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City of Fort Myers
2200 Second St.
Fort Myers, Florida 33902

Groundwater and Surface Water Monitoring Report

South Street Property
FDEP Facility ID: COM_288039
3348 South Street
Fort Myers, Lee County, Florida 33916

GFA Project No. 17-5281
August 14, 2019

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Our Specialties
Environmental Consulting | Geotechnical Engineering | Construction Materials Testing
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REPORT PREPARED BY:

I, Scott A. McManus, Professional Geologist #2651, certify that I currently hold an active license in the State of Florida and am competent through education and experience to provide the geologic services contained in this document. I further certify that this document was prepared by me and/or under my responsible charge as a GFA International, Inc. employee, pursuant to Chapter 492, Florida Statutes. Furthermore, I certify that the technical documents complies with standard professional practices and meets the requirements of Chapter 62.780, Florida Administrative Code (FAC) and other applicable laws and rules governing the profession. Additionally, I certify that GFA International, Inc. is licensed by the Department of Professional Regulation, Board of Professional Geologist as a Geology Business, license #GB118.

Scott A. McManus, P.G.
State of Florida Professional Geologist #2651
Environmental Department Manager

Signature

TABLE OF CONTENTS

Section **Page**

1.0 INTRODUCTION....1
1.1 BACKGROUND 1
2.0 FIELD WORK 2
2.1 MONITOR WELL INSTALLATIONS 2
2.2 GROUNDWATER ELEVATION DATA AND HYDRAULIC GRADIENT 2
2.3 GROUNDWATER SAMPLING AND ANALYSIS 3
2.4 SURFACE WATER SAMPLING AND ANALYSIS.... 3
3.0 MONITORING RESULTS 3
3.1 GROUNDWATER ELEVATION DATA AND DIRECTION OF GROUNDWATER FLOW.... 3
3.2 GROUNDWATER ANALYTICAL RESULTS 3
3.3 SURFACE WATER ANALYTICAL RESULTS 5
4.0 CONCLUSIONS AND RECOMMENDATIONS....5
4.1 CONCLUSIONS 5
4.2 RECOMMENDATIONS.... 6

FIGURES

Figure 1: Site Location Map
Figure 2: Groundwater Contour Map, July 24, 2019
Figure 3: Arsenic in Groundwater, July 24, 2019
Figure 4: Surface Water Sample Locations, July 24, 2019

TABLES

Table 1: Groundwater Elevation Summary
Table 2: Groundwater Analytical Summary
Table 3: Surface Water Analytical Summary

APPENDICES

Appendix A – Boring Logs and Well Construction Diagram
Appendix B – Groundwater Sampling Logs
Appendix C – Laboratory Analytical Reports and Chain-of-Custody Documentation

1.0 INTRODUCTION

GFA International (GFA) is pleased to present this Groundwater Monitoring Report conducted at the South Street Property (site), located at 3348 South Street, Fort Myers, Lee County, Florida 33916. GFA has been engaged by the City of Fort Myers (City) to perform monthly groundwater monitoring analyses of aluminum, arsenic, iron, manganese, molybdenum and total dissolved solids, including radionuclides on a quarterly basis. This report summarizes the results of the July 2019 groundwater monitoring activities.

1.1 Background

The site is located in the city block bordered to the north by South Street, to the east by Midway Avenue, to the south by Jeffcott Street and to the west by Henderson Avenue. **Figure 1** is a site location map.

The site was agriculturally developed prior to 1953. Several lots that comprise the site were excavated, likely for borrow pits, prior to 1958. The City of Fort Myers began acquiring lots that had been excavated in 1962 for disposal of lime residual waste generated by the City's water treatment facility. Disposal of lime residual ceased in the late 1960s or early 1970s. The site, including lots not owned by the City, have not been developed.

The presence of arsenic in the lime residual was discovered in 2007. As a result, FDEP requested that potential contamination in groundwater be evaluated. A groundwater quality investigation at the site was performed in early 2008, which included the installation of six shallow monitor wells (MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6). Concentrations of arsenic were detected in two groundwater samples at concentrations that were slightly above the allowable concentration determined by the Environmental Protection Agency (EPA) for safe drinking water. The allowable limit for arsenic in groundwater is the Primary Drinking Water Standard (PDWS) Maximum Contaminant Level (MCL) of 0.010 milligrams per liter (mg/L).

After discussions with FDEP and FDEP approval of a groundwater monitoring plan, groundwater monitoring began in August of 2010. Sampling was performed biannually until July 2014. From July 2014 until January 2017, sampling was performed once a year with FDEP approval. Because concentrations of arsenic were below the safe drinking water level since 2012, in January 2017, FDEP issued a letter to the City requesting that sampling be performed every other year.

On February 14, 2018, GFA completed Phase I of the Site Assessment Report (SAR) for soil and groundwater sampling activities performed in October, November and December of 2017. The data indicated the following: arsenic was the only contaminant of concern identified in the lime residual deposited at the site, exceeding residential soil cleanup target levels (SCTLs) listed in Chapter 62-777, F.A.C, Table II; arsenic was only detected in one of the ten lime residual samples tested by the Synthetic Precipitate Leaching Procedure (SPLP), below the laboratory practical quantitation limit at an estimated concentration of 0.00597 mg/L; groundwater was determined to flow in from southeast to northwest in the immediate site vicinity; and aluminum, arsenic, iron, manganese, molybdenum, total dissolved solids, and radium 226, 228 were identified in monitor wells onsite and/or in the immediate site vicinity at levels exceeding GCTLs. GFA has been providing monthly groundwater monitoring reports to the City of Fort Myers for the subject site since April 2018.

Lime residual removal activities began at the site in October of 2018. These activities include but are not limited to the inclusion of four private lots into the fenced area of the site, installation of silt fencing around the site perimeter, clearing and grubbing, mulch/shredding of trees, organic material/mulch removal, excavating, stockpiling and removal of lime residual. Monitor well MW-6 was damaged and removed during lime residual removal activities in November 2018. Monitor wells MW-2, MW-3, MW-4 and MW-5 were damaged and removed during lime residual removal activities in December 2018 and January 2019. Monitor well MW-1R was damaged and removed in February 2019. In April 2019 the City completed the lime residual removal voluntary cleanup. On June 28, 2019, the City submitted a Site Assessment Addendum, which included summaries of groundwater monitoring, soil sampling results, and surface water monitoring completed for the site.

1.2 Quality Assurance

Field work and sample collection activities were conducted in accordance with the FDEP (SOP-001/01) for Field Sample Collection. Sample collection supplies were dedicated to each sample and equipment and tooling used were properly decontaminated between sampling to prevent possible introduction of contaminants into the subsurface during the sampling activities.

2.0 FIELD WORK

2.1 Monitor Well Installations

On July 22. 2019, GFA mobilized to the site to install three (3) replacement monitor wells, MWR-1, MWR-5, and MWR-6, at the approximate locations of former monitor wells MW-1/1R, MW-5 and MW-6. The monitor wells were installed using a Geoprobe® track mounted drill rig. The replacement monitor well locations are depicted in **Figure 2**. The monitor wells were constructed in general accordance with FDEP SOP PCS-006, *Design, Installation, and Placement of Monitor Wells, May 2, 2005*. The monitor wells were finished with a 4-inch square steel lockable casing set in an approximate 2-ft. square concrete pad. Monitor wells were developed using an electrical submersible pump until free and clear of any suspended residual sediment. Subsequent to well construction completion, the top of well casings and surface elevations were surveyed using North American Vertical Datum of 1988 (NAVD 88). Boring Logs and a Well Construction Diagram are provided in **Appendix A**.

2.2 Groundwater Elevation Data and Hydraulic Gradient

GFA mobilized personnel to the site on July 24, 2019 in order to initiate groundwater sampling activities. On that day GFA recorded depth to groundwater measurements from the top of casings (TOC) for all groundwater monitoring wells (MWR-1, MWR-5, MWR-6, MW-7, MW-8, MW-9 and MW-10). Groundwater depths were measured to one-hundredth of a foot using a Solonist Water Level Meter, Model 101 probe. Depths to groundwater and groundwater level elevations are included in **Table 1.**

2.3 Groundwater Sampling and Analysis

On July 24, 2019, GFA collected groundwater samples from MWR-1, MWR-5, MWR-6, MW-7, MW-8, MW-9, and MW-10. Groundwater sampling logs are provided in **Appendix B**. Groundwater was purged from the monitoring wells using a low flow peristaltic pump, until monitoring parameters were within stabilization tolerances prior to sample collection. All groundwater samples were immediately placed in a chest on wet ice and subsequently submitted to a NELAC-accredited laboratory for analysis of the metals aluminum, arsenic, iron, manganese and molybdenum following EPA Method 200.7, total dissolved solids (TDS) following EPA Method SM 2540, Gross Alpha, Uranium, and Radium 226/228, according to EPA Methods 900.0/908.0/ 903.0/Ra-05.

