FDEP FORM FD 9000-3: PHYSICAL/CHEMICAL CHARACTERIZATION FIELD SHEET

SAMPLE ID _____ ORG ID 21FLWQSP LATITUDE 30° 24' 48.7"
COUNTY BAY STORET # 32020663 LONGITUDE -85° 52' 06.0"
DATE 7/9/14 TIME 11:20 EST SAMPLING AGENCY FDEP AEGA
SITE NAME LITTLE CROOKED CREEK
FIELD ID/NAME LTCRKCKREF RECEIVING BODY OF WATER Pine Log Creek

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

Width of Riparian Vegetation (m) on Each Buffer Side
Left Bank: >18 Right Bank: 18

Hydrologic Modification Score (per FT 3101): _____

High Water Mark: 1.0 (m) + 0.4 (above present water level) = 1.4 (present depth) (above bed)

Artificially Impounded ☐ Yes ☑ No

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

0.2 m/s	0.25 m/s	0.25 m/s
0.4 m deep	0.4 m deep	0.4 m deep

Artificially Channelized: ☒ NO ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ Recent, severe

Canopy Cover % ☐ Open ☑ Heavily Shaded ☐ Lightly Shaded (11-45%) ☐ Moderate Shaded (46-80%)

SEDIMENT / SUBSTRATE

Sediment Oils ☑ Absent ☐ Slight ☐ Moderate ☐ Profuse

Sediment Odors ☑ Normal (major) ☐ Sewage ☐ Petroleum ☐ Chemical ☑ Anaerobic (minor) ☐ 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

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	11	57	
Undercut Banks / Roots	<1	1½	
Leaf Packs or Mat	7	47	
Aquatic Vegetation			
Rock or Shell Rubble			
Sand	4½	3½	
Mud / Muck / Silt			
Other			
Other			

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. J (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top:	0.2	22.67	3.89	8.84	102.1	63	0.03	~~0.45~~
Mid:								☑ VOB 40.
Bottom								TOTAL DEPTH

Meter ID: YSI #2 — 0.7 m

Water Odors Normal ☑ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐

Water Surface Oils Normal ☑ Sheen ☐ Globs ☐ Slick ☐ Other ☐

Water Sample Taken? ☑ Yes ☐ No
Sample Preserved? ☑ Yes ☐ No
Lot Number: 126185 Exp: 9/3/14

Color Tannic ☑ Green (Algae) ☐ Clear ☐ Other (Specify) ☐

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:
Abundant periphyton at bridge. AQUATIC MACRO <2 m² SO NO LVS SHEET COMPLETED.

☑ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM OLNEY WELLENDORF BLIZZARD LEARY

