

APPENDIX H

ENVIRONMENTAL ASSESSMENT REPORT

■
Suite 150
655 North Franklin Street
Tampa, Florida 33602

September 17, 2019

Ms. Julie Kendig
Greenberg Traurig, P.A.
450 S. Orange Avenue, Suite 650
Orlando, Florida 32801

**RE: Limited Environmental Investigation
Grand Harbor
Via Marbella Boulevard ROW
Gifford, Indian River County, Florida**

Kimley-Horn and Associates, Inc. (Kimley-Horn) was retained by Greenberg Traurig, P.A. (client) to conduct a Limited Assessment Investigation along the approximate 900-ft. right-of-way (ROW) of Via Marbella Boulevard in Gifford, Indian River County, Florida (referred to herein as the “subject property” or the “Site”) (**Figure 1**).

1.0 INTRODUCTION

It is our understanding that the ROW historically lied adjacent to a golf course maintenance facility that may have used agrichemicals and/or petroleum products as part of its daily operations. The Client has requested that soil and groundwater samples be collected along the route to evaluate if historical golf course maintenance operations have impacted the ROW.

2.0 FIELD SAMPLING ACTIVITIES

Field activities were conducted at the Site on September 5, 2019. Field activities consisted of collecting up to 8 soil samples and 5 groundwater samples along the ROW. All sampling activities were performed in accordance with the Florida Department of Environmental Protection (FDEP) Standard Operating Procedures (SOPs). All sampling equipment and down-hole tools were decontaminated prior to and between sample locations. All laboratory analyses were performed by an accredited member of NELAC (National Environmental Laboratories Accreditation Conference).

Sample locations are depicted on **Figure 2**.

2.1 Soil Sampling

Kimley-Horn installed a total of 8 soil borings (SS-1 through SS-8) to evaluate soil quality along the ROW. Soil borings were completed using a stainless-steel hand auger to a depth of 2-feet below land surface (bls).

Soil samples were analyzed for the following:

- Volatile Organic Aromatics (VOAs) by EPA Method 8260
- Organochlorinated Pesticides by EPA Method 8081
- Chlorinated Herbicides by EPA Method 8151
- Arsenic (As) by EPA Method 6010

In an effort to reduce laboratory costs, only the samples from SS-2 and SS-3 were analyzed. The remaining samples were put on hold at the laboratory but were not analyzed based on the results of the two soil samples.

2.2 Groundwater Sampling

Kimley-Horn installed a total of 5 temporary groundwater sampling points (GW-1 through GW-5) to evaluate groundwater quality along the ROW. The sampling points were installed using a truck-mounted Geo-Probe® equipped with direct push technology (DPT). The DPT rig installs a 4-foot hollowed rod with a metal screen to the desired depth. When the desired depth is attained, the push rods are extracted to expose the metal screen. Clean polyethylene tubing is then placed in through the rods to pump water. Water was purged until relatively free of sediment, and then placed in the laboratory supplied containers for transportation to the laboratory. Throughout the purging process, field parameters, including temperature, pH, specific conductivity, dissolved oxygen (DO), and turbidity were measured and recorded on Groundwater Sampling Logs (Form FD 9000-24) (**Appendix A**).

Groundwater samples were analyzed for the following:

- Volatile Organic Aromatics (VOAs) by EPA Method 8260
- Organochlorinated Pesticides by EPA Method 8081
- Chlorinated Herbicides by EPA Method 8151
- Arsenic (As) by EPA Method 6010

In an effort to reduce laboratory costs, only the samples from GW-1 and GW-2 were analyzed. The remaining samples were put on hold at the laboratory but were not analyzed based on the results of the two groundwater samples.

3.0 SAMPLING RESULTS

All samples collected from the Site were delivered under chain-of-custody protocol to Pace Analytical Laboratories, Inc. (Pace) in Tampa, Florida, a NELAC certified laboratory. The laboratory data reports and chain-of-custody forms are provided in **Appendix B**. Soil and groundwater data were evaluated relative to the default cleanup target levels (CTLs) defined in Tables 1 and 2 of Chapter 62-777, F.A.C.

3.1 Soil Quality Data

The following is a summary of the soil quality data collected from the Site (**Table 1**).

Volatile Organic Aromatics (VOAs)

There were no VOAs detected above the laboratory method detection limit.

Organochlorinated Pesticides (OCPs)

There were no OCPs detected above the laboratory method detection limit.

Chlorinated Herbicides

There were no herbicides detected above the laboratory method detection limit.

Arsenic (As)

Arsenic was detected in soil samples SS-2 (0.68 mg/kg) and SS-3 (1.1 mg/kg) at concentrations below the RSCTL of 2.1 mg/kg.

3.2 Groundwater Quality Data

The following is a summary of the groundwater quality data collected from the Site (Table 2).

Volatile Organic Aromatics (VOAs)

There were no VOAs detected above the laboratory method detection limit.

Organochlorinated Pesticides (OCPs)

Dieldrin, delta-BHC, and 4-4'-DDE were detected in GW-1 at concentrations exceeding the laboratory method detection limits but below their respective GCTLs. There were no OCPs detected in GW-2.

Chlorinated Herbicides

There were no herbicides detected above the laboratory method detection limit.

Arsenic (As)

Arsenic was not detected in either sample analyzed.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The following provides a discussion of the laboratory results obtained during this limited investigation for the site.



Limited Environmental Investigation
Via Marbella Boulevard ROW
Gifford, Florida
Page 4 of 4

The concentrations of arsenic detected in soil samples and OCPs detected in groundwater were below their respective CTLs. As such, it appears that no further assessment is warranted.

Thank you for the opportunity to assist you with this project. Should you have any comments or need additional information, please contact me at 813-635-5522 or by email bill.spinner@kimley-horn.com.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "WTS", with a horizontal line extending to the right.

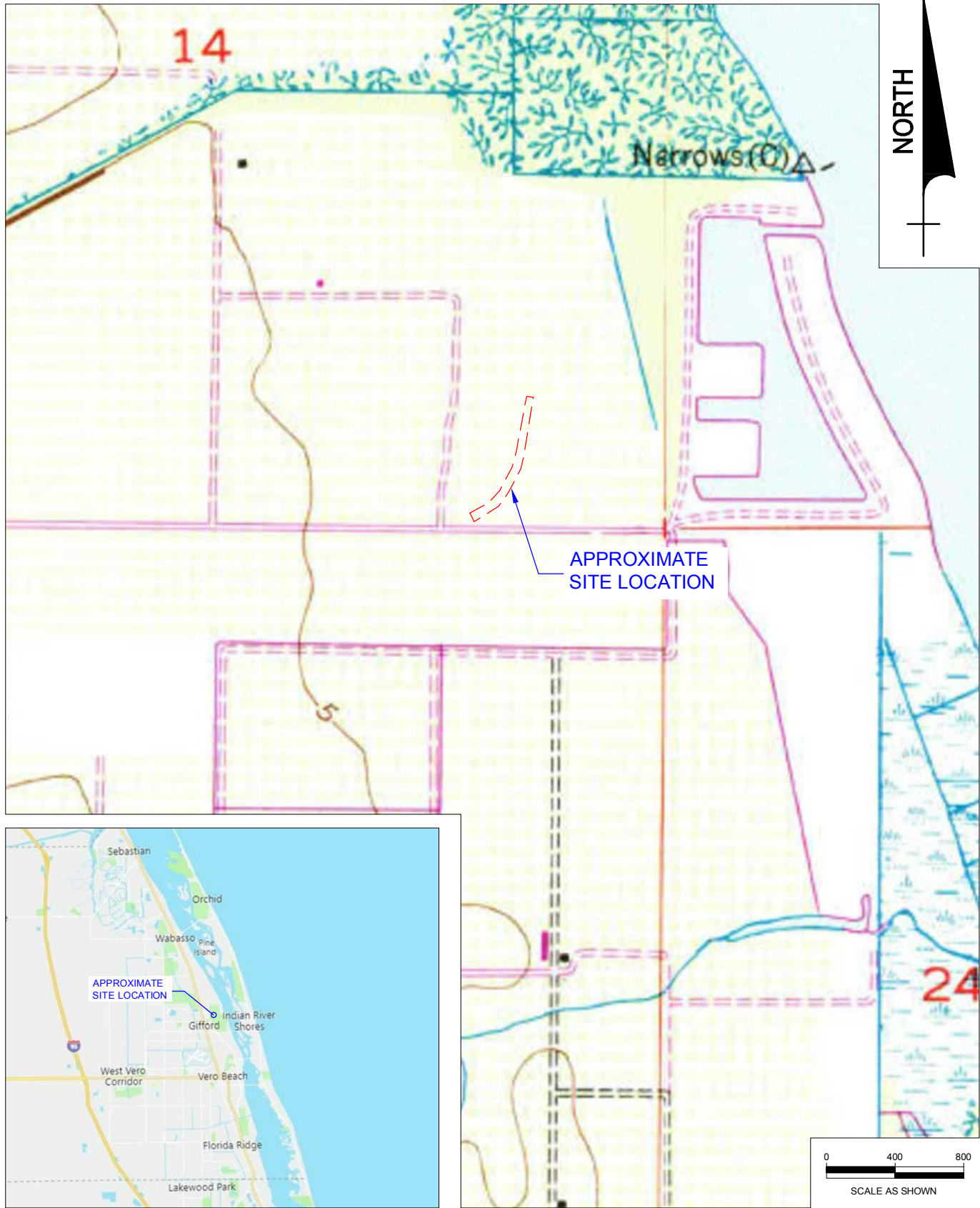
William T. Spinner, P.G.
Florida Professional Geologist No. 2570

Attachments:

- Figures
- Tables
- Appendix A – FDEP Field Data Sheets
- Appendix B – Laboratory Analytical Report

FIGURES

Drawing name: K:\TAM_Environmental\Contamination Practice\147699000 - Grand Harbor Assessment\CAD\Grand Harbor Figures.dwg Figure 1 Sep 10, 2019 3:22pm by: rick.browne



AS NOTED	Kimley»Horn © 2019 KIMLEY-HORN AND ASSOCIATES, INC. 655 NORTH FRANKLIN STREET, SUITE 150 TAMPA, FLORIDA 33602 PHONE: 813-620-1460 WWW.KIMLEY-HORN.COM CA 00000696	SEPT. 2019	SITE LOCATION MAP GRAND HARBOR VIA MARBELLA BLVD. INDIAN RIVER COUNTY, FLORIDA	WILLIAM T. SPINNER, P.G.	1
DESIGNED BY W.T.S.		PROJECT NO.		FLORIDA P.G. LICENSE NUMBER:	
DRAWN BY R.G.B.		147699000		FL 2570	
CHECKED BY W.T.S.				DATE:	