2.4 Surface Water Sampling and Analysis

On July 24, 2019, GFA collected surface water samples, P-A from the east side of Pond A, P-B(W) from the west end of Pond-B, P-B(E) from the east end of Pond B, and P-C from the east side of Pond C. The samples were collected from the approximate mid-depth water column of the pond sample location using an extending pole sampler equipped with an intermediate vessel. Subsequent to surface water sample collection, samples were immediately placed in a chest with wet-ice and were transferred to a NELAC-accredited laboratory for analysis of Aluminum, Arsenic, Iron, Manganese and Molybdenum following EPA Method 200.7.

3.0 MONITORING RESULTS

3.1 Groundwater Elevation Data and Direction of Groundwater Flow

Groundwater levels were measured on July 24, 2019. Depths to water and groundwater level elevations are included in Table 1. The interpretation of groundwater elevation data indicated that the shallow groundwater in the immediate vicinity of the Site was moving onto the site from the east and moving from the site to the west/northwest, at an average gradient of approximately 0.0007, as depicted in **Figure 2**.

3.2 Groundwater Analytical Results

On August 12, 2019, GFA received the laboratory analytical report for the July 2019 groundwater monitoring event, which is provided in **Appendix B**. A summary of the results of analyses for the July 2019 groundwater sampling event are provided in **Table 2.**

Arsenic concentrations were reported below the PDWS MCL of 0.010 mg/L in all groundwater samples collected in July 2019 with the exception of MW-10. MW-10 reported an arsenic concentration of 0.0149 mg/L, which slightly exceeds the PDWS MCL. Arsenic concentrations did not exceed the MCL in May and June of 2019. In April and March of 2019, arsenic concentrations in groundwater at monitor wells MW-8 and MW-10 slightly exceeded the MCL. In February 2019, arsenic was not detected above the MCL in any of the offsite monitor wells. In January 2019 arsenic was reported at a concentration above the MCL, only for groundwater collected from monitor well

MW-10 Arsenic concentrations in groundwater are depicted in **Figure 3**.

Aluminum concentrations were reported above the Secondary Drinking Water Standard (SDWS) MCL of 0.2 mg/L in monitor wells MWR-1 (0.223 mg/L), MWR-5 (0.353 mg/L), and MW9 (1.03 mg/L). Concentrations of aluminum were reported below the SDWS MCL of 0.2 mg/L in all the groundwater samples collected in June 2019 with the exception of MW-9 (0.310 mg/L). Aluminum concentrations were reported above the MCL in monitor well MW-9 in April and May of 2019. Prior to April 2019, aluminum concentrations have not been reported above the MCL in any monitor wells since August 2018.

Iron was detected above the SDWS MCL of 0.3 mg/L in all of the groundwater samples collected with the exception of offsite wells, MW-8 and MW-10. Iron was detected below the SDWS MCL of 0.3 mg/L in all of the groundwater samples collected in June 2019. Iron concentrations were reported above the MCL for all onsite wells from October 2017 to January 2019. Iron concentrations were reported above the MCL for all offsite wells since April 2018 to May 2019, with the following exceptions: MW-7 was slightly below the MCL only in November 2018; MW-8 was below the MCL in January 2019 and August 2018; MW-9 was below the MCL in July 2018 March 2019, April 2019, and May 2019; MW-10 was below the MCL in August, September 2018, February 2019, March 2019, and May 2019; and all offsite wells were below the MCL in February 2019.

Manganese was detected below the SDWS MCL of 0.05 mg/L in all groundwater samples collected with the exception of MWR-5. MWR-5 reported a manganese concentration of 0.11 mg/L. Manganese was detected below the SDWS MCL of 0.05 mg/L in all groundwater samples collected in June 2019. Concentrations of manganese have previously exceeded the MCL at MW-7 in April, September and December of 2018 and January 2019.

Molybdenum was reported below the GCTL of 0.035 mg/L in all groundwater samples collected. Molybdenum was reported below the GCTL of 0.035 mg/L in all groundwater samples collected in June 2019. Molybdenum was reported above the GTCL in May 2019 at MW-10. Molybdenum concentrations in groundwater at MW-10 have been reported above the GCTL since September 2018, and previously in April 2018 and December 2017. Within the last year of monitoring, the only other reported exceedances of Molybdenum were reported at: MW-8 in December 2017 and from June to August of 2018; MW-1R in June 2018; and MW-7 in June of 2018.

TDS concentrations were detected above the SDWS MCL of 500 mg/L in monitor wells MWR-1 (710 mg/L), MWR-5 (592 mg/L), MW-9 (540 mg/L), and MW-10 (572 mg/L). The remaining monitor wells did not report TDS concentrations above the SDWM MCL. The TDS concentration for offsite downgradient monitor well MW-10 reported 668 mg/L for June 2019, above the SDWS MCL. Groundwater collected from offsite monitor well MW-9 have reported TDS concentrations below the MCL in all sampling events except for August 2018, February 2019, and March 2019. Groundwater collected from offsite monitor wells MW-7 and MW-8 have reported TDS below the MCL since April 2018 and December 2017, respectively.

Gross alpha analysis of groundwater for July 2019 reported activity above the PDWS MCL of 15 picocuries per liter (pCi/L) for groundwater collected from onsite down-gradient monitor well MWR-1 (25.7 pCi/L), offsite down/cross-gradient monitor well MW-10 (22.8 pCi/L) and offsite up-gradient monitor well MW-9 (18.5 pCi/L). Combined radium 226,228 activity was reported above the PDWS MCL of 5 pCi/L only at monitor well MW-9 (8.2 pCi/L). Uranium concentrations were reported below the PDWS MCL (30 µg/L) and GCTL (21 µg/L) for all monitor wells sampled in July 2019, with the

exception of onsite down-gradient monitor well MWR-1 (28.9 µg/L).

3.3 Surface Water Analytical Results

On July 30, 2019, GFA received the laboratory analytical report for the July 2019 groundwater monitoring event, which is provided in Appendix B. A summary of the results of analyses for the July 2019 groundwater sampling event are provided in **Table 3.**

Sample locations were identified based on pond identification and location as: P-A, P-B(E), P-B(W), and P-C. Surface water sample locations collected on July 24, 2019 are depicted on **Figure 4**. Aluminum was detected above the State Freshwater Surface Water Criteria (FSWC) of 0.013 mg/L at P-A and P-B (E), 0.078 mg/L and 0.104 mg/L, respectively. Aluminum was not detected in the remaining samples above the FSWC. Arsenic was not reported above the PDWS MCL of 0.010 mg/L or the FSWC of 0.05 mg/L in any of the samples collected. Iron was not detected above the SDWS MCL for any of the surface water samples collected in June of 2019. Concentrations of manganese and molybdenum were not detected in any of the samples above their respective GCTL concentrations.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

GFA has completed this groundwater and surface water monitoring report for the City of Fort Myers. The following conclusions are based on the data acquired during the July 2019 groundwater monitoring and previous groundwater monitoring and environmental assessments:

- The elevation of the shallow groundwater table at the site and immediate site vicinity has increased by an average of 0.81-feet since the June 21, 2019 groundwater sampling event;
- Groundwater flow interpretation indicates movement from the east to the west/northwest on July 24, 2019, with an approximate hydraulic gradient of 0.0007, which is consistent with historic groundwater data collected during high water table sampling events.
- Arsenic was reported at concentrations above the PDWS MCL only in groundwater sampled from offsite down/cross-gradient monitor well MW-10.
- Onsite monitor wells, also known as “source wells” reported the lowest concentrations of arsenic in groundwater at an estimated concentration of 0.00206 mg/l, below the practical quantitation limit (PQL) at MWR-1, and was not detected above the MDL of 0.00185 mg/l at MWR-5 and MWR-6.
- The occurrence of arsenic concentrations above the GCTL at MW-10 has been observed ten of the sixteen sampling events or approximately 63 percent of time between December 4, 2017 and July 24, 2019, more twice that of any other monitor well location onsite or offsite.
- On July 18, 2019, the City submitted a letter report completed by Air Quest Environmental, Inc., dated June 25, 2019, which reported elevated concentrations of arsenic (6.2 mg/kg to 18 mg/kg) in subsurface soil approximately 3.5-4 feet below ground surface, identified as fill material containing organic waste and construction debris, for samples collected north of the subject site, between South Street and Dora Street, and between Henderson Avenue and

Midway Avenue. Arsenic analysis of SPLP leachate were provided for the soil samples collected; however, organic waste and construction debris, such as treated lumber and metals are considered a potential source of arsenic and other contaminants to the environment.

