



8381 Dix Ellis Trail, Suite 400  
Jacksonville, FL 32256  
tel: 904-527-6716

April 9, 2018

Mr. Darrin McKeehen, P.G.  
Florida Department of Environmental Protection Northeast District  
8800 Baymeadows Way West, Suite 100  
Jacksonville, FL 32256

Subject: Doyon Court Dump Site Groundwater Sampling Report  
North of Doyon Court & Newbolt Court  
Jacksonville, FL 32210  
FDEP Site ID # COM\_255761 / Project ID# 292313

Dear Mr. McKeehen:

CDM Smith Inc. (CDM Smith), on behalf of the City of Jacksonville (City), is pleased to submit this Groundwater Sampling Report for the former Doyon Court Dump Site located north of Doyon Court and Newbolt Court, in Jacksonville, Florida. The assessment scope included collecting 10 groundwater samples for laboratory analyses in accordance with Florida Department of Environmental Protection (FDEP) standard operating procedures (SOPs). The following sections summarize the site background, investigation methodology, results, conclusions and recommendations.

## Site Background

A Site Assessment Report (SAR) for the Doyon Court Dump Site was prepared by Ellis & Associates, Inc. (Ellis) and submitted to FDEP on April 6, 2007. The groundwater samples collected for the SAR showed that benzene exceeded the Groundwater Cleanup Target Level (GCTL) of 1 microgram per liter ( $\mu\text{g/L}$ ) and was below the Natural Attenuation Default Concentration of 100  $\mu\text{g/L}$ , as defined in Chapter 62-777, F.A.C., at MW-1 and MW-3A. The SAR recommended Natural Attenuation Monitoring (NAM). On January 19, 2017, FDEP requested, that groundwater levels be measured and groundwater samples be collected and analyzed for volatile organic compounds (VOCs).

Based on communication between the City and FDEP, monitor wells MW-1, MW-2, MW-3A, MW-4, MW-7, MW-10, and MW-11 were selected for sampling. Additionally, three replacement monitor wells MW-8A, MW-9A, and MW-12A, were selected to be reinstalled and sampled. The replacement monitor wells were installed on August 15, 2017. Groundwater samples from the selected monitor wells were collected on August 15, 2017 and August 17, 2017 and submitted for laboratory analysis of VOCs by EPA Method 8260. CDM Smith documented the results in a letter to FDEP dated October 20, 2017. Based on the results of the groundwater sampling, all contaminants of concern were





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below their respective GCTLs. CDM Smith requested No Further Action and property abandonment of the wells.

In a response dated October 25, 2017, FDEP requested an additional sampling event for monitor wells MW-1, MW-2, MW-3A, MW-4, MW-7, MW-8A, MW-9A, MW-10, MW-11, and MW-12A. **Figure 1** displays the site location. **Figure 2** indicates the monitoring well locations. The figures are included in **Attachment A**.

### Groundwater Sampling Procedures

On February 8, 2018, Mr. Grant Gray of CDM Smith mobilized to the site to conduct groundwater sampling in accordance with FDEP SOPs. In situ groundwater purge parameters were collected using a YSI 556 MPS Multimeter and a Hach 2100Q Turbidity Meter, and the purge water was inspected for evidence of a sheen and odors.

Hydrogen sulfide odors were reported in two wells and, except for turbidity in MW-9A, field parameters were within normal ranges. The groundwater sampling logs, chain of custody, and calibration forms are included in **Attachment B**. Grab groundwater samples were collected after purge parameters stabilized.

The groundwater samples were placed in sample containers provided by Pace Analytical Services Inc. (Pace), placed on ice, and delivered to Pace on February 9 for analyses. Pace is a NELAC-certified laboratory. All groundwater samples were analyzed for VOCs by EPA Method 8260. Additionally, samples from monitoring wells MW-2 and MW-11 were submitted for polycyclic aromatic hydrocarbons (PAHs) analyses by EPA Method 8270. **Table 1** below presents the field parameters for the groundwater samples.

**Table 1 Groundwater Samples Field Parameters**

Sample Location	Temperature (°C)	pH (SU)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Comments
MW-1	17.00	5.57	261	1.90	10.0	NA
MW-2	16.20	5.66	273	1.03	9.98	NA
MW-3A	17.26	5.89	612	0.19	18.6	Slightly yellow color/No protective riser
MW-4	17.24	5.81	166	0.24	12.8	Duplicate taken
MW-7	16.88	4.47	283	0.20	9.99	H <sub>2</sub> S odor
MW-8A	18.17	4.85	167	0.08	24.6	H <sub>2</sub> S odor
MW-9A	16.12	5.33	150	3.02	394	Brown color
MW-10	16.63	5.34	286	0.16	4.24	No protective riser
MW-11	16.24	3.42	130	0.23	5.59	Yellow color/Damaged/No protective riser/No cap



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**Table 1 Groundwater Samples Field Parameters**

Sample Location	Temperature (°C)	pH (SU)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Comments
MW-12A	17.00	5.78	301	0.34	28.3	NA

### Groundwater Level Measurement

Groundwater levels were recorded from the 10 monitoring wells that were sampled in February 2018. The depths to water were measured with a water level indicator and recorded to the nearest 0.01 foot. The groundwater levels and elevations are summarized in **Table 2** below.

Sample Location	Top of Casing (arbitrary datum)	Top of Casing (NAVD88)	Total Well Depth (ft)	Depth to Water (ft)	Stick up (ft)	Groundwater Elevation (arbitrary datum)	Groundwater Elevation (NAVD88)
MW-1	72.08	Not Reported	11.14	6.48	4.08	65.60	-
MW-2	73.14	Not Reported	10.73	6.68	4.13	66.46	-
MW-3A	Not Reported	Not Reported	9.60	4.17	1.21	-	-
MW-4	74.81	Not Reported	11.70	6.43	3.66	68.38	-
MW-7	Not Reported	Not Reported	10.31	6.19	4.21	-	-
MW-8A	Not Reported	78.78	16.00	5.71	2.63	-	73.07
MW-9A	Not Reported	76.77	15.00	5.15	2.71	-	71.62
MW-10	Not Reported	Not Reported	10.40	3.56	1.38	-	-
MW-11	Not Reported	Not Reported	9.37	3.10	0.75	-	-
MW-12A	Not Reported	77.48	15.00	5.13	3.04	-	72.35

The top of casing elevations were previously reported by Ellis for MW-1, MW-2, and MW-4 and referenced Above Mean Sea Level. However, CDM Smith determined that an arbitrary datum was used and datum conversion was not possible. CDM Smith had a survey for wells MW-8A, MW-9A, and MW-12A conducted on September 6, 2017, referencing the North American Vertical Datum of 1988 (NAVD88). The arbitrary datum has not been determined to adjust the elevations to NAVD88.

Groundwater Elevation Maps are provided on **Figure 3** and **Figure 4** and are included in Attachment A. Because of the differing elevation datums, the NAVD88 groundwater elevations are mapped separately from the arbitrarily referenced groundwater elevations. For both figures, the potentiometric surface downgradient direction is north-northwest. This is consistent with the findings of previous reports.



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### Laboratory Results


All VOCs and PAHs in the February 2018 groundwater samples were below the GCTLs. The complete laboratory report is included in **Attachment C**.

### Conclusions/Recommendations

The results of the sampling and analysis indicated that groundwater at the Doyon Court Dump Site was below the GCTLs for VOCs and PAHs in February 2018. The groundwater flow direction was north-northwest, which is consistent with past flow direction interpolations. Based on the results of the past two sampling events for this site, which indicated no analyzed parameters above FDEP criteria, CDM Smith recommends that the site be granted "no further action" status and the monitoring wells should be properly abandoned.

Please feel free to contact us if you have questions.

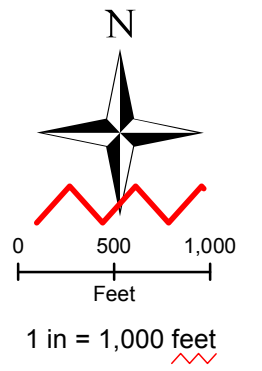
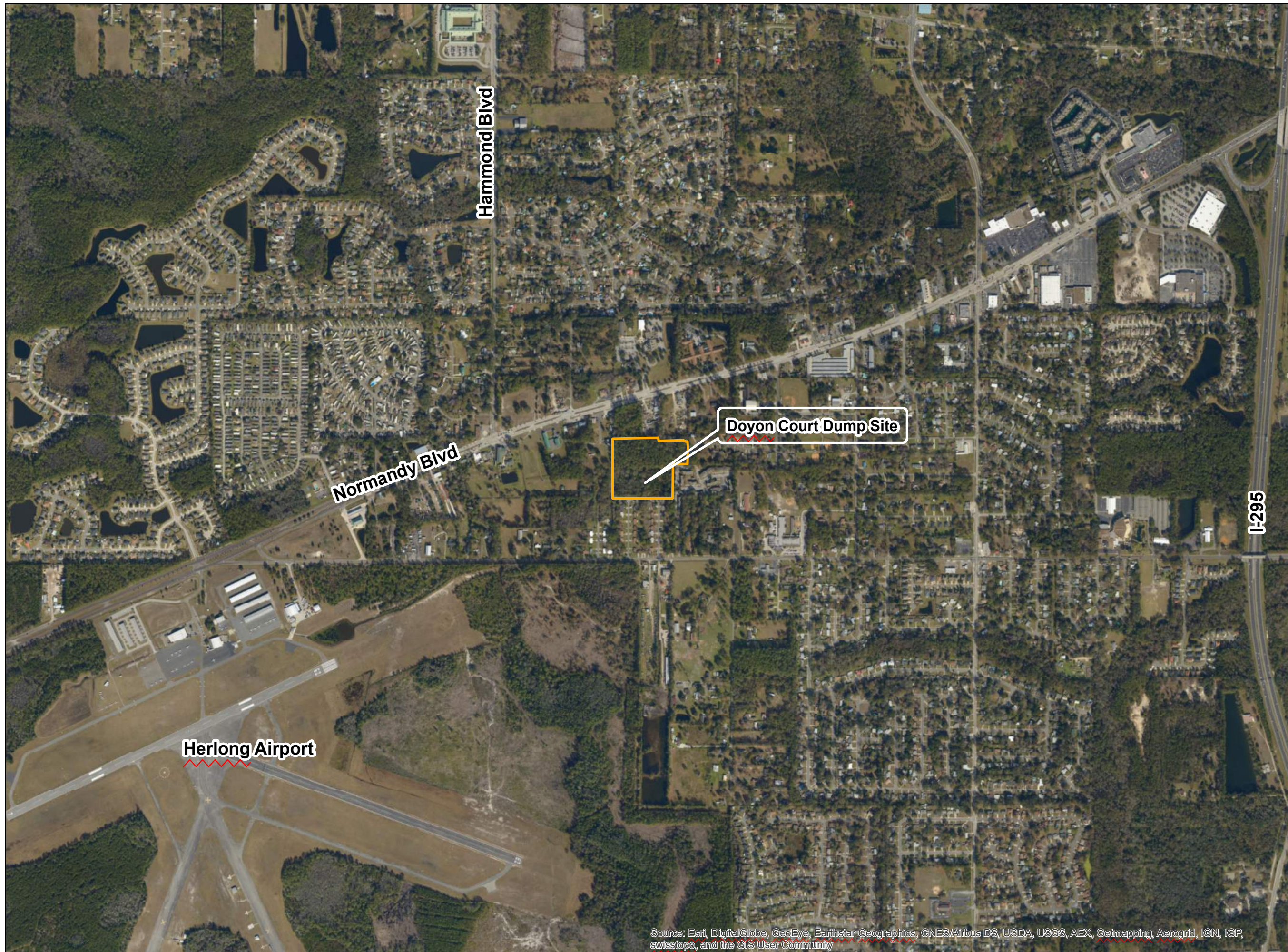
Sincerely,




