FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified? Yes / (No)

WIN Station Name: IRVIN LAKE CENTER **Date:** 7-24-19 (mm/dd/yyyy)

WIN/ Field ID: G4SW0025 **WBID:** 1329M **Latitude:** 28.52505 (Decimal Degrees)

County: HERNANDO **ORG ID:** 21FLTPA **Longitude:** 82.3611 (Decimal Degrees)

Receiving Body of Water: **RQ-2019-** 06-24-19

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
JINSY ASHTON	✓				
BEN PFEIFFER		✓	✓	✓	
KAITLIN PANZNER			✓		

Sampling Equipment
- ☑ Sample Container ☐ Van Dorn ☐ Pole
- ☐ Carboy ☐ Syringe
- ☐ Dipper ☐ Other
- Depth Measured with: Secchi
- Equipment ID ____Secchi #1

Collection Method
- ☐ Wading ☐ Canoe/Kayak
- ☐ From Shore ☑ Electric Motor
- ☐ Other ☐ Gasoline Motor

Water Level: Dry/ Pooled/ Low / Normal (High) Flooded **Meter ID#** CHEW 4 **Matrix:** (Fresh) / Marine / DI

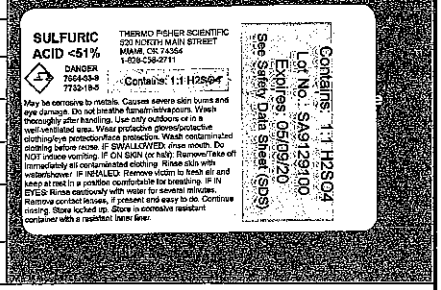
Photos: (Yes) / No **Flow:** No Flow / Interstitial / Flowing / NA **Tide:** Rising/ Falling/ Slack/ (NA) **Tide Times:** High ____ Low ____

Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPTh)	Sp COND (µmhos/cm)	Temp (C°)
(EST)	1010	1.7	0.3	0.5	1.82	23.6	6.77	0.07	157.6	28.7
			1.2		1.30	16.8	6.78	0.07	158.1	28.6

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

SBIO ID Numbers: SBIO-ID: 80021 HA-ID: 160153 RPS-ID: ____ Macrophyte-ID: 11431 LIMS#: 2106127

Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	☑ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☑ Ice ☑ H_2SO_4	SA9129100	05/09/20	☑ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO_3			☐ <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-BR-IC / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-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 ☐ W-CT-CL-R ☐ W-E8321-DI ☐ W-PCL-SQ-R ☐ W-E8321-MS ☐ W-CARB-AA	☐ Ice			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C				



Notes:

Field ID/WIN G4SW0025

Site Name: Irvin Lake Center

Signature: _____ Date: 7-24-19

LIMS EVENT ID: 2019-07-25-01 WIN Import ID: 14216

Enter Field Parameters, Verify Station ID In LIMS DMT: SM 07/30/2019 QC Station ID, Field Parameters In LIMS DMT: SM 08/27/2019

Scan/Save Field Sheets SM 09/16/2019 (Initials/Date) Migrate Data to WIN: SM 08/27/2019 (Initials/Date) Verify Data In WIN: SM 09/16/2019 (Initials/Date)

DEP FORM FD 9000-31: LAKE OBSERVATION FIELD SHEET

Field ID/WIN G4SW0025

SAMPLE ID: see sticker in upper right
MACROPHYTE ID: 111431
COUNTY: HERNANDO
WBID: 1329M
LAKE SIZE: L
TIME: 1010
SAMPLING AGENCY: FLDEP SW ROC

Site Name: Irvin Lake Center

WATERSHED / LAKESIDE FEATURES

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

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industrial	Other (Specify)
10		70		20			

LANDSCAPE DEVELOPMENT INTENSITY (100 m buffer)
LDI:

Local Watershed Erosion (select one) : ☐ None ☑ Slight ☐ Moderate ☐ Heavy

Local Watershed NPS Pollution : ☐ No evidence ☑ Slight ☐ Moderate ☐ Heavy

Artificially Impounded ☐ Yes ☐ No

Land Use Source & Year:

STORMWATER INPUTS 15	Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation 20 19 18 17 16	Some direct stormwater inputs (ditches, pipes, cultivated vegetation < 10%) but good BMPs in place 15 14 13 12 11	Moderate direct inputs of stormwater (ditches, pipes, cultivated vegetation 11%-50%) but few BMPs in place 10 9 8 7 6	Much direct input of stormwater (ditches, pipes, cultivated vegetation > 51%) and no or ineffective BMPs in place 5 4 3 2 1
LAKESIDE ALTERATIONS 15	Very few man-made structures, roads, or other disturbance adjacent to lake (<10% lakeside affected) 20 19 18 17 16	Moderate disturbance visible - structures, roads or other (10%-49% lakeside affected) 15 14 13 12 11	Many structures, roads or other human disturbance visible (50%-70% lakeside affected) 10 9 8 7 6	Highly developed or disturbed (>70% of lakeside affected) 5 4 3 2 1
BUFFER ZONE 14	Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer 20 19 18 17 16	89%-51% of shoreline with >18m buffer or >75% with 10m to 18m buffer 15 14 13 12 11	50%-30% of shoreline with >18m buffer or 50%-74% with 10m to 18m buffer 10 9 8 7 6	< 29% of shoreline with >18m buffer 5 4 3 2 1

WATER / SUBSTRATE / BIOLOGICAL: SAMPLES AND OBSERVATIONS

Water:
Nutrient Sample Taken? ☑ Yes ☐ No Preserved? ☑ Yes ☐ pH<2 ☐ No
Color Sample Taken? ☑ Yes ☐ No Lot # _____ Exp. Date: _____
Alkalinity Sample Taken? ☑ Yes ☐ No
Water Level ☐ Low ☐ Normal ☑ High

Water Odors: ☑ Normal ☐ Sewage ☐ Petroleum ☐ Other _____

Water Surface Oils: ☑ None ☐ Sheen/Slick ☐ Glob ☐ Other _____

Meter Readings:	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat. (%)	Cond. (UMHO/CM)	Salinity (PPT)
Top:	0.3	28.7	6.77	1.82	23.6	157.6	0.07
Mid-Depth:							
Bottom :	1.2	28.6	6.78	1.30	16.8	158.1	0.07

Meter ID: Chemy

Clarity: ☐ Clear ☐ Opaque ☑ Turbid ☐ Slightly Turbid

Color: ☐ Clear ☑ Tannic ☑ Green

SECCHI (M) 0.5 VOB ☑

Total Station Depth (M) 1.7

Sediment Type: (may check more than one) Sample Taken? ☐ Yes ☐ No
☐ Sandy ☐ Organic fibrous (peaty, CPOM) ☐ Vegetated
☐ Sand/Silt ☑ Organic smooth (muck) ☐ Other (Specify):_____

Sediment Odors:
☐ Normal ☐ Other (Specify):
☑ Anaerobic _____

Biological Communities:
LVI Conducted? ☑ Yes ☐ No
Phytoplankton Sample Taken? ☐ Yes ☑ No
Sample Preserved? ☐ Yes ☑ No
Lot #: _____ Exp Date: _____
Algal Bloom/Algal ID Sample Taken? Yes (No)
Active Vegetation Mgmt? ☑ Yes ☐ No ☐ Don't Know

Abundance:

	Absent	Rare	Common	Abundant
Periphyton	☐	☐	☑	☐
Nuisance Plants	☐	☐	☐	☑
Submersed Plants	☐	☐	☐	☑
Exotic Apple Snails	☐	☐	☑	☐

Additional Notes:

Weather Conditions : CLOUDY, RAINY

SAMPLING TEAM: Paswater Panzner Ashton **SIGNATURE** _____ **DATE:** 7/24/19

DEP Form FD 9000-6: Lake Habitat Assessment Field Sheet

Field ID/WIN G4SW0025

Site Name: Irvin Lake Center

STORET STATION NUMBER: SEE STICKER UPPER RIGHT	LAKE SIZE: Small	LAKE NAME
ECO-REGION:	COUNTY: Hernando	SAMPLING LOCATION/DESCRIP