- The 1958 aerial photograph of the immediate site vicinity shows the property adjacent north of the site between South Street and Dora Street, and between Henderson Avenue and Midway Avenue, as approximately 80-90 percent of the block depicted as a large borrow pit, as well as, smaller borrow pits depicted on the block adjacent east of the site, between Midway Avenue and Highland Avenue.
- Prior to 1958, the immediate site vicinity is depicted as cultivated farm fields.
- Accumulated site assessment and monitoring data for the subject site continue to indicate that the occurrence of arsenic in the groundwater locally is not due to the former lime sludge deposits onsite, but rather a result of offsite sources.
- None of the surface water samples collected in July of 2019 reported concentrations of tested analytes above the applicable FSWC, except for aluminum.
- Concentrations of aluminum were reported above FSWC of 0.013 mg/L for all surface water samples collected in July 2019, except for pond sample P-C, ranging from 0.14 mg/L to 0.071 mg/L;

4.2 Recommendations

Based on results of July 2019 monitoring event, GFA recommends continuing groundwater and surface water quality monitoring on a quarterly basis, in order to provide sufficient data to satisfy assessment requirements of Ch. 62-780 F.A.C. and determine the Risk Management Option and/or potential controls necessary to complete site rehabilitation. Groundwater and Surface Water Monitoring was been completed at the site on August 15, 2019 and will be reported in early September 2019. The next sampling event is recommended to be performed in November of 2019, and then quarterly thereafter, as needed.

FIGURES

Figure 1: Site Location Map
Figure 2: Groundwater Contour Map, July 24, 2019
Figure 3: Arsenic in Groundwater, July 24, 2019
Figure 4: Surface Water Sample Locations, July 24, 2019

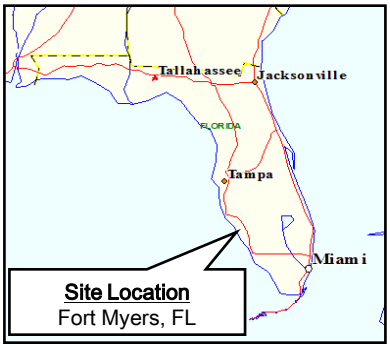
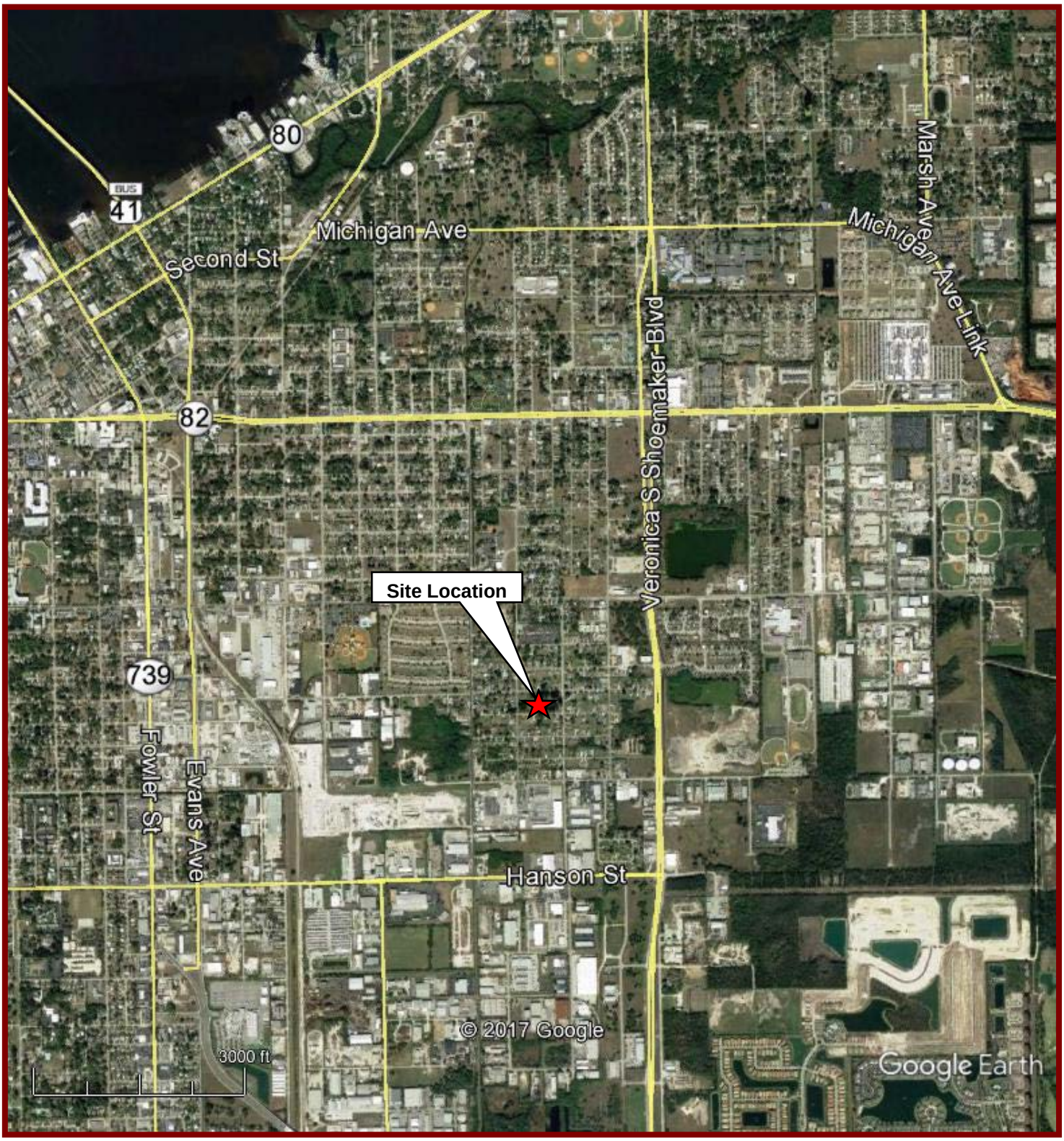
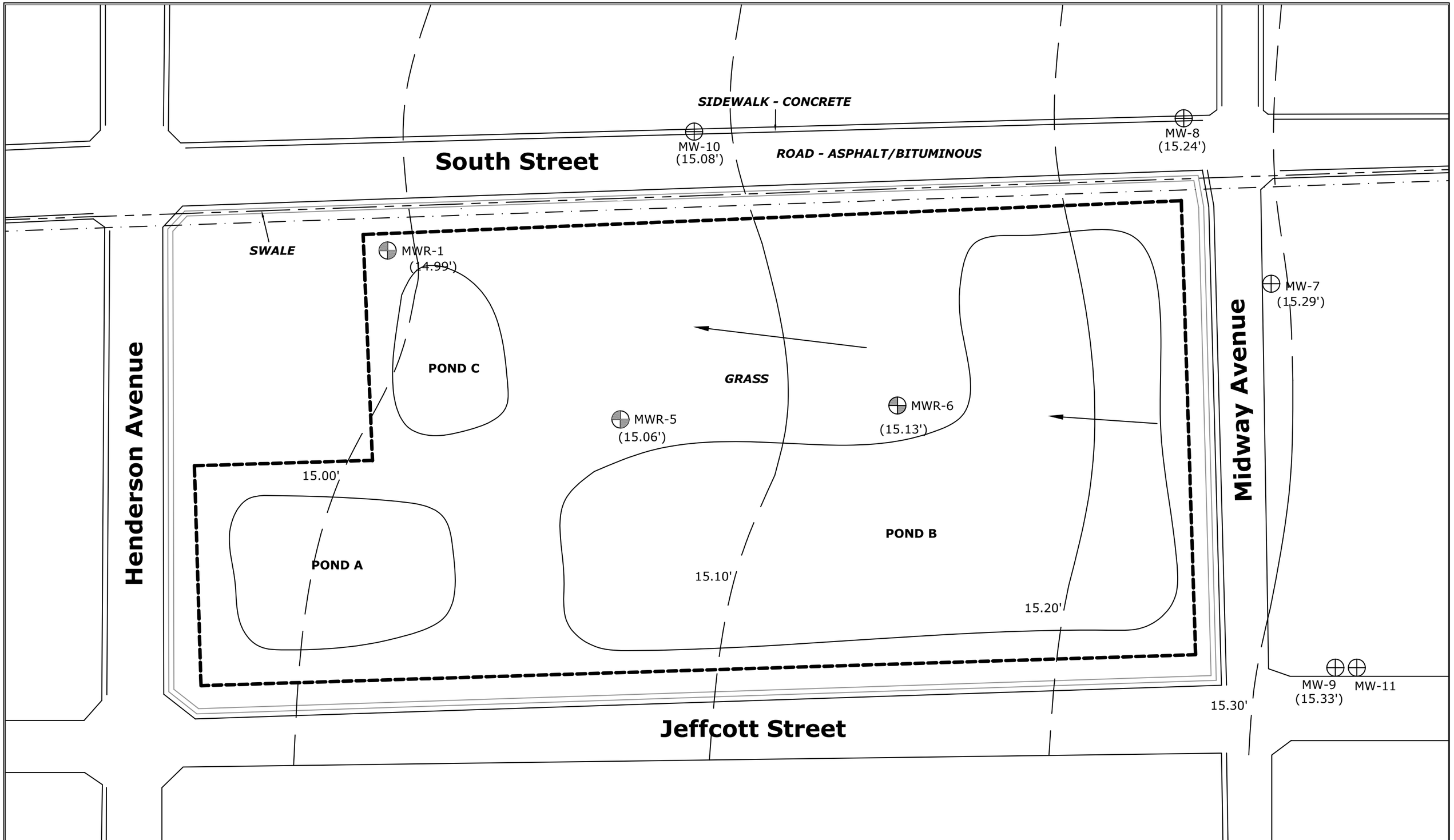