SIGNATURE: _____ DATE: 07-09-2014

Revision Date: September 19, 2012

DEP-SOP-001/01: Form FD 9000-5

STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION

STREAM/RIVER HABITAT ASSESSMENT FIELD SHEET

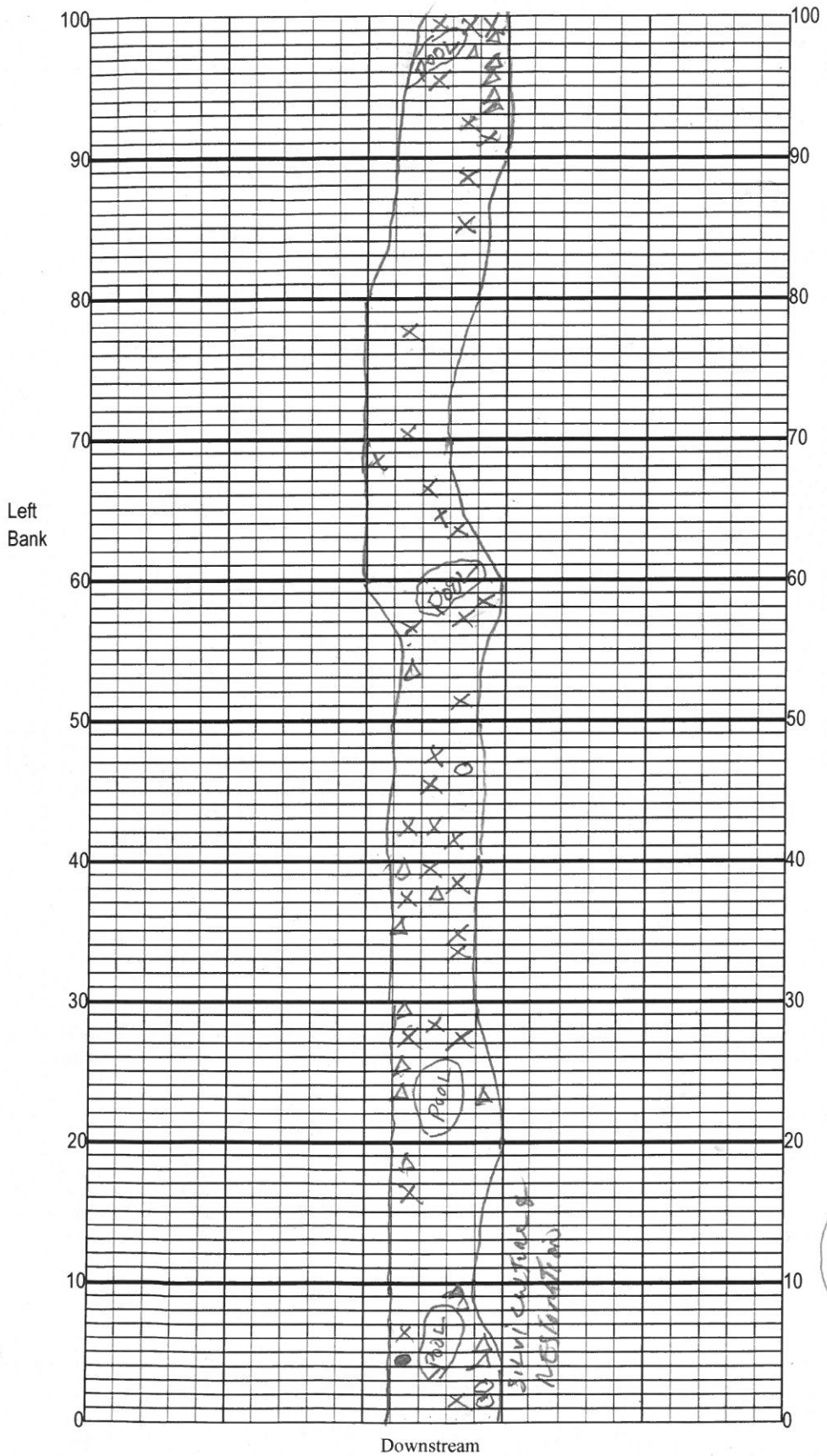
SUBMITTING AGENCY CODE: / SUBMITTING AGENCY NAME: DEP AEDAS	STORET STATION NUMBER: 32020063	DATE (MM/DD/YY): 07/09/14	RECEIVING BODY OF WATER: Pine Log Creek
REMARKS:	COUNTY: BAY	LOCATION: Little Crooked Creek @ 79	FIELD ID/NAME: LTCRKCKREF

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 10	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed (10) 9 8 7 6	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered 5 4 3 2 1
Substrate Availability 12	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 15	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 spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1
Habitat Smothering 19 Primary Score 56 ✓	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 **Artificial Channelization** 20	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. (20) 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 ++- 8 Left Bank ++- 8	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful 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) 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 R 8 Left Bank L 10	Width of vegetation greater than 18 m L (10) 9	Width of vegetation >12 to 18m R (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 8 Left Bank 10 Secondary Score 72 ✓	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. L (10) 9	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. R (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

128 **TOTAL SCORE**

Date: 07/09/2014	Analyst: BLIZZARD	Signature:

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



Location: Little Crooked Ck

Date: 7-9-14

Sampler: BLIZZARD

100 m: Latitude	
Longitude	
0 m: Latitude	
Longitude	

Substrates: Code key, draw proportionate habitat abundance.		%
X	Snags 34	11%
●	Roots/undercut banks 1	<1%
Δ	Leaf Packs (or mats) see note Δ 3 19	1% packs 69% mats
	Aquatic Macrophytes	
4	Pools total # observed = ____ # range expected = ____	

Average width 3 m
Average depth 0.4 m

Velocity measured at 40 meter mark.

WQ & chemistry taken at 10 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:

Δ mats = predominantly needles with some silting

MAGVIR, CYRRAC, ACERUB, PINELL

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

Revision Date: June 2, 2011

FDEP FORM 9000-25: RAPID PERIPHYTON SURVEY FIELD SHEET

Site: Little Crooked Ck @ 79 | County: BAY | Date: 07-09-2014 | Investigators: BLIZZARD, OLNEY

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6, X)	Estimated	Canopy Cover
0	1	N		96 69
	2			
	3			
	4			
	5			95
	6			
	7			
	8			
	9			
10	1	N		94 96
	2			
	3			
	4			
	5			95
	6			
	7			
	8			
	9			
20	1	N		
	2			
	3			
	4			
	5			94
	6			
	7			
	8			
	9			
30	1	N		
	2			
	3			
	4			
	5			95
	6			
	7			
	8			
	9			
40	1	N		
	2			
	3			
	4			
	5			92
	6			
	7			
	8			
	9			
50	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
60	1	N		
	2			
	3			
	4			90
	5			
	6			
	7			
	8			
	9			
70	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
80	1	N		
	2			
	3			
	4			
	5			94
	6			
	7			
	8			
	9			
90	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
100	1	N		
	2			
	3			
	4			
	5			95
	6			
	7			
	8			
	9			

