

CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there are qualified data on this page.

Meter ID:

Desi

RQ:

2019-09-09-20

Project:

ICW Boat

Notes: (1) Always wait for meter to stabilize before recording any readings.

(2) Report all digits displayed. Do not round before reporting measurements. (See special instructions for depth).

(3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification

7/2019

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp °C	Baro-meter mmHg	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	K. Appleby	9/11/19	756	23.4	765.7	8.6	8.58	100.8	—	—	P/F	L/F
ICV	↓	↓	758	23.4	765.7	8.6	8.57	100.8	—	—	P/F	L/F
CCV	J Parash	9/11/19	1400	24.8	764.8	8.4	8.25	99.5	—	—	P/F	L/F
CCV											P/F	L/F

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 (Pro DSS 0.75 to 1.50); 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 hos/cm	Meter Reading μ hos/cm	Pass / Fail	Lab / Field
Calibr.	K. Appleby	9/11/19	800	190711B	7/2020	1000	1000	P/F	L/F
ICV	↓	↓	803	7141319	12/2019	1413	1404	P/F	L/F
CCV	J Parash	9/11/19	1405	190711C	7/20	50000	50312	P/F	L/F
CCV								P/F	L/F

Conductivity Acceptance criteria $\pm 5\%$

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Temp °C	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	K. Appleby	9/11/19	805	2902778	1/2021	7.00	24.5	32.8	32.8	P/F	L/F
Calibr.	↓	↓	809	2904B00	3/2021	4.00	24.4	4.00	150.6	P/F	L/F
Calibr.	↓	↓	811	2901B51	7/2020	10.00	24.4	10.00	-200.9	P/F	L/F
ICV	↓	↓	813	2904B00	3/2021	4.00	24.4	3.95	152.3	P/F	L/F
CCV	J Parash	9/11/19	1407	2901B51	7/20	10.00	24.6	9.99	202.3	P/F	L/F
CCV										P/F	L/F

pH Acceptance criteria ± 0.2 SU; mV pH 7 Range 0 ± 50 ;

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

mV pH 10 Range -180 ± 50 ;

If mV are recorded: slope from 7 to 10 _____, slope from 4 to 7 _____ (both must be between 165 and 180 mV)

Does meter have a depth sensor that will be used to measure total depth & sample depth? **YES** / NO / NA (not surf. water project)

If YES, complete daily Calibr. & ICV below and list date of last quarterly depth verification: 7/2019

If NO, what will be used? (circle one) Secchi Disk Line / Sonar Unique ID: _____; Date of last verification: _____

Depth Sensor (Daily Calibration & ICV)	Name	Date	Time CT-ET	Calibrated Value (0.00 or Offset), meters	ICV Value, meters	Pass / Fail	Lab / Field
Pressure mode in air	K. Appleby	9/11/19	815	0.00	0.00	P/F	L/F

Report two decimal places. Round numbers ≤ 4 down, ≥ 5 up. ICV acceptance criteria $\pm 5\%$ or ± 0.05 m, whichever is greater.

COMMENTS:



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: ICW MARKER 11 DUVAL CO

Date: 9/11/2019

(mm/dd/yyyy)

WIN/ Field ID: 27010107

WBID: 2205C

Latitude: 30.355803

(Decimal Degrees)

County: Duval

ORG ID: 21FLA

Longitude: -81.44054

(Decimal Degrees)

Receiving Body of Water: LSJR

RQ-2019- 09-09-20

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
J. Parrish						X			
K. Appleby							X		

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☐ Syringe	
☐ Dipper	☐ Other	
Depth Measured with Well # 2		
Equipment ID		

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

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

Meter ID# Desi

Matrix: Fresh / Marine / DI

Photos: Yes / No

Flow: No Flow / Intestinal / Flowing / NA

Tide: Rising / Falling / Slack/ NA

Tide Times: High 900 Low

Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (µmhos/cm)	Temp. (C°)
EST	1040	4.7	0.3	0.8	5.53	81.9	7.73	22.57	36115	29.5
CEN	1042		4.2		5.32	79.9	7.82	25.40	39915	29.2

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

SBIO ID Numbers: SBIO-ID: HA-ID: RPS-ID: Macrophyte-ID: 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			☐ <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-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 ☐ WE8321-MS ☐ W-CARB-AA	☐ Ice			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C	☐ Ice			

Notes:

WIN ID/Field ID:



27010107

ICW MARKER 11 DUVAL CO

Signature:

[Handwritten Signature]

Date:

9/11/2019

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)



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?
Yes / No

WIN Station Name: ICW @ CM 15 DUVAL CO

Date: 9/11/2019

(mm/dd/yyyy)

WIN/ Field ID: 27010114

WBID: 2205C

Latitude: 30.33809

(Decimal Degrees)

County: Duval

ORG ID: 21 FLA

Longitude: -81.437386

(Decimal Degrees)

Receiving Body of Water: LSJR

RQ-2019- 09-09-20

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
J. Parrish K. Appleby					☒	☒	☒	☒	☒	☒ Sample Container	☐ Van Dorn	☐ Pole		
										☐ Carboy	☐ Syringe			
										☐ Dipper	☐ Other			
										Depth Measured with <u>Well # 1</u>				
										Equipment ID _____				
										Collection Method				
										☐ Wading	☐ Canoe/Kayak			
										☐ From Shore	☐ Electric Motor			
										☐ Other	☒ Gasoline Motor			
Water Level: Dry/ Pooled/ Low / Normal / <u>High</u> / Flooded					Meter ID# <u>DCS</u>					Matrix: Fresh / <u>Marine</u> / DI				
Photos: Yes / <u>No</u>					Flow: No Flow / Intestinal / <u>Flowing</u> / NA					Tide: Rising/ <u>Falling</u> / Slack/ NA				
Tide Times: High <u>9:00</u> 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	1050	1.0	0.3	0.9	5.09	74.5	7.64	20.31	32697	29.5				
CEN														
Biological Samples Collected: <u>None</u> HA SCI RPS Algae ID LVS LVI Other:														
SBIO ID Numbers: SBIO-ID: _____ HA-ID: _____ RPS-ID: _____ Macrophyte-ID: _____ LIMSH: _____														
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				☐ <2			
Metals		☐ W-ICPMS ☐ W-ICP					☐ Ice ☐ HNO3				☐ <2			
Filtered Nutrients		☐ W-PO4-F ☐ Field Filtered 0.45 um 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					☐ Ice							
		☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD												
Tracers		☐ W-E8321-DI ☐ W-E8321-MS					☐ Ice							
Pesticides		☐ W-PSNP-TQ ☐ W-CT-CL-R ☐ W-E8321-DI					☐ Ice							
		☐ W-PCL-SQ-R ☐ WE8321-MS ☐ W-CARB-AA												
Phytoplankton		☐ DTY-QN-C ☐ PKD-QN-C					☐ Ice							

Notes:

WIN ID/Field ID:



27010114

ICW @ CM 15 DUVAL CO

Signature: [Signature]

9/11/2019

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)



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: Open creek ²⁰⁰~~400~~ meters above mouth

Date: **9/11/2019**

(mm/dd/yyyy)

WIN/ Field ID: G2NE1178

WBID: 2299A

Latitude: 30.261952

(Decimal Degrees)

County: Duval

ORG ID: 21FLA

Longitude: -81.43236

(Decimal Degrees)

Receiving Body of Water: ICW

RQ-2019-09-09-20

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Sampling Equipment				
K. Appleby					☒	☒	☒	☒	☒	☒ Sample Container	☐ Van Dorn	☐ Pole		
J. Parrish					☒	☒	☒	☒	☒	☐ Carboy	☐ Syringe			
					☒	☒	☒	☒	☒	☐ Dipper	☐ Other			
										Depth Measured with <u>Well #1</u>				
										Equipment ID <u>on the kit #3</u>				
										Collection Method				
										☐ Wading	☐ Canoe/Kayak			
										☐ From Shore	☐ Electric Motor			
										☐ Other	☒ Gasoline Motor			
Water Level: Dry/ Pooled/ Low / Normal / <u>High</u> / Flooded					Meter ID# <u>765</u>					Matrix: Fresh / <u>Marine</u> / DI				
Photos: Yes / <u>No</u>					Flow: No Flow / Intestinal / <u>Flowing</u> / NA					Tide: Rising/ Falling/ Slack/ NA				
Tide Times: High <u>900</u> Low														
Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (µmhos/cm)	Temp. (C°)				
EST	<u>1125</u>	<u>2.4</u>	<u>0.3</u>	<u>1.1</u>	<u>3.92</u>	<u>58.1</u>	<u>7.10</u>	<u>19.52</u>	<u>31496</u>	<u>30.3</u>				
CEN	<u>1127</u>		<u>1.9</u>		<u>3.35</u>	<u>49.6</u>	<u>7.09</u>	<u>20.99</u>	<u>33669</u>	<u>29.8</u>				
Biological Samples Collected: <u>None</u> HA SCI RPS Algae ID LVS LVI Other:														
SBIO ID Numbers: SBIO-ID: HA-ID: RPS-ID: Macrophyte-ID: 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>SA8344070</u>	<u>12/2019</u>	☒ <2					
Metals	☒ W-ICPMS ☒ W-ICP					☒ Ice ☒ HNO3	<u>NA8344050</u>	<u>12/2019</u>	☒ <2					
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter					☒ Ice	<u>RTHA29007</u>							
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					☒ Ice								
	☒ 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					☒ Ice								
	☒ W-PCL-SQ-R ☒ WE8321-MS ☒ W-CARB-AA					☒ Ice								
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C					☐ Ice								