FIGURE 1: SITE LOCATION MAP

South Street Property
3348 South Street Property
Fort Myers, Lee County, Florida

N
W E
S





Legend

- Fence Line
- Sanitary Sewer Line
- Tele-communication Line
- Constructed Well Locations (MWR-#)
- Monitoring Well Location

Approximate Scale: 1" = 50'

N

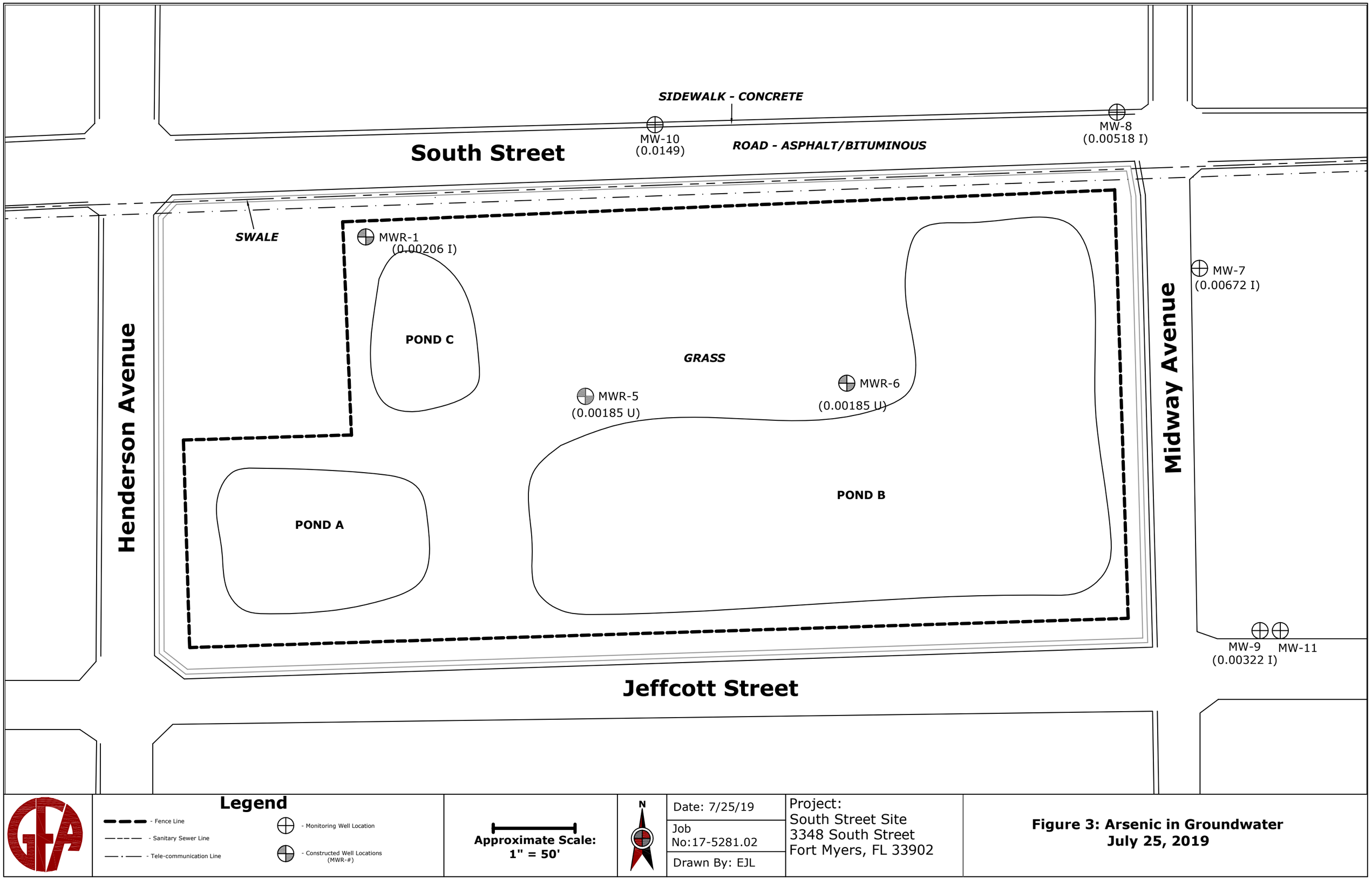
Date: 7/25/19

Job No:17-5281.02

Drawn By: EJL

Project:
South Street Site
3348 South Street
Fort Myers, FL 33902

Figure 2: Groundwater Contour Map
July 24, 2019



Legend

- Fence Line
- Sanitary Sewer Line
- Tele-communication Line
- Monitoring Well Location
- Constructed Well Locations (MWR-#)

Approximate Scale: 1" = 50'

N

Date: 7/25/19

Job No:17-5281.02

Drawn By: EJL

Project:
South Street Site
3348 South Street
Fort Myers, FL 33902

Figure 3: Arsenic in Groundwater
July 25, 2019

SIDEWALK - CONCRETE

South Street

ROAD - ASPHALT/BITUMINOUS

SWALE

Henderson Avenue

Midway Avenue

P-C

POND C

GRASS

P-B(E)

POND A

P-A

POND B

P-B(W)

Jeffcott Street

Legend

- Fence Line
- Sanitary Sewer Line
- Tele-communication Line
- Monitoring Well Location
- Constructed Well Locations (MWR-#)
- Surface Water Sample

Approximate Scale: 1" = 50'

N

Date: 7/25/19

Job No:17-5281.02

Drawn By: EJL

Project:
South Street Site
3348 South Street
Fort Myers, FL 33902

Figure 4: Surface Water Sample Locations
July 24, 2019

TABLES

Table 1: Groundwater Elevation Summary
Table 2: Groundwater Analytical Summary
Table 3: Surface Water Analytical Summary

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TABLE 1: Groundwater Elevation Summary

Project: South Street Property **FDEP FID: COM_288039**

WELL NO.	MWR-1	MWR-5	MWR-6	MW-7	MW-8	MW-9	MW-10
DIAMETER (IN)	2	2	2	2	2	2	2
WELL DEPTH (FEET)	12	12	12	12	12	12	12
SCREEN INTERVAL (FEET)	2-12	2-12	2-12	2-12	2-12	2-12	2-12
TOC ELEVATION (FEET)	19.78	19.00	18.92	16.18	16.02	16.11	16.01

DATE	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW
12/4/2017	--	--	--	--	--	--	13.20	2.98	13.16	2.86	13.36	2.75	13.03	2.98
4/25/2018	--	--	--	--	--	--	11.30	4.88	11.24	4.78	11.49	4.62	11.06	4.95
6/19/2018	--	--	--	--	--	--	14.12	2.06	14.05	1.97	14.29	1.82	13.88	2.13
7/17/2018	--	--	--	--	--	--	14.84	1.34	14.74	1.28	14.97	1.14	14.51	1.50
8/20/2018	--	--	--	--	--	--	15.63	0.55	15.46	0.56	15.43	0.68	15.31	0.70
9/17/2018	--	--	--	--	--	--	14.41	1.77	14.32	1.70	14.52	1.59	14.11	1.90
10/15/2018	--	--	--	--	--	--	14.76	1.42	14.71	1.31	14.91	1.20	14.57	1.44
11/14/2018	--	--	--	--	--	--	12.90	3.28	12.85	3.17	13.00	3.11	12.70	3.31
12/17/2018	--	--	--	--	--	--	12.29	3.89	12.22	3.80	12.46	3.65	12.01	4.00
1/14/2019	--	--	--	--	--	--	12.34	3.84	12.39	3.63	11.74	4.37	12.18	3.83
2/14/2019	--	--	--	--	--	--	13.24	2.94	13.25	2.77	13.34	2.77	13.13	2.88
3/18/2019	--	--	--	--	--	--	12.83	3.35	12.78	3.24	12.93	3.18	12.70	3.31
4/15/2019	--	--	--	--	--	--	12.88	3.30	12.66	3.36	12.98	3.13	12.43	3.58
5/20/2019	--	--	--	--	--	--	13.58	2.60	13.57	2.45	13.72	2.39	13.42	2.59
6/21/2019	--	--	--	--	--	--	14.47	1.71	14.39	1.63	14.61	1.50	14.23	1.78
7/24/2019	14.99	4.79	15.06	3.94	15.13	3.79	15.29	0.89	15.24	0.78	15.33	0.78	15.08	0.93

NOTES:

ELEV = Static groundwater elevation reported in NAVD88

DTW = Measured depth to static groundwater elevation from top of casing (TOC)

All measurements recorded in feet

All DTW measurements reported prior to 10/18/2017 were not performed by GFA.