TABLES

TABLE 1
SUMMARY OF SOIL QUALITY DATA
VIA MARBELLA BOULEVARD ROW
GIFFORD, FLORIDA

Sample ID	Date Collected	Depth Interval (ft.)	HERBICIDES										ARSENIC	VOLATILE ORGANICS				
			2,4-D	Dalapon	2,4-DB	Dicamba	Dichloroprop	Dinoseb	MCPA	MCPP	2,4,5-T	Silvex (2,4,5-TP)	Arsenic	Benzene	Ethylbenzene	Methyl-tert-butyl-ether (MTBE)	Toluene	Xylene (Total)
RSCTL			770	NA	NA	2300	370	65	35	NA	890	660	2.1	1.2	1500.0	4400	7500	130
CSCTL			13000	NA	NA	40000	5500	640	500	NA	9500	14000	12	4.7	3250	24000	60000	700
LSCTL			0.7	NA	NA	2.6	0.3	0.03	0.02	NA	0.4	NA	***	0.007	0.6	0.09	0.5	0.2
SS-2	9/5/2019	0-0.5	0.00890 U	0.0743 U	0.0377 U	0.0799 U	0.0311 U	0.00864 U	0.562 U	0.465 U	0.0708 U	0.0736 U	0.691	0.0034 U	0.0037 U	0.0033 U	0.0036 U	0.0068 U
SS-3	9/5/2019	0-0.5	0.00870 U	0.0740 U	0.0368 U	0.0795 U	0.0304 U	0.00864 U	0.549 U	0.455 U	0.0706 U	0.0733 U	1.1	0.0033 U	0.0036 U	0.0032 U	0.0035 U	0.0065 U

Adjusted in mg/kg per kg dry weight (mg/kg), unless noted

NA = Not Analyzed

CSCTL = Value exceeds Commercial/Industrial Soil Cleanup Target Level for direct exposure (CSCTL)

RSCTL = Value exceeds Residential Soil Cleanup Target Level for direct exposure (RSCTL)

LSCTL = Value exceeds Landscaping Soil Cleanup Target Level for direct exposure (LSCTL)

*** = SCCL determined by Synthetic Precipitation Leaching Procedure

U = result lies between the laboratory method detection limit and the practical quantitation limit

U = result below method detection limit (MDL)

TABLE 2
SUMMARY OF GROUNDWATER QUALITY DATA
VIA MARBELLA BOULEVARD ROW
GIFFORD, FLORIDA

Sample ID	Date Collected	HERBICIDES										ARSENIC	VOLATILE ORGANICS				
		2,4-D	Alachlor	2,4-DB	Atrazine	Dichloroprop	Dinoseb	MCPA	MCPP	2,4,5-T	Silvex (2,4,5-TP)	Arsenic	Benzene	Ethylbenzene	Methyl-tert-butyl-ether (MTBE)	Toluene	Xylene (total)
GCT1		70	200	58	210	35	70	35	NA	70	50	100	100	30	200	40	200
NAOC		700	2000	660	2100	350	70	35	NA	700	500	100	100	300	200	400	200
GW-1	9/5/2019	0.744 U	104 U	0.775 U	0.813 U	0.778 U	0.795 U	13.1 U	7.15 U	0.843 U	0.845 U	7.1 U	0.30 U	0.30 U	0.51 U	0.33 U	2.1 U
GW-2	9/5/2019	0.744 U	104 U	0.775 U	0.813 U	0.778 U	0.795 U	13.1 U	7.15 U	0.843 U	0.845 U	7.1 U	0.30 U	0.30 U	0.51 U	0.33 U	2.1 U

All units in micrograms per liter (µg/L), unless noted.
 GCT1s from Chapter 62-777 FAC.
NAOC = Values exceed Groundwater Cleanup Target Level (GCTL).
NAOC = Values exceed Natural Attenuation Default Concentration (NADC).
 U = result lies between the laboratory method detection limit and the practical quantitation limit.
 U = result below method detection limit (MDL).

TABLE 2
SUMMARY OF GROUNDWATER QUALITY DATA
VIA MARBELLA BOULEVARD ROW
GULFORD, FLORIDA

		PESTICIDES																				
Sample ID	Date Collected																					
		Aldrin	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC (Lindane)	Chlordane (Technical)	4,4'-DDD	4,4'-DDE	4,4'-DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene	
GW-1	9/6/2019	0.002	0.006	0.02	2.1	0.2	2	0.1	6.1	0.1	0.002	42	42	42	2	NA	NA	0.4	0.20	40	4	
	9/6/2019	0.001 U	0.002 U	0.0016 U	0.8	0.026 U	0.17 U	0.0035 U	0.006 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	
	9/6/2019	0.001 U	0.002 U	0.0078 U	0.0046 U	0.002 U	0.17 U	0.006 U	0.0046 U	0.004 U	0.0019 U	0.004 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	
	9/6/2019	0.001 U	0.002 U	0.0078 U	0.0046 U	0.002 U	0.17 U	0.006 U	0.0046 U	0.004 U	0.0019 U	0.004 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	

GW-1: 9/6/2019
 GW-2: 9/6/2019
 U = method below method detection limit (MDL)

APPENDIX A
GROUNDWATER SAMPLE LOGS

PURGING DATA

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY

(only fill out if applicable)

= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

= gallons + (gallons/foot X feet) + gallons = gallons

[illegible]

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLED BY (PRINT) / AFFILIATION: R. J. B. / KSH	SAMPLER(S) SIGNATURE(S): 	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
---	---	------------------------	--------------------

FIELD DECONTAMINATION:	PUMP	Y	N	TUBING	Y	N (replaced)	DUPLICATE:	Y	N
------------------------	------	---	---	--------	---	--------------	------------	---	---

SAMPLE CONTAINER SPECIFICATION	SAMPLE PRESERVATION (including wet ice)	INTENDED	SAMPLING	SAMPLE PUMP
--------------------------------	---	----------	----------	-------------

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	ANALYSIS AND/OR METHOD	EQUIPMENT CODE	FLOW RATE (mL per minute)
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[illegible]

REMARKS:

Purged ~ 1.5 gals & Sampled

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
 RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, $+ 0.2$ mg/L or $+ 10\%$ (whichever is greater) Turbidity: all readings < 20 NTU; optionally $+ 5$ NTU or $+ 10\%$ (whichever is greater)

PURGING DATA

(only fill out if applicable)

= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

= gallons + (gallons/foot X feet) + gallons = gallons

[illegible]

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLED BY (PRINT) / AFFILIATION: <i>Bill Spivey KTH</i>	SAMPLER(S) SIGNATURE(S): 	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
---	---	------------------------	--------------------

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: _____ μm
---	--------------------------	---	-----------------------

FIELD DECONTAMINATION:	PUMP	Y	N	TUBING	Y	N (replaced)	DUPLICATE:	Y	N
------------------------	------	---	---	--------	---	--------------	------------	---	---

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			

[illegible]

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene;
S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings < 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

PURGING DATA

SAMPLING DATA

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

PURGING DATA

SAMPLING DATA

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

62-160,800 F.A.C.

Revision Date: March 1, 2014

PURGING DATA

SAMPLING DATA

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, $+0.2$ mg/L or $+10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally $+5$ NTU or $\pm 10\%$ (whichever is greater)

APPENDIX B

LABORATORY REPORTS

September 16, 2019

William Spinner
Kimly-Horn Associates Inc
655 North Franklin Street
Suite 150
Tampa, FL 336024447

RE: Project: Grand Harbor 147699000
Pace Project No.: 35495270

Dear William Spinner:

Enclosed are the analytical results for sample(s) received by the laboratory on September 06, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lori Palmer
lori.palmer@pacelabs.com
(813)881-9401
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: Grand Harbor 147699000

Pace Project No.: 35495270

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alaska DEC- CS/UST/LUST
Alabama Certification #: 41320
Arizona Certification# AZ0819
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
New Hampshire Certification #: 2958
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

Pace Analytical National Certification IDs

12065 Lebanon Road, Mt. Juliet, TN 37122
Alabama Certification #: 40660
Alaska Certification 17-026
Arizona Certification #: AZ0612
Arkansas Certification #: 88-0469
California Certification #: 2932
Canada Certification #: 1461.01
Colorado Certification #: TN00003
Connecticut Certification #: PH-0197
DOD Certification: #1461.01
EPA# TN00003
Florida Certification #: E87487
Georgia DW Certification #: 923
Georgia Certification: NELAP
Idaho Certification #: TN00003
Illinois Certification #: 200008
Indiana Certification #: C-TN-01
Iowa Certification #: 364
Kansas Certification #: E-10277
Kentucky UST Certification #: 16
Kentucky Certification #: 90010
Louisiana Certification #: AI30792
Louisiana DW Certification #: LA180010
Maine Certification #: TN0002
Maryland Certification #: 324
Massachusetts Certification #: M-TN003
Michigan Certification #: 9958
Minnesota Certification #: 047-999-395
Mississippi Certification #: TN00003

Missouri Certification #: 340
Montana Certification #: CERT0086
Nebraska Certification #: NE-OS-15-05
Nevada Certification #: TN-03-2002-34
New Hampshire Certification #: 2975
New Jersey Certification #: TN002
New Mexico DW Certification
New York Certification #: 11742
North Carolina Aquatic Toxicity Certification #: 41
North Carolina Drinking Water Certification #: 21704
North Carolina Environmental Certificate #: 375
North Dakota Certification #: R-140
Ohio VAP Certification #: CL0069
Oklahoma Certification #: 9915
Oregon Certification #: TN200002
Pennsylvania Certification #: 68-02979
Rhode Island Certification #: LA000356
South Carolina Certification #: 84004
South Dakota Certification
Tennessee DW/Chem/Micro Certification #: 2006
Texas Mold Certification #: LAB0152
Texas Certification #: T 104704245-17-14
USDA Soil Permit #: P330-15-00234
Utah Certification #: TN00003
Vermont Dept. of Health: ID# VT-2006
Virginia Certification #: VT2006
Virginia Certification #: 460132
Washington Certification #: C847
West Virginia Certification #: 233

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Grand Harbor 147699000

Pace Project No.: 35495270

Pace Analytical National Certification IDs

Wisconsin Certification #: 9980939910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #: 100789

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Grand Harbor 147699000

Pace Project No.: 35495270

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35495270001	SS-1	Solid	09/05/19 10:45	09/06/19 13:05
35495270002	SS-2	Solid	09/05/19 11:20	09/06/19 13:05
35495270003	SS-3	Solid	09/05/19 11:30	09/06/19 13:05
35495270004	SS-4	Solid	09/05/19 12:00	09/06/19 13:05
35495270005	SS-5	Solid	09/05/19 12:10	09/06/19 13:05
35495270006	SS-6	Solid	09/05/19 12:35	09/06/19 13:05
35495270007	SS-7	Solid	09/05/19 12:45	09/06/19 13:05
35495270008	SS-8	Solid	09/05/19 13:00	09/06/19 13:05

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Grand Harbor 147699000

Pace Project No.: 35495270

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35495270002	SS-2	EPA 8081	AER	22	PASI-O
		EPA 8151	LEL	11	PAN
		EPA 6010	LEC	1	PASI-O
		EPA 8260	VAA	8	PASI-O
		ASTM D2974-87	CLT	1	PASI-O
		SM 2540G	KBC	1	PAN
35495270003	SS-3	EPA 8081	AER	22	PASI-O
		EPA 8151	LEL	11	PAN
		EPA 6010	LEC	1	PASI-O
		EPA 8260	VAA	8	PASI-O
		ASTM D2974-87	CLT	1	PASI-O
		SM 2540G	KBC	1	PAN

