

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

SAMPLE ID 81625 ORG ID 21FLWQSP LATITUDE 30.2361
 COUNTY Nakulla STORET # 22030062 LONGITUDE -84.2722
 DATE 10/26/2020 TIME 11:30 AM SAMPLING AGENCY FDEP/AEQA
 SITE NAME McBride's Slough RECEIVING BODY OF WATER Nakulla R.
 FIELD ID/NAME McBridRef LIMS ID 2204776

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) <u>1.2 (2016)</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>3</u> m wide <u>0.2</u> m/s <u>0.25</u> m/s <u>0.2</u> m/s				
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>>18m</u> Right Bank: <u>>12m</u>				Hydrologic Modification Score (per FT 3101) <u>1-2</u>				
High Water Mark: <u>0.2</u> + <u>0.2</u> = <u>0.4</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					
Woody Debris (Snags) <u>10</u> <u> </u> <u></u> Undercut Banks / Roots <u><1</u> <u>1</u> <u></u> Leaf Packs or Mat <u></u> <u></u> <u></u> Aquatic Vegetation <u>60</u> <u> </u> <u></u> Rock or Shell Rubble.. <u></u> <u></u> <u></u> Sand..... <u>39</u> <u> </u> <u></u> Mud / Muck / Silt <u></u> <u></u> <u></u> Other <u></u> <u></u> <u></u> Other <u></u> <u></u> <u></u>			Depth (M) <u>0.1</u> Temp. (°C) <u>20.9</u> pH (SU) <u>7.47</u> D.O. (MG/L) <u>3.31</u> D.O. Sat (%) <u>37.5</u> Cond. (UMHO/CM) <u>364.2</u> Salinity (PPT) <u></u> SECCHI (M) <u>0.4</u>	Top: <u>0.1</u> Mid: <u></u> Bottom: <u></u> Meter ID: <u>154185</u>				
Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐			Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐		
Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____			Algae Sample Taken? ☐ Yes ☐ No Sample 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: ☒ ☐ ☐ ☐			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐					
AMBIENT FIELD CONDITIONS / NOTES: <u>Truss down ~ 30m, had to go around.</u> <u>Re-flagged the site.</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.								

SAMPLING TEAM S. Noble, J. Patronis, J. Piacente SIGNATURE: S. Noble DATE: 10/26/2020

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

SAMPLING AGENCY: <u>FDEP/AEQAS</u>		STORET STATION NUMBER: <u>22030062</u>	DATE (MM/DD/YY): <u>10/26/20</u>	RECEIVING BODY OF WATER: <u>Wakulla R.</u>
REMARKS:	COUNTY: <u>Wakulla</u>	LOCATION: <u>McBride's Slough</u>		FIELD ID/NAME: <u>McBride Ref</u>