Notes:

WIN ID/Field ID:



G2NE1178

Open creek 200 meters above mouth

Signature:

[Handwritten Signature]

9/11/2019

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)

ICW Boat

Central Laboratory Submittal Form

last revised Jan 25, 2018

Customer: NE-DIST

Requester: Jeremy M. Parrish

Field Report Prepared By: Kimberly Appleby

Project ID: SMP

Collected By: K. Appleby + J. Parrish

Sampling Agency: FDEP NE ROL

Lc	WIN ID/Field ID:		27010107	ICW MARKER 11 DUVAL CO	☐ Comp ☒ Grab Collection (comp begin or grab) Date 9/11/19 Time 1040	☒ Eastern ☐ Central Composite end Date Time	Bottle Group(s) (See pg 2)
Fi					Matrix (type, e.g., Salt, Fresh, etc) Marine Salt	Diss. Oxygen 5.53	☒ mg/L ☐ % sat Total Res. Chlorine (mg/L) —
W					Temp (C) 29.5 pH 7.73	Sample Depth 0.3 ☐ ft ☒ m	Sp. Conductance (umho/cm) 36115
Latitude	☐ dd ☐ dms	Longitude	☐ dd ☐ dms		Salinity (ppt) 22.57	Comments	
Lc	WIN ID/Field ID:		27010114	ICW @ CM 15 DUVAL CO	☐ Comp ☒ Grab Collection (comp begin or grab) Date 9/11/19 Time 1050	☒ Eastern ☐ Central Composite end Date Time	Bottle Group(s)
Fi					Matrix (type, e.g., Salt, Fresh, etc) Salt	Diss. Oxygen 5.09	☒ mg/L ☐ % sat Total Res. Chlorine (mg/L) —
W					Temp (C) 29.5 pH 7.64	Sample Depth 0.3 ☐ ft ☒ m	Sp. Conductance (umho/cm) 32697
Latitude	☐ dd ☐ dms	Longitude	☐ dd ☐ dms		Salinity (ppt) 20.31	Comments	
L	WIN ID/Field ID:		G2NE1178	Open creek 200 meters above mouth	☐ Comp ☒ Grab Collection (comp begin or grab) Date 9/11/19 Time 1125	☒ Eastern ☐ Central Composite end Date Time	Bottle Group(s)
Fi					Matrix (type, e.g., Salt, Fresh, etc) Salt	Diss. Oxygen 3.92	☒ mg/L ☐ % sat Total Res. Chlorine (mg/L) —
W					Temp (C) 30.3 pH 7.10	Sample Depth 0.3 ☐ ft ☒ m	Sp. Conductance (umho/cm) 31496
Latitude	☐ dd ☐ dms	Longitude	☐ dd ☐ dms		Salinity (ppt) 19.52	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
Latitude	☐ dd ☐ dms	Longitude	☐ dd ☐ dms		Salinity (ppt)	Comments	

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
K. Appleby	9/11/19 1530	Fed Ex	2		