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

Secchi depth: 0.4 5" estimated
0.7 5 (VOB)

Check accompanying data collected at same site/date.	
Algal mat sample	
Habitat Assessment	✓
Linear Veg. Survey	✓
SCI/Biorecon (circle 1)	✓
Water sample	✓
RQ:	

Algal Thickness Rank	
N	rough, no algae; slimy; algae to 1 mm
3	>1mm - 6 mm
4	>6 - 20 mm
5	>20 mm - 10 cm
6	>10 cm

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 an 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%.

Form FD9000-28 Water Field Form 031306_FD9000-28.doc

0.2 M

SITE NAME: Little CROOKED CREEK DATE: 7/9/14 TIME 11:20 (military) EST CST DEPTH^: S ft m FIELD ID: LTCRKCKREE

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK
Larry Olney		✓	✓	✓	
Nia Wellendorf	✓		✓		
Ray Leary			✓		
Michael Blizzard		✓			✓

SAMPLING EQUIPMENT

- ☑ Sample Container
- ☐ Pole
- ☐ Pump ID#: _____
- ☐ Tubing type: _____
- ☐ Other _____
- ☐ Other _____

WATER QUALITY MEASUREMENTS

Instrument ID: YSI #2

COLLECTION MODE

- ☑ Wading
- ☐ Diving
- ☐ From Shore
- ☐ Other _____

Via Boat
- ☐ Canoe
- ☐ Electric Motor
- ☐ Gasoline Motor

Parameter Suite	Parameter(s)/Method	Matrix Code*	Preservation**	Preservative Lot #	pH Check	# Bottles ***
Preserved Nutrients	☑TKN ☐TP ☑NOx ☑NH3 ☑TOC ☐Total N ☐Other:	S W	☑ Ice ☑ H_2SO_4	126185 exp 9/3/14	☑ <2	1
Filtered Nutrients	☐oP ☐Other:	W	☐ Ice ☐ .45 um Filter			
Unpreserved Nutrients	☐NO_2 ☐NO_3 ☐SO4 ☐Other:	W	☐ Ice			
Physical/Aggregate Properties	☑TDS ☑TSS ☐TS ☑Turbidity ☑Alk ☑Color ☐Other:	S W	☑ Ice			1
Chlorophyll	☑CHL-PPTN-W	S W	☑ Ice			1
BOD	☐BOD-INHB ☐BOD-UNIN	W	☐ Ice			
Microbiology	MF: ☐ E coli ☐ T Coli ☐ F Coli ☐ Entero ☐ F Strep	W	☐ Ice			
Macroinvertebrates	☑MI-FW-QLDC ☐MI-FW-QLBR ☐MI-FW-QNNC ☐MI-MN-QNNC	S W	☑ Formalin			4
Phytoplankton	☐PKD-QN-C ☐DTY-QN-C	W	☐Lugol's			
Periphyton	☐PRN-QL-C ☐DTM-QL-C ☐PRN-QN-C ☐DTM-QN-C	W	☐Formalin			
AGP	☐AA-AGP ☐AA-LIM-NUT	W	☐ Ice			
Metals	☐W-ICP ☐W-FIAS ☐W-ICPMS ☐W-ICP-Tr	W	☐ HNO_3		☐ <2	
Filtered Metals	☐W-ICP-F ☐W-FIAS-F ☐W-ICPMS-F ☐W-ICP-Tr-F	W	☐HNO_3 ☐.45 um Filter		☐ <2	
Mercury	☐W-HG-AF	W				
BaseNeutral / Acid Extractable	☐W-BNA ☐W-AE ☐W-BN ☐W-PAH	W	☐ Ice			
	☐W-FL-PRO ☐W ☐Other:	W	☐ Ice ☐ H_2SO_4		☐ <2	
Pesticides	☐W-PEST-CL ☐W-PCB ☐W PEST-NP ☐W-PSCL-PCB	W	☐ Ice			
	☐W-NP-AA-SF ☐W-PC-AA-SF ☐W-PSHRB-NP ☐W-SLFN-UREA ☐ W-SULFN-LC ☐Other:	W	☐ Ice			
	☐W-ACIDHERB	W	☐ Ice ☐ H_2SO_4			
	☐ W-CARB	W	☐ Ice ☐MCAA			
Purgeables	☐ W-VOC-MS	W	☐ Ice			
	☐W-VOC-MS-A	W	☐ Ice ☐ HCl			
Bioassay	Specify Test:	W	☐ Ice			
OTHER		W	☐ Other:			

