

Site Name Titi Creek above SR 285
Field ID 64NW0365 Storet 64NW0365
Visit ID 79239
RPS ID 9247
VPDB ID N/A
HA ID 15663

Date: 2/27/19
Project: SMP
RQ: 2019-02-25-11
LIMS ID: _____

☒ ~~LVI~~ SCI

☐ RPS/LVS Only

☒ Sample Site Created in SBIO

☒ Phys/Chem entered in SBIO

☒ HA entered in SBIO

Initial FS 3/4/19

☐ Date and Initial QA: _____

☒ RPS entered in SBIO

Initial FS 3/4/19

☐ Date and Initial QA: _____

☐ LVI entered in SBIO

Initial _____

☐ Date and Initial QA: _____

☒ < 2 m² vegetation

☐ Plants getting verified

Date submitted: _____

☐ Plants verified

Date returned: _____

☐ RPS authorized in SBIO

☐ Date and Initial: _____

☐ RPS score: _____

☐ VPDB authorized in SBIO

☐ Date and Initial: _____

☐ VPDB score: N/A

☐ SCI complete: N/A (FS)

SCI Score: _____

☒ If SMP, scanned into database



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?
Yes / No

WIN Station Name: Titi Creek above SR 285

Date: 02/27/2019
(mm/dd/yyyy)

WIN/ Field ID: G4NW0365

WBID: 321

Latitude: 30.702054

County: Okaloosa

ORG ID: 21FLPNS

Longitude: -86.386870
(Decimal Degrees)

Receiving Body of Water: Shoal River

RQ-2019- 02-25-11
(Decimal Degrees)

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
										☒ Sample Container	☐ Van Dorn	☐ Pole		
										☐ Carboy	☒ Syringe			
										☐ Dipper	☐ Other			
					Depth Measured with					Equipment ID				
										Collection Method				
										☒ Wading	☐ Canoe/Kayak			
										☐ From Shore	☐ Electric Motor			
										☐ Other	☐ Gasoline Motor			
Water Level: Dry / Pooled / Low / <u>Normal</u> / High / Flooded					Meter ID# <u>154114</u>					Matrix: <u>Fresh</u> / Marine / DI				
Photos: <u>Yes</u> / No					Flow: No Flow / Intestinal / <u>Flowing</u> / NA					Tide: Rising / Falling / Slack / NA				
Tide Times: High / Low														
Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (umhos/cm)	Temp. (C°)				
EST														
<u>CEN</u>	<u>1120</u>	<u>0.4</u>	<u>0.2</u>	<u>VDB</u>	<u>9.10</u>	<u>99.9</u>	<u>4.62</u>	<u>0.00</u>	<u>12.2</u>	<u>17.3</u>				
Biological Samples Collected: None / <u>HA</u> / <u>SCI</u> / <u>RPS</u> / Algae ID: <u>LVS</u> / LVI / Other:														
SBIO ID Numbers: SBIO-ID: <u>79239</u> / HA-ID: <u>15663</u> / RPS-ID: <u>9247</u> / Macrophyte-ID: <u>N/A</u> / LIMS#:														
Parameter Suite		Parameter Methods				Preservation		Lot#	Expiration	pH Check				
Preserved Nutrients		☒ W-NH3 / ☒ W-NO2NO3 / ☒ W-TKN / ☒ W-TOC / ☒ W-S-A-TP				☒ Ice ☒ H2SO4		<u>8197090</u>	<u>7/1/19</u>	☐ <2				
Metals		☒ W-ICPMS ☒ W-ICP				☒ Ice ☒ HNO3		<u>6197080</u>	<u>7/1/19</u>	☐ <2				
Filtered Nutrients		☒ W-PO4-F ☒ Field Filtered 0.45 um Filter				☒ Ice		<u>10570048</u>						
Chlorophyll		☒ CHLSUITE-W				☒ Ice								
Physical/Aggregate (Fresh)		☒ Alkalinity / ☒ W-F / ☒ W-TSS / ☒ TURBIDITY / ☒ W-CHIC / ☒ W-COLOR / ☒ W-SO4-IC / ☒ W-TDS				☒ Ice								
Physical/Aggregate (Marine)		☒ Alkalinity / ☒ W-BR-IC / ☒ W-F / ☒ W-TSS / ☒ TURBIDITY				☒ Ice								
Macroinvertebrates		☒ ML-FW-QLDC				☒ Formalin								
Periphyton		☒ ALGAE-ID				☒ Ice								
Microbiology		☒ E Coli ☐ F Coli ☐ Enterococci				☒ Ice								
Molecular		☒ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD				☒ Ice								
Tracers		☒ W-E8321-DI ☒ W-E8321-MS				☒ Ice								
Pesticides		☒ W-PSNP-TQ				☒ Ice								
Phytoplankton		☐ DTY-QN-C ☐ PKD-QN-C												