Group: A	Bottle Type:	P-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	ALKALINITY TURBIDITY W-BR-IC W-F W-TSS						
Group: A	Bottle Type:	BP-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	CHLSUITE-W						
Group: A	Bottle Type:	P-250ML-WI-THI	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1 → Sent to ALS
	NE-ALS-ENQ						
Group: A	Bottle Type:	QPCR-P-500ML	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	PCR-HF183						
Group: A	Bottle Type:	BG-500ML	# of Bottles: 1	Preservative:	CH ₂ ClCOOH Pre-Preserved	Enter Number of Bottles Sent to Lab	1
	W-CARB-AA						
Group: A	Bottle Type:	BG-500ML	# of Bottles: 4	Preservative:	ICE	Enter Number of Bottles Sent to Lab	4
	W-CT-CI-R W-PCL-SQ-R						
Group: A	Bottle Type:	BG-500ML	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	W-E8321-DI W-E8321-MS						
Group: A	Bottle Type:	P-500ML	# of Bottles: 1	Preservative:	HNO ₃	Enter Number of Bottles Sent to Lab	1
	W-ICP W-ICPMS						
Group: A	Bottle Type:	P-500ML	# of Bottles: 1	Preservative:	ICE And H ₂ SO ₄	Enter Number of Bottles Sent to Lab	1
	W-NH ₃ W-NO ₂ NO ₃ W-S-A-TP W-TKN W-TOC						
Group: A	Bottle Type:	P-125ML	# of Bottles: 1	Preservative:	FILTER-ICE	Enter Number of Bottles Sent to Lab	1
	W-PO4-F						
Group: A	Bottle Type:	BG-1L	# of Bottles: 4	Preservative:	ICE	Enter Number of Bottles Sent to Lab	—

Group: A	Bottle Type:	BG-1L	# of Bottles: 4	Preservative:	ICE	Enter Number of Bottles Sent to Lab	4
W-PSNP-TQ							
Group: B	Bottle Type:	P-250ML-WI-THI	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2 → Sent to ALS
NE-ALS-ENQ							

ALS Group USA Corp dba ALS Environmental Terms & Conditions

April 2013

General: These Terms and Conditions embody the entire agreement ("Agreement") of the parties in the absence of a signed and executed contract between any of ALS Testing Services Group Inc and each of its wholly owned subsidiaries ("LAB") and Client, and the placement of an order for or receipt of samples for analysis based on this Agreement will constitute acceptance of the Agreement by the Client. This Agreement shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. LAB specifically rejects all additional, inconsistent or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from Client to LAB. The invalidity or unenforceability, in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Agreement.

No waiver by LAB of any provision, term or condition hereof or of any breach by or obligation of Client hereunder shall constitute a waiver of such provision, term or condition on any other occasion or a waiver of any other breach by or obligation of Client. This Agreement shall be administered and interpreted under the laws of the state of Texas.

Provision of Services: LAB will provide the services described in the accompanying tender, quotation, letter, fax or email ("Services").

Where applicable, LAB will use analytical methodologies which are in substantial conformity with certified and/or other recognized applicable methodologies, exercising the same degree of skill, care and diligence that would be exercised by professional service providers in similar circumstances. LAB reserves the right to deviate from these methodologies, if necessary or appropriate, due to the nature or composition of the sample or otherwise, based on the reasonable judgment of LAB. Deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or LAB's standard operating procedures.

The Client acknowledges that it is the Client's sole responsibility to make its own assessment of the suitability for any purpose of the Services, detection limits and confidence intervals inherent in LAB's standard testing methodology, the LAB Report and its contents. It is necessary for LAB to assume that the paperwork submitted with a sample describes the testing protocol desired. Any changes to this protocol must be submitted to LAB in writing. LAB is in no way responsible for analytical method choice unless LAB is informed of all project aspects. LAB's opinion is solicited and given, and all remuneration owed by Client to LAB is received.

If the Client requires the Services to be performed by specific test method, or requires detection limits and/or confidence intervals different to those inherent in LAB's standard testing methodology, then the Client must instruct LAB of such a variation prior to LAB performing the Services.

LAB may delegate the performance of all or part of the Services to another qualified laboratory within the LAB network. If any work must be subcontracted to a third party laboratory not in the LAB network, LAB will contact Client for approval. In all cases Client will be informed.

Fees and Payment: Payment terms are 30 days from the date of invoice (Due Date), unless negotiated otherwise prior to the placement of an order or submission of samples. Any such variance from the standard payment terms must be stipulated separately in writing in the Agreement.

All prices quoted by LAB are exclusive of sales, use of other taxes unless stated otherwise.

