N	Y			3	N	Y		
	4	N	Y			4	N	Y		
	5	N	Y	24		5	N	Y	0	
	6	N	Y			6	N	Y		
	7	4	N			7	5	N		
	8	5	N			8	5	N		
	9	5	N			9	5	N		
40	1	5	N		100	1	5	N		
	2	5	N			2	5	N		
	3	N	Y			3	N	Y		
	4	N	Y			4	N	Y		
	5	N	Y	0		5	N	Y	0	
	6	N	Y			6	N	Y		
	7	4	N			7	5	N		
	8	4	N			8	5	N		
	9	4	N			9	5	N		
50	1	5	N							
	2	5	N							
	3	N	Y							
	4	N	Y							
	5	N	Y	0						
	6	N	Y							
	7	4	N							
	8	5	N							
	9	4	N							

Record "N" and check "Estimated" for points deeper than the Secchi depth; algae are presumed absent. Check "Estimated" if thickness estimated for deep points which can be seen but not reached.

Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. No estimated rank.

Record canopy cover as the number of small densiometer quadrants (out of 96) that HAVE canopy cover. Measure facing upstream at point 4, 5, or 6.

Collect algal mat sample following DEP SOP FS 7240 if the percentage of total sampled points with a thickness rank of 4, 5, or 6 is >20%.

STORET Station Number:

Secchi depth	
Estimated?	

# points ranked 4-6	
total points assessed	
% points ranked 4-6	

Check accompanying data collected at same site/date.

Algal mat sample	Y
Linear Veg Survey	Y
Habitat Assessment	Y
SCI/Biorecon	Y
Water sample	Y

RQ- 2017-04-03-16

Algal Thickness Rank

N	rough, no algae, slimy, algae up to 1mm:
3	>1mm - 6mm
4	>6mm - 20mm
5	>20mm - 10 cm
6	>10 cm

~~7752~~ 77512

Storet Number:	
----------------	--

Signature: *[Handwritten Signature]*

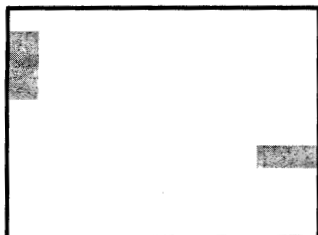
Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m² of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

Revision Date: March 1, 2014

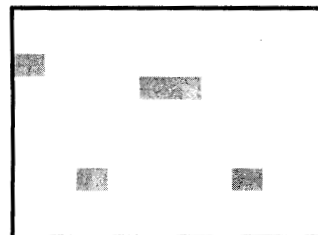
FDEP FORM FD 9000-32 LINEAR VEGETATION SURVEY FIELD SHEET