PARAMETER		Optimal	Suboptimal	Marginal	Poor
HYDROLOGY		No surface inflow or outflow present, very long water residence time, groundwater seepage dominates ☐	Surface water inflow present, but flow is rare, moderate to long water residence time ☐	Surface water inflow and outflow present (or outflow only), sometimes with visible flow, short water residence time ☒	Impounded, hydrology of system artificially controlled ☐
Color		Very clear, uncolored water (benthic sampling appropriate) ☐	Water somewhat tannin stained (benthic sampling appropriate) ☐	Dark, discolored water (water color 20 PCU or higher) ☒	Visibility extremely reduced due to high color ☐
Secchi	5	Secchi >3 m / Or VOB: 20 19 18 17 16	Secchi(m): 3 2.6 2.2 1.8 1.4 / 15 14 13 12 11	1.0 0.9 0.8 0.7 0.6 / 10 9 8 7 6	0.5 0.4 0.3 0.2 0.1 / 5 4 3 2 1
Vegetation Quality	11	Diverse, expected native vegetation (emergent or submersed), less than 5% nuisance taxa	Mostly expected native plants, but moderate growths (6%-20% of lake) of nuisance macrophytes, or more than 50% of lake covered with plants	Large masses (21%- 40%) of nuisance macrophytes (e.g., Hydrilla, hyacinth, cattail, etc.) or algal mats	Lake choked (>40%) with nuisance macrophytes (duck-weed, hyacinth, etc.) or algal mats, or few plants present at all (e.g., plants removed)
		20 19 18 17 16	15 14 13 12 (11)	10 9 8 7 6	5 4 3 2 1
Stormwater Inputs	15	Stormwater enters system via sheet flow over non-cultivated and/or natural vegetation	Some direct stormwater inputs (ditches, pipes, cultivated vegetation < 10%) but good BMPs in place	Moderate direct inputs of stormwater (ditches, pipes, cultivated vegetation 11%-50%) but few BMPs in place	Much direct input of stormwater (ditches, pipes, cultivated vegetation > 51%) and no or ineffective BMPs in place
		20 19 18 17 16	(15) 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bottom Substrate Quality	6	Diverse mixture of sand, detritus, with small amounts of CPOM/mud/muck. SAV may be present	Mixture of sand or clay and detritus with higher % CPOM/mud/muck content. SAV may be present	Moderate layer of CPOM/ mud/muck, or hardpacked sand only, or moderate algal growth (mats or Chara) on bottom	Thick deposits of CPOM, or fine detritus and anaerobic muck/mud/silt, or algal growth or nuisance plants (Hydrilla) cover bottom
		20 19 18 17 16	15 14 13 12 11	10 9 8 7 (6)	5 4 3 2 1
Lakeside Adverse Human Alternations	15	Very few man-made structures, roads, or other disturbance adjacent to lake (<10%)	Moderate disturbance visible (structures, roads or other), 10%-49% lakeside affected	Many structures, roads or other human disturbance visible (50%-70%) lakeside affected)	Highly developed or disturbed (>70% of lakeside affected)
		20 19 18 17 16	(15) 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Upland Buffer Zone	14	Expected native vegetation between uplands and littoral zone, greater than 90% of shore with >18 m buffer	89%-51% of shoreline with >18m buffer or >75% with 10m to 18m buffer	50%-30% of shoreline with >18m buffer or 50%-74% with 10m to 18m buffer	< 29% of shoreline with >18m buffer
		20 19 18 17 16	15 (14) 13 12 11	10 9 8 7 6	5 4 3 2 1
Adverse Watershed Land Use	15	Score the potential effects from adverse human land uses, based on a continuum of amount and type, with least to most adverse as follows: Native vegetation/Silviculture/Pasture or Citrus/Low Density Residential/Row Crops/Commercial/High Density Residential/ Urban/Industrial			
		20 19 18 17 16	(15) 14 13 12 11	10 9 8 7 6	5 4 3 2 1

TOTAL SCORE	81	COMMENTS:

ANALYSIS DATE: 7/24/19	ANALYST: Ben Reisweber	SIGNATURE:

Field ID/WIN G4SW0025

DEP FORM FD 9000-27 LAKE VEGETATION INDEX FIELD SHEET

Site Name: Irvin Lake Center

Waterbody: IRVIN LAKE | County: HERNANDO

Signature: | Date: 7-24-19

quired. *Genera that may require lab verification*

Lake units sampled (circle one group): (1, 4, 7, 10) 2, 5, 8, 11 3, 6, 9, 12

It is important to note dominant or co-dominant taxa (by areal extent) for each unit. Use "D" to denote dominant taxon, or "C" for the 2 co-dominant taxa.