All fees due and payable after the Due Date (**Outstanding Amount**) will be subject to the payment of interest at a rate of 1.5% per month of the Outstanding Amount from the Due Date up to and including the date of payment, unless LAB and the Client otherwise agree in writing. The Client will indemnify LAB for any fees incurred by LAB to recover the Outstanding Amount, including any solicitor fees, or collection agency fees. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without third party credit approval by LAB. If changes are made after the originally requested testing is initiated or has been completed, the Client must accept payment responsibility for the work completed.

A surcharge is usually added to the list fee if expedited analysis is requested. The surcharge will depend upon the analysis to be performed. Expedited service is offered contingent upon availability and pre-arrangement with LAB.

LAB reserves the right to review prices at any time if significant changes to LAB's costs are incurred that are beyond LAB's control. Such changes may include, but are not limited to, changes in legislative requirements, changes to the number of samples, analytes requested, turnaround required, reporting requirements, or project scheduling.

LAB reserves the right to require payment prior to release of data. Until such time as Client invoices are paid in full, LAB has no obligation, and will not defend, reproduce, return, or supplement data results.

Compensation for Services performed will be based on the current LAB Analytical Fee Schedule, or on quotations agreed to in writing by the parties. Unless specifically indicated on the written confirmation of quotation, analytical turnaround times are not guaranteed. The minimum charge will be \$100.00 unless otherwise noted. Prorated fees may be charged if project is terminated before completion.

Warranty: Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing Services, obtain findings and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of Services. LAB MAKES NO OTHER WARRANTIES OF ANY KIND AND EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Preliminary results may be given in advance of the laboratory report, in LAB's sole discretion. Such preliminary results are tentative, subject to confirmation and final review by LAB. Client's use of preliminary results in any manner shall be at Client's sole risk.

LAB does not endorse or place any assurance on any product not made directly by LAB.

LAB is an independent testing laboratory testing samples sent to LAB facilities by third parties. LAB has no responsibility regarding how, where or when the samples are taken, except where LAB itself performs the sampling and then only to the extent LAB has full discretion concerning sampling.

Performance: LAB recognizes that time is of the essence and upon timely delivery of samples will use its best efforts in meeting mutually agreed upon turnaround times and data requirements. However, LAB does not accept any responsibility or liability (including, without limitation, liability for negligence) when changes in project scheduling or scope, affect the LAB's ability to meet project requirements. LAB will strive to accommodate such changes but is not liable for non-performance due to Client variations to scheduling or scope and LAB will not be liable whatsoever for holding times that are exceeded due to such changes.

Indemnification: The Client hereby releases and indemnifies and shall continue to release and indemnify LAB, its officers, employees and agents from and against all actions, claims (actual or threatened), proceedings or demands (including any costs and expenses in defending or servicing same) which may be brought against it or them, in respect of any loss (including Consequential Loss), death, injury, illness or damage to persons or property, and whether direct or indirect and in respect of any breach of industrial or intellectual property rights, howsoever arising out of the use of, reliance on, or benefit of, the Services or any LAB Report, except to the extent that the loss, death, injury, illness or damage to persons or property was directly caused by the negligence, willful acts or omissions of LAB or its employees.

Limitation of Liability: The liability of LAB is limited to negligent acts or omissions and arising out of or in association with the provision of the Services under this Agreement and caused solely by the LAB, and to the sole and exclusive responsibility of LAB to re-perform any deficient work at LAB's own expense and no other liability whatsoever.

Notwithstanding any other provision of the Agreement, and except to the extent that liability cannot be limited or excluded by law:

- the LAB will not be liable to the Client and its Personnel for any indirect loss whatsoever, including consequential loss, loss of profits or economic loss;
- the LAB's cumulative liability to the Client for any loss or damage whatsoever which arises under or in connection with this Agreement or the provision of Services (excluding loss or damage to real or personal property, or personal injury to persons) and whether by way of an indemnity or statute, in tort (for negligence or otherwise) or on any other basis in law or equity, is limited to the value of the Services provided; and
- the LAB's cumulative liability to the Client and its Personnel for any loss or damage to real or personal property whatsoever which arises under or in connection with this Agreement or the provision of Services, and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to an amount recovered by the LAB under its policies of insurance.