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Grand Harbor 147699000

Pace Project No.: 35495270

Sample: SS-2 Lab ID: 35495270002 Collected: 09/05/19 11:20 Received: 09/06/19 13:05 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
8081 GCS Pesticides Analytical Method: EPA 8081 Preparation Method: EPA 3546										
Aldrin	0.000076 U	mg/kg	0.0022	0.000076	1	09/07/19 03:06	09/12/19 14:42	309-00-2	CU	
alpha-BHC	0.000090 U	mg/kg	0.0022	0.000090	1	09/07/19 03:06	09/12/19 14:42	319-84-6		
beta-BHC	0.00010 U	mg/kg	0.0022	0.00010	1	09/07/19 03:06	09/12/19 14:42	319-85-7		
delta-BHC	0.00011 U	mg/kg	0.0022	0.00011	1	09/07/19 03:06	09/12/19 14:42	319-86-8		
gamma-BHC (Lindane)	0.00019 U	mg/kg	0.0022	0.00019	1	09/07/19 03:06	09/12/19 14:42	58-89-9		
Chlordane (Technical)	0.021 U	mg/kg	0.022	0.021	1	09/07/19 03:06	09/12/19 14:42	57-74-9		
4,4'-DDD	0.00017 U	mg/kg	0.0022	0.00017	1	09/07/19 03:06	09/12/19 14:42	72-54-8		
4,4'-DDE	0.000080 U	mg/kg	0.0022	0.000080	1	09/07/19 03:06	09/12/19 14:42	72-55-9		
4,4'-DDT	0.00013 U	mg/kg	0.0022	0.00013	1	09/07/19 03:06	09/12/19 14:42	50-29-3		
Dieldrin	0.000052 U	mg/kg	0.0022	0.000052	1	09/07/19 03:06	09/12/19 14:42	60-57-1		
Endosulfan I	0.000033 U	mg/kg	0.0022	0.000033	1	09/07/19 03:06	09/12/19 14:42	959-98-8		
Endosulfan II	0.000075 U	mg/kg	0.0022	0.000075	1	09/07/19 03:06	09/12/19 14:42	33213-65-9		
Endosulfan sulfate	0.000056 U	mg/kg	0.0022	0.000056	1	09/07/19 03:06	09/12/19 14:42	1031-07-8		
Endrin	0.000068 U	mg/kg	0.0022	0.000068	1	09/07/19 03:06	09/12/19 14:42	72-20-8		
Endrin aldehyde	0.000087 U	mg/kg	0.0043	0.000087	1	09/07/19 03:06	09/12/19 14:42	7421-93-4		
Endrin ketone	0.00010 U	mg/kg	0.0022	0.00010	1	09/07/19 03:06	09/12/19 14:42	53494-70-5		
Heptachlor	0.000051 U	mg/kg	0.0022	0.000051	1	09/07/19 03:06	09/12/19 14:42	76-44-8		
Heptachlor epoxide	0.00015 U	mg/kg	0.0022	0.00015	1	09/07/19 03:06	09/12/19 14:42	1024-57-3		
Methoxychlor	0.0014 U	mg/kg	0.0022	0.0014	1	09/07/19 03:06	09/12/19 14:42	72-43-5		
Toxaphene	0.0096 U	mg/kg	0.022	0.0096	1	09/07/19 03:06	09/12/19 14:42	8001-35-2		
Surrogates										
Tetrachloro-m-xylene (S)	85	%	53-140		1	09/07/19 03:06	09/12/19 14:42	877-09-8		
Decachlorobiphenyl (S)	102	%	43-157		1	09/07/19 03:06	09/12/19 14:42	2051-24-3		
Chlorinated Herb. (GC) 8151 Analytical Method: EPA 8151 Preparation Method: 8151A										
2,4-D	0.00890 U	mg/kg	0.0888	0.00890	1	09/09/19 07:44	09/10/19 14:15	94-75-7	J(L0)	
Dalapon	0.0143 U	mg/kg	0.0888	0.0143	1	09/09/19 07:44	09/10/19 14:15	75-99-0		
2,4-DB	0.0377 U	mg/kg	0.0888	0.0377	1	09/09/19 07:44	09/10/19 14:15	94-82-6		
Dicamba	0.0199 U	mg/kg	0.0888	0.0199	1	09/09/19 07:44	09/10/19 14:15	1918-00-9		
Dichloroprop	0.0311 U	mg/kg	0.0888	0.0311	1	09/09/19 07:44	09/10/19 14:15	15165-67-0		
Dinoseb	0.00884 U	mg/kg	0.0888	0.00884	1	09/09/19 07:44	09/10/19 14:15	88-85-7		
MCPA	0.562 U	mg/kg	8.24	0.562	1	09/09/19 07:44	09/10/19 14:15	94-74-6		
MCPP	0.465 U	mg/kg	8.24	0.465	1	09/09/19 07:44	09/10/19 14:15	7085-19-0		
2,4,5-T	0.0108 U	mg/kg	0.0888	0.0108	1	09/09/19 07:44	09/10/19 14:15	93-76-5		
2,4,5-TP (Silvex)	0.0136 U	mg/kg	0.0888	0.0136	1	09/09/19 07:44	09/10/19 14:15	93-72-1		
Surrogates										
2,4-DCAA (S)	75.4	%	22.0-132		1	09/09/19 07:44	09/10/19 14:15	19719-28-9		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Grand Harbor 147699000

Pace Project No.: 35495270

Sample: SS-2 **Lab ID: 35495270002** Collected: 09/05/19 11:20 Received: 09/06/19 13:05 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Arsenic	0.68 I	mg/kg	0.82	0.41	1	09/10/19 15:00	09/12/19 19:01	7440-38-2	
8260 MSV 5035 Analytical Method: EPA 8260 Preparation Method: EPA 5035									
Benzene	0.0034 U	mg/kg	0.0066	0.0034	1	09/10/19 15:31	09/11/19 01:04	71-43-2	
Ethylbenzene	0.0037 U	mg/kg	0.0066	0.0037	1	09/10/19 15:31	09/11/19 01:04	100-41-4	
Methyl-tert-butyl ether	0.0033 U	mg/kg	0.0066	0.0033	1	09/10/19 15:31	09/11/19 01:04	1634-04-4	
Toluene	0.0036 U	mg/kg	0.0066	0.0036	1	09/10/19 15:31	09/11/19 01:04	108-88-3	
Xylene (Total)	0.0068 U	mg/kg	0.020	0.0068	1	09/10/19 15:31	09/11/19 01:04	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	68-125		1	09/10/19 15:31	09/11/19 01:04	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	71-132		1	09/10/19 15:31	09/11/19 01:04	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1	09/10/19 15:31	09/11/19 01:04	2037-26-5	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	24.4	%	0.10	0.10	1		09/12/19 09:45		
Total Solids 2540 G-2011 Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Total Solids	78.9	%			1	09/12/19 18:36	09/12/19 19:09		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Grand Harbor 147699000

Pace Project No.: 35495270

Sample: SS-3 Lab ID: 35495270003 Collected: 09/05/19 11:30 Received: 09/06/19 13:05 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides Analytical Method: EPA 8081 Preparation Method: EPA 3546									
Aldrin	0.00035 U	mg/kg	0.010	0.00035	5	09/07/19 03:06	09/12/19 15:02	309-00-2	
alpha-BHC	0.00042 U	mg/kg	0.010	0.00042	5	09/07/19 03:06	09/12/19 15:02	319-84-6	
beta-BHC	0.00046 U	mg/kg	0.010	0.00046	5	09/07/19 03:06	09/12/19 15:02	319-85-7	
delta-BHC	0.00052 U	mg/kg	0.010	0.00052	5	09/07/19 03:06	09/12/19 15:02	319-86-8	CU
gamma-BHC (Lindane)	0.00089 U	mg/kg	0.010	0.00089	5	09/07/19 03:06	09/12/19 15:02	58-89-9	
Chlordane (Technical)	0.096 U	mg/kg	0.10	0.096	5	09/07/19 03:06	09/12/19 15:02	57-74-9	
4,4'-DDD	0.00079 U	mg/kg	0.010	0.00079	5	09/07/19 03:06	09/12/19 15:02	72-54-8	
4,4'-DDE	0.00037 U	mg/kg	0.010	0.00037	5	09/07/19 03:06	09/12/19 15:02	72-55-9	
4,4'-DDT	0.00058 U	mg/kg	0.010	0.00058	5	09/07/19 03:06	09/12/19 15:02	50-29-3	
Dieldrin	0.00024 U	mg/kg	0.010	0.00024	5	09/07/19 03:06	09/12/19 15:02	60-57-1	
Endosulfan I	0.00015 U	mg/kg	0.010	0.00015	5	09/07/19 03:06	09/12/19 15:02	959-98-8	
Endosulfan II	0.00034 U	mg/kg	0.010	0.00034	5	09/07/19 03:06	09/12/19 15:02	33213-65-9	
Endosulfan sulfate	0.00026 U	mg/kg	0.010	0.00026	5	09/07/19 03:06	09/12/19 15:02	1031-07-8	
Endrin	0.00031 U	mg/kg	0.010	0.00031	5	09/07/19 03:06	09/12/19 15:02	72-20-8	
Endrin aldehyde	0.00040 U	mg/kg	0.020	0.00040	5	09/07/19 03:06	09/12/19 15:02	7421-93-4	
Endrin ketone	0.00048 U	mg/kg	0.010	0.00048	5	09/07/19 03:06	09/12/19 15:02	53494-70-5	
Heptachlor	0.00024 U	mg/kg	0.010	0.00024	5	09/07/19 03:06	09/12/19 15:02	76-44-8	
Heptachlor epoxide	0.00067 U	mg/kg	0.010	0.00067	5	09/07/19 03:06	09/12/19 15:02	1024-57-3	
Methoxychlor	0.0063 U	mg/kg	0.010	0.0063	5	09/07/19 03:06	09/12/19 15:02	72-43-5	
Toxaphene	0.044 U	mg/kg	0.10	0.044	5	09/07/19 03:06	09/12/19 15:02	8001-35-2	
Surrogates									
Tetrachloro-m-xylene (S)	96	%	53-140		5	09/07/19 03:06	09/12/19 15:02	877-09-8	
Decachlorobiphenyl (S)	129	%	43-157		5	09/07/19 03:06	09/12/19 15:02	2051-24-3	