SPECIES (A-F)	1	4	7	10	Collected? (√)
Acer rubrum		✓	✓	✓	
Alternanthera philoxeroides		✓	✓		
~~Andropogon sp.~~					
Azolla filiculoides (A. caroliniana)					
Baccharis sp.					
Bacopa caroliniana				✓	
Bacopa monnieri					
Bidens laevis			✓	✓	✓
Bidens mitis					
Blechnum serrulatum					
Boehmeria cylindrica					
Brasenia schreberi					
Cabomba caroliniana					
Casuarina equisitifolia					
Centella asiatica		✓			
Cephalanthus occidentalis		✓			
Ceratophyllum demersum					
Chara sp.					
Cladium jamaicense					
Cliftonia monophylla					
Colocasia esculenta		✓	✓	✓	
*Commelina					
Crinum americanum					
***Cyperus alternifolius** (C. involucratus)					
Cyperus articulatus					
Cyperus haspan					
*Cyperus lecontei					
*Cyperus polystachyos		✓			
*Cyperus odoratus			✓		
*Cyperus surinamensis		✓		✓	
Cyrilla racemiflora					
Decodon verticillatus					
Diodia virginiana					
*Echinochloa crus-galli					
*Echinochloa muricatum					
Echinochloa walteri					
Eclipta prostrata (E. alba)					
Egeria densa					
Eichhornia crassipes	D✓	✓	✓c	✓c	
*Eleocharis baldwinii					
*Eleocharis					
Eleocharis cellulosa					
Eleocharis equisetoides					
Eleocharis interstincta					
*Eriocaulon compressum					
*Eriocaulon decangulare					
Eupatorium capillifolium	✓				
*Fuirena					
Fuirena scirpoidea					

SPECIES (G-L)	1	4	7	10	Collected? (√)
Gordonia lasianthus					
Habenaria repens					
~~Hymenachne amplexicaulis~~					
Hydrilla verticillata					
Hydrocotyle sp.		✓		✓	
Hygrophila polysperma					
*Hypericum fasciculatum					
*Hypericum hypericoides					
*Hypericum myrtifolium					
Ilex cassine					
Ipomoea aquatica					
Ipomoea sagittata					
Itea virginica					
Juncus effusus					
*Juncus marginatus					
*Juncus megacephalus					
Juncus repens					
*Juncus scirpoides					
Lachnanthes caroliniana					
Leersia hexandra					
Landoltia punctata (Spirodela punctata)					
Lemna sp.			✓	✓	
Leucothoe racemosa (Eubotrys racemosa)					
Limnobium spongia					
Limnophila sessiliflora					
Liquidamber styraciflua					
*Ludwigia arcuata		✓			
*Ludwigia leptocarpa					
*Ludwigia linearis					
*Ludwigia octovalvis					
***Ludwigia peruviana**	✓	✓	✓	✓	
*Ludwigia repens					
*Ludwigia					
Luziola fluitans (Hydrochloa carolinensis)		✓			
Lyonia lucida					
Persimmon → Diospyros virginiana				✓	

62-160.800, F.A.C.

Revision Date: March 1, 2014

Site: IRVIN LAKE Date: 7-24-15

SPECIES (M-P)	1	4	7	10	Collected? (√)
Magnolia virginiana					
Mayaca fluviatilis					
Melaleuca quinquenervia					
Micranthemum glomeratum					
Micranthemum umbrosum					
Mikania scandens			✓	✓	
Mimosa pigra					
Myrica cerifera					
Myriophyllum aquaticum					
*Myriophyllum heterophyllum					
*Myriophyllum laxum					
*Myriophyllum pinnatum					
Myriophyllum spicatum					
*Najas filifolia					
*Najas guadalupensis					
*Najas minor					
Nelumbo lutea					
Nitella spp.					
Nuphar sp.					
Nymphaea odorata					
Nymphoides aquatica					
Nyssa sylvatica var. biflora				✓	
Orontium aquaticum					
Osmunda cinnamomea					
Osmunda regalis					
Panicum hemitomon	✓	✓	✓	✓	
Panicum repens					
Paspalidium geminatum					
*Paspalum repens					
Paspalum urvillei					
Peltandra sp.					
Persea sp.					
Pennisetum purpureum					
Phragmites australis					
Pinus elliottii					
Pistia stratioides					
Pluchea sp.					
*Polygonum glabrum (densiflorum)					
*Polygonum hydropiperoides				✓	
*Polygonum punctatum					
*Polygonum sp.					
Pontederia cordata					
*Potamogeton diversifolius					
*Potamogeton illinoensis					
*Potamogeton pusillus					
*Potamogeton pectinatus					
Proserpinaca pectinata					