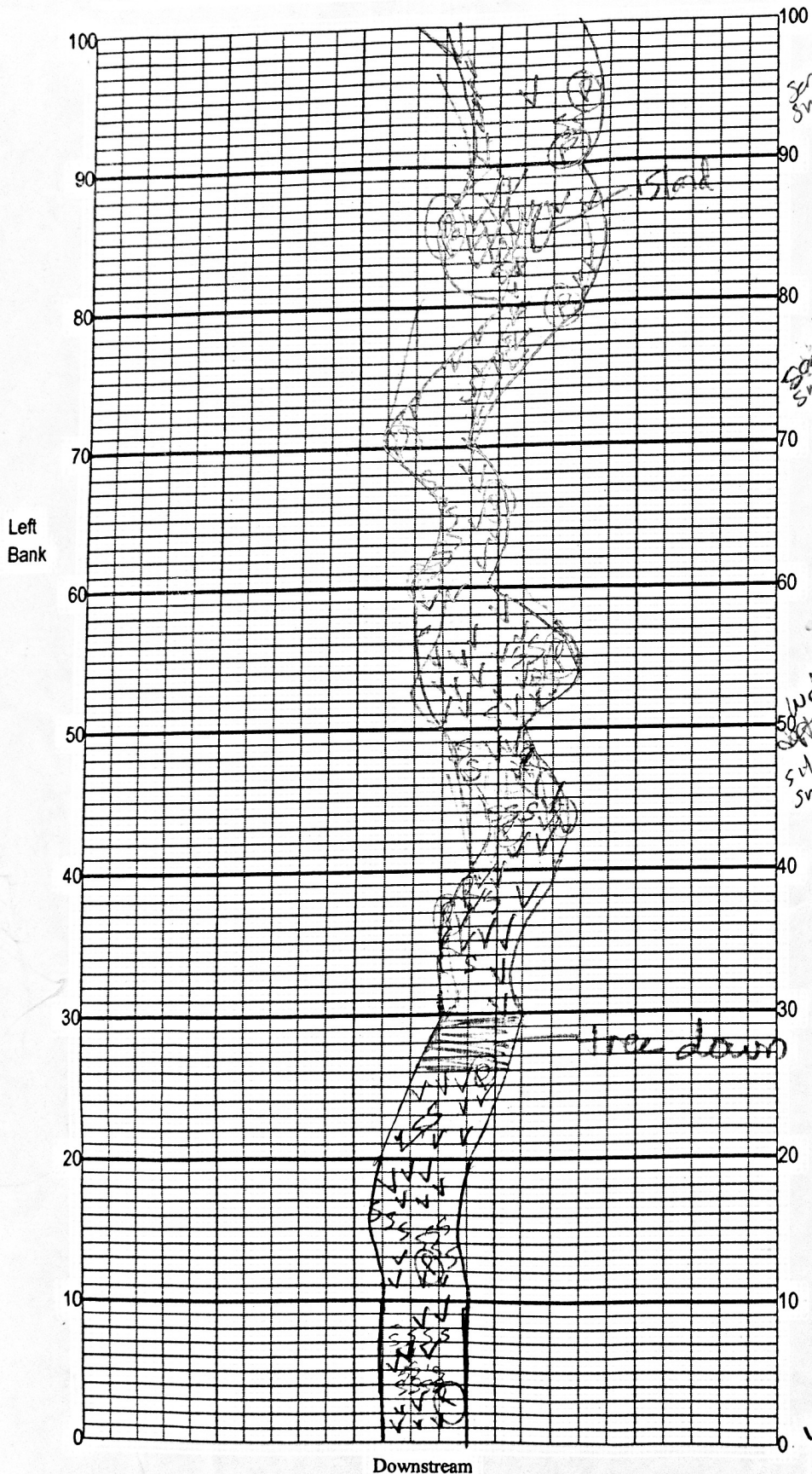
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>10</u>	20 19 18 17 16	15 14 13 12 11	<u>10</u> 9 8 7 6	5 4 3 2 1
Substrate Availability <u>18</u>	Greater than 30% major productive habitat present at site 20 19 <u>18</u> 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>15</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 <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>19</u> Primary Score <u>62</u>	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 <u>19</u> 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 Artificial Channelization <u>25</u>	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. <u>20</u> 19 18 17 16	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered. 15 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 7 6	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks. 5 4 3 2 1
Bank Stability Right Bank <u>10</u> Left Bank <u>10</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. <u>10</u> 9	Only meets 2 of the 3 requirements for optimal bank stability. 8 7 6	Only meets 1 of the 3 requirements for optimal bank stability. 5 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>7</u> Left Bank <u>10</u>	Width of vegetation greater than 18 m 10 9	Width of vegetation >12 to 18m 8 7 6	Width of vegetation 6 to 12 m. human activities close to system 5 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank <u>10</u> Left Bank <u>10</u> Secondary Score <u>77</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 9	>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. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

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TOTAL SCORE

Date: <u>10/26/2020</u>	Analyst: <u>S. Noble</u>	Signature: <u>Janet C. Noble</u>
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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: McBride's Slough
Date: 10/26/2020
Sampler: J. Piacente / S. Noble

100 m: Latitude 30.23883
Longitude 84.26987
0 m: Latitude 30.23806
Longitude 84.27032

Substrates: Code key, draw proportionate habitat abundance. %

☒ S	Snags	___
☒ R	Roots/undercut banks	___
☐	Leaf Packs (or mats)	___
☒ V	Aquatic Macrophytes	___
☒ P	<u>pool</u>	___
☐		___
☐	Pools	total # observed = ___ # range expected = ___

Average width 3 m
Average depth 0.4 m

Velocity measured at 70 meter mark.