Chlorinated Herb. (GC) 8151

Analytical Method: EPA 8151 Preparation Method: 8151A

2,4-D	0.00870 U	mg/kg	0.0868	0.00870	1	09/09/19 07:44	09/10/19 14:30	94-75-7	
Dalapon	0.0140 U	mg/kg	0.0868	0.0140	1	09/09/19 07:44	09/10/19 14:30	75-99-0	
2,4-DB	0.0368 U	mg/kg	0.0868	0.0368	1	09/09/19 07:44	09/10/19 14:30	94-82-6	
Dicamba	0.0195 U	mg/kg	0.0868	0.0195	1	09/09/19 07:44	09/10/19 14:30	1918-00-9	
Dichloroprop	0.0304 U	mg/kg	0.0868	0.0304	1	09/09/19 07:44	09/10/19 14:30	15165-67-0	
Dinoseb	0.00864 U	mg/kg	0.0868	0.00864	1	09/09/19 07:44	09/10/19 14:30	88-85-7	J(L0)
MCPA	0.549 U	mg/kg	8.06	0.549	1	09/09/19 07:44	09/10/19 14:30	94-74-6	
MCPP	0.455 U	mg/kg	8.06	0.455	1	09/09/19 07:44	09/10/19 14:30	7085-19-0	
2,4,5-T	0.0106 U	mg/kg	0.0868	0.0106	1	09/09/19 07:44	09/10/19 14:30	93-76-5	
2,4,5-TP (Silvex)	0.0133 U	mg/kg	0.0868	0.0133	1	09/09/19 07:44	09/10/19 14:30	93-72-1	
Surrogates									
2,4-DCAA (S)	81.4	%	22.0-132		1	09/09/19 07:44	09/10/19 14:30	19719-28-9	

6010 MET ICP

Analytical Method: EPA 6010 Preparation Method: EPA 3050

Arsenic	1.1	mg/kg	0.75	0.37	1	09/11/19 17:46	09/13/19 18:20	7440-38-2	
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8260 MSV 5035

Analytical Method: EPA 8260 Preparation Method: EPA 5035

Benzene	0.0033 U	mg/kg	0.0064	0.0033	1	09/10/19 15:31	09/11/19 01:28	71-43-2	
Ethylbenzene	0.0036 U	mg/kg	0.0064	0.0036	1	09/10/19 15:31	09/11/19 01:28	100-41-4	
Methyl-tert-butyl ether	0.0032 U	mg/kg	0.0064	0.0032	1	09/10/19 15:31	09/11/19 01:28	1634-04-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Grand Harbor 147699000

Pace Project No.: 35495270

Sample: SS-3 **Lab ID: 35495270003** Collected: 09/05/19 11:30 Received: 09/06/19 13:05 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035 Analytical Method: EPA 8260 Preparation Method: EPA 5035									
Toluene	0.0035 U	mg/kg	0.0064	0.0035	1	09/10/19 15:31	09/11/19 01:28	108-88-3	
Xylene (Total)	0.0066 U	mg/kg	0.019	0.0066	1	09/10/19 15:31	09/11/19 01:28	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	93	%	68-125		1	09/10/19 15:31	09/11/19 01:28	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	71-132		1	09/10/19 15:31	09/11/19 01:28	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1	09/10/19 15:31	09/11/19 01:28	2037-26-5	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	17.3	%	0.10	0.10	1		09/11/19 15:00		
Total Solids 2540 G-2011 Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Total Solids	80.7	%			1	09/12/19 14:51	09/12/19 15:00		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495270

QC Batch: 1342170

Analysis Method: EPA 8151

QC Batch Method: 8151A

Analysis Description: Chlorinated Herb. (GC) 8151

Associated Lab Samples: 35495270002, 35495270003

METHOD BLANK: R3449543-1

Matrix: Solid

Associated Lab Samples: 35495270002, 35495270003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2,4-D	mg/kg	0.00702 U	0.0700	0.00702	09/10/19 09:48	
Dalapon	mg/kg	0.0113 U	0.0700	0.0113	09/10/19 09:48	
2,4-DB	mg/kg	0.0297 U	0.0700	0.0297	09/10/19 09:48	
Dicamba	mg/kg	0.0157 U	0.0700	0.0157	09/10/19 09:48	
Dichloroprop	mg/kg	0.0245 U	0.0700	0.0245	09/10/19 09:48	
Dinoseb	mg/kg	0.00697 U	0.0700	0.00697	09/10/19 09:48	
MCPA	mg/kg	0.443 U	6.50	0.443	09/10/19 09:48	
MCP	mg/kg	0.367 U	6.50	0.367	09/10/19 09:48	
2,4,5-T	mg/kg	0.00852 U	0.0700	0.00852	09/10/19 09:48	
2,4,5-TP (Silvex)	mg/kg	0.0107 U	0.0700	0.0107	09/10/19 09:48	
2,4-DCAA (S)	%	72.5	22.0-132		09/10/19 09:48	

LABORATORY CONTROL SAMPLE: R3449543-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-D	mg/kg	0.167	0.146	87.4	40.0-120	P9
Dalapon	mg/kg	0.167	0.115	68.9	15.0-120	
2,4-DB	mg/kg	0.167	0.121	72.5	25.0-143	P9
Dicamba	mg/kg	0.167	0.130	77.8	43.0-120	P9
Dichloroprop	mg/kg	0.167	0.148	88.6	32.0-129	P9
Dinoseb	mg/kg	0.167	0.0153	9.16	10.0-120	J(L0)
MCPA	mg/kg	1.67	0.871	52.2	31.0-121	
MCP	mg/kg	1.67	0.964	57.7	28.0-133	
2,4,5-T	mg/kg	0.167	0.149	89.2	41.0-120	P9
2,4,5-TP (Silvex)	mg/kg	0.167	0.155	92.8	42.0-120	P9
2,4-DCAA (S)	%			75.4	22.0-132	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R3449543-3

R3449543-4

Parameter	Units	L1136848-03 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4-D	mg/kg	ND	0.167	0.167	0.185	0.160	111	95.8	10.0-160	14.5	24	P9
Dalapon	mg/kg	ND	0.167	0.167	0.145	0.120	86.8	71.9	10.0-121	18.9	27	P9
2,4-DB	mg/kg	ND	0.167	0.167	0.0988	0.0883	59.2	52.9	10.0-160	11.2	22	
Dicamba	mg/kg	ND	0.167	0.167	0.138	0.119	82.6	71.3	10.0-154	14.8	21	P9
Dichloroprop	mg/kg	ND	0.167	0.167	0.135	0.121	80.8	72.5	10.0-158	10.9	20	P9
Dinoseb	mg/kg	ND	0.167	0.167	0.0468	0.0346	28.0	20.7	10.0-120	30.0	40	

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495270

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R3449543-3 R3449543-4												
Parameter	Units	L1136848-03		MS		MSD		MS		MSD		Max
		Result	Spike	Conc.	Spike	Conc.	Result	Result	% Rec	% Rec	Limits	
MCPA	mg/kg	ND	1.67	1.67	4.23	2.11	253	126	10.0-160	66.9	40	J(R1), L,MH
MCP	mg/kg	ND	1.67	1.67	4.78	2.53	286	151	10.0-160	61.6	40	J(R1), L,MH
2,4,5-T	mg/kg	ND	0.167	0.167	0.140	0.118	83.8	70.7	10.0-157	17.1	20	P9
2,4,5-TP (Silvex)	mg/kg	ND	0.167	0.167	0.162	0.137	97.0	82.0	10.0-156	16.7	20	P9
2,4-DCAA (S)	%						79.6	73.1	22.0-132			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495270

QC Batch: 568867

Analysis Method: EPA 6010

QC Batch Method: EPA 3050

Analysis Description: 6010 MET Solid

Associated Lab Samples: 35495270002

METHOD BLANK: 3090175

Matrix: Solid

Associated Lab Samples: 35495270002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/kg	0.30 U	0.61	0.30	09/12/19 13:28	

LABORATORY CONTROL SAMPLE: 3090176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	15.6	14.5	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3090251 3090252

Parameter	Units	35494971001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	2.9	16.6	16	19.6	15.5	100	79	75-125	23	20	J(R1)

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495270

QC Batch: 569285

Analysis Method: EPA 6010

QC Batch Method: EPA 3050

Analysis Description: 6010 MET Solid

Associated Lab Samples: 35495270003

METHOD BLANK: 3093526

Matrix: Solid

Associated Lab Samples: 35495270003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/kg	0.30 U	0.60	0.30	09/13/19 09:57	

LABORATORY CONTROL SAMPLE: 3093527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	15.4	14.7	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3093528 3093529

Parameter	Units	35494034001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	10.1	145	141	147	144	94	94	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495270

QC Batch: 568895

Analysis Method: EPA 8260

QC Batch Method: EPA 5035

Analysis Description: 8260 MSV 5035

Associated Lab Samples: 35495270002, 35495270003

METHOD BLANK: 3090547

Matrix: Solid

Associated Lab Samples: 35495270002, 35495270003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	mg/kg	0.0025 U	0.0049	0.0025	09/10/19 23:04	
Ethylbenzene	mg/kg	0.0028 U	0.0049	0.0028	09/10/19 23:04	
Methyl-tert-butyl ether	mg/kg	0.0025 U	0.0049	0.0025	09/10/19 23:04	
Toluene	mg/kg	0.0027 U	0.0049	0.0027	09/10/19 23:04	
Xylene (Total)	mg/kg	0.0051 U	0.015	0.0051	09/10/19 23:04	
1,2-Dichloroethane-d4 (S)	%	96	71-132		09/10/19 23:04	
4-Bromofluorobenzene (S)	%	102	68-125		09/10/19 23:04	
Toluene-d8 (S)	%	99	70-130		09/10/19 23:04	

LABORATORY CONTROL SAMPLE: 3090548

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	0.02	0.020	98	70-130	
Ethylbenzene	mg/kg	0.02	0.021	107	70-130	
Methyl-tert-butyl ether	mg/kg	0.02	0.019	96	65-124	
Toluene	mg/kg	0.02	0.021	106	70-130	
Xylene (Total)	mg/kg	0.06	0.065	108	70-130	
1,2-Dichloroethane-d4 (S)	%			97	71-132	
4-Bromofluorobenzene (S)	%			107	68-125	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 3090550

Parameter	Units	35495949002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	0.0046 U	0.023	0.018	77	70-130	
Ethylbenzene	mg/kg	0.0050 U	0.023	0.011	46	70-130	J(M1)
Methyl-tert-butyl ether	mg/kg	0.0045 U	0.023	0.021	87	65-124	
Toluene	mg/kg	0.0048 U	0.023	0.015	63	70-130	J(M1)
Xylene (Total)	mg/kg	0.0092 U	0.071	0.033	46	70-130	MS
1,2-Dichloroethane-d4 (S)	%				96	71-132	
4-Bromofluorobenzene (S)	%				101	68-125	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 3090549

Parameter	Units	35495949001 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	mg/kg	0.0032 U	0.0033 U		40	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495270

SAMPLE DUPLICATE: 3090549

Parameter	Units	35495949001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethylbenzene	mg/kg	0.0036 U	0.0036 U		40	
Methyl-tert-butyl ether	mg/kg	0.0031 U	0.0032 U		40	
Toluene	mg/kg	0.0034 U	0.0034 U		40	
Xylene (Total)	mg/kg	0.0065 U	0.0065 U		40	
1,2-Dichloroethane-d4 (S)	%	97	99		40	
4-Bromofluorobenzene (S)	%	101	101		40	
Toluene-d8 (S)	%	98	99		40	