KATHLEEN LYTTLE TEMPLETON  
LICENSE  
No. 73928  
Katie L. Templeton, P.E., CEM  
Project Manager  
CDM Smith Inc.  
STATE OF  
FLORIDA  
PROFESSIONAL ENGINEER

# Attachment A

## Figures



**LEGEND**

 Site Boundary

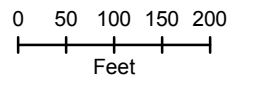
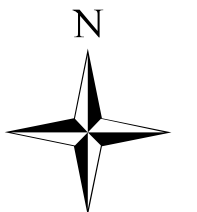
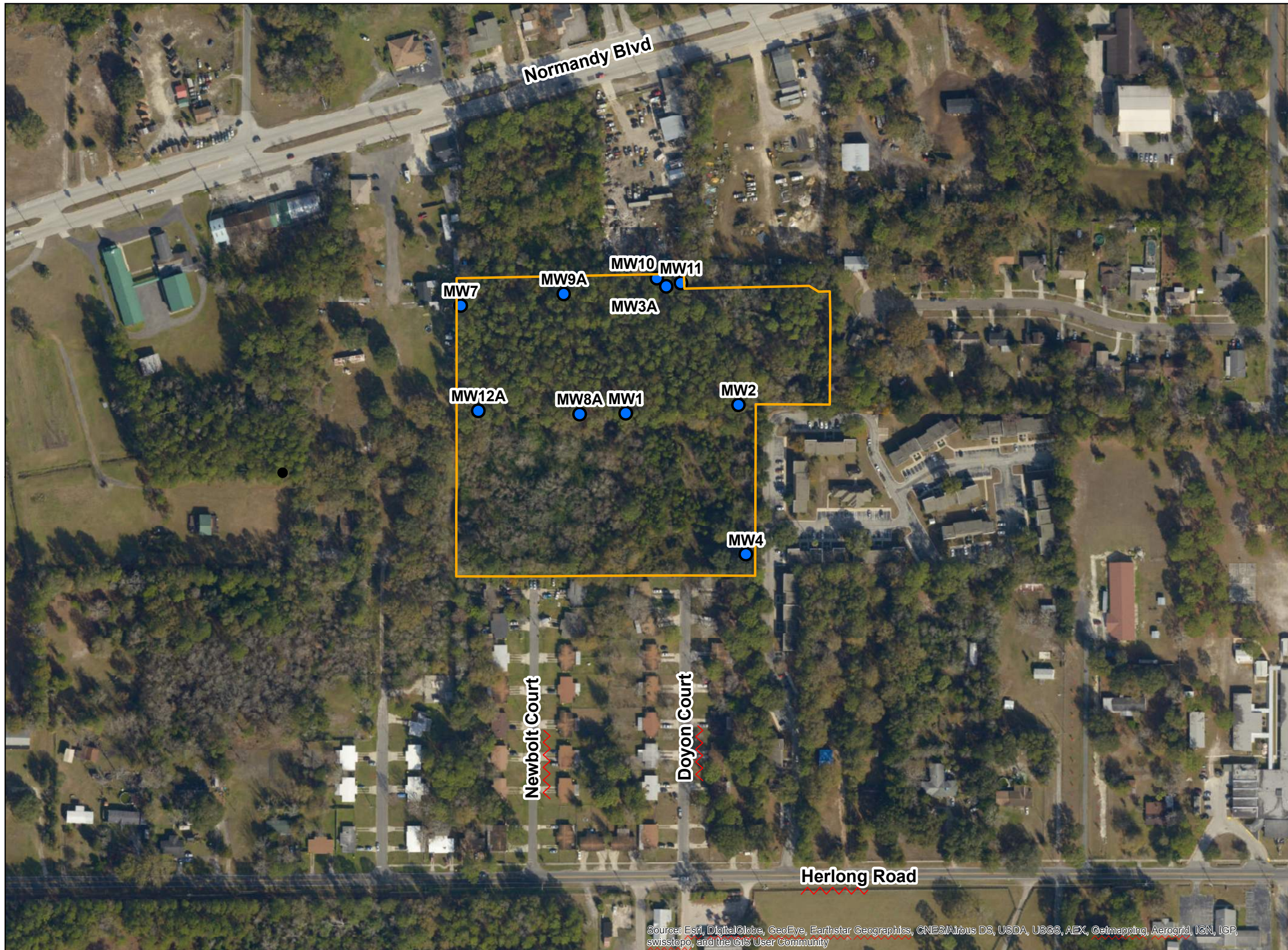
Notes:  
1. Aerial provided by ESRI on March 12, 2011



Figure 1  
Site Location Map  
Doyon Court Dump  
Jacksonville, Florida



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



1 in = 200 feet

**LEGEND**

- Monitoring Well
- Site Boundary

Notes:  
 1. Aerial provided by ESRI on March 12, 2011

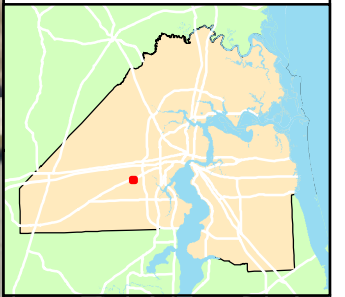
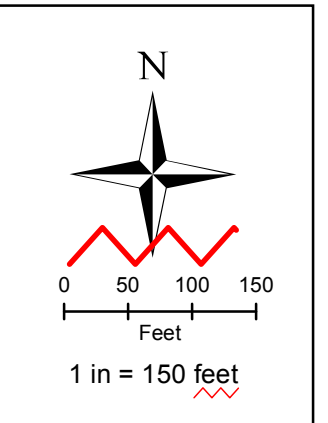
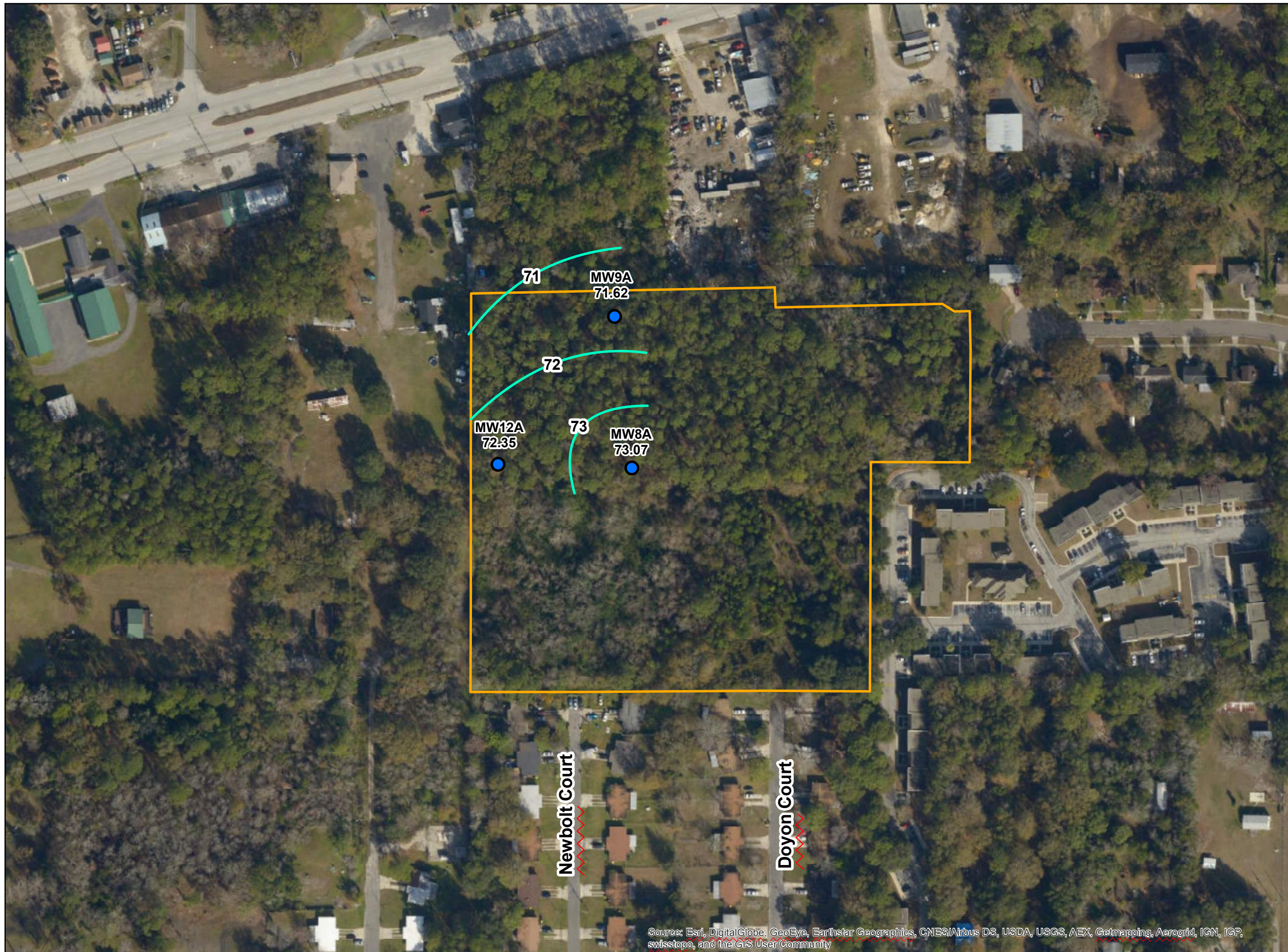





Figure 2  
 Monitoring Well Locations  
 Doyon Court Dump  
 Jacksonville, Florida



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, ICP, swisstopo, and the GIS User Community



**LEGEND**

-  Site Boundary
-  Groundwater Elevation Contour
-  Monitoring Well

Notes:  
 1. Aerial provided by ESRI on March 12, 2011  
 2. Contour elevations and Groundwater elevations are displayed in NAV 88.

