

Field ID:



20030800 04272017

OF ENVIRONMENTAL PROTECTION RING PROGRAM FIELD SHEET

March 2017

PAGE 1 OF 1

Data Qualified?

Yes / No

Craig Creek @
Lorimer Rd

STORET



20030800

Date: 4/27/16

(mm/dd/yyyy)

WBID: 2297

Latitude: 30.29720

(Decimal Degrees)

County: Pinal

RQ - 2017-04-24-28

ORG ID: 21FLA

Longitude: 81.64436

(Decimal Degrees)

Receiving Body of Water: SJR

Field ID: See Label

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment		Collection Method		
B. De Pet O'Connor							☒ Sample Container ☐ Carboy ☐ Dipper	☐ Van Dorn ☐ Syringe ☐ Other	☐ Pole	☐ Wading ☐ From Shore ☐ Other (note below)	☐ Via Boat ☐ Canoe/Kayak ☐ Electric Motor ☐ Gasoline Motor
Equipment ID OrthoKit #											

Water Level: Dry / Pooled / Low / Normal / High / Flooded

Matrix: Fresh / Marine / DI

Meter ID# Quanta

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 (µmhos/cm)	Temp. (C°)
EST	1025	0.1	0.2	6.27	71.5	7.28	0.21	VOB	439	21.77
CEN								(s)		

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	6302030	10/28/17	☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☒ W-PO4-F ☐ Field Filtered 0.45 µm Filter	☐ Ice			
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-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 ☐ Enterococci ☐ qPCR	☐ Ice			
Tracers	☐ W-SUC-AA-R ☐ W-UHERB-AA ☐ W-AHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PCL-SQ-R ☐ W-UHERB-AA ☐ W-GLYPH ☐ W-SUC-AA-R	☐ Ice ☐ Other			

Place Preservative Sticker(s) Here
(If Available)

Notes:

Place Label Here
(If Available)

Signature: B. De

Date: 4/27/17

Field Parameters Entered into LIMS:

(Initials/Date)

Field Parameters QC in LIMS:

(Initials/Date)

Date Migrated to STORET:

(Initials/Date)

Field Sheets Scanned/Saved:

(Initials/Date)

DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

72582

SAMPLING AGENCY: NE ROC		STORET STATION NUMBER: 20030800	DATE (MM/DD/YY): 04-27-17	RECEIVING BODY OF WATER: LSSA
REMARKS: TIDAL?	COUNTY: DUVAL	LOCATION: CRAG CREEK LORIMER		FIELD ID/NAME:

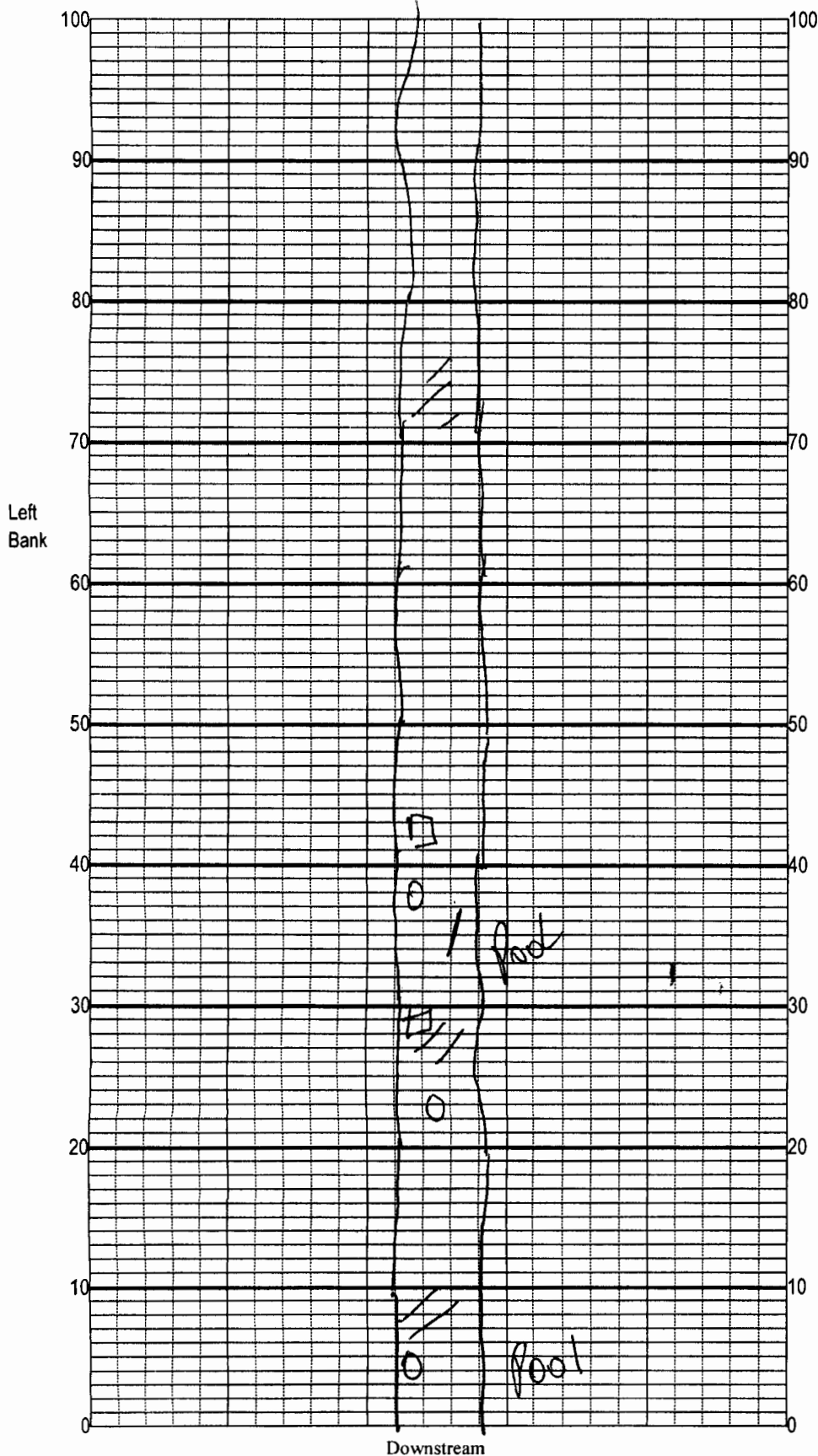
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock]	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>11</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>3</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 13 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>9</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 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 15 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 space occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1
Habitat Smothering <u>11</u> Primary Score <u>34</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 13 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>9</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability	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.	Only meets 2 of the 3 requirements for optimal bank stability.	Only meets 1 of the 3 requirements for optimal bank stability.	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas.
Right Bank <u>5</u> Left Bank <u>5</u>	10 9	8 7 6	5 4	3 2 1
Riparian Buffer Zone Width	Width of vegetation greater than 18 m	Width of vegetation >12 to 18m	Width of vegetation 6 to 12 m. human activities close to system	Less than 6 m of buffer zone due to intensive human activities
Right Bank <u>5</u> Left Bank <u>5</u>	10 9	8 7 6	5 4	3 2 1
Riparian Zone Vegetation Quality	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.	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed.	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious.	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions).
Right Bank <u>8</u> Left Bank <u>8</u> Secondary Score <u>45</u>	10 9	8 7 6	5 4	3 2 1

79

TOTAL SCORE

Date: 04-27-17	Analyst: PO Conn	Signature: Patrick Conn
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



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

Location: CRAIG Cr @ Lorimer
Date: 04-27-17
Sampler: PO'ism

100 m: Latitude _____	
Longitude _____	
0 m: Latitude _____	
Longitude _____	
Substrates: Code key, draw proportionate habitat abundance. %	
☒ Snags	4.6
☒ Roots/undercut banks	<1
☒ Leaf Packs (or mats)	<1
☒ Aquatic Macrophytes	
☒ Rock	<1
☒ Pools	total # observed = 2 # range expected = 3
Average width <u>3</u> m	
Average depth <u>0.2</u> m	
Velocity measured at <u>100</u> meter mark.	
WQ & chemistry taken at <u>100</u> 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:

< 2 M of Macrophytes was observed while doing the LVS? YES or NO NO

2m² Rock
14m² Snags
2m² Leaf

SAMPLE ID _____ ORG ID 21 FLA LATITUDE 30 17 45.4
COUNTY Duval STORET # 20030800 LONGITUDE 81 38 39.5
DATE 4/27/17 TIME 1025 SAMPLING AGENCY NE ROC
SITE NAME Chazy Cr @ Lorimer
FIELD ID/NAME _____ RECEIVING BODY OF WATER SSR

RIPARIAN ZONE / STREAM FEATURES

Meter ID: Quanta

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):

Forest/Natural 10 Silviculture _____ Field/Pasture _____ Agricultural _____ Residential 80 Commercial 10 Industry _____ Other (Specify) _____

Landscape Development Intensity Index (LDI)

Local Watershed Erosion (select one): ☐ None ☐ Slight ☒ Moderate ☐ HeavyLocal Watershed NPS Pollution: ☐ No evidence ☐ Slight ☐ Moderate ☒ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side

Left Bank: 2/2 Right Bank: 2/2

Hydrologic Modification Score (per FT 3101) _____

High Water Mark: 0.2 + 1.5 = 1.7
(m) (above present water level) (present depth) (above bed)

Artificially Impounded

☒ Yes ☐ No

Artificially

☐ No☐ Mostly recovered, more sinuousChannelized: ☐ Some recovery☒ Recent, severe

Canopy Cover %

☐ Open☒ Heavily Shaded☐ Lightly Shaded (11-45%)☐ Moderate Shaded (46-80%)

Typical Width (m) Depth (m) Velocity (m/sec) Transect

3.0 m wide_____ m/s 0.1 m/s _____ m/s_____ m deep 0.2 m deep _____ m deep

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 ☐ BioReconINVERT PERI
% # Times # Times
Coverage Sampled SampledWoody Debris (Snags) 14 _____Undercut Banks / Roots 51 _____Leaf Packs or Mat 51 _____

Aquatic Vegetation _____

Rock or Shell Rubble.. 51 _____

Sand..... _____

Mud / Muck / Silt _____

Other _____

Other _____

WATER

QUALITY

Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMH/C/M) Salinity (PPT) SECCHI (M)
Top: 0.1 21.77 7.28 6.27 71.5 489 0.21 108
Mid: _____
Bottom: _____System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) _____Water Odors Normal ☒ Petroleum ☐
Sewage ☒ Chemical ☐ Other ☐Water Surface Oils Normal ☒ Sheen ☐
Globs ☐ Slick ☐ Other ☐Water Sample Taken? ☒ Yes ☐ NoSample Preserved? ☒ Yes ☐ No

Lot Number: _____ Exp: _____

Color Tannic ☒ Green (Algae) ☐
Clear ☐ Other (Specify) ☐Algae Sample Taken? ☐ Yes ☒ NoSample Preserved? ☐ Yes ☒ No

Lot Number: _____ Exp: _____

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

B. Davis, P. O'Connor

SIGNATURE:

B. Davis4/27/17

77962

8677

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Craig Lake @ Lorimer</u>					County:		Date:		Investigators:		
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	STORET Station Number:	
0	1	N			60	1	N			94	
	2					2					
	3					3					
	4					4					
	5			86		5					
	6					6		X			
	7					7		X			
	8					8		X			
	9					9		N			
10	1	N			70	1	N			68	
	2					2		X			
	3					3		X			
	4					4		X			
	5			96		5		X			
	6					6		X			
	7					7		X			
	8					8		N			
	9					9		N			
20	1	N			80	1	N			96	
	2					2					
	3					3					
	4					4					
	5			96		5					
	6					6					
	7					7					
	8					8					
	9					9					
30	1	N			90	1	N			96	
	2					2					
	3					3					
	4					4					
	5			90		5					
	6					6					
	7					7					
	8					8					
	9					9					
40	1	N			100	1	N			96	
	2					2					
	3					3					
	4					4					
	5			96		5					
	6					6					
	7					7					
	8					8					
	9					9					
50	1	X			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.						
	2				Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. No estimated rank.						
	3				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.						
	4				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%.						
	5			96							
	6										
	7										
	8										
	9										