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495270

QC Batch: 568216

Analysis Method: EPA 8081

QC Batch Method: EPA 3546

Analysis Description: 8081 GCS Pesticides

Associated Lab Samples: 35495270002, 35495270003

METHOD BLANK: 3087064

Matrix: Solid

Associated Lab Samples: 35495270002, 35495270003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
4,4'-DDD	mg/kg	0.00013 U	0.0017	0.00013	09/11/19 11:14	
4,4'-DDE	mg/kg	0.000060 U	0.0017	0.000060	09/11/19 11:14	
4,4'-DDT	mg/kg	0.000095 U	0.0017	0.000095	09/11/19 11:14	
Aldrin	mg/kg	0.000057 U	0.0017	0.000057	09/11/19 11:14	
alpha-BHC	mg/kg	0.000068 U	0.0017	0.000068	09/11/19 11:14	
beta-BHC	mg/kg	0.000076 U	0.0017	0.000076	09/11/19 11:14	
Chlordane (Technical)	mg/kg	0.016 U	0.017	0.016	09/11/19 11:14	
delta-BHC	mg/kg	0.000086 U	0.0017	0.000086	09/11/19 11:14	
Dieldrin	mg/kg	0.000040 U	0.0017	0.000040	09/11/19 11:14	
Endosulfan I	mg/kg	0.000025 U	0.0017	0.000025	09/11/19 11:14	
Endosulfan II	mg/kg	0.000056 U	0.0017	0.000056	09/11/19 11:14	
Endosulfan sulfate	mg/kg	0.000043 U	0.0017	0.000043	09/11/19 11:14	
Endrin	mg/kg	0.000051 U	0.0017	0.000051	09/11/19 11:14	
Endrin aldehyde	mg/kg	0.000065 U	0.0033	0.000065	09/11/19 11:14	
Endrin ketone	mg/kg	0.000079 U	0.0017	0.000079	09/11/19 11:14	
gamma-BHC (Lindane)	mg/kg	0.00015 U	0.0017	0.00015	09/11/19 11:14	
Heptachlor	mg/kg	0.000039 U	0.0017	0.000039	09/11/19 11:14	
Heptachlor epoxide	mg/kg	0.00011 U	0.0017	0.00011	09/11/19 11:14	
Methoxychlor	mg/kg	0.0010 U	0.0017	0.0010	09/11/19 11:14	
Toxaphene	mg/kg	0.0073 U	0.017	0.0073	09/11/19 11:14	
Decachlorobiphenyl (S)	%	75	43-157		09/11/19 11:14	
Tetrachloro-m-xylene (S)	%	79	53-140		09/11/19 11:14	

LABORATORY CONTROL SAMPLE: 3087065

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4,4'-DDD	mg/kg	0.017	0.014	86	62-144	
4,4'-DDE	mg/kg	0.017	0.014	84	67-141	
4,4'-DDT	mg/kg	0.017	0.013	80	57-159	
Aldrin	mg/kg	0.017	0.015	90	70-136	
alpha-BHC	mg/kg	0.017	0.016	94	67-136	
beta-BHC	mg/kg	0.017	0.015	89	68-131	
delta-BHC	mg/kg	0.017	0.015	87	58-120	
Dieldrin	mg/kg	0.017	0.014	86	63-145	
Endosulfan I	mg/kg	0.017	0.015	90	66-129	
Endosulfan II	mg/kg	0.017	0.013	79	59-130	
Endosulfan sulfate	mg/kg	0.017	0.014	86	57-137	
Endrin	mg/kg	0.017	0.014	85	67-147	
Endrin aldehyde	mg/kg	0.017	0.013	80	54-144	
Endrin ketone	mg/kg	0.017	0.013	81	60-139	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495270

LABORATORY CONTROL SAMPLE: 3087065

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
gamma-BHC (Lindane)	mg/kg	0.017	0.016	94	69-137	
Heptachlor	mg/kg	0.017	0.015	93	68-135	
Heptachlor epoxide	mg/kg	0.017	0.015	90	68-135	
Methoxychlor	mg/kg	0.017	0.014	82	57-153	
Decachlorobiphenyl (S)	%			77	43-157	
Tetrachloro-m-xylene (S)	%			81	53-140	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3087092 3087093

Parameter	Units	35495226001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
4,4'-DDD	mg/kg	0.00014 U	0.017	0.017	0.018	0.017	107	98	62-144	9	40	
4,4'-DDE	mg/kg	0.00010 I	0.017	0.017	0.018	0.017	104	98	67-141	6	40	
4,4'-DDT	mg/kg	0.000099 U	0.017	0.017	0.017	0.016	101	94	57-159	7	40	
Aldrin	mg/kg	0.000060 U	0.017	0.017	0.018	0.017	103	102	70-136	2	40	
alpha-BHC	mg/kg	0.000071 U	0.017	0.017	0.018	0.018	107	105	67-136	2	40	
beta-BHC	mg/kg	0.000080 U	0.017	0.017	0.018	0.017	105	102	68-131	3	40	
delta-BHC	mg/kg	0.000090 U	0.017	0.017	0.018	0.017	107	101	58-120	6	40	
Dieldrin	mg/kg	0.000041 U	0.017	0.017	0.018	0.017	104	99	63-145	5	40	
Endosulfan I	mg/kg	0.000026 U	0.017	0.017	0.018	0.018	107	103	66-129	4	40	
Endosulfan II	mg/kg	0.000059 U	0.017	0.017	0.017	0.016	101	92	59-130	9	40	
Endosulfan sulfate	mg/kg	0.000044 U	0.017	0.017	0.018	0.017	108	99	57-137	8	40	
Endrin	mg/kg	0.000054 U	0.017	0.017	0.018	0.017	106	100	67-147	6	40	
Endrin aldehyde	mg/kg	0.000068 U	0.017	0.017	0.017	0.016	102	95	54-144	7	40	
Endrin ketone	mg/kg	0.000083 U	0.017	0.017	0.017	0.016	101	93	60-139	9	40	
gamma-BHC (Lindane)	mg/kg	0.00015 U	0.017	0.017	0.018	0.018	108	107	69-137	1	40	
Heptachlor	mg/kg	0.000040 U	0.017	0.017	0.018	0.018	104	103	68-135	1	40	
Heptachlor epoxide	mg/kg	0.00011 U	0.017	0.017	0.018	0.018	104	103	68-135	2	40	
Methoxychlor	mg/kg	0.0011 U	0.017	0.017	0.019	0.017	109	97	57-153	12	40	
Decachlorobiphenyl (S)	%						102	89	43-157			
Tetrachloro-m-xylene (S)	%						80	91	53-140			

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495270

QC Batch: 569265

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 35495270003

SAMPLE DUPLICATE: 3093149

Parameter	Units	35495165004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	23.3	24.4	5	10	

SAMPLE DUPLICATE: 3093150

Parameter	Units	35495443006 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	5.1	5.2	1	10	

SAMPLE DUPLICATE: 3093151

Parameter	Units	35496277001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.0	10.7	7	10	

SAMPLE DUPLICATE: 3093152

Parameter	Units	35496445001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	2.1	2.3	9	10	

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495270

QC Batch: 569471

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 35495270002

SAMPLE DUPLICATE: 3094795

Parameter	Units	35495167001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	36.3	35.2	3	10	

SAMPLE DUPLICATE: 3094796

Parameter	Units	35495169002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.3	12.5	1	10	

SAMPLE DUPLICATE: 3094797

Parameter	Units	35495248003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	23.4	24.1	3	10	

SAMPLE DUPLICATE: 3094798

Parameter	Units	35495288005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	6.0	5.9	2	10	

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495270

QC Batch: 1344228

Analysis Method: SM 2540G

QC Batch Method: SM 2540 G

Analysis Description: Total Solids 2540 G-2011

Associated Lab Samples: 35495270002

METHOD BLANK: R3450386-1

Matrix: Solid

Associated Lab Samples: 35495270002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Solids	%	0.00100			09/12/19 19:09	

LABORATORY CONTROL SAMPLE: R3450386-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	%	50.0	50.0	99.9	85.0-115	

SAMPLE DUPLICATE: R3450386-3

Parameter	Units	L1136906-13 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	%	85.0	84.2	0.962	10	

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495270

QC Batch: 1344229

Analysis Method: SM 2540G

QC Batch Method: SM 2540 G

Analysis Description: Total Solids 2540 G-2011

Associated Lab Samples: 35495270003

METHOD BLANK: R3450452-1

Matrix: Solid

Associated Lab Samples: 35495270003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Solids	%	ND			09/12/19 15:00	

LABORATORY CONTROL SAMPLE: R3450452-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	%	50.0	50.0	100	85.0-115	

SAMPLE DUPLICATE: R3450452-3

Parameter	Units	L1138059-02 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	%	85.9	84.7	1.44	10	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Grand Harbor 147699000

Pace Project No.: 35495270

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PAN Pace Analytical National

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

U Compound was analyzed for but not detected.

CU The continuing calibration for this analyte is above laboratory acceptance limits. Analyte was not detected above the reporting limit in any of the associated samples.

J(L0) Estimated Value. Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

J(M1) Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

J(R1) Estimated Value. RPD value was outside control limits.

L Off-scale high. Actual value is known to be greater than value given.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

MS Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.

P9 RPD between the primary and confirmatory analysis exceeded 40%.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Grand Harbor 147699000

Pace Project No.: 35495270

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35495270002	SS-2	EPA 3546	568216	EPA 8081	568555
35495270003	SS-3	EPA 3546	568216	EPA 8081	568555
35495270002	SS-2	8151A	1342170	EPA 8151	1342170
35495270003	SS-3	8151A	1342170	EPA 8151	1342170
35495270002	SS-2	EPA 3050	568867	EPA 6010	568940
35495270003	SS-3	EPA 3050	569285	EPA 6010	569332
35495270002	SS-2	EPA 5035	568895	EPA 8260	568909
35495270003	SS-3	EPA 5035	568895	EPA 8260	568909
35495270002	SS-2	ASTM D2974-87	569471		
35495270003	SS-3	ASTM D2974-87	569265		
35495270002	SS-2	SM 2540 G	1344228	SM 2540G	1344228
35495270003	SS-3	SM 2540 G	1344229	SM 2540G	1344229

REPORT OF LABORATORY ANALYSIS

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	Document Name:	Document Revised:
	Sample Condition Upon Receipt Form	May 30, 2018
	Document No.: F-FL-C-007 rev. 13	Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project # W0# : 35495270
Project Manager: PM: LAP **Due Date:** 09/13/19
Client: CLIENT: 37-KIHOTA

Date and Initials of person:

Examining contents: MVC

Label: 9/6/19

Deliver: ↓

pH: N/A

Thermometer Used: T-203 Date: 9-6-19 Time: 1320 Initials: NJH

State of Origin: FL

☐ For WV projects, all containers verified to $\leq 6^{\circ}\text{C}$

Cooler #1 Temp. $^{\circ}\text{C}$ 4.1 (Visual) 0.0 (Correction Factor) 4.1 (Actual)