Notes: Biology

Field/WIN ID →



Location:
Titi Creek above SR 285

Signature: [Signature]

Date: 2/27/19

LIMS EVENT ID: _____ WIN Import ID: _____
Enter Field Parameters, Verify Station ID In LIMS DMT: _____ QC Station ID, Field Parameters In LIMS DMT: _____
Scan/Save Field Sheets _____ Migrate Data to WIN: _____ Verify Data In WIN: _____
(Initials/Date) (Initials/Date) (Initials/Date)

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

SAMPLE ID 79239 ORG ID 21FLPMS LATITUDE 30.702054
 COUNTY Okechosa STORET # 64NW0365 LONGITUDE 86.386870
 DATE 2/27/19 TIME 1120 SAMPLING AGENCY 11WROC
 SITE NAME Titi Creek above SR 285
 FIELD ID/NAME 64NW0365 RECEIVING BODY OF WATER Shoal River

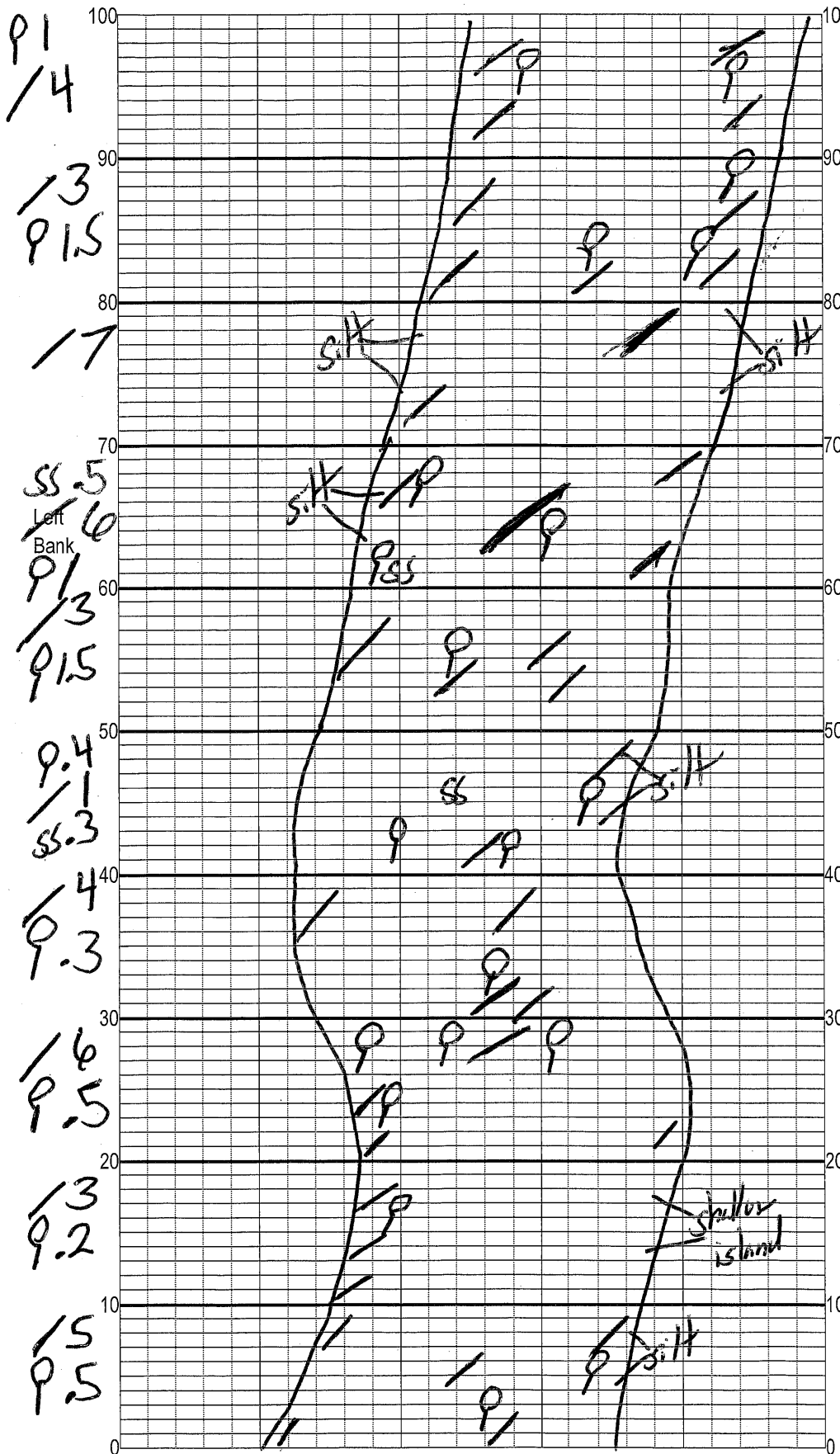
RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☐ Commercial ☐ Industry ☐ Other (Specify) ☐							Landscape Development Intensity Index (LDI) ☐
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 6.5 m wide 1/3 m/s 1/3 m/s 1/3 m/s 0.5 m deep 0.5 m deep 0.5 m deep
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>18</u> Right Bank: <u>18+</u>				Hydrologic Modification Score (per FT 3101) <u>1-2</u>			
High Water Mark: ☐ + ☐ = ☐ (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		
Woody Debris (Snags) <u>6.5</u> <u>7</u> Undercut Banks / Roots <u>0.1</u> <u>1</u> Leaf Packs or Mat <u>1.1</u> <u>7</u> Aquatic Vegetation Rock or Shell Rubble..... Sand..... <u>92.3</u> <u>5</u> Mud / Muck / Silt Other Other			Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: <u>0.2</u> <u>17.3</u> <u>4.62</u> <u>9.10</u> <u>99.9</u> <u>12.2</u> <u>0.00</u> <u>0.5</u> Mid: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☒ VOB Bottom: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Meter ID: <u>154179</u> TOTAL DEPTH <u>0.5</u>		
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☒ ☐ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☒ ☐ ☐ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____ Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____		
System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐ Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐ Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐		
AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.			SAMPLING TEAM <u>Nathan Melby / Stephen Stale</u>		
SIGNATURE: <u>Nathan Melby</u>			DATE: <u>2/27/19</u>		