Historic elevations were detemined based on the assumption that the top of monitor well casings have not changed since oringinal construction.

Elevation vertical datum is the North American Vertical Datum (NAVD) of 1988.

TABLE 2 - Groundwater Analytical Summary

South Street Property

Project No: 17-5281 | **FDEP ID: COM_288039**

Sample ID		Parameter									
Location	Date	Aluminum (mg/L)	Arsenic (mg/L)	Iron (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Total Dissolved Solids (mg/L)	Gross Alpha pCi/L)	Adjusted Gross Alpha[1] (pCi/L)	Combined Radium 226, 228 (pCi/L)	Uranium (µg/L)
FL GCTL - 62-777		**0.2**	**0.010**	**0.3**	**0.05**	**0.035**	**500**	*	*	*	**21**
PDWS MCL - 62-550		**NA**	**0.010**	**NA**	**NA**	**NA**	**NA**	***	**15**	**5**	**30**
SDWS MCL - 62-550		**0.2**	**NA**	**0.3**	**0.05**	**NA**	**500**	**NA**	**NA**	**NA**	**NA**
MWR-1	7/24/19	**0.223**	0.00206 I	**1.71**	0.0322	0.0198	**710**	25.7	6.2	2.2	**28.9**
MWR-5	7/24/19	**0.353**	0.00185 U	**5.48**	**0.11**	0.0225	**592**	7.7	4.9	2.0	4.2
MWR-6	7/24/19	0.191 I	0.00185 U	**4.62**	0.0475	0.0132 I	406	6.7	3.4	2.2	4.9
MW-7	12/4/17	NA	**0.0194**	NA	NA	0.0236	**574**	NA	NA	NA	NA
	4/25/18	**0.333**	**0.0131**	**8.22**	**0.123**	0.00762 I	**604**	NA	NA	NA	NA
	6/19/18	0.121 I	0.00800 I	**0.493**	0.00565	**0.0657**	216	NA	NA	NA	NA
	7/17/18	0.0500 U	0.00396 I	**0.843**	0.0432	0.00633 I	246	NA	NA	NA	NA
	8/20/18	**0.528**	0.00465 I	**1.080**	0.0358	0.004 U	222	5.0	NA	NA	NA
	9/17/18	0.0500 U	**0.0117**	**1.970**	**0.0577**	0.00438 I	268	NA	NA	NA	NA
	10/15/18	0.0822 I	0.00871 I	**1.39**	0.0475	0.00400 U	222	NA	NA	NA	NA
	11/14/18	0.0500 U	0.00437 I	0.248	0.0324	0.00712 I	240	5.6	1.7	0.6	5.8
	12/17/18	0.0646 I	0.00868 I	**0.957**	**0.0563**	0.0104 I	330	NA	NA	NA	NA
	1/15/19	0.0500U	0.00639 I	**0.906**	**0.0694**	0.00739 I	398	NA	NA	NA	NA
	2/18/19	0.0418 I	0.00620 U	0.216	0.0102	0.0224	304	10.3	0.2	0.5	15.0
	3/18/19	0.0500U	0.00526 I V	**0.565**	0.0232	0.0215	292	NA	NA	NA	NA
	4/15/19	0.0996 I	0.00774I	**0.492**	0.0325	0.00752I	278	5.7	3.5	0.7	3.2
	5/20/19	**0.116I**	0.00322I	**0.801**	0.0177	0.0295	244	NA	NA	NA	NA
	6/21/19	0.0814I	0.00212I	0.123I	0.00973	0.00263I	190	NA	NA	NA	NA
	7/24/19	0.0902 I	0.00672 I	**2.05**	0.00286 I	0.00269 I	230	1.1	1.1	0.3	1.9
MW-8	12/4/17	NA	**0.0137**	NA	NA	**0.0478**	**514**	NA	NA	NA	NA
	4/25/18	**0.267**	0.00561 I	**1.33**	0.0127	0.00600 I	492	NA	NA	2.2	NA
	6/19/18	0.0985 I	0.00634 I	**0.388**	0.00337 I	**0.0687**	474	NA	NA	NA	NA
	7/18/18	0.0635 I	0.00700 I	**0.755**	0.00183 I	**0.0506**	470	NA	NA	NA	NA
	8/21/18	0.0531 I	0.00632 I	0.0527 I	0.0161	**0.0574**	372	24.0	NA	NA	NA
	9/17/18	0.0500 U	0.00753 I	**0.418**	0.0189	0.0322	370	NA	NA	NA	NA
	10/15/18	0.0500 U	**0.0102**	**0.320**	0.0258	0.0141I	304	NA	NA	NA	NA
	11/15/18	0.0500 U	**0.0124**	**0.628**	0.0160	0.0109 I	336	9.9	2.3	1.5	11.3
	12/7/18	0.0563 I	**0.0109**	**0.643**	0.014	0.00907 I	436	NA	NA	NA	NA
	1/15/19	0.0500 U	0.00783 I	0.226	0.0141	0.0117 I	414	NA	NA	NA	NA
	2/18/19	0.0240 U	0.00896 I	0.352	0.013	0.00815 I	412	9.2	3.4	1.9	8.6
	3/18/19	0.05	**0.0123 V**	**0.640**	0.00927	0.0091	394	NA	NA	NA	NA
	4/15/19	0.0570 I	**0.0108**	**0.373**	0.00921 V	0.00851 I	426	9.8	5.8	1.1	6.0
	5/20/19	0.0500 U	0.0103	**0.397**	0.00384 I	0.0158	316	NA	NA	NA	NA
	6/21/19	0.0637 I	0.00823 I	0.110 I	0.00218I	0.0124 I	302	NA	NA	NA	NA
	7/24/19	0.0552 I	0.00518 I	0.124 I	0.00286 I	0.019	348	10.2	6.3	3.5	5.8