Cooler #2 Temp. $^{\circ}\text{C}$ 3.8 (Visual) 0.0 (Correction Factor) 3.8 (Actual)

Cooler #3 Temp. $^{\circ}\text{C}$ _____ (Visual) _____ (Correction Factor) _____ (Actual)

Cooler #4 Temp. $^{\circ}\text{C}$ _____ (Visual) _____ (Correction Factor) _____ (Actual)

Cooler #5 Temp. $^{\circ}\text{C}$ _____ (Visual) _____ (Correction Factor) _____ (Actual)

Cooler #6 Temp. $^{\circ}\text{C}$ _____ (Visual) _____ (Correction Factor) _____ (Actual)

☒ Samples on ice, cooling process has begun

☒ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace ☐ Other _____

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ International Priority

☐ Other _____

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking # _____

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No Seals intact: ☐ Yes ☐ No Ice: Wet Blue Dry None

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____

Samples shorted to lab (If Yes, complete) Shorted Date: _____ Shorted Time: _____ Qty: _____

Comments:

Chain of Custody Present	☒ Yes ☐ No ☐ N/A	Preservation Information: Preservative: _____ Lot #/Trace #: _____ Date: _____ Time: _____ Initials: _____
Chain of Custody Filled Out	☒ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☒ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☒ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☒ No ☐ N/A	
Sufficient Volume	☒ Yes ☐ No ☐ N/A	
Correct Containers Used	☒ Yes ☐ No ☐ N/A	
Containers Intact	☒ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☒ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☐ Yes ☐ No ☒ N/A	
All Containers needing preservation are found to be in compliance with EPA recommendation:	☐ Yes ☐ No ☒ N/A	
Exceptions: VOA, Coliform, TOC, O&G, Carbamates		
Headspace in VOA Vials? (>6mm):	☐ Yes ☐ No ☒ N/A	
Trip Blank Present:	☐ Yes ☐ No ☒ N/A	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution (use back for additional comments): _____

Project Manager Review: _____

Date: _____ Page 25 of 25

September 17, 2019

William Spinner
Kimly-Horn Associates Inc
655 North Franklin Street
Suite 150
Tampa, FL 336024447

RE: Project: Grand Harbor 147699000
Pace Project No.: 35495273

Dear William Spinner:

Enclosed are the analytical results for sample(s) received by the laboratory on September 06, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Samples 3-5 were placed on hold by Mr. Spinner.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lori Palmer
lori.palmer@pacelabs.com
(813)881-9401
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Grand Harbor 147699000

Pace Project No.: 35495273

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alaska DEC- CS/UST/LUST
Alabama Certification #: 41320
Arizona Certification# AZ0819
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
New Hampshire Certification #: 2958
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

Pace Analytical National Certification IDs

12065 Lebanon Road, Mt. Juliet, TN 37122
Alabama Certification #: 40660
Alaska Certification 17-026
Arizona Certification #: AZ0612
Arkansas Certification #: 88-0469
California Certification #: 2932
Canada Certification #: 1461.01
Colorado Certification #: TN00003
Connecticut Certification #: PH-0197
DOD Certification: #1461.01
EPA# TN00003
Florida Certification #: E87487
Georgia DW Certification #: 923
Georgia Certification: NELAP
Idaho Certification #: TN00003
Illinois Certification #: 200008
Indiana Certification #: C-TN-01
Iowa Certification #: 364
Kansas Certification #: E-10277
Kentucky UST Certification #: 16
Kentucky Certification #: 90010
Louisiana Certification #: AI30792
Louisiana DW Certification #: LA180010
Maine Certification #: TN0002
Maryland Certification #: 324
Massachusetts Certification #: M-TN003
Michigan Certification #: 9958
Minnesota Certification #: 047-999-395
Mississippi Certification #: TN00003

Missouri Certification #: 340
Montana Certification #: CERT0086
Nebraska Certification #: NE-OS-15-05
Nevada Certification #: TN-03-2002-34
New Hampshire Certification #: 2975
New Jersey Certification #: TN002
New Mexico DW Certification
New York Certification #: 11742
North Carolina Aquatic Toxicity Certification #: 41
North Carolina Drinking Water Certification #: 21704
North Carolina Environmental Certificate #: 375
North Dakota Certification #: R-140
Ohio VAP Certification #: CL0069
Oklahoma Certification #: 9915
Oregon Certification #: TN200002
Pennsylvania Certification #: 68-02979
Rhode Island Certification #: LA000356
South Carolina Certification #: 84004
South Dakota Certification
Tennessee DW/Chem/Micro Certification #: 2006
Texas Mold Certification #: LAB0152
Texas Certification #: T 104704245-17-14
USDA Soil Permit #: P330-15-00234
Utah Certification #: TN00003
Vermont Dept. of Health: ID# VT-2006
Virginia Certification #: VT2006
Virginia Certification #: 460132
Washington Certification #: C847
West Virginia Certification #: 233

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Grand Harbor 147699000

Pace Project No.: 35495273

Pace Analytical National Certification IDs

Wisconsin Certification #: 9980939910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #: 100789

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SAMPLE SUMMARY

Project: Grand Harbor 147699000

Pace Project No.: 35495273

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35495273001	GW-1	Water	09/05/19 11:05	09/06/19 13:20
35495273002	GW-2	Water	09/05/19 11:45	09/06/19 13:20
35495273003	GW-3	Water	09/05/19 12:30	09/06/19 13:20
35495273004	GW-4	Water	09/05/19 12:50	09/06/19 13:20
35495273005	GW-5	Water	09/05/19 13:15	09/06/19 13:20

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SAMPLE ANALYTE COUNT

Project: Grand Harbor 147699000

Pace Project No.: 35495273

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35495273001	GW-1	EPA 8081	TCB	22	PASI-O
		EPA 8151	LEL	11	PAN
		EPA 6010	LEC	1	PASI-O
		EPA 8260	SK1	8	PASI-O
35495273002	GW-2	EPA 8081	TCB	22	PASI-O
		EPA 8151	LEL	11	PAN
		EPA 6010	LEC	1	PASI-O
		EPA 8260	SK1	8	PASI-O

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Grand Harbor 147699000

Pace Project No.: 35495273

Sample: GW-1 Lab ID: 35495273001 Collected: 09/05/19 11:05 Received: 09/06/19 13:20 Matrix: Water									
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides Analytical Method: EPA 8081 Preparation Method: EPA 3510									
Aldrin	0.0014 U	ug/L	0.0095	0.0014	1	09/10/19 16:45	09/12/19 00:21	309-00-2	1p
alpha-BHC	0.0020 U	ug/L	0.0095	0.0020	1	09/10/19 16:45	09/12/19 00:21	319-84-6	1p
beta-BHC	0.0076 U	ug/L	0.0095	0.0076	1	09/10/19 16:45	09/12/19 00:21	319-85-7	1p
delta-BHC	0.63	ug/L	0.0095	0.0046	1	09/10/19 16:45	09/12/19 00:21	319-86-8	1p,P2,V
gamma-BHC (Lindane)	0.0021 U	ug/L	0.0095	0.0021	1	09/10/19 16:45	09/12/19 00:21	58-89-9	1p
Chlordane (Technical)	0.17 U	ug/L	0.48	0.17	1	09/10/19 16:45	09/12/19 00:21	57-74-9	1p
4,4'-DDD	0.0085 U	ug/L	0.0095	0.0085	1	09/10/19 16:45	09/12/19 00:21	72-54-8	1p
4,4'-DDE	0.0062 I	ug/L	0.0095	0.0048	1	09/10/19 16:45	09/12/19 00:21	72-55-9	1p,P2,V
4,4'-DDT	0.0048 U	ug/L	0.0095	0.0048	1	09/10/19 16:45	09/12/19 00:21	50-29-3	1p
Dieldrin	0.0064 I	ug/L	0.0095	0.0019	1	09/10/19 16:45	09/12/19 00:21	60-57-1	1p,P2,V
Endosulfan I	0.0049 U	ug/L	0.0095	0.0049	1	09/10/19 16:45	09/12/19 00:21	959-98-8	1p
Endosulfan II	0.0038 U	ug/L	0.0095	0.0038	1	09/10/19 16:45	09/12/19 00:21	33213-65-9	1p
Endosulfan sulfate	0.0059 U	ug/L	0.095	0.0059	1	09/10/19 16:45	09/12/19 00:21	1031-07-8	1p
Endrin	0.0041 U	ug/L	0.0095	0.0041	1	09/10/19 16:45	09/12/19 00:21	72-20-8	1p
Endrin aldehyde	0.0034 U	ug/L	0.095	0.0034	1	09/10/19 16:45	09/12/19 00:21	7421-93-4	1p
Endrin ketone	0.0048 U	ug/L	0.0095	0.0048	1	09/10/19 16:45	09/12/19 00:21	53494-70-5	1p
Heptachlor	0.0059 U	ug/L	0.0095	0.0059	1	09/10/19 16:45	09/12/19 00:21	76-44-8	1p
Heptachlor epoxide	0.0050 U	ug/L	0.0095	0.0050	1	09/10/19 16:45	09/12/19 00:21	1024-57-3	1p
Methoxychlor	0.0092 U	ug/L	0.0095	0.0092	1	09/10/19 16:45	09/12/19 00:21	72-43-5	1p
Toxaphene	0.24 U	ug/L	0.48	0.24	1	09/10/19 16:45	09/12/19 00:21	8001-35-2	1p
Surrogates									
Tetrachloro-m-xylene (S)	96	%	27-124		1	09/10/19 16:45	09/12/19 00:21	877-09-8	
Decachlorobiphenyl (S)	57	%	10-132		1	09/10/19 16:45	09/12/19 00:21	2051-24-3	
Chlorinated Herb. (GC) 8151 Analytical Method: EPA 8151 Preparation Method: 8151A									
2,4-D	0.744 U	ug/L	2.00	0.744	1	09/09/19 07:46	09/09/19 16:54	94-75-7	
Dalapon	1.04 U	ug/L	2.00	1.04	1	09/09/19 07:46	09/09/19 16:54	75-99-0	J(R1)
2,4-DB	0.775 U	ug/L	4.00	0.775	1	09/09/19 07:46	09/09/19 16:54	94-82-6	
Dicamba	0.813 U	ug/L	2.00	0.813	1	09/09/19 07:46	09/09/19 16:54	1918-00-9	
Dichloroprop	0.778 U	ug/L	2.00	0.778	1	09/09/19 07:46	09/09/19 16:54	15165-67-0	
Dinoseb	0.795 U	ug/L	2.00	0.795	1	09/09/19 07:46	09/09/19 16:54	88-85-7	
MCPA	13.1 U	ug/L	200	13.1	1	09/09/19 07:46	09/09/19 16:54	94-74-6	
MCPP	7.15 U	ug/L	200	7.15	1	09/09/19 07:46	09/09/19 16:54	7085-19-0	J(R1)
2,4,5-T	0.843 U	ug/L	2.00	0.843	1	09/09/19 07:46	09/09/19 16:54	93-76-5	
2,4,5-TP (Silvex)	0.845 U	ug/L	2.00	0.845	1	09/09/19 07:46	09/09/19 16:54	93-72-1	
Surrogates									
2,4-DCAA (S)	1270	%	14.0-158		1	09/09/19 07:46	09/09/19 16:54	19719-28-9	J(ST)
6010 MET ICP Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Arsenic	7.1 U	ug/L	10.0	7.1	1	09/11/19 05:43	09/12/19 10:17	7440-38-2	
8260 MSV, Short List Analytical Method: EPA 8260									
Benzene	0.30 U	ug/L	1.0	0.30	1		09/11/19 06:24	71-43-2	
Ethylbenzene	0.30 U	ug/L	1.0	0.30	1		09/11/19 06:24	100-41-4	
Methyl-tert-butyl ether	0.51 U	ug/L	2.0	0.51	1		09/11/19 06:24	1634-04-4	
Toluene	0.33 U	ug/L	1.0	0.33	1		09/11/19 06:24	108-88-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Grand Harbor 147699000