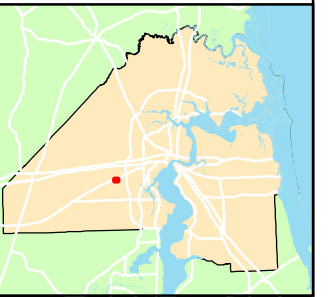
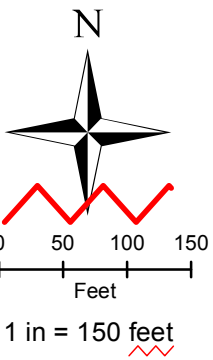
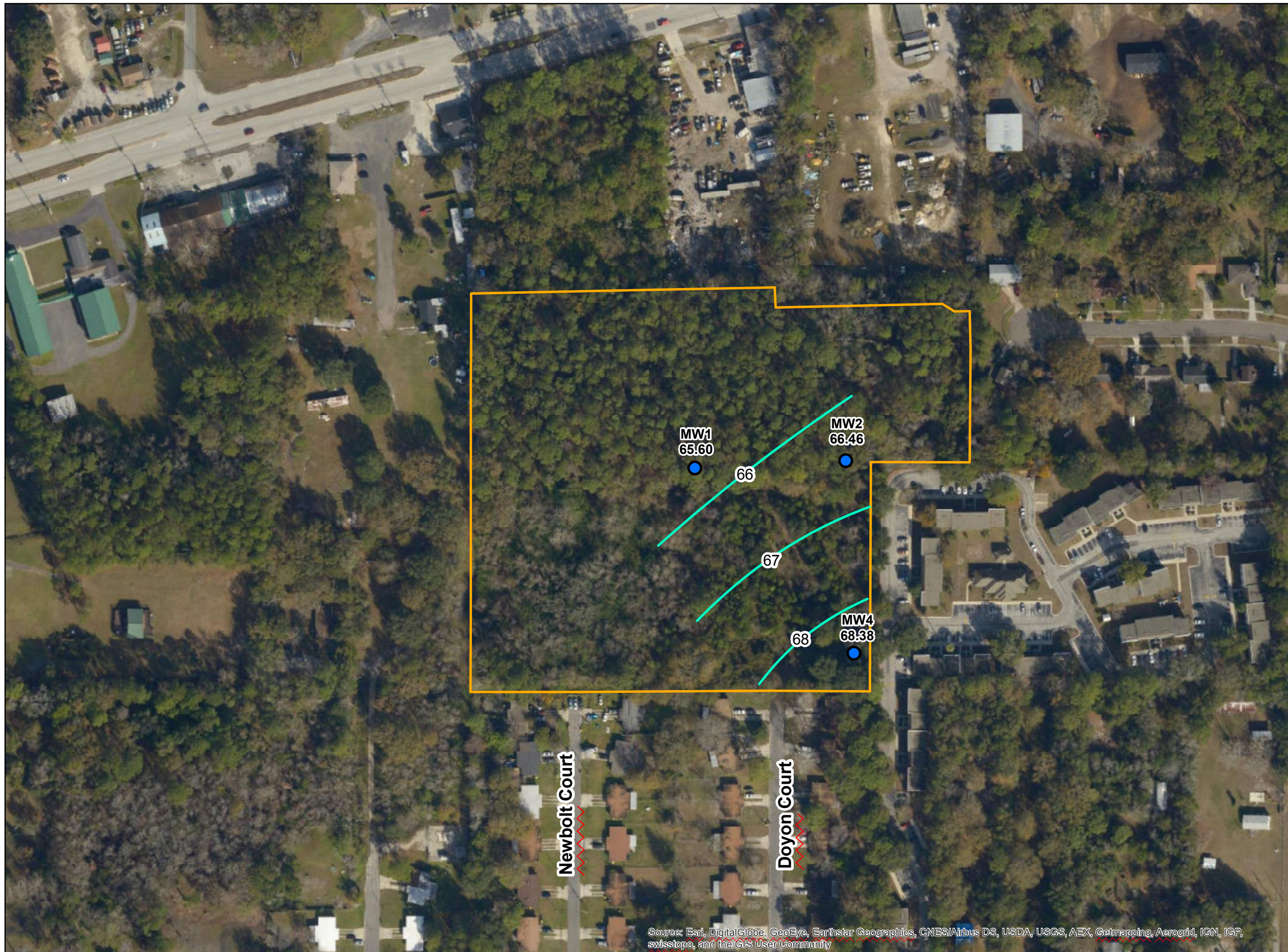





Figure 3  
 Groundwater Elevations  
 Doyon Court Dump  
 Jacksonville, Florida



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



**LEGEND**

-  Site Boundary
-  Groundwater Elevation Contour
-  Monitoring Well

Notes:  
 1. Aerial provided by ESRI on March 12, 2011  
 2. Contour elevations and Groundwater elevations are displayed in an arbitrary datum.

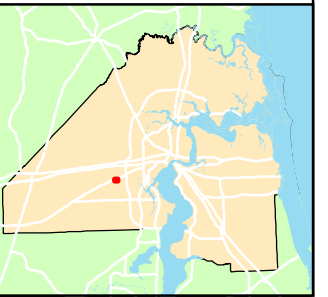


Figure 4  
 Groundwater Elevations  
 Doyon Court Dump  
 Jacksonville, Florida



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

## Attachment B

# Groundwater Sampling Logs, Chain of Custody, And Calibration Forms











**Form FD 9000-24  
GROUNDWATER SAMPLING LOG**

SITE NAME: <u>Doyon 4</u>	SITE LOCATION: <u>Jacksonville, FL</u>
WELL NO: <u>8A</u>	SAMPLE ID: <u>MW-8A</u> DATE: <u>2/8/18</u>

**PURGING DATA**

WELL DIAMETER (inches): <u>2</u>	TUBING DIAMETER (inches): <u>1/4</u>	WELL SCREEN INTERVAL DEPTH: <u>6</u> feet to <u>16</u> feet	STATIC DEPTH TO WATER (feet): <u>5.73</u>	PURGE PUMP TYPE OR BAILER: <u>PP</u>							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = ( <u>16</u> feet - <u>5.73</u> feet ) X <u>0.16</u> gallons/foot = <u>1.6</u> 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											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>8</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>8</u>	PURGING INITIATED AT: <u>1528</u>	PURGING ENDED AT: <u>1544</u>	TOTAL VOLUME PURGED (gallons): <u>3.0</u>							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
<u>1538</u>	<u>1.75</u>	<u>1.75</u>	<u>0.175</u>	<u>6.14</u>	<u>4.87</u>	<u>18.20</u>	<u>167</u>	<u>0.08</u>	<u>16.1</u>	<u>clear</u>	<u>H2S</u>
<u>1540</u>	<u>0.5</u>	<u>2.25</u>	<u>0.25</u>	<u>6.14</u>	<u>4.85</u>	<u>18.21</u>	<u>166</u>	<u>0.08</u>	<u>23.6</u>	<u>clear</u>	<u>H2S</u>
<u>1543</u>	<u>0.5</u>	<u>2.75</u>	<u>0.16</u>	<u>6.10</u>	<u>4.85</u>	<u>18.17</u>	<u>167</u>	<u>0.08</u>	<u>24.6</u>	<u>clear</u>	<u>H2S</u>
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)											

**SAMPLING DATA**

SAMPLED BY (PRINT) / AFFILIATION: <u>Grant Gray/COM Smith</u>			SAMPLER(S) SIGNATURE(S): <u>Grant A. Gray</u>			SAMPLING INITIATED AT: <u>1545</u>	SAMPLING ENDED AT: <u>1549</u>		
PUMP OR TUBING DEPTH IN WELL (feet): <u>8</u>			TUBING MATERIAL CODE: <u>HDPE</u>			FIELD-FILTERED: Y <input checked="" type="checkbox"/>	FILTER SIZE: _____ μm		
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/>			TUBING Y <input checked="" type="checkbox"/> (replaced)			DUPLICATE: Y <input checked="" type="checkbox"/>			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			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			
<u>MW-8A</u>	<u>3</u>	<u>CG</u>	<u>40mL</u>	<u>HCl</u>	<u>-</u>	<u>~2</u>	<u>VOCs</u>	<u>RFPP</u>	<u>200</u>
REMARKS:									
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)									
SAMPLING EQUIPMENT CODES: APP = After 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: ± 5%    Dissolved Oxygen: all readings ≤ 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)



**Form FD 9000-24  
GROUNDWATER SAMPLING LOG**

SITE NAME: <i>Deegan Ct</i>	SITE LOCATION: <i>Jacksonville, FL</i>
WELL NO: <i>10</i>	SAMPLE ID: <i>MW-10</i> DATE: <i>2/8/18</i>

**PURGING DATA**

WELL DIAMETER (inches): <i>2</i>	TUBING DIAMETER (inches): <i>1/4</i>	WELL SCREEN INTERVAL DEPTH: <i>5</i> feet to <i>10</i> feet	STATIC DEPTH TO WATER (feet): <i>3.56</i>	PURGE PUMP TYPE OR BAILER: <i>PP</i>							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) $= (10.4 \text{ feet} - 3.56 \text{ feet}) \times 0.16 \text{ gallons/foot} = 1.0 \text{ gallons}$											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) $= \text{gallons} + (\text{gallons/foot} \times \text{feet}) + \text{gallons} = \text{gallons}$											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <i>4</i>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <i>5</i>	PURGING INITIATED AT: <i>1236</i>	PURGING ENDED AT: <i>1252</i>	TOTAL VOLUME PURGED (gallons): <i>1.9</i>							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) $\mu\text{mhos/cm}$ or $\mu\text{S/cm}$	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
<i>1245</i>	<i>1.10</i>	<i>1.10</i>	<i>0.12</i>	<i>4.28</i>	<i>5.33</i>	<i>16.56</i>	<i>284</i>	<i>0.24</i>	<i>4.21</i>	<i>clear</i>	<i>none</i>
<i>1247</i>	<i>0.3</i>	<i>1.40</i>	<i>0.15</i>	<i>4.29</i>	<i>5.33</i>	<i>16.60</i>	<i>284</i>	<i>0.18</i>	<i>4.12</i>	<i>clear</i>	<i>none</i>
<i>1250</i>	<i>0.3</i>	<i>1.70</i>	<i>0.10</i>	<i>4.30</i>	<i>5.34</i>	<i>16.63</i>	<i>286</i>	<i>0.16</i>	<i>4.24</i>	<i>clear</i>	<i>none</i>
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" = 0.0008; 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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

**SAMPLING DATA**

SAMPLED BY (PRINT) / AFFILIATION: <i>Grant Gray / CDM Smith</i>				SAMPLER(S) SIGNATURE(S): <i>Grant A. Gray</i>			SAMPLING INITIATED AT: <i>1255</i>		SAMPLING ENDED AT: <i>1259</i>		
PUMP OR TUBING DEPTH IN WELL (feet): <i>5</i>				TUBING MATERIAL CODE: <i>HDPE</i>		FIELD-FILTERED: Y <input checked="" type="checkbox"/> <sup>(N)</sup>		FILTER SIZE: _____ $\mu\text{m}$			
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> <sup>(N)</sup>				TUBING Y <input checked="" type="checkbox"/> <sup>(N)</sup> (replaced)			DUPLICATE: Y <input checked="" type="checkbox"/> <sup>(N)</sup>				
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			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					
<i>MW-10</i>	<i>3</i>	<i>CG</i>	<i>40ml</i>	<i>HCl</i>	<i>-</i>	<i>~2</i>	<i>VOC</i>		<i>RFPP</i>	<i>200</i>	
REMARKS:											
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)											
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; 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:  $\pm 0.2$  units    Temperature:  $\pm 0.2$  °C    Specific Conductance:  $\pm 5\%$     Dissolved Oxygen: all readings  $\leq 20\%$  saturation (see Table FS 2200-2); optionally,  $\pm 0.2$  mg/L or  $\pm 10\%$  (whichever is greater)    Turbidity: all readings  $\leq 20$  NTU; optionally  $\pm 5$  NTU or  $\pm 10\%$  (whichever is greater)













# Attachment C

## Laboratory Results

February 22, 2018

Ms. Katie Templeton  
CDM Smith  
8381 Dix Ellis Trail  
Ste 400  
Jacksonville, FL 32256