Secchi depth _____
Estimated? _____

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

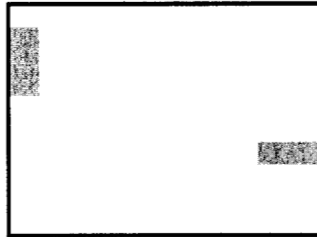
Check accompanying data collected at same site/date.
Algal mat sample _____
Linear Veg Survey _____
Habitat Assessment _____
SCI/Biorecon _____
Water sample _____
RQ- _____

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

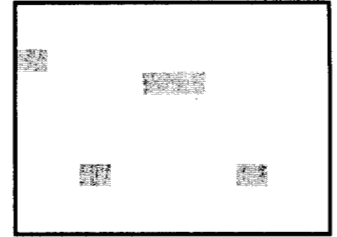
FDEP FORM FD 9000-32 LINEAR VEGETATION SURVEY FIELD SHEET

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

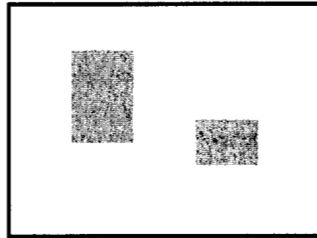
5% Macrophyte Coverage



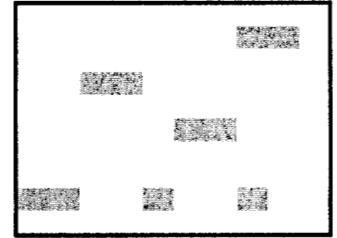
5% Macrophyte Coverage



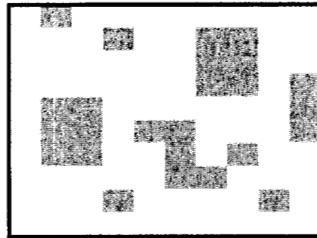
10% Macrophyte Coverage



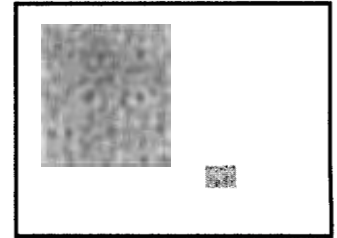
10% Macrophyte Coverage



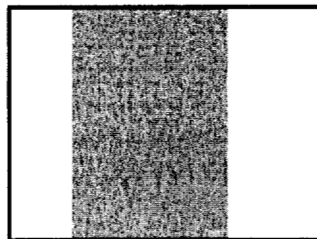
25% Macrophyte Coverage



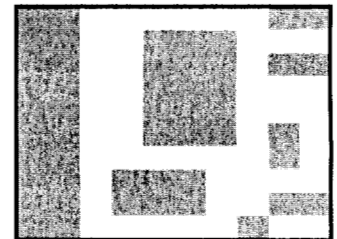
25% Macrophyte Coverage



50% Macrophyte Coverage



50% Macrophyte Coverage



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 name.

Meter QUANTA #1 RQ- 2017-04-24-28 Project LSJR S.S. #

- 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 L-6

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification 02-09-2017

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.	PO ₁ can	04-27-17	0738	23.0	8.57	8.57	100.0	—	—	Pass	LAB
ICV	✓	✓	0740	23.1	8.56	8.54	98.1	—	—	Pass	LAB
CCV	PO ₁ can	04-27-17	1550	25.4	8.20	8.44	102.8	—	—	Pass	LAB
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.	PO ₁ can	04-27-17	0725	161101A	11/2017	1000	1000	Pass	LAB
ICV	✓	✓	0727	161101B	05/2017	100	99	Pass	LAB
CCV	PO ₁ can	04-27-17		161101B	05/2017	100	100	Pass	LAB
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.	PO ₁ can	04-27-17	0705	2702247	02-2019	7.0	7.00	—	Pass	LAB
Calibr.	✓	✓	0710	2610F42	10-2018	4.0	4.00	—	Pass	LAB
Calibr.			0720	2611998	05-2018	10.0	9.93	—	Pass	LAB
ICV	PO ₁ can	04-27-17	1600	2702247	02-2019	7.00	7.1	—	Pass	LAB
CCV										
CCV										

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

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

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

Depth (Quarterly)

Date of Last Depth Verification N/A

Depth Sensor (Daily)	Name	Date	Time CT-ET	Zero the Sensor	ICV Value	Pass / Fail	Lab / Field
Pressure mode in air				0.000			

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

Scanned 5/2/17