TABLE 2 - Groundwater Analytical Summary

South Street Property

Project No: 17-5281 | **FDEP ID: COM_288039**

Sample ID		Parameter									
Location	Date	Aluminum (mg/L)	Arsenic (mg/L)	Iron (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Total Dissolved Solids (mg/L)	Gross Alpha pCi/L)	Adjusted Gross Alpha[1] (pCi/L)	Combined Radium 226, 228 (pCi/L)	Uranium (µg/L)
FL GCTL - 62-777		**0.2**	**0.010**	**0.3**	**0.05**	**0.035**	**500**	*	*	*	**21**
PDWS MCL - 62-550		**NA**	**0.010**	**NA**	**NA**	**NA**	**NA**	***	**15**	**5**	**30**
SDWS MCL - 62-550		**0.2**	**NA**	**0.3**	**0.05**	**NA**	**500**	**NA**	**NA**	**NA**	**NA**
MW-9	12/7/17	NA	0.00884	NA	NA	0.0246	482	NA	NA	NA	NA
	4/25/18	**0.329**	0.00572 I	**1.96**	**0.0128**	0.0172	446	NA	NA	3.9	NA
	6/19/18	**2.54**	0.00377 I	**0.808**	0.00107 I	0.0236	270	NA	NA	NA	NA
	7/18/18	0.0762I	0.00377 I	0.109 I	0.00757	0.00799I	260	NA	NA	NA	NA
	8/21/18	**0.343**	0.00647 I	**1.37**	0.00897	0.00789 I	**512**	19.6	NA	NA	NA
	9/17/18	0.0676 I	**0.0101**	**2.340**	0.0123	0.00796 I	424	NA	NA	NA	NA
	10/15/18	0.187 I	0.00804 I	**1.25**	0.00751	0.00416 I	270	NA	NA	NA	NA
	11/15/18	0.198 I	0.00437 I	**0.569**	0.00550	0.00984 I	248	6.2	4.0	2.9	3.3
	12/7/18	0109 I	0.00558 I	**0.49**	0.00620	0.0135 I	294	NA	NA	NA	NA
	1/15/19	0.0791 I	0.00419 I	**0.951**	0.00780	0.00909 I	412	NA	NA	NA	NA
	2/18/19	0.166 I	0.00620 U	0.227	0.00668 I	0.0117	**530**	13.9	9.9	4.2	6.0
	3/18/19	0.171 I	0.00486 I V	**0.644**	0.00748	0.0114 I	**546**	NA	NA	NA	NA
	4/15/19	**0.270**	0.00300 I	0.113 I	0.00100 U	0.00987 I	302	6.6	4.2	1.9	3.6
	5/20/19	**0.345**	0.00382 I	0.283	0.00301 I	0.0300	356	NA	NA	NA	NA
	6/21/19	**0.310**	0.00332 I	0.125 I	0.00100 U	0.00618 I	210	NA	NA	NA	NA
	7/24/19	**1.03**	0.00322 I	**0.97**	0.00706	0.00991 I	**540**	18.5	13.1	8.2	8.0
MW-10	12/4/17	NA	**0.0355**	NA	NA	**0.0897**	**668**	NA	NA	NA	NA
	4/25/18	0.173 I	**0.0128**	**1.21**	0.0182	**0.0718**	**590**	NA	NA	2.8	NA
	6/19/18	0.0824 I	0.00301 I	**1.00**	0.00386 I	0.00714 I	**688**	NA	NA	NA	NA
	7/17/18	0.0730 I	0.00419I	**0.410**	0.00373I	0.0112I	**718**	NA	NA	NA	NA
	8/20/18	0.0972 I	0.00438 I	0.209	0.0278	0.0134 I	**546**	19.5	NA	NA	NA
	9/17/18	0.0500 U	**0.0114**	0.258	**0.0581**	**0.431**	**508**	NA	NA	NA	NA
	10/15/18	0.0675 I	**0.0113**	**0.530**	0.0541	**0.417**	492	NA	NA	NA	NA
	11/14/18	0.0692 I	**0.0161**	**1.000**	0.0496	**0.34**	**540**	49.4	0	3.4	**83.3**
	12/17/18	0.0775 I	**0.0214**	**1.500**	0.0438	**0.199**	**610**	NA	NA	NA	NA
	1/15/19	0.0500 U	**0.0139**	**0.551**	0.0238	**0.106**	**634**	NA	NA	NA	NA
	2/18/19	0.0240 U	0.00864 I	0.237	0.0152	**0.132**	**636**	41.7	2.8	4.1	**58.0**
	3/18/19	0.0500 U	**0.0145 V**	0.248	0.0141	**0.0916**	**646**	NA	NA	NA	NA
	4/15/19	0.0548 I	**0.0131**	**0.371**	0.0112 V	**0.0401**	**696**	42.4	**28.5**	3.5	20.7
	5/20/19	0.0500 U	0.00743I	0.0705I	0.0176	**0.0392**	**690**	NA	NA	NA	NA
	6/21/19	0.0500 U	0.00803I	0.0541I	0.00859	0.0295	**668**	NA	NA	NA	NA
	7/24/19	0.0993 I	**0.0149**	0.0808 I	0.041	0.0104 I	**572**	22.8	8.9	3.5	20.7

Notes:
* - Primary Standard as provided in Chapter 62-550, F.A.C.
** - Secondary Standard as provided in Chapter 62-550, F.A.C.
***- Primary Standard for gross alpha activity including Radium 226 but excluding radon and uranium MCL is 15 pCi/L as provided in Chapter 62-550, F.A.C.
[1] - Adjusted gross alpha activity includes Radium 226 but excludes radon and uranium
mg/l - milligrams per liter
NA - not applicable or not analyzed
I - The reported estimated value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U - Indicates that the compound was analyzed for but not detected.
V - Indicates that the analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times the blank value
GCTL - Groundwater Cleanup Target Level (Chapter 62-777 F.A.C.)
PDWS MCL - Primary Drinking Water Standard Maximum Contaminant Level (Chapter 62-550 F.A.C.)
SDWS MCL - Secondary Drinking Water Standard Maximum Contaminant Level (Chapter 62-550 F.A.C.)
{BOLDED CONCENTRATION} exceeds SDWS MCL or GCTL.
{BOLDED YELLOW HIGHLIGHTED RESULT} exceeds PDWS MCL.

TABLE 3 - Surface Water Analytical Summary

South Street Property

Project No: 17-5281 | **FDEP ID: COM_288039**

Sample ID		Parameter				
Location	Date	Aluminum (mg/L)	Arsenic (mg/L)	Iron (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)
Groundwater 62-777		**0.2**	**0.010**	**0.3**	**0.05**	**0.035**
Freshwater Surface Water 62-777		**0.013**	**0.05**	**1**	**NA**	**NA**
P-A	6/21/19	**0.213**	0.0102	0.0815 I	0.00254 I	0.0643
	7/24/19	**0.078 I**	0.00481 I	0.0480 I	0.00123 I	0.0474
P-C	6/21/19	**0.253**	0.0112	0.167 I	0.0123	0.0277
	7/24/19	0.0500 U	0.00761 I	0.146 I	0.0127	0.021
P-B (E)	6/21/19	**0.254**	0.00635 I	0.121 I	0.00100 U	0.0367
	7/24/19	**0.140 I**	0.00486 I	0.0582 I	0.00100 U	0.0312
P-B (W)	6/21/19	**0.234**	0.00511 I	0.106 I	0.00100 U	0.0366
	7/24/19	**0.0710 I**	0.00472 I	0.0351 I	0.00100 U	0.0312

Notes:

NA - not applicable or not analyzed

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

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

V - Indicates that the analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the asscoiated sample value.

mg/kg - milligram per kilogram

Concentrations presented in **BOLD** exceed Freshwater Surface Water Criteria as per Ch. 62-777, FAC Table II.

APPENDIX-A

Boring Logs and a Well Construction Diagram

BORING LOG

Boring/Well Number: MWR-1	Permit Number: NRP2019-01069	FDEP Facility Identification Number: COM_288039
Site Name: South Street Property	Borehole Start Date: 07/22/19 End Date:	Borehole Start Time: 9:30 ☑ AM ☐ PM End Time: 10:00 ☑ AM ☐ PM
Environmental Contractor: GFA	Geologist's Name: Scott McManus	Environmental Technician's Name: Kelsey Esteves

Drilling Company: GFA	Pavement Thickness (inches): NA	Borehole Diameter (inches): 4"	Borehole Depth (feet): 12'

Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): 1.5	Measured Well DTW (in feet after water recharges in well): 1.79	OVA (list model and check type): NA ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☑ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked): Direct push technology = no cuttings only lithographic samples spread

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DPT	0-5'	47"	NA	NA	NA	NA	1	Brown organic siltly sand, some shells	OL	M	
								Light yellow brown to brown fine to medium SAND, some shells	SP / SW	W	
							2	-Color change to yellow brown gray		S	
							3			S	
							4				
							5	Light brown/gray fine to coarse SAND, few fine shells	SW	S	
DPT	5-10	60	NA	NA	NA	NA	6	-Color change to dark brown		S	
							7	-Color change to light yellow brown gray, with shells		S	
							8				
							9				
							10				
							11				
							12	END OF BORING			

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: MWR-5	Permit Number: NRP2019-01069	FDEP Facility Identification Number: COM_288039
Site Name: South Street Property	Borehole Start Date: 07/22/19 End Date:	Borehole Start Time: 10:30 ☑ AM ☐ PM End Time: 11:15 ☑ AM ☐ PM
Environmental Contractor: GFA	Geologist's Name: Scott McManus	Environmental Technician's Name: Kelsey Esteves

Drilling Company: GFA	Pavement Thickness (inches): NA	Borehole Diameter (inches): 4"	Borehole Depth (feet): 12'
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): 1	Measured Well DTW (in feet after water recharges in well): 0.75	OVA (list model and check type): NA ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☑ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked): Direct push technology = no cuttings only lithographic samples spread

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DPT	0-5'	42"	NA	NA	NA	NA	1	Dark brown organic silty sand, few shells	OL	M	
								Yellow brown gray fine to coarse SAND, some shells	SW	W	
							2			S	
								-Color change to brown gray with shells		S	
							3				
								Dark brown fine to medium SAND	SP		
								Yellow brown gray SAND with Shells	SW	S	
							4				
							5				
DPT	5-10	60"	NA	NA	NA	NA		-Color change to brown gray, few shells		S	
							6				
								-Color change to light yellow brown gray, with shells			
							7				
							8				
							9				
							10				
							11				
							12	END OF BORING			