WQ & chemistry taken at 70 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:

V left = 4.5/m
V center = .25 m/s
V left = 4.5/m
V right = .2 m/s
width ~ 3m
depth ~ .2m

RPS ID: 9641

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>McBride Slough</u>					County: <u>Nakulla</u>		Date: <u>10/26/20</u>		Investigators: <u>J. Pricente</u>	
					STORET Station Number: <u>22030062</u>					
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			60	1	N			
	2	N				2	N			
	3	N				3	N			
	4	N				4	N			
	5	N		96		5	N		96	
	6	N				6	N			
	7	N				7	N			
	8	N				8	N			
	9	N				9	N			
10	1	N			70	1	N			
	2	N				2	N			
	3	N				3	N			
	4	N				4	N			
	5	N		92		5	N		66	
	6	N				6	N			
	7	N				7	N			
	8	N				8	N			
	9	N				9	N			
20	1	N			80	1	N			
	2	N				2	N			
	3	N				3	N			
	4	N				4	N			
	5	N		70		5	N		92	
	6	N				6	N			
	7	N				7	N			
	8	N				8	N			
	9	N				9	N			
30	1	N			90	1	N			
	2	N				2	N			
	3	N				3	N			
	4	N				4	N			
	5	N		96		5	N		84	
	6	N				6	N			
	7	N				7	N			
	8	N				8	N			
	9	N				9	N			
40	1	N			100	1	N			
	2	N				2	N			
	3	N				3	N			
	4	N				4	N			
	5	N		96		5	N		92	
	6	N				6	N			
	7	N				7	N			
	8	N				8	N			
	9	N				9	N			
50	1	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%.					
	2	N								
	3	N								
	4	N								
	5	N		96						
	6	N								
	7	N								
	8	N								
	9	N								

Secchi depth	0.4
Estimated?	

# points ranked 4-6	0
total points assessed	99
% points ranked 4-6	0

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	✓
Habitat Assessment	✓
SCI/Biorecon	✓
Water sample	✓
RQ-2020-09-21-42	

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

LV3 ID: 11757

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

Waterbody: McBride Slough Date: 10/26/12 County: Wakulla Storet Number: 27030063
 Analyst: S Noble, J Patronis Signature: James L. Noble

Comments:

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.

HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)	HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100			0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	
Alternanthera philoxeroides												Micranthemum glomeratum											
Bacopa caroliniana												Micranthemum umbrosum											
Bacopa monnieri												Myriophyllum aquaticum											
Bidens mitis												Najas guadelupensis											
Boehmeria cylindrica												Nuphar luteum											
Centella asiatica												Orontium aquaticum											
Ceratophyllum demersum												Panicum hemitomon											
Chara												Panicum repens											
Cicuta maculata <u>slim suave</u>												Panicum rigidulum											
Cladium jamaicense												Pistia stratioides											
Colocasia esculenta												Polygonum glabra											
Commelina diffusa												Polygonum hydropiperoides											
Commelina virginica												Polygonum punctatum											
Crinum americanum												Pontedaria cordata											
Diodia virginiana												Potamogeton illinoensis											
Eichhornia crassipes												Ruellia simplex											
Eleocharis (wispy viviparous)												Sacciolepis striata											
Hydrilla verticillata												Sagittaria kurziana											
Hydrocotyle												Sagittaria lancifolia											
Hygrophila polysperma												Sagittaria latifolia											
Hymenocallis												Salvinia minima											
Lachnanthes caroliniana												Samolus parviflora											
Landoltia punctata												Saururus cernuus											
Lemna												Sparganium americanum											
Limnophila sessiflora												Typha											
Ludwigia leptocarpa												Vallisneria americana											
Ludwigia palustris												Zizania aquatica											
Ludwigia peruviana												R. corniculata											
Ludwigia repens												Unk (1)											
Luziola fluitans												Unk (2)											
Lobelia cardinalis												Peltandra											
Fontinalis												(1) Rorippa aquatica											
Ilex myrtifolia												(2) Micromeria brownei											
If no Dominant or Co-Dominant were selected, indicate with "X"																							
Indicate % cover macrophytes per section																							
0-5% Macrophyte Coverage																							
>5 and ≤10% Macrophyte Coverage																							
>10 and ≤25% Macrophyte Coverage																							
>25 and ≤50% Macrophyte Coverage																							
> 50% Macrophyte Coverage																							