Pace Project No.: 35495273

Sample: GW-1		Lab ID: 35495273001		Collected: 09/05/19 11:05		Received: 09/06/19 13:20		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV, Short List		Analytical Method: EPA 8260							
Xylene (Total)	2.1 U	ug/L	5.0	2.1	1		09/11/19 06:24	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	107	%	70-130		1		09/11/19 06:24	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		09/11/19 06:24	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1		09/11/19 06:24	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Grand Harbor 147699000

Pace Project No.: 35495273

Sample: GW-2 Lab ID: 35495273002 Collected: 09/05/19 11:45 Received: 09/06/19 13:20 Matrix: Water									
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides Analytical Method: EPA 8081 Preparation Method: EPA 3510									
Aldrin	0.0014 U	ug/L	0.0096	0.0014	1	09/10/19 16:45	09/12/19 00:40	309-00-2	1p
alpha-BHC	0.0020 U	ug/L	0.0096	0.0020	1	09/10/19 16:45	09/12/19 00:40	319-84-6	1p
beta-BHC	0.0077 U	ug/L	0.0096	0.0077	1	09/10/19 16:45	09/12/19 00:40	319-85-7	1p
delta-BHC	0.0046 U	ug/L	0.0096	0.0046	1	09/10/19 16:45	09/12/19 00:40	319-86-8	1p
gamma-BHC (Lindane)	0.0021 U	ug/L	0.0096	0.0021	1	09/10/19 16:45	09/12/19 00:40	58-89-9	1p
Chlordane (Technical)	0.17 U	ug/L	0.48	0.17	1	09/10/19 16:45	09/12/19 00:40	57-74-9	1p
4,4'-DDD	0.0085 U	ug/L	0.0096	0.0085	1	09/10/19 16:45	09/12/19 00:40	72-54-8	1p
4,4'-DDE	0.0048 U	ug/L	0.0096	0.0048	1	09/10/19 16:45	09/12/19 00:40	72-55-9	1p
4,4'-DDT	0.0048 U	ug/L	0.0096	0.0048	1	09/10/19 16:45	09/12/19 00:40	50-29-3	1p
Dieldrin	0.0019 U	ug/L	0.0096	0.0019	1	09/10/19 16:45	09/12/19 00:40	60-57-1	1p
Endosulfan I	0.0049 U	ug/L	0.0096	0.0049	1	09/10/19 16:45	09/12/19 00:40	959-98-8	1p
Endosulfan II	0.0038 U	ug/L	0.0096	0.0038	1	09/10/19 16:45	09/12/19 00:40	33213-65-9	1p
Endosulfan sulfate	0.0059 U	ug/L	0.096	0.0059	1	09/10/19 16:45	09/12/19 00:40	1031-07-8	1p
Endrin	0.0041 U	ug/L	0.0096	0.0041	1	09/10/19 16:45	09/12/19 00:40	72-20-8	1p
Endrin aldehyde	0.0034 U	ug/L	0.096	0.0034	1	09/10/19 16:45	09/12/19 00:40	7421-93-4	1p
Endrin ketone	0.0048 U	ug/L	0.0096	0.0048	1	09/10/19 16:45	09/12/19 00:40	53494-70-5	1p
Heptachlor	0.0059 U	ug/L	0.0096	0.0059	1	09/10/19 16:45	09/12/19 00:40	76-44-8	1p
Heptachlor epoxide	0.0050 U	ug/L	0.0096	0.0050	1	09/10/19 16:45	09/12/19 00:40	1024-57-3	1p
Methoxychlor	0.0092 U	ug/L	0.0096	0.0092	1	09/10/19 16:45	09/12/19 00:40	72-43-5	1p
Toxaphene	0.24 U	ug/L	0.48	0.24	1	09/10/19 16:45	09/12/19 00:40	8001-35-2	1p
Surrogates									
Tetrachloro-m-xylene (S)	93	%	27-124		1	09/10/19 16:45	09/12/19 00:40	877-09-8	
Decachlorobiphenyl (S)	82	%	10-132		1	09/10/19 16:45	09/12/19 00:40	2051-24-3	
Chlorinated Herb. (GC) 8151 Analytical Method: EPA 8151 Preparation Method: 8151A									
2,4-D	0.744 U	ug/L	2.00	0.744	1	09/09/19 07:46	09/09/19 17:09	94-75-7	
Dalapon	1.04 U	ug/L	2.00	1.04	1	09/09/19 07:46	09/09/19 17:09	75-99-0	J(R1)
2,4-DB	0.775 U	ug/L	4.00	0.775	1	09/09/19 07:46	09/09/19 17:09	94-82-6	
Dicamba	0.813 U	ug/L	2.00	0.813	1	09/09/19 07:46	09/09/19 17:09	1918-00-9	
Dichloroprop	0.778 U	ug/L	2.00	0.778	1	09/09/19 07:46	09/09/19 17:09	15165-67-0	
Dinoseb	0.795 U	ug/L	2.00	0.795	1	09/09/19 07:46	09/09/19 17:09	88-85-7	
MCPA	13.1 U	ug/L	200	13.1	1	09/09/19 07:46	09/09/19 17:09	94-74-6	
MCPP	7.15 U	ug/L	200	7.15	1	09/09/19 07:46	09/09/19 17:09	7085-19-0	J(R1)
2,4,5-T	0.843 U	ug/L	2.00	0.843	1	09/09/19 07:46	09/09/19 17:09	93-76-5	
2,4,5-TP (Silvex)	0.845 U	ug/L	2.00	0.845	1	09/09/19 07:46	09/09/19 17:09	93-72-1	
Surrogates									
2,4-DCAA (S)	1660	%	14.0-158		1	09/09/19 07:46	09/09/19 17:09	19719-28-9	J(ST)
6010 MET ICP Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Arsenic	7.1 U	ug/L	10.0	7.1	1	09/11/19 05:43	09/12/19 10:21	7440-38-2	
8260 MSV, Short List Analytical Method: EPA 8260									
Benzene	0.30 U	ug/L	1.0	0.30	1		09/11/19 06:49	71-43-2	
Ethylbenzene	0.30 U	ug/L	1.0	0.30	1		09/11/19 06:49	100-41-4	
Methyl-tert-butyl ether	0.51 U	ug/L	2.0	0.51	1		09/11/19 06:49	1634-04-4	
Toluene	0.33 U	ug/L	1.0	0.33	1		09/11/19 06:49	108-88-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Grand Harbor 147699000

Pace Project No.: 35495273

Sample: GW-2		Lab ID: 35495273002		Collected: 09/05/19 11:45		Received: 09/06/19 13:20		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV, Short List		Analytical Method: EPA 8260							
Xylene (Total)	2.1 U	ug/L	5.0	2.1	1		09/11/19 06:49	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	107	%	70-130		1		09/11/19 06:49	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		09/11/19 06:49	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		09/11/19 06:49	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495273

QC Batch: 1342173

Analysis Method: EPA 8151

QC Batch Method: 8151A

Analysis Description: Chlorinated Herb. (GC) 8151

Associated Lab Samples: 35495273001, 35495273002

METHOD BLANK: R3449102-1

Matrix: Water

Associated Lab Samples: 35495273001, 35495273002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2,4-D	ug/L	0.744 U	2.00	0.744	09/09/19 15:25	
Dalapon	ug/L	1.04 U	2.00	1.04	09/09/19 15:25	
2,4-DB	ug/L	0.775 U	4.00	0.775	09/09/19 15:25	
Dicamba	ug/L	0.813 U	2.00	0.813	09/09/19 15:25	
Dichloroprop	ug/L	0.778 U	2.00	0.778	09/09/19 15:25	
Dinoseb	ug/L	0.795 U	2.00	0.795	09/09/19 15:25	
MCPA	ug/L	13.1 U	200	13.1	09/09/19 15:25	
MCP	ug/L	7.15 U	200	7.15	09/09/19 15:25	
2,4,5-T	ug/L	0.843 U	2.00	0.843	09/09/19 15:25	
2,4,5-TP (Silvex)	ug/L	0.845 U	2.00	0.845	09/09/19 15:25	
2,4-DCAA (S)	%	92.2	14.0-158		09/09/19 15:25	

LABORATORY CONTROL SAMPLE & LCSD: R3449102-2

R3449102-3

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
2,4-D	ug/L	5.00	5.83	5.44	117	109	50.0-120	6.92	20	P9
Dalapon	ug/L	5.00	5.69	4.61	114	92.2	32.0-120	21.0	20	J(R1),P9
2,4-DB	ug/L	5.00	4.13	4.26	82.6	85.2	53.0-140	3.10	20	P9
Dicamba	ug/L	5.00	5.36	4.61	107	92.2	51.0-120	15.0	20	P9
Dichloroprop	ug/L	5.00	6.22	5.42	124	108	55.0-127	13.7	20	P9
Dinoseb	ug/L	5.00	3.17	2.97	63.4	59.4	36.0-134	6.51	20	P9
MCPA	ug/L	50.0	35.1	29.7	70.2	59.4	10.0-160	16.7	40	
MCP	ug/L	50.0	53.1	39.6	106	79.2	10.0-160	29.1	23	J(R1)
2,4,5-T	ug/L	5.00	5.38	5.28	108	106	54.0-120	1.88	20	P9
2,4,5-TP (Silvex)	ug/L	5.00	5.83	5.46	117	109	50.0-125	6.55	20	P9
2,4-DCAA (S)	%				98.0	83.0	14.0-158			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495273

QC Batch:	568986	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
Associated Lab Samples: 35495273001, 35495273002			

METHOD BLANK: 3091738 Matrix: Water

Associated Lab Samples: 35495273001, 35495273002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	7.1 U	10.0	7.1	09/12/19 09:53	

LABORATORY CONTROL SAMPLE: 3091739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	250	248	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3091740 3091741

Parameter	Units	35495159001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	7.1 U	250	250	252	249	100	98	75-125	1	20	

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495273

QC Batch: 568951 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 35495273001, 35495273002