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: MWR-6	Permit Number: NRP2019-01069		FDEP Facility Identification Number: COM_288039
Site Name: Compost Mulch Facility	Borehole Start Date: 07/22/19 End Date:	Borehole Start Time: 11:30 ☑ AM ☐ PM End Time: 12:15 ☑ AM ☑ PM	
Environmental Contractor: GFA	Geologist's Name: Scott McManus		Environmental Technician's Name: Kelsey Esteves
Drilling Company: GFA	Pavement Thickness (inches): NA	Borehole Diameter (inches): 4"	Borehole Depth (feet): 12'
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): 1	Measured Well DTW (in feet after water recharges in well): 0.79	OVA (list model and check type): NA ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☑ Spread ☐ Backfill ☐ Stockpile ☐ Other

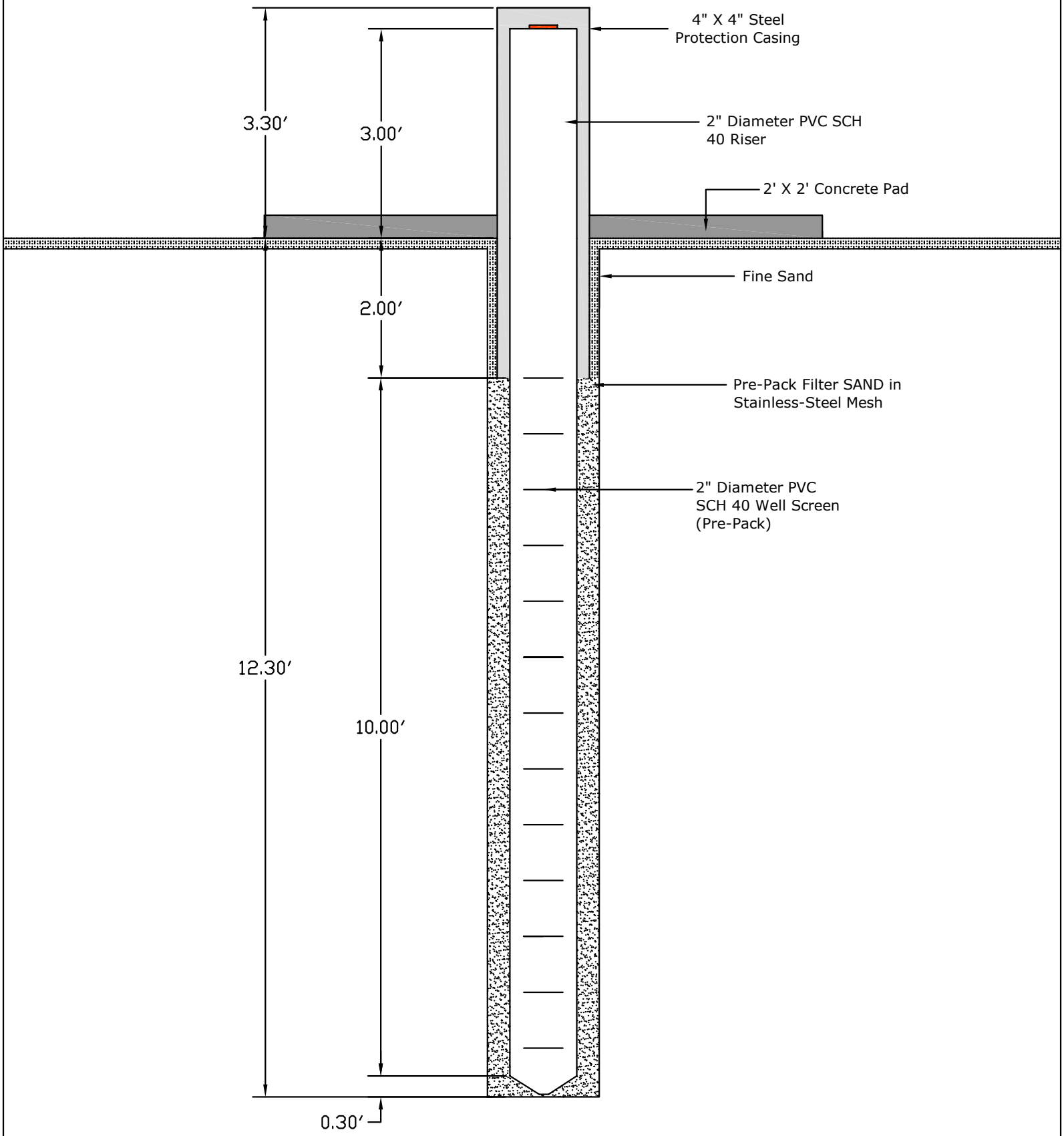
(describe if other or multiple items are checked): Direct push - Rod - Prepack - Min Cuttings

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DPT	0-5'	42"	NA	NA	NA	NA	1	Brown organic silty sand, few shells	OL	M	
								Yellow brown to brown gray fine to coarse SAND, some shells	SP/ SW	W	
							2			S	
							3	Light yellow brown gray fine to coarse SAND with shells	SW	S	
							4			S	
							5				
DPT	5-10	60"	NA	NA	NA	NA	6			S	
							7				
							8	Color change to light gray			
							9				
							10	Gray fine to medium SAND	SP		
							11				
							12	END OF BORING			

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated



Notes

Scale as drawn

Project:
South Street Site
3348 South Street
Fort Myers, FL 33902

Monitor Well Construction Diagram (Typical)

APPENDIX-B

Groundwater Sampling Logs

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	South Street	SITE LOCATION:	3348 South Street	
WELL NO:	MW-R1	SAMPLE ID:	MWR-1	DATE: 7/24/19

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	.25	5 feet to 15 feet	4.79	

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)

= (15 feet − 4.79 feet) X .16 gallons/foot = 1.6 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):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
10	10	900	942	4.00

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)
912	1.6	1.6	.13	5.01	7.01	28.3	1098	6.11	40.9	clear	none
915	.24	1.84	.08	4.90	7.05	28.4	1105	5.89	29.6	clear	none
918	.24	2.08	.08	4.90	7.07	28.3	1111	4.18	22.0	clear	none
921	.24	2.32	.08	4.90	7.02	28.2	1110	1.17	20.9	clear	none
924	.24	2.56	.08	4.90	7.02	28.3	1110	.86	12.5	clear	none
927	.24	2.80	.08	4.90	7.04	28.3	1111	.74	10.4	clear	none
930	.24	3.04	.08	4.90	7.04	28.3	1113	.62	8.49	clear	none
933	.24	3.28	.08	4.90	7.04	28.3	1114	.54	8.03	clear	none
936	.24	3.52	.08	4.90	7.04	28.3	1112	.43	5.87	clear	none
939	.24	3.76	.08	4.90	7.03	28.2	1115	.38	6.06	clear	none
942	.24	4.00	.08	4.90	7.03	28.2	1114	.27	5.68	clear	none

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:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
K. Esteves / GPA	Kelsey Esteves	945	1002

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y (N) Filtration Equipment Type	FILTER SIZE: ____ µm
10	PE/S		

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

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MWR-1	1	PE	1L	none			TDS	APP	280
			1L	HNO			Ra226		
			1L				Ra228		
			1L				Gross Alpha		
			500mL				Ur		
			250mL				200.7		

REMARKS:

~ 38' above grade TOC, screen interval 2-12 relative to TOC

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:** ± 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)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	South Street	SITE LOCATION:	3348 South Street	
WELL NO:	MW-R5	SAMPLE ID:	MWR5	DATE: 7/24/19

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	.25	5 feet to 15 feet	3.94	PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

= (15 feet − 3.94 feet) X .16 gallons/foot = 1.77 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):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
9	9	1008	1052	4.17

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)
1022	1.77	1.77	.13	4.08	7.27	28.5	992	.10	40.8	clear	none
1025	.24	2.01	.08	4.08	7.14	27.9	999	.15	35.0	clear	none
1028	.24	2.25	.08	4.08	7.13	27.9	999	.19	27.2	clear	none
1031	.24	2.49	.08	4.08	7.13	28.1	1010	.21	23.2	clear	none
1034	.24	2.73	.08	4.08	7.15	28.1	1020	.16	20.8	clear	none
1037	.24	2.97	.08	4.08	7.16	28.1	1023	.21	17.8	Clear	none
1040	.24	3.21	.08	4.08	7.16	28.1	1025	.26	16.8	clear	none
1043	.24	3.45	.08	4.08	7.17	28.1	1029	.23	13.9	clear	none
1046	.24	3.69	.08	4.08	7.16	28.1	1035	.17	12.1	clear	none
1049	.24	3.93	.08	4.08	7.17	28.1	1036	.19	11.0	clear	none
1052	.24	4.17	.08	4.08	7.17	28.0	1038	.18	9.53	clear	none

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:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
IC. Esteves / GPA	[signature]	1053	1112

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
9	PE/S		

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

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MWR5	1	PE	1L	none			TDS	APP	280
				HNO_3			Rad 226		
							Rad 228		
							Gross Alpha		
			500mL				Ur		
			250mL				200.7		