SPECIES (R-Z)	1	4	7	10	Collected? (√)
*Rhexia					
*Rhynchospora corniculata					
*Rhynchospora inundata					
Rhynochospora tracyi					
Ricciocarpus natans					
Sabal palmetto					
Sacciolepis striata					
*Sagittaria filiformis					
*Sagittaria graminea					
*Sagittaria isoetiformis					
Sagittaria lancifolia					
Sagittaria latifolia					
Salix caroliniana	✓	✓	✓	✓	
Salvinia minima	✓		✓	✓	
Sambucus canadensis					
Sapium sebiferum	✓		✓	✓	
Saururus cernuus					
Schinus terebinthifolius					
*Schoenoplectus californicus (Cali bulrush)					
*Schoenoplectus pungens (three square)					
*Schoenoplectus tabernaemontani (softsteam)					
Scirpus cubensis (Oxycaryon cubense)			✓	✓	
Scirpus cyperinus					
*Sesbania					
Solidago sp.					
Sparganium americanum					
Spartina bakeri					
Sphagneticola trilobata (Wedelia)					
Spirodela polyrhiza					
Taxodium sp.		✓			
Thalia geniculata					
Thelypteris palustris				✓	✓
Triadenum virginicum					
Typha sp.	✓			✓	
Urochloa mutica (Brachiaria mutica)					
*Utricularia gibba (U. biflora)					
*Utricularia floridana					
*Utricularia foliosa					
*Utricularia inflata					
*Utricularia purpurea					
*Utricularia cornuta					
*Utricularia radiata					
Vallisneria americana					
*Websteria confervoides					
Wolffiella spp.					
Woodwardia virginica					
Xyris sp.					
Zizania aquatica					
Zizaniopsis milacea					
Sacciolepis indica	✓				

Request Number: RQ-2019-06-24-14

Irvin LVI

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Customer: SW-DIST

Project ID: SMP

Requester: Benjamin Paswater

Collected By: J. Ashton, B. Paswater

Field Report Prepared By: Judy Ashton

Sampling Agency: FDEP

Location / Field ID/WIN: G4SW0025 / Site Name: Irvin Lake Center	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 7-24-19 Time 1010	Eastern (circled) / Central	Composite end Date Time (struck out)		Bottle Group(s) (See pg 2): A
	Matrix (type, e.g., Salt, Fresh, etc): Fresh (circled)		Diss. Oxygen 1.82	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L) (struck out)	
	Temp (C) 28.7	pH 6.77	Sample Depth 0.3	☐ ft ☒ m	Sp. Conductance (umho/cm) 157.6	
Latitude ☐ dd ☐ dms / Longitude ☐ dd ☐ dms	Salinity (ppt) 0.07	Comments				

Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern / Central	Composite end Date Time		Bottle Group(s)
Field ID	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)	
WIN/STORET #	Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)	
Latitude ☐ dd ☐ dms / Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments				

Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern / Central	Composite end Date Time		Bottle Group(s)
Field ID	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)	
WIN/STORET #	Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)	
Latitude ☐ dd ☐ dms / Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments				

Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern / Central	Composite end Date Time		Bottle Group(s)
Field ID	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)	
WIN/STORET #	Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)	
Latitude ☐ dd ☐ dms / Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments				

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
J. Ashton	7-24-19	Fed Ex	1		

Group: A	Bottle Type:	P-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab 1
	ALKALINITY TURBIDITY W-CL-IC W-COLOR W-F W-TDS W-TSS					
Group: A	Bottle Type:	BP-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab 1
	CHLSUITE-W					
Group: A	Bottle Type:	P-500ML	# of Bottles: 2	Preservative:	ICE And H2SO4	Enter Number of Bottles Sent to Lab 1
	W-NH3 W-NO2NO3 W-S-A-TP W-TKN W-TOC					
Group: A	Bottle Type:	P-125ML	# of Bottles: 2	Preservative:	FILTER-ICE	Enter Number of Bottles Sent to Lab 1
	W-PO4-F W-SO4-IC-F					