Percent Cover Categories for macrophytes in a 10 m segment of a stream 5 m wide

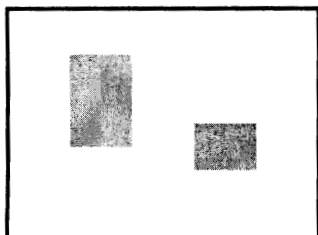
5% Macrophyte Coverage



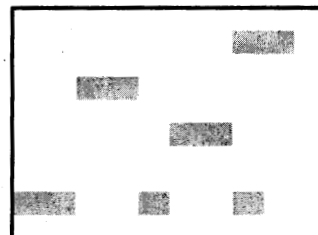
5% Macrophyte Coverage



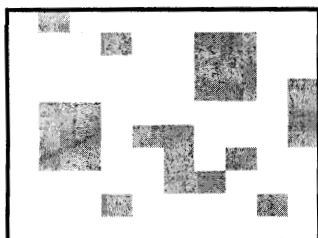
10% Macrophyte Coverage



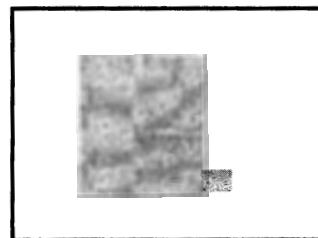
10% Macrophyte Coverage



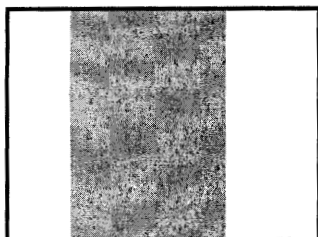
25% Macrophyte Coverage



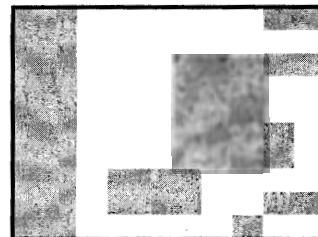
25% Macrophyte Coverage



50% Macrophyte Coverage



50% Macrophyte Coverage



DEP-SOP-001/01 Form FD 9000-4
Stream/River Habitat Sketch Sheet

Sanctuary
Hillsborough

S=1.5
R=2.0
V=1
R=1.0
V=4.0
V=1.0
V=4.0
S=0
Left
Bank
S=1.0
R=1.0
V=10m
S=0.15
R=0
V=0
R=0.5
V=0.5
S=0
R=0.5
S=0.5
V=6m
R=0.25m
S=2.0m
V=0.5
R=0

R=2.0
S=1.0
R=1.0
V=1
R=4.0
R=0.5
R=1.0
R=2.0
V=2.0
S=2.0
R=2.0
V=2.0
R=0.5
R=2.0
R=1.0
R=2.0
R=2.0
R=2.0
R=2.0
R=1.0
R=2.0

Location:

Date:

Sampler:

4/5/17

2mm

100 m: Latitude

Longitude

0 m: Latitude

Longitude

Substrates: Code key, draw proportionate habitat abundance.

S

Snags

2.5

R

Roots/undercut banks

4.5

Leaf Packs (or mats)

V

Aquatic Macrophytes

8

R

Rock

4.5

Pools

total # observed =

range expected =

Average width

35

m Excluding 8m

Average depth

m

Velocity measured at

meter mark.

WQ & chemistry taken at

meter mark.

Habitat Smothering:

Note areas (on map) where sand or silt is smothering substrates, limiting habitability.

Bank Stability:

Note areas (on map) with unstable, eroding banks.

Riparian Buffer Width:

Note areas (on map) where natural vegetation is altered or eliminated.

Plants observed / other notes:

4 = 1%
8 = 2%
12 = 3%
16 = 4%
32 veg.

4m x 100

400 total

Rest of area too deep

Length of grid represents 100 m of stream (not linear meters).
(Horizontal scale is double vertical scale, draw proportionately).

Revision Date: June 2, 2011

77512

DEP-SOP-001/01: Form FD 9000-5
STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION
STREAM/RIVER HABITAT ASSESSMENT FIELD SHEET

SUBMITTING AGENCY CODE: _____ SUBMITTING AGENCY NAME: _____		STORET STATION NUMBER: <u>21030145</u>	DATE (MM/DD/YY): <u>4/5/17</u>	RECEIVING BODY OF WATER: _____
REMARKS: _____	COUNTY: <u>Suwannee</u>	LOCATION: <u>Santa Fe @ Hollyworth Bluff</u>	FIELD ID/NAME: _____	