All results provided by LAB are strictly for the use of Client, and LAB is in no way responsible for the use of such results by third parties other than Client. All results should be considered in their entirety as presented in the report provided, and LAB is not responsible for the separation, detachment, or other use of any portion of the results. Results apply only to the items (samples) submitted to LAB for analysis. Individual items (samples) analyzed, and listed in specific LAB data reports.

All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of Services.

Client's Obligations: The Client will ensure that all personnel, information, samples, test materials, access to facilities and infrastructure, assistance, records, documentation and facilities needed by LAB to perform the Services, are available when reasonably required by LAB.

The Client will give written notice to LAB of all known safety or health hazards and special procedures applicable to the performance of the Services, and the safe handling, testing, storage, transport and disposal of samples submitted to LAB (including whether or not the disposal of samples may cause contamination) or the Client's facilities or infrastructure in which LAB is partly or wholly performing the Services. LAB may, in its absolute discretion, refuse to provide part or all of the Services where it determines that the provision of part or all of the Services may pose a health or safety hazard.

The Client must take all necessary steps to remove or remedy any known safety or health hazards, or any obstacles to or anything that is likely to interrupt the performance of the Services by LAB

Termination: LAB may suspend or terminate its obligations under this Agreement if (a) monies payable to LAB by the client are outstanding 60 days or more (unless otherwise agreed) after the date of invoice, (b) other substantial breach by the Client of their obligations under the Agreement, which breach is not remedied within 30 days of written notice from LAB requiring the breach to be remedied, (c) by giving the Client 60 days written notice of LAB's intention to terminate.

The Client may terminate its obligations under this Agreement in the event of a substantial breach by LAB of its obligations under the Agreement, which breach has not been remedied within 30 days of written notice from the Client to LAB requiring the breach to be remedied.

If LAB, acting reasonably, suspects that the Client is insolvent or is having difficulties paying its debts as and when they become due, or the Client is insolvent, LAB may give written notice to the Client of LAB's intention to immediately suspend or terminate its obligations under this Agreement.

In the event of termination, LAB is entitled to be paid for all work performed before the date of termination and for any unavoidable commitments entered into by LAB before the date of termination.

Intellectual Property: LAB Intellectual Property means all intellectual property and proprietary rights (whether registered or unregistered) owned by LAB prior to performance of the Services, developed by LAB in performance of the Services, or developed by LAB outside of, or after, performance of the Services, and without limitation includes business names, trade or service marks, any right to have information (including confidential information) kept confidential, patents, patent applications, drawings, discoveries, inventions, improvements, trade secrets, technical data, formulae, databases, know-how, logos, designs, design rights, copyright and similar industrial or intellectual property rights.

All LAB Intellectual Property will remain the property of LAB. LAB grants to the Client a world-wide, non-exclusive, royalty free license to use LAB Intellectual Property for the purpose agreed to between the Client and LAB to the extent that it is needed for the enjoyment and benefit of the Services.

Confidential Information: Confidential Information means all information in relation to a disclosing party, its business, operations, products, processes, customers, suppliers or contractors which is or might reasonably be considered by the disclosing party to be confidential, including all technical data, formulae, specifications, diagrams, plans, drawings, sketches, designs, business plans and reports, business methods and systems, business records, production information, unpublished financial accounts and reports, discount and supply agreements, subcontractor lists, customer lists, except to the extent that such information is lawfully in the public domain.

Neither LAB nor the Client will disclose Confidential Information of the other party to any third party without the prior written consent of the other party, unless required by law or the rules of a relevant stock exchange. LAB and the Client will only use Confidential Information of the other party for the purpose of the supply of the Services.

Reports: Any report, findings, results, statement, certification issued by LAB (**LAB Report**) is issued on the basis of testing of samples or materials, information, or documents provided by, or on behalf of, the Client. The Client will indemnify and hold harmless LAB, its officers, employees, agents and subcontractors for any claim whatsoever in relation to any LAB Report arising from unclear, erroneous, incomplete, misleading or false information provided to LAB; or arising from any inaccuracy of defective materials or samples provided to LAB.

Each LAB Report is issued on the testing of samples or specific materials using established data quality objectives; and contains LAB's results and opinions (if provided) on those samples or specific materials only. Each LAB Report is solely for the benefit of the Client, its officers and employees. The LAB Report has been commissioned by the Client on the terms and conditions contained in this Agreement.