Notes: _____

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: Biological Controls

**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)

Request Number: RQ-2014-07-21-08
SCI Reference Sites

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Customer: BSSP
Project ID: SCIREF
PMAS:

Requester: Joy Jackson
Collected By: OLNEY, Wellendorf
Sampling Agency: FDEP - AEQA

Field Report Prepared By: LARRY OLNEY
Send Final Report To: Joy Jackson

Sample 1

Field	Value
Lab ID *	
Location	LITTLE CROOKED CREEK
Field ID	LTCRKCKREF
Matrix (include type e.g. Salt, Fresh, etc)	Fresh (circled)
Temp (C)	22.67
pH	3.89
Latitude	30.384444 ☑ dd ☐ dms
Longitude	-85.556667 ☑ dd ☐ dms
☐ Comp ☑ Grab	
Collection (comp begin or grab) Eastern (circled) / Central	Date 7/9/14 Time 11:20
Tot Res Chlorine (mg/L)	
Diss Oxygen (mg/L)	8.84
Sample Depth ☑ m ☐ ft	0.2
☑ Salinity (PPTh)	0.03
☑ Sp Conductance (umho/cm)	63
Composite end (Eastern / Central)	Date Time
Storet Station Number	32020063
NPDES Number	
Bottle Group(s)**	A, B
Comments	

Sample 2

Field	Value
Lab ID *	
Location	
Field ID	
Matrix (include type e.g. Salt, Fresh, etc)	
Temp (C)	
pH	
Latitude	☐ dd ☐ dms
Longitude	☐ dd ☐ dms
☐ Comp ☐ Grab	
Collection (comp begin or grab) Eastern / Central	Date Time
Tot Res Chlorine (mg/L)	
Diss Oxygen (mg/L)	
Sample Depth ☐ m ☐ ft	
☐ Salinity (PPTh)	
☐ Sp Conductance (umho/cm)	
Composite end (Eastern / Central)	Date Time
Storet Station Number	
NPDES Number	
Bottle Group(s)**	
Comments	

Sample 3

Field	Value
Lab ID *	
Location	
Field ID	
Matrix (include type e.g. Salt, Fresh, etc)	
Temp (C)	
pH	
Latitude	☐ dd ☐ dms
Longitude	☐ dd ☐ dms
☐ Comp ☐ Grab	
Collection (comp begin or grab) Eastern / Central	Date Time
Tot Res Chlorine (mg/L)	
Diss Oxygen (mg/L)	
Sample Depth ☐ m ☐ ft	
☐ Salinity (PPTh)	
☐ Sp Conductance (umho/cm)	
Composite end (Eastern / Central)	Date Time
Storet Station Number	
NPDES Number	
Bottle Group(s)**	
Comments	

Sample 4

Field	Value
Lab ID *	
Location	
Field ID	
Matrix (include type e.g. Salt, Fresh, etc)	
Temp (C)	
pH	
Latitude	☐ dd ☐ dms
Longitude	☐ dd ☐ dms
☐ Comp ☐ Grab	
Collection (comp begin or grab) Eastern / Central	Date Time
Tot Res Chlorine (mg/L)	
Diss Oxygen (mg/L)	
Sample Depth ☐ m ☐ ft	
☐ Salinity (PPTh)	
☐ Sp Conductance (umho/cm)	
Composite end (Eastern / Central)	Date Time
Storet Station Number	
NPDES Number	
Bottle Group(s)**	
Comments	

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
L. OLNEY	7/10/14 10:37	HAND					RKW	7/10/14/1037A

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Group: A	Bottle Type: MI-FW-QLDC	PJ-2L	# of Bottles: 4	Preservative:	Formalin	**Enter Number of Bottles Sent to Lab**	4
Group: B	Bottle Type: CHL-CORR-W	BP-1L	# of Bottles: 2	Preservative:	ICE	**Enter Number of Bottles Sent to Lab**	1
Group: B	Bottle Type: TURBIDITY W-ALK W-COLOR W-TDS W-TSS	P-1L	# of Bottles: 2	Preservative:	ICE	**Enter Number of Bottles Sent to Lab**	1
Group: B	Bottle Type: W-NH3 W-NO2NO3 W-S-A-TP W-TKN W-TOC	P-500ML	# of Bottles: 2	Preservative:	ICE And H2SO4	**Enter Number of Bottles Sent to Lab**	1

A, B