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags)	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered
Substrate Diversity <u>16</u>	20 19 18 17 <u>(16)</u>	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>13</u>	Greater than 30% major productive habitat present at site 20 19 18 17 16	16% to 30% major productive habitat, by aerial extent 15 14 <u>(13)</u> 12 11	6% to 15% major productive habitat 10 9 8 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>16</u>	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 20 19 18 17 <u>(16)</u>	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 <u>(15)</u> 14 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1
Habitat Smothering <u>13</u> Primary Score <u>58</u>	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 18 17 16	Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae. 15 14 <u>(13)</u> 12 11	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (<2 x prevailing depth). 10 9 8 7 6	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation. 5 4 3 2 1
Secondary Habitat Components	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks.	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered.	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area.	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks.
Artificial Channelization <u>20</u>	<u>(20)</u> 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability Right Bank <u>5</u> Left Bank <u>7</u>	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the root zone with few raw, eroded areas. 10 9	Only meets 2 of the 3 requirements for optimal bank stability. 8 <u>(7)</u> 6	Only meets 1 of the 3 requirements for optimal bank stability. <u>(5)</u> 4	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank <u>9</u> Left Bank <u>4</u>	Width of vegetation greater than 18 m 10 <u>(9)</u>	Width of vegetation >12 to 18m 8 7 6	Width of vegetation 6 to 12 m. human activities close to system 5 <u>(4)</u>	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank <u>9</u> Left Bank <u>5</u> Secondary Score <u>59</u>	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance. 10 <u>(9)</u>	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. 8 7 6	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious. <u>(5)</u> 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

117 **TOTAL SCORE**

Date: <u>4/5/17</u>	Analyst: <u>Jerry Carr / B. Lewis</u>	Signature: <u>Jerry Carr</u>
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CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there is qualified data on this page.

Meter YSI #3

RQ- 2017-04-03-16

Project

- Notes:** (1) Numbers ≤ 4 , are rounded down; numbers ≥ 5 are rounded up (e.g., 5.15 becomes 5.2).
 (2) Always wait for meter to stabilize before recording any readings.
 (3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Circle/Fill In: Lab Calibration or Calibration/Verification on Site

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification 03/04/2016 4/16-2/9/17

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	J. Parv. L	4/5/17	712	23.0	8.58	8.58	100	59.4	-	P	
ICV	2	4/5/17	715	23.2	8.55	8.54	99.8	58.4	-	P	
CCV	A. Kalmbacher	4-5-17	1600	23.9	8.43	8.49	100.7	57.4		P	L
CCV											

Report DO mg/L with one decimal figure and DO % saturation as a whole number with no decimals.

DO Acceptance criteria from Table ± 0.3 mg/L.

Rapid-Pulse Sensors: DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.

Optical: DO gain range 0.85 to 1.15; DO charge N/A.

Steady-state & Galvanic Sensors: DO Gain & Charge N/A.

Spec. Cond. FT 1200	Name	Date	Time CT-ET	Lot #	Expir. Date	Standard μ mhos/cm	Meter Reading μ mhos/cm	Pass / Fail	Lab / Field
Calibr.	J. Parv. L	4/5/17	723	161101A	11/17	1000	1000	P	
ICV	2	4/5/17	924	21472017	12/17	147	142	P	
CCV	A. Kalmbacher	4-5-17	1605	21472017	12/17	147	147	P	L
CCV									

Report specific conductance as a whole number with no decimal figure.

Conductivity Acceptance criteria $\pm 5\%$

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	J. Parv. L	4/5/17	725	2702C47	2/19	7.0	7.0	-15.3	P	
Calibr.	2	4/5/17	727	2702C47	2/19	4.0	4.0	12.7	P	
Calibr.	2	4/5/17	728	2702C47	2/19	10.0	10.0	185.7	P	
ICV	2	4/5/17	729	2702C47	2/19	7.0	7.08	-16.7	P	
CCV	A. Kalmbacher	4-5-17	1607	2702C47	7/19	7.0	7.02	-13.3	P	L
CCV										

Report pH with one decimal place; pH Acceptance criteria ± 0.2 SU; mV pH7 Range 0 $\pm$ 50;

mV pH 4 Range +180 $\pm$ 50;

mV pH 10 Range -180 $\pm$ 50; Slope from 7 to 10 and 4 to 7 must be between 165 and 180 mV

Depth (Quarterly)

Date of Last Depth Verification

Depth Sensor (Daily)	Name	Date	Time CT-ET	Zero the Sensor	ICV Value	Pass/ Fail	Lab / Field
Pressure mode in air	J. Parv. L	4/5/17	730	0.000	0.0	P	

ICV acceptance criteria $\pm 5\%$ or ± 0.05 m, whichever is greater

Scanned 4/19/17