RE: Project: Doyon Site  
Pace Project No.: 35373336

Dear Ms. Templeton:

Enclosed are the analytical results for sample(s) received by the laboratory on February 09, 2018. 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,



Tommy Carr  
tommy.carr@pacelabs.com  
(386) 672-5668  
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: Doyon Site

Pace Project No.: 35373336

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### Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174  
Alabama Certification #: 41320  
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  
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  
Nevada Certification: FL NELAC Reciprocity  
New Jersey Certification #: FL022  
New York Certification #: 11608  
North Carolina Environmental Certificate #: 667  
North Carolina Certification #: 12710  
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  
Wyoming Certification: FL NELAC Reciprocity  
West Virginia Certification #: 9962C  
Wisconsin Certification #: 399079670  
Wyoming (EPA Region 8): FL NELAC Reciprocity

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## SAMPLE SUMMARY

Project: Doyon Site

Pace Project No.: 35373336

<u>Lab ID</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
35373336001	MW-11	Water	02/08/18 12:02	02/09/18 09:50
35373336002	MW-3A	Water	02/08/18 12:30	02/09/18 09:50
35373336003	MW-10	Water	02/08/18 12:55	02/09/18 09:50
35373336004	MW-9A	Water	02/08/18 13:25	02/09/18 09:50
35373336005	MW-7	Water	02/08/18 13:53	02/09/18 09:50
35373336006	MW-12A	Water	02/08/18 15:15	02/09/18 09:50
35373336007	MW-8A	Water	02/08/18 15:45	02/09/18 09:50
35373336008	MW-1	Water	02/08/18 16:10	02/09/18 09:50
35373336009	MW-2	Water	02/08/18 16:40	02/09/18 09:50
35373336010	MW-4	Water	02/08/18 17:08	02/09/18 09:50
35373336011	EQ BLANK	Water	02/08/18 17:30	02/09/18 09:50
35373336012	DUP	Water	02/08/18 08:00	02/09/18 09:50
35373336013	Trip Blank	Water	02/08/18 00:01	02/09/18 09:50

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### SAMPLE ANALYTE COUNT

Project: Doyon Site

Pace Project No.: 35373336

<u>Lab ID</u>	<u>Sample ID</u>	<u>Method</u>	<u>Analysts</u>	<u>Analytes Reported</u>	<u>Laboratory</u>
35373336001	MW-11	EPA 8270 by SIM	CB1	20	PASI-O
		EPA 8260	SK1	8	PASI-O
35373336002	MW-3A	EPA 8260	BCH	8	PASI-O
35373336003	MW-10	EPA 8260	BCH	8	PASI-O
35373336004	MW-9A	EPA 8260	BCH	8	PASI-O
35373336005	MW-7	EPA 8260	BCH	8	PASI-O
35373336006	MW-12A	EPA 8260	BCH	8	PASI-O
35373336007	MW-8A	EPA 8260	BCH	8	PASI-O
35373336008	MW-1	EPA 8260	BCH	8	PASI-O
35373336009	MW-2	EPA 8270 by SIM	CB1	20	PASI-O
		EPA 8260	BCH	8	PASI-O
35373336010	MW-4	EPA 8260	BCH	8	PASI-O
35373336011	EQ BLANK	EPA 8270 by SIM	CB1	20	PASI-O
		EPA 8260	BCH	8	PASI-O
35373336012	DUP	EPA 8260	BCH	8	PASI-O
35373336013	Trip Blank	EPA 8260	BCH	8	PASI-O

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### SUMMARY OF DETECTION

Project: Doyon Site

Pace Project No.: 35373336

Lab Sample ID Method	Client Sample ID <u>Parameters</u>	Result	Units	Report Limit	Analyzed	Qualifiers
<b>35373336007</b>	<b>MW-8A</b>					
EPA 8260	Benzene	0.65 ↓	ug/L	1.0	02/16/18 06:18	
<b>35373336011</b>	<b>EQ BLANK</b>					
EPA 8270 by SIM	Naphthalene	0.085 ↓	ug/L	2.0	02/22/18 09:47	

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## ANALYTICAL RESULTS

Project: Doyon Site

Pace Project No.: 35373336

**Sample:** MW-11      **Lab ID:** 35373336001      Collected: 02/08/18 12:02      Received: 02/09/18 09:50      Matrix: Water

<u>Parameters</u>	<u>Results</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>DF</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>CAS No.</u>	<u>Qual</u>
<b>8270 MSSV PAHLV by SIM</b>		Analytical Method: EPA 8270 by SIM      Preparation Method: EPA 3510							
Acenaphthene	<b>0.013</b> U	ug/L	0.50	0.013	1	02/13/18 11:14	02/21/18 07:53	83-32-9	
Acenaphthylene	<b>0.012</b> U	ug/L	0.50	0.012	1	02/13/18 11:14	02/21/18 07:53	208-96-8	
Anthracene	<b>0.012</b> U	ug/L	0.50	0.012	1	02/13/18 11:14	02/21/18 07:53	120-12-7	
Benzo(a)anthracene	<b>0.055</b> U	ug/L	0.10	0.055	1	02/13/18 11:14	02/21/18 07:53	56-55-3	
Benzo(a)pyrene	<b>0.020</b> U	ug/L	0.10	0.020	1	02/13/18 11:14	02/21/18 07:53	50-32-8	
Benzo(b)fluoranthene	<b>0.027</b> U	ug/L	0.10	0.027	1	02/13/18 11:14	02/21/18 07:53	205-99-2	
Benzo(g,h,i)perylene	<b>0.042</b> U	ug/L	0.50	0.042	1	02/13/18 11:14	02/21/18 07:53	191-24-2	
Benzo(k)fluoranthene	<b>0.023</b> U	ug/L	0.50	0.023	1	02/13/18 11:14	02/21/18 07:53	207-08-9	
Chrysene	<b>0.026</b> U	ug/L	0.50	0.026	1	02/13/18 11:14	02/21/18 07:53	218-01-9	
Dibenz(a,h)anthracene	<b>0.13</b> U	ug/L	0.15	0.13	1	02/13/18 11:14	02/21/18 07:53	53-70-3	
Fluoranthene	<b>0.018</b> U	ug/L	0.50	0.018	1	02/13/18 11:14	02/21/18 07:53	206-44-0	
Fluorene	<b>0.016</b> U	ug/L	0.50	0.016	1	02/13/18 11:14	02/21/18 07:53	86-73-7	
Indeno(1,2,3-cd)pyrene	<b>0.12</b> U	ug/L	0.15	0.12	1	02/13/18 11:14	02/21/18 07:53	193-39-5	
1-Methylnaphthalene	<b>0.032</b> U	ug/L	2.0	0.032	1	02/13/18 11:14	02/21/18 07:53	90-12-0	
2-Methylnaphthalene	<b>0.11</b> U	ug/L	2.0	0.11	1	02/13/18 11:14	02/21/18 07:53	91-57-6	
Naphthalene	<b>0.048</b> U	ug/L	2.0	0.048	1	02/13/18 11:14	02/21/18 07:53	91-20-3	
Phenanthrene	<b>0.018</b> U	ug/L	0.50	0.018	1	02/13/18 11:14	02/21/18 07:53	85-01-8	
Pyrene	<b>0.019</b> U	ug/L	0.50	0.019	1	02/13/18 11:14	02/21/18 07:53	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	67	%	33-101		1	02/13/18 11:14	02/21/18 07:53	321-60-8	
p-Terphenyl-d14 (S)	74	%	38-115		1	02/13/18 11:14	02/21/18 07:53	1718-51-0	
<b>8260 MSV</b>		Analytical Method: EPA 8260							
Benzene	<b>0.10</b> U	ug/L	1.0	0.10	1		02/17/18 00:15	71-43-2	
Ethylbenzene	<b>0.50</b> U	ug/L	1.0	0.50	1		02/17/18 00:15	100-41-4	
Methyl-tert-butyl ether	<b>0.50</b> U	ug/L	1.0	0.50	1		02/17/18 00:15	1634-04-4	
Toluene	<b>0.50</b> U	ug/L	1.0	0.50	1		02/17/18 00:15	108-88-3	
Xylene (Total)	<b>1.5</b> U	ug/L	3.0	1.5	1		02/17/18 00:15	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	119	%	89-111		1		02/17/18 00:15	460-00-4	S3
1,2-Dichloroethane-d4 (S)	97	%	75-135		1		02/17/18 00:15	17060-07-0	
Toluene-d8 (S)	96	%	89-112		1		02/17/18 00:15	2037-26-5	

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## ANALYTICAL RESULTS

Project: Doyon Site

Pace Project No.: 35373336

**Sample: MW-3A**      **Lab ID: 35373336002**      Collected: 02/08/18 12:30      Received: 02/09/18 09:50      Matrix: Water

<u>Parameters</u>	<u>Results</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>DF</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>CAS No.</u>	<u>Qual</u>
<b>8260 MSV</b>		Analytical Method: EPA 8260							
Benzene	<b>0.10 U</b>	ug/L	1.0	0.10	1		02/16/18 04:16	71-43-2	
Ethylbenzene	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 04:16	100-41-4	
Methyl-tert-butyl ether	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 04:16	1634-04-4	
Toluene	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 04:16	108-88-3	
Xylene (Total)	<b>1.5 U</b>	ug/L	3.0	1.5	1		02/16/18 04:16	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	108	%	89-111		1		02/16/18 04:16	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	75-135		1		02/16/18 04:16	17060-07-0	
Toluene-d8 (S)	95	%	89-112		1		02/16/18 04:16	2037-26-5	

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## ANALYTICAL RESULTS

Project: Doyon Site

Pace Project No.: 35373336

**Sample: MW-10**      **Lab ID: 35373336003**      Collected: 02/08/18 12:55      Received: 02/09/18 09:50      Matrix: Water

<u>Parameters</u>	<u>Results</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>DF</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>CAS No.</u>	<u>Qual</u>
<b>8260 MSV</b>		Analytical Method: EPA 8260							
Benzene	<b>0.10 U</b>	ug/L	1.0	0.10	1		02/16/18 04:40	71-43-2	
Ethylbenzene	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 04:40	100-41-4	
Methyl-tert-butyl ether	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 04:40	1634-04-4	
Toluene	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 04:40	108-88-3	
Xylene (Total)	<b>1.5 U</b>	ug/L	3.0	1.5	1		02/16/18 04:40	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	112	%	89-111		1		02/16/18 04:40	460-00-4	S3
1,2-Dichloroethane-d4 (S)	99	%	75-135		1		02/16/18 04:40	17060-07-0	
Toluene-d8 (S)	94	%	89-112		1		02/16/18 04:40	2037-26-5	

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### ANALYTICAL RESULTS

Project: Doyon Site

Pace Project No.: 35373336

**Sample: MW-9A**      **Lab ID: 35373336004**      Collected: 02/08/18 13:25      Received: 02/09/18 09:50      Matrix: Water

<u>Parameters</u>	<u>Results</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>DF</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>CAS No.</u>	<u>Qual</u>
<b>8260 MSV</b>		Analytical Method: EPA 8260							
Benzene	<b>0.10 U</b>	ug/L	1.0	0.10	1		02/16/18 05:05	71-43-2	
Ethylbenzene	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 05:05	100-41-4	
Methyl-tert-butyl ether	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 05:05	1634-04-4	
Toluene	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 05:05	108-88-3	
Xylene (Total)	<b>1.5 U</b>	ug/L	3.0	1.5	1		02/16/18 05:05	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	112	%	89-111		1		02/16/18 05:05	460-00-4	S3
1,2-Dichloroethane-d4 (S)	97	%	75-135		1		02/16/18 05:05	17060-07-0	
Toluene-d8 (S)	94	%	89-112		1		02/16/18 05:05	2037-26-5	