SITE NAME: McBride's Slough DATE: 10/26/20 TIME: 11:30 EST CST DEPTH: 0.1 ft FIELD ID: McBrideRef

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK
SARAH NOBLE	X				
JESSICA PATRONIS		X	X	X	
JENNIFER PIACENTE			X		

SAMPLING EQUIPMENT	
☒ Sample Container	☐ Tubing type: _____
☐ Pole	☐ Other _____
☐ Pump ID#: _____	☐ Other _____
WATER QUALITY MEASUREMENTS	
Instrument ID: <u>154185</u>	
COLLECTION MODE	
☒ Wading	☐ Via Boat
☐ Diving	☐ Canoe
☐ From Shore	☐ Electric Motor
☐ Other _____	☐ Gasoline Motor

Preserved Nutrients	Matrix Code	Preservative	pH Check	Bottles
☐ TKN ☐ TP ☐ NOx ☐ NH3 ☐ TOC ☐ Total N	S W	☒ Ice ☒ H2SO4	☒ <2	1
☐ Other: _____	S W	☒ Ice ☒ .45 um Filter		1
Filtered Nutrients	S W	☒ Ice		
Unpreserved Nutrients	S W	☒ Ice		
Physical/Aggregate Properties	S W	☒ Ice		1
Chlorophyll	S W	☒ Ice		1
BOD	W	☐ Ice		
Microbiology	S W	☒ Ice		1
Macroinvertebrates	S W	☒ Formalin		4
Phytoplankton	W	☐ Lugol's		
Periphyton	W	☐ Formalin		
AGP	W	☐ Ice		
Metals	S W	☒ HNO3	☒ <2	1
Filtered Metals	W	☒ HNO3 ☐ .45 um Filter	☐ <2	
Mercury	W			
Base/Neutral / Acid Extractable	W	☐ Ice ☐ H2SO4	☐ <2	
Pesticides	W	☐ Ice		
Purgeables	W	☐ Ice ☐ H2SO4		
Bioassay	W	☐ Ice ☐ HCl		
OTHER	S W	☐ Other: <u>ICE</u>		1

Notes:

Contains: 1:1 H2SO4
Lot No.: SA9354050
Expires: 12/20/20
See Safety Data Sheet (SDS)

NITRIC ACID 20-70%
DANGER
7897-37-2
7732-18-6
Contains: 1:1 HNO3
May irritate the respiratory tract. May be corrosive to metals. Causes severe skin burns and eye damage. Avoid breathing dusts or vapors. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/protective footwear. Wash contaminated clothing before reuse. Avoid splash to prevent material damage. If spilled, clean up immediately. If contaminated clothing is worn, remove it as soon as possible. If swallowed, seek medical attention immediately. If inhaled, seek medical attention immediately. If on skin, wash with plenty of water. If on face, wash with plenty of water. If on clothing, remove clothing and wash with plenty of water. If on skin, wash with plenty of water. If on face, wash with plenty of water. If on clothing, remove clothing and wash with plenty of water. If on skin, wash with plenty of water. If on face, wash with plenty of water. If on clothing, remove clothing and wash with plenty of water.

W-E8321-D1 KE (1)
W-E8321-MS ICE (1)
W-PSNP-TQ KE (4)

Use one line for each set of sample (as supplied by the laboratory) containers. Use separate sheet for field or laboratory duplicate or blank or different water depth

Enter "S" for surface if collected at a depth less than or equal to 1 foot

Matrix Codes (Insert prefix): SW = Surface Water GW = Groundwater DW = Drinking Water WW = Wastewater O = Other: _____

*PRESERVATIVES: 1 ml added unless otherwise noted

**Enter number of containers supplied by the laboratory for the test (e.g., 3 for volatile organics, etc.)

DEP Bureau of Laboratories Water Sample Collection Record

(Use with FDEP SOP-001/01 Form FD 9000-3 Physical/Chemical Characterization Field Sheet)