- the LAB Report has been prepared at the request of the Client for the purpose agreed between the Client and LAB. The Client may disclose the report to a third party for that purpose only, but LAB does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party. Any disclosure to a third party must be of the whole of the LAB Report, including LAB's disclaimer notice which is substantially the same as the terms outlined in this clause;
- LAB reserves its right to review, update or supplement any LAB Report. Any further information will be provided subject to the terms of this Agreement.

The Client indemnifies LAB, its directors, employees, agents, consultants, contractors, successors in title and assigns against any claim made against any or all of them by third parties arising out of either the disclosure of any LAB Report, whether directly or indirectly by the Client, to a third party; or any reproduction or publication of an extract of any LAB Report.

The Client acknowledges and agrees that any action, inaction, or decision of the Client in response to the LAB Report will be determined by the Client. Neither LAB nor any of its officers, employees, agents, or subcontractors will be liable to the Client or any third party for any action or inaction of the Client in response to any LAB Report.

LAB will retain Client data and Confidential information for 5 years from date of the final LAB Report.

Sample Handling: Prior to LAB's acceptance of any sample (or after any revocation of acceptance) the entire risk of loss of or damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation by a LAB employee. In no event will LAB have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from LAB's premises.

LAB will use its best efforts to arrange for the shipment of specially prepared sample bottles, sampling instructions per Client instruction by the readily available, least cost ground shipping method. Any other shipment arrangements or overnight shipping requirements will be at Client's expense. Client is responsible for the cost of shipping samples to the laboratory. Storage time of samples will be subject to requirements under applicable recognized regulations or methods.

LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample which, in the sole judgment of LAB: (a) is of unsuitable amount; (b) may be or become unsuitable for, or may pose a risk in handling, transport or processing for any health, safety, environmental or other reason, whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client; or (c) has been delivered to the LAB more than seventy-two (72) hours after sampling or if one half (1/2) or more of the recommended holding time for the analysis has lapsed. LAB will advise the Client of samples which are missing or received in damaged, contaminated, or improperly preserved condition, or the documentation is inaccurate as described between the sample container label and the Chain of Custody form.

When extended or special storage conditions are required, samples are held without analysis, or special disposal procedures are necessary, LAB may add storage and disposal fees to the final invoice. LAB also reserves the right to bill the Client for sample or shipping container provided but not returned.

The Client provides LAB written instructions concerning disposal. Samples will be disposed of according to standard LAB procedures. Unused samples may be returned to the Client as agreed upon by LAB and Client. The Client acknowledges that during the performance of the Services, Client samples or portions thereof may be altered or destroyed as part of the testing protocol.

Force Majeure: If LAB is prevented in whole or in part from performing its obligations by a Force Majeure Event, LAB may suspend performance of those obligations by giving written notice to the Client. Any non-performance or delay in performance resulting from the Force Majeure Event will not be deemed to be a breach of this Agreement.

If a suspension under this clause 14 exceeds 90 days, LAB may immediately terminate the Agreement by written notice to the Client. In the event of termination, LAB is entitled to be paid for all work performed before the date of termination and for any unavoidable commitments entered into by LAB before the date of termination.

Legal Responsibility: LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort, including negligence.

Use of LAB's Name: Client shall not use LAB's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever. The Client shall not attribute to LAB any test result, tolerance or specification derived from LAB's data ("Attribution"), except to the extent that such attribution is required for disclosure to regulatory or reporting agencies or groups requiring disclosure of the name of LAB, without LAB's prior written consent, which may be withheld by LAB for any reason in its sole discretion. To request LAB's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If LAB has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use LAB's name or trademark in any Materials or Attribution shall be deemed denied. LAB may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests, in accordance with Section 3. Client acknowledges and agrees that the unauthorized use of LAB's name or trademark in violation of this Section 16 shall cause LAB to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation of this Section 16 shall justify preliminary injunctive relief.

Attorneys' Fees and Costs: If any action or proceeding is commenced to enforce or interpret any of the terms or conditions of this Agreement or the performance thereof, including the collection of any payments due hereunder, the prevailing party will be entitled to recover all reasonable attorneys' fees, costs and expenses, including staff time at current billing rates, court costs, and other claim-related expenses. If LAB is requested to respond to any mandatory orders for the production of documents or witnesses on Client's behalf regarding work performed by LAB, Client agrees to pay all costs and expenses incurred by LAB not reimbursed by others in responding to such order, including attorney's fees, staff time at current billing rates and reproduction expenses.