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## ANALYTICAL RESULTS

Project: Doyon Site

Pace Project No.: 35373336

**Sample: MW-7**      **Lab ID: 35373336005**      Collected: 02/08/18 13:53      Received: 02/09/18 09:50      Matrix: Water

<u>Parameters</u>	<u>Results</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>DF</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>CAS No.</u>	<u>Qual</u>
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Benzene	<b>0.10</b> <u>U</u>	<u>ug/L</u>	1.0	0.10	1		02/16/18 05:29	71-43-2	
Ethylbenzene	<b>0.50</b> <u>U</u>	<u>ug/L</u>	1.0	0.50	1		02/16/18 05:29	100-41-4	
Methyl- <u>tert</u> -butyl ether	<b>0.50</b> <u>U</u>	<u>ug/L</u>	1.0	0.50	1		02/16/18 05:29	1634-04-4	
Toluene	<b>0.50</b> <u>U</u>	<u>ug/L</u>	1.0	0.50	1		02/16/18 05:29	108-88-3	
Xylene (Total)	<b>1.5</b> <u>U</u>	<u>ug/L</u>	3.0	1.5	1		02/16/18 05:29	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	114	%	89-111		1		02/16/18 05:29	460-00-4	S3
1,2-Dichloroethane-d4 (S)	97	%	75-135		1		02/16/18 05:29	17060-07-0	
Toluene-d8 (S)	94	%	89-112		1		02/16/18 05:29	2037-26-5	

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### ANALYTICAL RESULTS

Project: Doyon Site

Pace Project No.: 35373336

**Sample: MW-12A**      **Lab ID: 35373336006**      Collected: 02/08/18 15:15      Received: 02/09/18 09:50      Matrix: Water

<u>Parameters</u>	<u>Results</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>DF</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>CAS No.</u>	<u>Qual</u>
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Benzene	<b>0.10 U</b>	ug/L	1.0	0.10	1		02/16/18 05:54	71-43-2	
Ethylbenzene	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 05:54	100-41-4	
Methyl-tert-butyl ether	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 05:54	1634-04-4	
Toluene	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 05:54	108-88-3	
Xylene (Total)	<b>1.5 U</b>	ug/L	3.0	1.5	1		02/16/18 05:54	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	118	%	89-111		1		02/16/18 05:54	460-00-4	S3
1,2-Dichloroethane-d4 (S)	97	%	75-135		1		02/16/18 05:54	17060-07-0	
Toluene-d8 (S)	94	%	89-112		1		02/16/18 05:54	2037-26-5	

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## ANALYTICAL RESULTS

Project: Doyon Site

Pace Project No.: 35373336

**Sample: MW-8A**      **Lab ID: 35373336007**      Collected: 02/08/18 15:45      Received: 02/09/18 09:50      Matrix: Water

<u>Parameters</u>	<u>Results</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>DF</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>CAS No.</u>	<u>Qual</u>
<b>8260 MSV</b>		Analytical Method: EPA 8260							
Benzene	<b>0.65 I</b>	ug/L	1.0	0.10	1		02/16/18 06:18	71-43-2	
Ethylbenzene	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 06:18	100-41-4	
Methyl-tert-butyl ether	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 06:18	1634-04-4	
Toluene	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 06:18	108-88-3	
Xylene (Total)	<b>1.5 U</b>	ug/L	3.0	1.5	1		02/16/18 06:18	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	114	%	89-111		1		02/16/18 06:18	460-00-4	S3
1,2-Dichloroethane-d4 (S)	99	%	75-135		1		02/16/18 06:18	17060-07-0	
Toluene-d8 (S)	91	%	89-112		1		02/16/18 06:18	2037-26-5	

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### ANALYTICAL RESULTS

Project: Doyon Site

Pace Project No.: 35373336

**Sample: MW-1**      **Lab ID: 35373336008**      Collected: 02/08/18 16:10      Received: 02/09/18 09:50      Matrix: Water

<u>Parameters</u>	<u>Results</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>DF</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>CAS No.</u>	<u>Qual</u>
<b>8260 MSV</b>		Analytical Method: EPA 8260							
Benzene	<b>0.10 U</b>	ug/L	1.0	0.10	1		02/16/18 06:42	71-43-2	
Ethylbenzene	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 06:42	100-41-4	
Methyl-tert-butyl ether	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 06:42	1634-04-4	
Toluene	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 06:42	108-88-3	
Xylene (Total)	<b>1.5 U</b>	ug/L	3.0	1.5	1		02/16/18 06:42	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	112	%	89-111		1		02/16/18 06:42	460-00-4	S3
1,2-Dichloroethane-d4 (S)	97	%	75-135		1		02/16/18 06:42	17060-07-0	
Toluene-d8 (S)	93	%	89-112		1		02/16/18 06:42	2037-26-5	

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### ANALYTICAL RESULTS

Project: Doyon Site  
Pace Project No.: 35373336

**Sample: MW-2**      **Lab ID: 35373336009**      Collected: 02/08/18 16:40      Received: 02/09/18 09:50      Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270 MSSV PAHLV by SIM</b>		Analytical Method: EPA 8270 by SIM      Preparation Method: EPA 3510							
Acenaphthene	<b>0.013</b> U	ug/L	0.50	0.013	1	02/13/18 14:09	02/22/18 09:25	83-32-9	
Acenaphthylene	<b>0.012</b> U	ug/L	0.50	0.012	1	02/13/18 14:09	02/22/18 09:25	208-96-8	
Anthracene	<b>0.012</b> U	ug/L	0.50	0.012	1	02/13/18 14:09	02/22/18 09:25	120-12-7	
Benzo(a)anthracene	<b>0.055</b> U	ug/L	0.10	0.055	1	02/13/18 14:09	02/22/18 09:25	56-55-3	
Benzo(a)pyrene	<b>0.020</b> U	ug/L	0.10	0.020	1	02/13/18 14:09	02/22/18 09:25	50-32-8	
Benzo(b)fluoranthene	<b>0.027</b> U	ug/L	0.10	0.027	1	02/13/18 14:09	02/22/18 09:25	205-99-2	
Benzo(g,h,i)perylene	<b>0.042</b> U	ug/L	0.50	0.042	1	02/13/18 14:09	02/22/18 09:25	191-24-2	J(L1)
Benzo(k)fluoranthene	<b>0.023</b> U	ug/L	0.50	0.023	1	02/13/18 14:09	02/22/18 09:25	207-08-9	
Chrysene	<b>0.026</b> U	ug/L	0.50	0.026	1	02/13/18 14:09	02/22/18 09:25	218-01-9	
Dibenz(a,h)anthracene	<b>0.13</b> U	ug/L	0.15	0.13	1	02/13/18 14:09	02/22/18 09:25	53-70-3	J(L1)
Fluoranthene	<b>0.018</b> U	ug/L	0.50	0.018	1	02/13/18 14:09	02/22/18 09:25	206-44-0	
Fluorene	<b>0.016</b> U	ug/L	0.50	0.016	1	02/13/18 14:09	02/22/18 09:25	86-73-7	
Indeno(1,2,3-cd)pyrene	<b>0.12</b> U	ug/L	0.15	0.12	1	02/13/18 14:09	02/22/18 09:25	193-39-5	J(L1)
1-Methylnaphthalene	<b>0.032</b> U	ug/L	2.0	0.032	1	02/13/18 14:09	02/22/18 09:25	90-12-0	
2-Methylnaphthalene	<b>0.11</b> U	ug/L	2.0	0.11	1	02/13/18 14:09	02/22/18 09:25	91-57-6	
Naphthalene	<b>0.048</b> U	ug/L	2.0	0.048	1	02/13/18 14:09	02/22/18 09:25	91-20-3	
Phenanthrene	<b>0.018</b> U	ug/L	0.50	0.018	1	02/13/18 14:09	02/22/18 09:25	85-01-8	
Pyrene	<b>0.019</b> U	ug/L	0.50	0.019	1	02/13/18 14:09	02/22/18 09:25	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	64	%	33-101		1	02/13/18 14:09	02/22/18 09:25	321-60-8	
p-Terphenyl-d14 (S)	72	%	38-115		1	02/13/18 14:09	02/22/18 09:25	1718-51-0	
<b>8260 MSV</b>		Analytical Method: EPA 8260							
Benzene	<b>0.10</b> U	ug/L	1.0	0.10	1		02/16/18 07:07	71-43-2	
Ethylbenzene	<b>0.50</b> U	ug/L	1.0	0.50	1		02/16/18 07:07	100-41-4	
Methyl-tert-butyl ether	<b>0.50</b> U	ug/L	1.0	0.50	1		02/16/18 07:07	1634-04-4	
Toluene	<b>0.50</b> U	ug/L	1.0	0.50	1		02/16/18 07:07	108-88-3	
Xylene (Total)	<b>1.5</b> U	ug/L	3.0	1.5	1		02/16/18 07:07	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	114	%	89-111		1		02/16/18 07:07	460-00-4	S3
1,2-Dichloroethane-d4 (S)	105	%	75-135		1		02/16/18 07:07	17060-07-0	
Toluene-d8 (S)	101	%	89-112		1		02/16/18 07:07	2037-26-5	

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## ANALYTICAL RESULTS

Project: Doyon Site

Pace Project No.: 35373336

**Sample: MW-4**      **Lab ID: 35373336010**      Collected: 02/08/18 17:08      Received: 02/09/18 09:50      Matrix: Water

<u>Parameters</u>	<u>Results</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>DF</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>CAS No.</u>	<u>Qual</u>
<b>8260 MSV</b>		Analytical Method: EPA 8260							
Benzene	<b>0.10 U</b>	ug/L	1.0	0.10	1		02/16/18 07:32	71-43-2	
Ethylbenzene	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 07:32	100-41-4	
Methyl-tert-butyl ether	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 07:32	1634-04-4	
Toluene	<b>0.50 U</b>	ug/L	1.0	0.50	1		02/16/18 07:32	108-88-3	
Xylene (Total)	<b>1.5 U</b>	ug/L	3.0	1.5	1		02/16/18 07:32	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	118	%	89-111		1		02/16/18 07:32	460-00-4	S3
1,2-Dichloroethane-d4 (S)	105	%	75-135		1		02/16/18 07:32	17060-07-0	
Toluene-d8 (S)	101	%	89-112		1		02/16/18 07:32	2037-26-5	