METHOD BLANK: 3091461 Matrix: Water

Associated Lab Samples: 35495273001, 35495273002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	0.30 U	1.0	0.30	09/10/19 21:53	
Ethylbenzene	ug/L	0.30 U	1.0	0.30	09/10/19 21:53	
Methyl-tert-butyl ether	ug/L	0.51 U	2.0	0.51	09/10/19 21:53	
Toluene	ug/L	0.33 U	1.0	0.33	09/10/19 21:53	
Xylene (Total)	ug/L	2.1 U	5.0	2.1	09/10/19 21:53	
1,2-Dichloroethane-d4 (S)	%	97	70-130		09/10/19 21:53	
4-Bromofluorobenzene (S)	%	107	70-130		09/10/19 21:53	
Toluene-d8 (S)	%	96	70-130		09/10/19 21:53	

LABORATORY CONTROL SAMPLE: 3091462

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.1	86	70-130	
Ethylbenzene	ug/L	20	20.3	101	70-130	
Methyl-tert-butyl ether	ug/L	20	17.6	88	64-124	
Toluene	ug/L	20	19.8	99	70-130	
Xylene (Total)	ug/L	60	58.1	97	70-130	
1,2-Dichloroethane-d4 (S)	%			94	70-130	
4-Bromofluorobenzene (S)	%			107	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE SAMPLE: 3091464

Parameter	Units	35495172002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	0.30 U	20	15.8	79	70-130	
Ethylbenzene	ug/L	0.30 U	20	18.6	93	70-130	
Methyl-tert-butyl ether	ug/L	0.51 U	20	16.8	84	64-124	
Toluene	ug/L	0.33 U	20	18.2	91	70-130	
Xylene (Total)	ug/L	2.1 U	60	52.6	88	70-130	
1,2-Dichloroethane-d4 (S)	%				100	70-130	
4-Bromofluorobenzene (S)	%				111	70-130	
Toluene-d8 (S)	%				96	70-130	

SAMPLE DUPLICATE: 3091463

Parameter	Units	35495172001 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	0.30 U	0.30 U		40	

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495273

SAMPLE DUPLICATE: 3091463

Parameter	Units	35495172001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethylbenzene	ug/L	0.89 I	0.83 I		40	
Methyl-tert-butyl ether	ug/L	0.51 U	0.51 U		40	
Toluene	ug/L	0.33 U	0.33 U		40	
Xylene (Total)	ug/L	2.1 U	2.1 U		40	
1,2-Dichloroethane-d4 (S)	%	103	101		40	
4-Bromofluorobenzene (S)	%	105	107		40	
Toluene-d8 (S)	%	97	96		40	

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495273

QC Batch: 568856

Analysis Method: EPA 8081

QC Batch Method: EPA 3510

Analysis Description: 8081 GCS Pesticides

Associated Lab Samples: 35495273001, 35495273002

METHOD BLANK: 3090143

Matrix: Water

Associated Lab Samples: 35495273001, 35495273002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
4,4'-DDD	ug/L	0.0089 U	0.010	0.0089	09/11/19 22:24	
4,4'-DDE	ug/L	0.0050 U	0.010	0.0050	09/11/19 22:24	
4,4'-DDT	ug/L	0.0050 U	0.010	0.0050	09/11/19 22:24	
Aldrin	ug/L	0.0015 U	0.010	0.0015	09/11/19 22:24	
alpha-BHC	ug/L	0.0021 U	0.010	0.0021	09/11/19 22:24	
beta-BHC	ug/L	0.0080 U	0.010	0.0080	09/11/19 22:24	
Chlordane (Technical)	ug/L	0.18 U	0.50	0.18	09/11/19 22:24	
delta-BHC	ug/L	0.0048 U	0.010	0.0048	09/11/19 22:24	
Dieldrin	ug/L	0.0020 U	0.010	0.0020	09/11/19 22:24	
Endosulfan I	ug/L	0.0051 U	0.010	0.0051	09/11/19 22:24	
Endosulfan II	ug/L	0.0040 U	0.010	0.0040	09/11/19 22:24	
Endosulfan sulfate	ug/L	0.0062 U	0.10	0.0062	09/11/19 22:24	
Endrin	ug/L	0.0043 U	0.010	0.0043	09/11/19 22:24	
Endrin aldehyde	ug/L	0.0036 U	0.10	0.0036	09/11/19 22:24	
Endrin ketone	ug/L	0.0050 U	0.010	0.0050	09/11/19 22:24	
gamma-BHC (Lindane)	ug/L	0.0022 U	0.010	0.0022	09/11/19 22:24	
Heptachlor	ug/L	0.0062 U	0.010	0.0062	09/11/19 22:24	
Heptachlor epoxide	ug/L	0.0052 U	0.010	0.0052	09/11/19 22:24	
Methoxychlor	ug/L	0.0096 U	0.010	0.0096	09/11/19 22:24	
Toxaphene	ug/L	0.25 U	0.50	0.25	09/11/19 22:24	
Decachlorobiphenyl (S)	%	71	10-132		09/11/19 22:24	
Tetrachloro-m-xylene (S)	%	86	27-124		09/11/19 22:24	

LABORATORY CONTROL SAMPLE & LCSD: 3090144

3090579

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
4,4'-DDD	ug/L	0.5	0.50	0.47	99	95	67-133	5	40	
4,4'-DDE	ug/L	0.5	0.47	0.48	95	96	59-125	1	40	
4,4'-DDT	ug/L	0.5	0.59	0.55	117	111	54-132	6	40	
Aldrin	ug/L	0.5	0.43	0.48	86	96	25-116	12	40	
alpha-BHC	ug/L	0.5	0.49	0.55	99	109	53-126	10	40	
beta-BHC	ug/L	0.5	0.54	0.56	108	112	62-130	3	40	
delta-BHC	ug/L	0.5	0.51	0.51	101	103	35-122	1	40	
Dieldrin	ug/L	0.5	0.49	0.50	98	100	66-128	2	40	
Endosulfan I	ug/L	0.5	0.49	0.51	99	102	67-125	3	40	
Endosulfan II	ug/L	0.5	0.60	0.57	119	115	67-131	4	40	
Endosulfan sulfate	ug/L	0.5	0.64	0.60	127	119	62-127	7	40	
Endrin	ug/L	0.5	0.54	0.53	107	107	66-130	0	40	
Endrin aldehyde	ug/L	0.5	0.62	0.60	124	121	61-124	2	40	
Endrin ketone	ug/L	0.5	0.61	0.56	122	113	65-132	8	40	

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QUALITY CONTROL DATA

Project: Grand Harbor 147699000

Pace Project No.: 35495273

LABORATORY CONTROL SAMPLE & LCSD: 3090144			3090579							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
gamma-BHC (Lindane)	ug/L	0.5	0.50	0.54	99	108	58-127	9	40	
Heptachlor	ug/L	0.5	0.44	0.50	89	101	35-123	12	40	
Heptachlor epoxide	ug/L	0.5	0.57	0.60	114	120	62-125	6	40	
Methoxychlor	ug/L	0.5	0.62	0.56	123	112	59-135	9	40	
Decachlorobiphenyl (S)	%				91	77	10-132			
Tetrachloro-m-xylene (S)	%				83	95	27-124			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Grand Harbor 147699000

Pace Project No.: 35495273

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PAN Pace Analytical National

PASI-O Pace Analytical Services - Ormond Beach

SAMPLE QUALIFIERS

Sample: 35495273001

[1] Chlorinated Acid Herbicides (GC) by Method 8151 - High surrogate due to matrix impact, sample is BDL, data not impacted.

Sample: 35495273002

[1] Chlorinated Acid Herbicides (GC) by Method 8151 - High surrogate due to matrix impact, sample is BDL, data not impacted.

BATCH QUALIFIERS

Batch: 568856

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

U Compound was analyzed for but not detected.

1p A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

J(R1) Estimated Value. RPD value was outside control limits.

J(ST) Estimated value. Surrogate recovery was above laboratory control limits. Results may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Grand Harbor 147699000

Pace Project No.: 35495273

ANALYTE QUALIFIERS

- P2 Re-extraction or re-analysis could not be performed due to insufficient sample amount.
- P9 RPD between the primary and confirmatory analysis exceeded 40%.
- V Indicates that the analyte was detected in both the sample and the associated method blank.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Grand Harbor 147699000

Pace Project No.: 35495273

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35495273001	GW-1	EPA 3510	568856	EPA 8081	569123
35495273002	GW-2	EPA 3510	568856	EPA 8081	569123
35495273001	GW-1	8151A	1342173	EPA 8151	1342173
35495273002	GW-2	8151A	1342173	EPA 8151	1342173
35495273001	GW-1	EPA 3010	568986	EPA 6010	569072
35495273002	GW-2	EPA 3010	568986	EPA 6010	569072
35495273001	GW-1	EPA 8260	568951		
35495273002	GW-2	EPA 8260	568951		

REPORT OF LABORATORY ANALYSIS

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	Document Name:	Document Revised:
	Sample Condition Upon Receipt Form	May 30, 2018
	Document No.: F-FL-C-007 rev. 13	Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #
Project Manager:
Client:

WO#: 35495273

PM: LAP Due Date: 09/13/19
 CLIENT: 37-KIHOTA

Date and Initials of person:

Examining contents: mvc

Label: 9/6/19

Deliver: ↓

pH: ↓

Thermometer Used: T-203 Date: 9-6-19 Time: 1320 Initials: LCH

State of Origin: FL

☐ For WV projects, all containers verified to ≤6 °C

Cooler #1 Temp. °C <u>3.2</u> (Visual) <u>0.0</u> (Correction Factor) <u>3.2</u> (Actual)	☒ Samples on ice, cooling process has begun
Cooler #2 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)	☐ Samples on ice, cooling process has begun
Cooler #3 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)	☐ Samples on ice, cooling process has begun
Cooler #4 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)	☐ Samples on ice, cooling process has begun
Cooler #5 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)	☐ Samples on ice, cooling process has begun
Cooler #6 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)	☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace ☐ Other _____

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ International Priority

☐ Other _____

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking # _____

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No Seals intact: ☐ Yes ☐ No Ice: Wet Blue Dry None

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____

Samples shorted to lab (if Yes, complete) Shorted Date: _____ Shorted Time: _____ Qty: _____

Comments:

Chain of Custody Present	☒ Yes ☐ No ☐ N/A	Preservation Information: Preservative: _____ Lot #/Trace #: _____ Date: _____ Time: _____ Initials: _____
Chain of Custody Filled Out	☒ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☒ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☒ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☒ No ☐ N/A	
Sufficient Volume	☒ Yes ☐ No ☐ N/A	
Correct Containers Used	☒ Yes ☐ No ☐ N/A	
Containers Intact	☒ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☒ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☒ Yes ☐ No ☐ N/A	
All Containers needing preservation are found to be in compliance with EPA recommendation:	☒ Yes ☐ No ☐ N/A	
Exceptions: VOA, Coliform, TOC, O&G, Carbamates		
Headspace in VOA Vials? (>6mm):	☐ Yes ☒ No ☐ N/A	
Trip Blank Present:	☐ Yes ☒ No ☐ N/A	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution (use back for additional comments): _____