Q4NW0365



Location: Titi Creek
 Date: 2/27/19
 Sampler: Nathan Mulkey

100 m: Latitude 30.70201
 Longitude 86.38583
 0 m: Latitude 30.70199
 Longitude 86.38680

Substrates: Code key, draw proportionate habitat abundance.

	%
Snags ⁴² / ₆₅₀ ^{0.8} / ₆₅₀ <u>6.5</u>	
Roots/undercut banks <u>0.1</u>	
Leaf Packs (or mats) ⁷⁵⁰ / ₆₅₀ <u>1.1</u>	
Aquatic Macrophytes	
Pools	
total # observed = _____	
# range expected = _____	

Average width 6.5 m

Average depth 0.5 m

Velocity measured at 100 meter mark. 1/3

WQ & chemistry taken at 0 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:

Titi grass

Titi Ck. above SR285
SR1079239

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

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

SAMPLING AGENCY: <i>FDEP NWROC</i>		STORET STATION NUMBER: <i>64NW0365</i>	DATE (MM/DD/YYYY): <i>02/27/19</i>	RECEIVING BODY OF WATER: <i>St. Johns River</i>
REMARKS:	COUNTY: <i>Okaloosa</i>	LOCATION: <i>Titi Creek</i>	FIELD ID/NAME: <i>64NW0365</i>	

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 <i>10</i>	20 19 18 17 16	15 14 13 12 11	<i>10</i> 9 8 7 6	5 4 3 2 1
Substrate Availability <i>9</i>	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 <i>9</i> 8 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <i>20</i>	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 <i>20</i> 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 spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1
Habitat Smothering <i>18</i> ----- Primary Score <i>57</i>	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 <i>18</i> 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 or straightening 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 <i>18</i>	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 woody 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 woody root zone with raw, eroded areas.
Right Bank <i>10</i> Left Bank <i>9</i>	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 <i>10</i> Left Bank <i>8</i>	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 <i>10</i> Left Bank <i>8</i> ----- Secondary Score <i>73</i>	10 9	8 7 6	5 4	3 2 1

130

TOTAL SCORE *SB10 TO 79239*

HA TO 15663

Date: <i>2/27/19</i>	Analyst: <i>Nathan Mulkey</i>	Signature: <i>Nathan Mulkey</i>
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DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Titi Creek County: Oklahoma Date: 2/27/19 Investigators: Nathan Mulkey

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	N	NO	40	60	1	N	NO	60
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
10	1	N		35	70	1	N		40
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
20	1	N		44	80	1	N		62
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
30	1	N		58	90	1	N		70
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
40	1	N		62	100	1	N		42
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
50	1	N		68		1	N		
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								

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: G3NW0365-1B

G4NW0365

Secchi depth 0.5
Estimated?

points ranked 4-6 8
total points assessed 99
% points ranked 4-6 8

Check accompanying data collected at same site/date.

Algal mat sample	
Linear Veg Survey	<u>1/1</u>
Habitat Assessment	<u>1/1</u>
SCI/Biorecon	<u>1/1</u>
Water sample	<u>1/1</u>

RQ 2019-02-25-11

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

SB10 ID 79239

RPS ID 9247

Waterbody: <i>Titi Creek above SR285</i>	Date: <i>207/19</i>	County: <i>Okauchee</i>	Storet Number: <i>64NW036</i>
Analyst: <i>Nathan Malley</i>	Signature: <i>Nathan Malley</i>		
Comments: <i>LKS not waterfowl due to <2m² SAV</i>			

[illegible]