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### ANALYTICAL RESULTS

Project: Doyon Site  
Pace Project No.: 35373336

Sample: EQ BLANK Lab ID: 35373336011 Collected: 02/08/18 17:30 Received: 02/09/18 09:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270 MSSV PAHLV by SIM</b>									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510									
Acenaphthene	<u>0.013</u> <u>U</u>	<u>ug/L</u>	0.50	0.013	1	02/13/18 14:09	02/22/18 09:47	83-32-9	
Acenaphthylene	<u>0.012</u> <u>U</u>	<u>ug/L</u>	0.50	0.012	1	02/13/18 14:09	02/22/18 09:47	208-96-8	
Anthracene	<u>0.012</u> <u>U</u>	<u>ug/L</u>	0.50	0.012	1	02/13/18 14:09	02/22/18 09:47	120-12-7	
Benzo(a)anthracene	<u>0.055</u> <u>U</u>	<u>ug/L</u>	0.10	0.055	1	02/13/18 14:09	02/22/18 09:47	56-55-3	
Benzo(a)pyrene	<u>0.020</u> <u>U</u>	<u>ug/L</u>	0.10	0.020	1	02/13/18 14:09	02/22/18 09:47	50-32-8	
Benzo(b)fluoranthene	<u>0.027</u> <u>U</u>	<u>ug/L</u>	0.10	0.027	1	02/13/18 14:09	02/22/18 09:47	205-99-2	
Benzo(g,h,i)perylene	<u>0.042</u> <u>U</u>	<u>ug/L</u>	0.50	0.042	1	02/13/18 14:09	02/22/18 09:47	191-24-2	J(L1)
Benzo(k)fluoranthene	<u>0.023</u> <u>U</u>	<u>ug/L</u>	0.50	0.023	1	02/13/18 14:09	02/22/18 09:47	207-08-9	
Chrysene	<u>0.026</u> <u>U</u>	<u>ug/L</u>	0.50	0.026	1	02/13/18 14:09	02/22/18 09:47	218-01-9	
Dibenz(a,h)anthracene	<u>0.13</u> <u>U</u>	<u>ug/L</u>	0.15	0.13	1	02/13/18 14:09	02/22/18 09:47	53-70-3	J(L1)
Fluoranthene	<u>0.018</u> <u>U</u>	<u>ug/L</u>	0.50	0.018	1	02/13/18 14:09	02/22/18 09:47	206-44-0	
Fluorene	<u>0.016</u> <u>U</u>	<u>ug/L</u>	0.50	0.016	1	02/13/18 14:09	02/22/18 09:47	86-73-7	
Indeno(1,2,3-cd)pyrene	<u>0.12</u> <u>U</u>	<u>ug/L</u>	0.15	0.12	1	02/13/18 14:09	02/22/18 09:47	193-39-5	J(L1)
1-Methylnaphthalene	<u>0.032</u> <u>U</u>	<u>ug/L</u>	2.0	0.032	1	02/13/18 14:09	02/22/18 09:47	90-12-0	
2-Methylnaphthalene	<u>0.11</u> <u>U</u>	<u>ug/L</u>	2.0	0.11	1	02/13/18 14:09	02/22/18 09:47	91-57-6	
Naphthalene	<u>0.085</u> <u>I</u>	<u>ug/L</u>	2.0	0.048	1	02/13/18 14:09	02/22/18 09:47	91-20-3	
Phenanthrene	<u>0.018</u> <u>U</u>	<u>ug/L</u>	0.50	0.018	1	02/13/18 14:09	02/22/18 09:47	85-01-8	
Pyrene	<u>0.019</u> <u>U</u>	<u>ug/L</u>	0.50	0.019	1	02/13/18 14:09	02/22/18 09:47	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	65	%	33-101		1	02/13/18 14:09	02/22/18 09:47	321-60-8	
p-Terphenyl-d14 (S)	74	%	38-115		1	02/13/18 14:09	02/22/18 09:47	1718-51-0	
<b>8260 MSV</b>									
Analytical Method: EPA 8260									
Benzene	<u>0.10</u> <u>U</u>	<u>ug/L</u>	1.0	0.10	1		02/15/18 23:47	71-43-2	
Ethylbenzene	<u>0.50</u> <u>U</u>	<u>ug/L</u>	1.0	0.50	1		02/15/18 23:47	100-41-4	
Methyl-tert-butyl ether	<u>0.50</u> <u>U</u>	<u>ug/L</u>	1.0	0.50	1		02/15/18 23:47	1634-04-4	
Toluene	<u>0.50</u> <u>U</u>	<u>ug/L</u>	1.0	0.50	1		02/15/18 23:47	108-88-3	
Xylene (Total)	<u>1.5</u> <u>U</u>	<u>ug/L</u>	3.0	1.5	1		02/15/18 23:47	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	107	%	89-111		1		02/15/18 23:47	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	75-135		1		02/15/18 23:47	17060-07-0	
Toluene-d8 (S)	96	%	89-112		1		02/15/18 23:47	2037-26-5	

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## ANALYTICAL RESULTS

Project: Doyon Site

Pace Project No.: 35373336

**Sample:** DUP      **Lab ID:** 35373336012    Collected: 02/08/18 08:00    Received: 02/09/18 09:50    Matrix: Water

<u>Parameters</u>	<u>Results</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>DF</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>CAS No.</u>	<u>Qual</u>
<b>8260 MSV</b>		Analytical Method: EPA 8260							
Benzene	<b>0.10 U</b>	<u>ug/L</u>	1.0	0.10	1		02/16/18 07:56	71-43-2	
Ethylbenzene	<b>0.50 U</b>	<u>ug/L</u>	1.0	0.50	1		02/16/18 07:56	100-41-4	
Methyl- <u>tert</u> -butyl ether	<b>0.50 U</b>	<u>ug/L</u>	1.0	0.50	1		02/16/18 07:56	1634-04-4	
Toluene	<b>0.50 U</b>	<u>ug/L</u>	1.0	0.50	1		02/16/18 07:56	108-88-3	
Xylene (Total)	<b>1.5 U</b>	<u>ug/L</u>	3.0	1.5	1		02/16/18 07:56	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	111	%	89-111		1		02/16/18 07:56	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	75-135		1		02/16/18 07:56	17060-07-0	
Toluene-d8 (S)	95	%	89-112		1		02/16/18 07:56	2037-26-5	

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### ANALYTICAL RESULTS

Project: Doyon Site

Pace Project No.: 35373336

**Sample:** Trip Blank      **Lab ID:** 35373336013      Collected: 02/08/18 00:01      Received: 02/09/18 09:50      Matrix: Water

<u>Parameters</u>	<u>Results</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>DF</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>CAS No.</u>	<u>Qual</u>
<b>8260 MSV</b>	Analytical Method: EPA 8260								
Benzene	<b>0.10</b> <u>U</u>	<u>ug/L</u>	1.0	0.10	1		02/16/18 00:11	71-43-2	
Ethylbenzene	<b>0.50</b> <u>U</u>	<u>ug/L</u>	1.0	0.50	1		02/16/18 00:11	100-41-4	
Methyl- <u>tert</u> -butyl ether	<b>0.50</b> <u>U</u>	<u>ug/L</u>	1.0	0.50	1		02/16/18 00:11	1634-04-4	
Toluene	<b>0.50</b> <u>U</u>	<u>ug/L</u>	1.0	0.50	1		02/16/18 00:11	108-88-3	
Xylene (Total)	<b>1.5</b> <u>U</u>	<u>ug/L</u>	3.0	1.5	1		02/16/18 00:11	1330-20-7	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	115	%	89-111		1		02/16/18 00:11	460-00-4	S3
1,2-Dichloroethane-d4 (S)	97	%	75-135		1		02/16/18 00:11	17060-07-0	
Toluene-d8 (S)	98	%	89-112		1		02/16/18 00:11	2037-26-5	

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### QUALITY CONTROL DATA

Project: Doyon Site

Pace Project No.: 35373336

SAMPLE DUPLICATE: 2320939

<u>Parameter</u>	<u>Units</u>	35373344001 <u>Result</u>	<u>Dup</u> <u>Result</u>	<u>RPD</u>	<u>Max</u> <u>RPD</u>	<u>Qualifiers</u>
<u>Benzene</u>	<u>ug/L</u>	0.10 U	0.10 U		40	
<u>Ethylbenzene</u>	<u>ug/L</u>	0.50 U	0.50 U		40	
<u>Methyl-tert-butyl ether</u>	<u>ug/L</u>	0.50 U	0.50 U		40	
<u>Toluene</u>	<u>ug/L</u>	0.50 U	0.50 U		40	
<u>Xylene (Total)</u>	<u>ug/L</u>	1.5 U	1.5 U		40	
<u>1,2-Dichloroethane-d4 (S)</u>	<u>%</u>	98	99	1	40	
<u>4-Bromofluorobenzene (S)</u>	<u>%</u>	115	112	3	40	S3
<u>Toluene-d8 (S)</u>	<u>%</u>	96	97	2	40	

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### QUALITY CONTROL DATA

Project: Doyon Site  
Pace Project No.: 35373336

QC Batch: 426522      Analysis Method: EPA 8260  
QC Batch Method: EPA 8260      Analysis Description: 8260 MSV  
Associated Lab Samples: 35373336001

METHOD BLANK: 2321483      Matrix: Water  
Associated Lab Samples: 35373336001

<u>Parameter</u>	<u>Units</u>	<u>Blank Result</u>	<u>Reporting Limit</u>	<u>MDL</u>	<u>Analyzed</u>	<u>Qualifiers</u>
<u>Benzene</u>	ug/L	0.10 U	1.0	0.10	02/16/18 23:51	
<u>Ethylbenzene</u>	ug/L	0.50 U	1.0	0.50	02/16/18 23:51	
<u>Methyl-tert-butyl ether</u>	ug/L	0.50 U	1.0	0.50	02/16/18 23:51	
<u>Toluene</u>	ug/L	0.50 U	1.0	0.50	02/16/18 23:51	
<u>Xylene (Total)</u>	ug/L	1.5 U	3.0	1.5	02/16/18 23:51	
<u>1,2-Dichloroethane-d4 (S)</u>	%	96	75-135		02/16/18 23:51	
<u>4-Bromofluorobenzene (S)</u>	%	120	89-111		02/16/18 23:51	S3
<u>Toluene-d8 (S)</u>	%	98	89-112		02/16/18 23:51	

LABORATORY CONTROL SAMPLE: 2321484

<u>Parameter</u>	<u>Units</u>	<u>Spike Conc.</u>	<u>LCS Result</u>	<u>LCS % Rec</u>	<u>% Rec Limits</u>	<u>Qualifiers</u>
<u>Benzene</u>	ug/L	20	18.7	94	70-130	
<u>Ethylbenzene</u>	ug/L	20	20.0	100	70-130	
<u>Methyl-tert-butyl ether</u>	ug/L	20	14.8	74	64-133	
<u>Toluene</u>	ug/L	20	20.3	102	70-130	
<u>Xylene (Total)</u>	ug/L	60	65.5	109	70-130	
<u>1,2-Dichloroethane-d4 (S)</u>	%			92	75-135	
<u>4-Bromofluorobenzene (S)</u>	%			123	89-111	J(S0)
<u>Toluene-d8 (S)</u>	%			98	89-112	

MATRIX SPIKE SAMPLE: 2322469

<u>Parameter</u>	<u>Units</u>	<u>35374154001 Result</u>	<u>Spike Conc.</u>	<u>MS Result</u>	<u>MS % Rec</u>	<u>% Rec Limits</u>	<u>Qualifiers</u>
<u>Benzene</u>	ug/L	0.10 U	20	19.1	96	70-130	
<u>Ethylbenzene</u>	ug/L	0.50 U	20	21.5	107	70-130	
<u>Methyl-tert-butyl ether</u>	ug/L	0.50 U	20	16.1	80	64-133	
<u>Toluene</u>	ug/L	0.50 U	20	20.8	104	70-130	
<u>Xylene (Total)</u>	ug/L	1.5 U	60	69.0	115	70-130	
<u>1,2-Dichloroethane-d4 (S)</u>	%				99	75-135	
<u>4-Bromofluorobenzene (S)</u>	%				119	89-111	J(S0)
<u>Toluene-d8 (S)</u>	%				95	89-112	

SAMPLE DUPLICATE: 2322470

<u>Parameter</u>	<u>Units</u>	<u>35374154002 Result</u>	<u>Dup Result</u>	<u>RPD</u>	<u>Max RPD</u>	<u>Qualifiers</u>
<u>Benzene</u>	ug/L	0.10 U	0.10 U		40	

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### QUALITY CONTROL DATA

Project: Doyon Site

Pace Project No.: 35373336

SAMPLE DUPLICATE: 2322470

<u>Parameter</u>	<u>Units</u>	35374154002 <u>Result</u>	<u>Dup</u> <u>Result</u>	<u>RPD</u>	<u>Max</u> <u>RPD</u>	<u>Qualifiers</u>
<u>Ethylbenzene</u>	<u>ug/L</u>	0.50 U	0.50 U		40	
<u>Methyl-tert-butyl ether</u>	<u>ug/L</u>	1.3	1.1	20	40	
<u>Toluene</u>	<u>ug/L</u>	0.50 U	0.50 U		40	
<u>Xylene (Total)</u>	<u>ug/L</u>	1.5 U	1.5 U		40	
<u>1,2-Dichloroethane-d4 (S)</u>	<u>%</u>	100	99	0	40	
<u>4-Bromofluorobenzene (S)</u>	<u>%</u>	116	115	1	40	J(S0)
<u>Toluene-d8 (S)</u>	<u>%</u>	98	100	2	40	

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### QUALITY CONTROL DATA

Project: Doyon Site  
Pace Project No.: 35373336

QC Batch: 425235      Analysis Method: EPA 8270 by SIM  
QC Batch Method: EPA 3510      Analysis Description: 8270 Water PAHLV by SIM MSSV  
Associated Lab Samples: 35373336001

METHOD BLANK: 2314549      Matrix: Water  
Associated Lab Samples: 35373336001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
<u>1-Methylnaphthalene</u>	ug/L	0.032 U	2.0	0.032	02/20/18 19:24	
<u>2-Methylnaphthalene</u>	ug/L	0.11 U	2.0	0.11	02/20/18 19:24	
<u>Acenaphthene</u>	ug/L	0.013 U	0.50	0.013	02/20/18 19:24	
<u>Acenaphthylene</u>	ug/L	0.012 U	0.50	0.012	02/20/18 19:24	
<u>Anthracene</u>	ug/L	0.012 U	0.50	0.012	02/20/18 19:24	
<u>Benzo(a)anthracene</u>	ug/L	0.055 U	0.10	0.055	02/20/18 19:24	
<u>Benzo(a)pyrene</u>	ug/L	0.020 U	0.10	0.020	02/20/18 19:24	
<u>Benzo(b)fluoranthene</u>	ug/L	0.027 U	0.10	0.027	02/20/18 19:24	
<u>Benzo(g,h,i)perylene</u>	ug/L	0.042 U	0.50	0.042	02/20/18 19:24	
<u>Benzo(k)fluoranthene</u>	ug/L	0.023 U	0.50	0.023	02/20/18 19:24	
<u>Chrysene</u>	ug/L	0.026 U	0.50	0.026	02/20/18 19:24	
<u>Dibenz(a,h)anthracene</u>	ug/L	0.13 U	0.15	0.13	02/20/18 19:24	
<u>Fluoranthene</u>	ug/L	0.018 U	0.50	0.018	02/20/18 19:24	
<u>Fluorene</u>	ug/L	0.016 U	0.50	0.016	02/20/18 19:24	
<u>Indeno(1,2,3-cd)pyrene</u>	ug/L	0.12 U	0.15	0.12	02/20/18 19:24	
<u>Naphthalene</u>	ug/L	0.048 U	2.0	0.048	02/20/18 19:24	
<u>Phenanthrene</u>	ug/L	0.018 U	0.50	0.018	02/20/18 19:24	
<u>Pyrene</u>	ug/L	0.019 U	0.50	0.019	02/20/18 19:24	
<u>2-Fluorobiphenyl (S)</u>	%	68	33-101		02/20/18 19:24	
<u>p-Terphenyl-d14 (S)</u>	%	75	38-115		02/20/18 19:24	

LABORATORY CONTROL SAMPLE: 2314550

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
<u>1-Methylnaphthalene</u>	ug/L	5	3.3	67	33-118	
<u>2-Methylnaphthalene</u>	ug/L	5	3.4	68	34-104	
<u>Acenaphthene</u>	ug/L	5	3.5	71	38-109	
<u>Acenaphthylene</u>	ug/L	5	3.4	67	31-115	
<u>Anthracene</u>	ug/L	5	4.1	81	38-111	
<u>Benzo(a)anthracene</u>	ug/L	5	4.2	84	36-110	
<u>Benzo(a)pyrene</u>	ug/L	5	3.5	70	27-107	
<u>Benzo(b)fluoranthene</u>	ug/L	5	4.5	90	32-119	
<u>Benzo(g,h,i)perylene</u>	ug/L	5	4.0	79	10-109	
<u>Benzo(k)fluoranthene</u>	ug/L	5	4.5	89	28-118	
<u>Chrysene</u>	ug/L	5	4.6	92	33-130	
<u>Dibenz(a,h)anthracene</u>	ug/L	5	3.2	65	10-104	
<u>Fluoranthene</u>	ug/L	5	4.5	90	45-115	
<u>Fluorene</u>	ug/L	5	3.7	74	41-114	
<u>Indeno(1,2,3-cd)pyrene</u>	ug/L	5	3.3	66	10-104	
<u>Naphthalene</u>	ug/L	5	3.3	66	38-100	

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### QUALITY CONTROL DATA

Project: Doyon Site  
Pace Project No.: 35373336

LABORATORY CONTROL SAMPLE: 2314550

<u>Parameter</u>	<u>Units</u>	<u>Spike Conc.</u>	<u>LCS Result</u>	<u>LCS % Rec</u>	<u>% Rec Limits</u>	<u>Qualifiers</u>
<u>Phenanthrene</u>	<u>ug/L</u>	5	4.1	82	41-106	
<u>Pyrene</u>	<u>ug/L</u>	5	4.5	89	45-115	
<u>2-Fluorobiphenyl (S)</u>	<u>%</u>			67	33-101	
<u>p-Terphenyl-d14 (S)</u>	<u>%</u>			81	38-115	

MATRIX SPIKE SAMPLE: 2315044

<u>Parameter</u>	<u>Units</u>	<u>35373202005 Result</u>	<u>Spike Conc.</u>	<u>MS Result</u>	<u>MS % Rec</u>	<u>% Rec Limits</u>	<u>Qualifiers</u>
<u>1-Methylnaphthalene</u>	<u>ug/L</u>	0.032 U	5	3.2	64	33-118	
<u>2-Methylnaphthalene</u>	<u>ug/L</u>	0.11 U	5	3.2	64	34-104	
<u>Acenaphthene</u>	<u>ug/L</u>	0.013 U	5	3.5	69	38-109	
<u>Acenaphthylene</u>	<u>ug/L</u>	0.012 U	5	3.2	63	31-115	
<u>Anthracene</u>	<u>ug/L</u>	0.012 U	5	3.6	72	38-111	
<u>Benzo(a)anthracene</u>	<u>ug/L</u>	0.055 U	5	3.8	76	36-110	
<u>Benzo(a)pyrene</u>	<u>ug/L</u>	0.020 U	5	3.4	67	27-107	
<u>Benzo(b)fluoranthene</u>	<u>ug/L</u>	0.027 U	5	4.3	86	32-119	
<u>Benzo(g,h,i)perylene</u>	<u>ug/L</u>	0.042 U	5	4.1	81	10-109	
<u>Benzo(k)fluoranthene</u>	<u>ug/L</u>	0.023 U	5	4.3	85	28-118	
<u>Chrysene</u>	<u>ug/L</u>	0.026 U	5	4.2	84	33-130	
<u>Dibenz(a,h)anthracene</u>	<u>ug/L</u>	0.13 U	5	3.2	64	10-104	
<u>Fluoranthene</u>	<u>ug/L</u>	0.018 U	5	4.0	80	45-115	
<u>Fluorene</u>	<u>ug/L</u>	0.016 U	5	3.7	73	41-114	
<u>Indeno(1,2,3-cd)pyrene</u>	<u>ug/L</u>	0.12 U	5	3.2	64	10-104	
<u>Naphthalene</u>	<u>ug/L</u>	0.12 I	5	3.2	61	38-100	
<u>Phenanthrene</u>	<u>ug/L</u>	0.018 U	5	3.7	75	41-106	
<u>Pyrene</u>	<u>ug/L</u>	0.019 U	5	4.0	80	45-115	
<u>2-Fluorobiphenyl (S)</u>	<u>%</u>				63	33-101	
<u>p-Terphenyl-d14 (S)</u>	<u>%</u>				71	38-115	

SAMPLE DUPLICATE: 2315046

<u>Parameter</u>	<u>Units</u>	<u>35373336001 Result</u>	<u>Dup Result</u>	<u>RPD</u>	<u>Max RPD</u>	<u>Qualifiers</u>
<u>1-Methylnaphthalene</u>	<u>ug/L</u>	0.032 U	0.048 I		40	
<u>2-Methylnaphthalene</u>	<u>ug/L</u>	0.11 U	0.12 I		40	
<u>Acenaphthene</u>	<u>ug/L</u>	0.013 U	0.013 U		40	
<u>Acenaphthylene</u>	<u>ug/L</u>	0.012 U	0.012 U		40	
<u>Anthracene</u>	<u>ug/L</u>	0.012 U	0.012 U		40	
<u>Benzo(a)anthracene</u>	<u>ug/L</u>	0.055 U	0.055 U		40	
<u>Benzo(a)pyrene</u>	<u>ug/L</u>	0.020 U	0.020 U		40	
<u>Benzo(b)fluoranthene</u>	<u>ug/L</u>	0.027 U	0.027 U		40	
<u>Benzo(g,h,i)perylene</u>	<u>ug/L</u>	0.042 U	0.042 U		40	
<u>Benzo(k)fluoranthene</u>	<u>ug/L</u>	0.023 U	0.023 U		40	
<u>Chrysene</u>	<u>ug/L</u>	0.026 U	0.026 U		40	
<u>Dibenz(a,h)anthracene</u>	<u>ug/L</u>	0.13 U	0.13 U		40	

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### QUALITY CONTROL DATA

Project: Doyon Site

Pace Project No.: 35373336

SAMPLE DUPLICATE: 2315046

<u>Parameter</u>	<u>Units</u>	35373336001 <u>Result</u>	<u>Dup</u> <u>Result</u>	<u>RPD</u>	<u>Max</u> <u>RPD</u>	<u>Qualifiers</u>
<u>Fluoranthene</u>	<u>ug/L</u>	0.018 U	0.018 U		40	
<u>Fluorene</u>	<u>ug/L</u>	0.016 U	0.016 U		40	
<u>Indeno(1,2,3-cd)pyrene</u>	<u>ug/L</u>	0.12 U	0.12 U		40	
<u>Naphthalene</u>	<u>ug/L</u>	0.048 U	0.059 I		40	
<u>Phenanthrene</u>	<u>ug/L</u>	0.018 U	0.018 U		40	
<u>Pyrene</u>	<u>ug/L</u>	0.019 U	0.019 U		40	
<u>2-Fluorobiphenyl (S)</u>	<u>%</u>	67	66	1		
<u>p-Terphenyl-d14 (S)</u>	<u>%</u>	74	73	1		

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### QUALITY CONTROL DATA

Project: Doyon Site  
Pace Project No.: 35373336

QC Batch: 425236 Analysis Method: EPA 8270 by SIM  
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAHLV by SIM MSSV  
Associated Lab Samples: 35373336009, 35373336011

METHOD BLANK: 2314555 Matrix: Water  
Associated Lab Samples: 35373336009, 35373336011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
<u>1-Methylnaphthalene</u>	ug/L	0.032 U	2.0	0.032	02/21/18 15:41	
<u>2-Methylnaphthalene</u>	ug/L	0.11 U	2.0	0.11	02/21/18 15:41	
<u>Acenaphthene</u>	ug/L	0.013 U	0.50	0.013	02/21/18 15:41	
<u>Acenaphthylene</u>	ug/L	0.012 U	0.50	0.012	02/21/18 15:41	
<u>Anthracene</u>	ug/L	0.012 U	0.50	0.012	02/21/18 15:41	
<u>Benzo(a)anthracene</u>	ug/L	0.055 U	0.10	0.055	02/21/18 15:41	
<u>Benzo(a)pyrene</u>	ug/L	0.020 U	0.10	0.020	02/21/18 15:41	
<u>Benzo(b)fluoranthene</u>	ug/L	0.027 U	0.10	0.027	02/21/18 15:41	
<u>Benzo(g,h,i)perylene</u>	ug/L	0.042 U	0.50	0.042	02/21/18 15:41	
<u>Benzo(k)fluoranthene</u>	ug/L	0.023 U	0.50	0.023	02/21/18 15:41	
<u>Chrysene</u>	ug/L	0.026 U	0.50	0.026	02/21/18 15:41	
<u>Dibenz(a,h)anthracene</u>	ug/L	0.13 U	0.15	0.13	02/21/18 15:41	
<u>Fluoranthene</u>	ug/L	0.018 U	0.50	0.018	02/21/18 15:41	
<u>Fluorene</u>	ug/L	0.016 U	0.50	0.016	02/21/18 15:41	
<u>Indeno(1,2,3-cd)pyrene</u>	ug/L	0.12 U	0.15	0.12	02/21/18 15:41	
<u>Naphthalene</u>	ug/L	0.048 U	2.0	0.048	02/21/18 15:41	
<u>Phenanthrene</u>	ug/L	0.018 U	0.50	0.018	02/21/18 15:41	
<u>Pyrene</u>	ug/L	0.019 U	0.50	0.019	02/21/18 15:41	
<u>2-Fluorobiphenyl (S)</u>	%	76	33-101		02/21/18 15:41	
<u>p-Terphenyl-d14 (S)</u>	%	89	38-115		02/21/18 15:41	

LABORATORY CONTROL SAMPLE: 2314556

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
<u>1-Methylnaphthalene</u>	ug/L	5	4.0	80	33-118	
<u>2-Methylnaphthalene</u>	ug/L	5	3.4	68	34-104	
<u>Acenaphthene</u>	ug/L	5	4.0	80	38-109	
<u>Acenaphthylene</u>	ug/L	5	3.8	76	31-115	
<u>Anthracene</u>	ug/L	5	4.7	95	38-111	
<u>Benzo(a)anthracene</u>	ug/L	5	4.3	87	36-110	
<u>Benzo(a)pyrene</u>	ug/L	5	4.5	89	27-107	
<u>Benzo(b)fluoranthene</u>	ug/L	5	3.8	75	32-119	
<u>Benzo(g,h,i)perylene</u>	ug/L	5	5.6	111	10-109 J(L1)	
<u>Benzo(k)fluoranthene</u>	ug/L	5	4.8	96	28-118	
<u>Chrysene</u>	ug/L	5	5.3	106	33-130	
<u>Dibenz(a,h)anthracene</u>	ug/L	5	6.0	121	10-104 J(L1)	
<u>Fluoranthene</u>	ug/L	5	4.9	99	45-115	
<u>Fluorene</u>	ug/L	5	3.9	77	41-114	
<u>Indeno(1,2,3-cd)pyrene</u>	ug/L	5	5.8	115	10-104 J(L1)	
<u>Naphthalene</u>	ug/L	5	3.5	71	38-100	

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### QUALITY CONTROL DATA

Project: Doyon Site

Pace Project No.: 35373336

LABORATORY CONTROL SAMPLE: 2314556

<u>Parameter</u>	<u>Units</u>	<u>Spike Conc.</u>	<u>LCS Result</u>	<u>LCS % Rec</u>	<u>% Rec Limits</u>	<u>Qualifiers</u>
<u>Phenanthrene</u>	ug/L	5	4.1	83	41-106	
<u>Pyrene</u>	ug/L	5	5.0	100	45-115	
<u>2-Fluorobiphenyl (S)</u>	%			77	33-101	
<u>p-Terphenyl-d14 (S)</u>	%			86	38-115	

MATRIX SPIKE SAMPLE: 2314969

<u>Parameter</u>	<u>Units</u>	<u>35373245001 Result</u>	<u>Spike Conc.</u>	<u>MS Result</u>	<u>MS % Rec</u>	<u>% Rec Limits</u>	<u>Qualifiers</u>
<u>1-Methylnaphthalene</u>	ug/L	0.032 U	5	3.5	69	33-118	
<u>2-Methylnaphthalene</u>	ug/L	0.11 U	5	2.9	58	34-104	
<u>Acenaphthene</u>	ug/L	0.013 U	5	3.4	68	38-109	
<u>Acenaphthylene</u>	ug/L	0.012 U	5	3.2	65	31-115	
<u>Anthracene</u>	ug/L	0.012 U	5	4.3	86	38-111	
<u>Benzo(a)anthracene</u>	ug/L	0.055 U	5	4.1	81	36-110	
<u>Benzo(a)pyrene</u>	ug/L	0.020 U	5	4.1	82	27-107	
<u>Benzo(b)fluoranthene</u>	ug/L	0.027 U	5	3.3	67	32-119	
<u>Benzo(g,h,i)perylene</u>	ug/L	0.042 U	5	5.1	103	10-109	
<u>Benzo(k)fluoranthene</u>	ug/L	0.023 U	5	4.7	93	28-118	
<u>Chrysene</u>	ug/L	0.026 U	5	4.7	95	33-130	
<u>Dibenz(a,h)anthracene</u>	ug/L	0.13 U	5	5.6	112	10-104 J(M0)	
<u>Fluoranthene</u>	ug/L	0.018 U	5	4.6	91	45-115	
<u>Fluorene</u>	ug/L	0.016 U	5	3.4	68	41-114	
<u>Indeno(1,2,3-cd)pyrene</u>	ug/L	0.12 U	5	5.3	106	10-104 J(M0)	
<u>Naphthalene</u>	ug/L	0.048 U	5	3.0	61	38-100	
<u>Phenanthrene</u>	ug/L	0.018 U	5	3.7	74	41-106	
<u>Pyrene</u>	ug/L	0.019 U	5	4.7	93	45-115	
<u>2-Fluorobiphenyl (S)</u>	%				65	33-101	
<u>p-Terphenyl-d14 (S)</u>	%				77	38-115	

SAMPLE DUPLICATE: 2314970

<u>Parameter</u>	<u>Units</u>	<u>35372882001 Result</u>	<u>Dup Result</u>	<u>RPD</u>	<u>Max RPD</u>	<u>Qualifiers</u>
<u>1-Methylnaphthalene</u>	ug/L	2.8	3.0	8	40	
<u>2-Methylnaphthalene</u>	ug/L	0.11 U	0.11 U		40	
<u>Acenaphthene</u>	ug/L	2.2	2.2	1	40	
<u>Acenaphthylene</u>	ug/L	0.012 U	0.012 U		40	
<u>Anthracene</u>	ug/L	0.24 I	0.24 I		40	
<u>Benzo(a)anthracene</u>	ug/L	0.055 U	0.055 U		40	
<u>Benzo(a)pyrene</u>	ug/L	0.020 U	0.020 U		40	
<u>Benzo(b)fluoranthene</u>	ug/L	0.027 U	0.027 U		40	
<u>Benzo(g,h,i)perylene</u>	ug/L	0.042 U	0.042 U		40	
<u>Benzo(k)fluoranthene</u>	ug/L	0.023 U	0.023 U		40	
<u>Chrysene</u>	ug/L	0.026 U	0.026 U		40	
<u>Dibenz(a,h)anthracene</u>	ug/L	0.13 U	0.13 U		40	

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### QUALITY CONTROL DATA

Project: Doyon Site

Pace Project No.: 35373336

SAMPLE DUPLICATE: 2314970

<u>Parameter</u>	<u>Units</u>	35372882001 <u>Result</u>	<u>Dup</u> <u>Result</u>	<u>RPD</u>	<u>Max</u> <u>RPD</u>	<u>Qualifiers</u>
<u>Fluoranthene</u>	<u>ug/L</u>	0.018 U	0.018 U			40
<u>Fluorene</u>	<u>ug/L</u>	6.2	6.6	6		40
<u>Indeno(1,2,3-cd)pyrene</u>	<u>ug/L</u>	0.12 U	0.12 U			40
<u>Naphthalene</u>	<u>ug/L</u>	0.31 I	0.31 I			40
<u>Phenanthrene</u>	<u>ug/L</u>	0.071 I	0.081 I			40
<u>Pyrene</u>	<u>ug/L</u>	0.029 I	0.026 I			40
<u>2-Fluorobiphenyl (S)</u>	<u>%</u>	61	70	14		
<u>p-Terphenyl-d14 (S)</u>	<u>%</u>	78	75	3		

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## QUALIFIERS

Project: Doyon Site  
Pace Project No.: 35373336

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### 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.

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

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.

J(L1) Estimated Value. Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

J(M0) Estimated Value. Matrix spike recovery was outside laboratory control limits.

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

J(S0) Estimated Value. Surrogate recovery outside laboratory control limits.

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

S3 Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Doyon Site

Pace Project No.: 35373336

<u>Lab ID</u>	<u>Sample ID</u>	<u>QC Batch Method</u>	<u>QC Batch</u>	<u>Analytical Method</u>	<u>Analytical Batch</u>
35373336001	MW-11	EPA 3510	425235	EPA 8270 by SIM	427030
35373336009	MW-2	EPA 3510	425236	EPA 8270 by SIM	427633
35373336011	EQ BLANK	EPA 3510	425236	EPA 8270 by SIM	427633
35373336001	MW-11	EPA 8260	426522		
35373336002	MW-3A	EPA 8260	426269		
35373336003	MW-10	EPA 8260	426269		
35373336004	MW-9A	EPA 8260	426269		
35373336005	MW-7	EPA 8260	426269		
35373336006	MW-12A	EPA 8260	426269		
35373336007	MW-8A	EPA 8260	426269		
35373336008	MW-1	EPA 8260	426269		
35373336009	MW-2	EPA 8260	426269		
35373336010	MW-4	EPA 8260	426269		
35373336011	EQ BLANK	EPA 8260	426269		
35373336012	DUP	EPA 8260	426269		
35373336013	Trip Blank	EPA 8260	426269		

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