REMARKS:
~ 37" above grade TOC, screen interval 2-12 relative to TOC

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:** ± 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)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: South Street	SITE LOCATION: 3348 South Street	
WELL NO: MWR-6	SAMPLE ID: MWR-6	DATE: 7/24/19

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: 5 feet to 15 feet	STATIC DEPTH TO WATER (feet): 33.79	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (15 feet − 33.79 feet) X .16 gallons/foot = ~~5.63~~ 1.79 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): 10	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 10	PURGING INITIATED AT: 1111	PURGING ENDED AT: 1142	TOTAL VOLUME PURGED (gallons): 3.07

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)
1124	1.63	1.63	.13	3.98	7.08	28.0	712	.13	17.6	clear	none
1127	.24	1.87	.08	3.98	7.10	27.8	711	.13	15.6	clear	none
1130	.24	2.11	.08	3.98	7.13	27.8	709	.12	13.3	clear	none
1133	.24	2.35	.08	3.98	7.14	28.1	702	.12	11.4	clear	none
1136	.24	2.59	.08	3.98	7.13	28.0	702	.15	9.97	clear	none
1139	.24	2.83	.08	3.98	7.13	27.9	702	.19	9.64	clear	none
1142	.24	3.07	.08	3.98	7.12	27.8	702	.20	9.03	clear	none

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: K. Esteves / GFA	SAMPLER(S) SIGNATURE(S): Kelsey E	SAMPLING INITIATED AT: 1144	SAMPLING ENDED AT: 1203
PUMP OR TUBING DEPTH IN WELL (feet): 10	TUBING MATERIAL CODE: PE/S	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)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MWR-6	1	PE	1L	None			TDS	APP	280
				HNO_3			Gross Alpha		
							Rad 226		
							Rad 228		
			500mL				U		
			250mL				200.7		

REMARKS:
~37" above grade TOC, 2-12 screen interval 2-12 relative to TOC

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:** ± 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)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: South Street	SITE LOCATION: 3358 South St	
WELL NO: MW-7	SAMPLE ID: MW-7	DATE: 7/24/19

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: 2 feet to 12 feet	STATIC DEPTH TO WATER (feet): .95	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (12 feet – .95 feet) X .16 gallons/foot = 1.77 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): 6	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 6	PURGING INITIATED AT: 1346	PURGING ENDED AT: 1406	TOTAL VOLUME PURGED (gallons): 2.25

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 mS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1400	1.77	1.77	.13	1.05	6.80	30.0	415.9	.08	1.11	clear	none
1403	.24	2.01	.08	1.05	6.84	29.9	416.0	.08	1.40	clear	none
1406	.24	2.25	.08	1.05	6.83	29.9	416.5	.08	1.59	clear	none

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: K. Esteves / GPA	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1407	SAMPLING ENDED AT: 1424
PUMP OR TUBING DEPTH IN WELL (feet): 6	TUBING MATERIAL CODE: PE/S	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)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MW-7	1	PE	1L	none			TDS	APP	280
				HNO_3			Gross Alpha		
							Rad 226		
							Rad 228		
			500mL				VI		
			250mL				200.7		

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:** ± 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)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	South Street	SITE LOCATION:	3348 South St	
WELL NO:	MW-8	SAMPLE ID:	MW-8	DATE: 7/24/19

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	.25	2 feet to 12 feet	.86	PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (12 feet – .86 feet) X .16 gallons/foot = 1.78 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):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
12	12	1302	1322	2.26

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)
1316	1.78	1.78	.13	1.01	6.68	30.1	669	2.42	.97	clear	none
1319	.24	2.02	.08	1.01	6.71	30.1	659	2.39	1.42	clear	none
1322	.24	2.26	.08	1.01	6.76	30.2	645	2.26	1.53	clear	none

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:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
K Esteves / GFA	Kelsey	1323	1341

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
12	PE/S		

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

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MW-8	1	PE	1 L	none			TDS	APP	280
				HNO_3			Gross Alpha		
							Rad 226		
							Rad 228		
			500 mL				Ur		
			250 mL				200.7		

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:** ± 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)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: South Street	SITE LOCATION: 3348 South St	
WELL NO: MW-9	SAMPLE ID: MW-9	DATE: 7/24/19

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: 2 feet to 12 feet	STATIC DEPTH TO WATER (feet): .83	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (12 feet – .83 feet) X .16 gallons/foot = 1.79 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): 6	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 6	PURGING INITIATED AT: 1444	PURGING ENDED AT: 1504	TOTAL VOLUME PURGED (gallons): 2.27

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 (mS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1458	1.79	1.79	.13	.80	6.86	30.4	893	.10	10.3	clear	none
1501	.24	2.03	.08	.80	6.86	30.4	898	.10	10.5	clear	none
1504	.24	2.27	.08	.80	6.86	30.4	895	.09	10.8	clear	none

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: K. Esteves GAFA	SAMPLER(S) SIGNATURE(S): Kelsey	SAMPLING INITIATED AT: 1505	SAMPLING ENDED AT: 1523
PUMP OR TUBING DEPTH IN WELL (feet): 6	TUBING MATERIAL CODE: PE/S	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)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MW-9	1	PE	1000mL	none			TDS	APP	280
				TDS			Gross Alpha		
							Rad 226		
							Rad 228		
			500mL				U		
			250mL				200.7		

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:** ± 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)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: South Street	SITE LOCATION: 3348 South St.	
WELL NO: MW-10	SAMPLE ID: MW10	DATE: 7/24/19

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): .25	WELL SCREEN INTERVAL DEPTH: 2 feet to 12 feet	STATIC DEPTH TO WATER (feet): .98	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

= (12 feet – .98 feet) X .16 gallons/foot = 1.76 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): 6.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 6.5	PURGING INITIATED AT: 1210	PURGING ENDED AT: 1230	TOTAL VOLUME PURGED (gallons): 2.24

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)
1224	1.76	1.76	.13	1.08	6.90	29.2	920	1.31	1.38	clear	none
1227	.24	2.00	.08	1.08	6.90	29.3	920	1.29	1.48	clear	none
1230	.24	2.24	.08	1.08	6.92	29.3	921	1.34	1.35	clear	none

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: K. Esteves / GFA	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1231	SAMPLING ENDED AT: 1248
PUMP OR TUBING DEPTH IN WELL (feet): 6.5	TUBING MATERIAL CODE: PE/S	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)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MW10	1	PE	1L	none			TDS	APP	200
				HNO_3			Gross Alpha		
							Rad 226		
							Rad 228		
			500mL				U		
			250mL				200.7		

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:** ± 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)

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

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

Meter ID: 5987 RQ- Project: South Street

Notes: (1) Always wait for meter to stabilize before recording any readings.
(2) Report all digits displayed. Do not round before reporting measurements. (See special instructions for depth).
(3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Temperature (Quarterly) FT 1400 Date of Last Temperature Verification _____

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp °C	Baro-meter mmHg	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.											P / F	L / F
ICV											P / F	L / F
CCV											P / F	L / F
CCV											P / F	L / F

DO Acceptance criteria from Table ± 0.3 mg/L. **Rapid-Pulse Sensors:** DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.
Optical: DO gain range 0.85 to 1.15 (Pro DSS 0.75 to 1.50); DO charge N/A. **Steady-state & Galvanic Sensors:** DO Gain & Charge N/A.

Spec. Cond. FT 1200	Name	Date	Time CT-ET	Lot #	Expir. Date	Standard µmhos/cm	Meter Reading µmhos/cm	Pass / Fail	Lab / Field
Calibr.	Cond. Standard	7/24/19	834	9GA622	1/20	1413	1410	(P) / F	L / (F)
ICV								P / F	L / F
CCV								P / F	L / F
CCV								P / F	L / F

Conductivity Acceptance criteria ± 5%

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Temp °C	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	pH 7	7/24/19	842	8GB386	2/20	7.	26.2	7.08		(P) / F	L / (F)
Calibr.	pH 4	↓	845	8GA190	1/20	4.	26.1	4.10		(P) / F	L / (F)
Calibr.	pH 10	↓	849	8GA813	2/20	10.	25.8	9.92		(P) / F	L / (F)
ICV										P / F	L / F
CCV										P / F	L / F
CCV										P / F	L / F

pH Acceptance criteria ± 0.2 SU; mV pH 7 Range 0 ± 50; mV pH 4 Range +180 ± 50; mV pH 10 Range -180 ± 50;
If mV are recorded: slope from 7 to 10 _____, slope from 4 to 7 _____ (both must be between 165 and 180 mV)

Does meter have a depth sensor that will be used to measure total depth & sample depth? YES / NO / NA (not surf. water project)
If **YES**, complete daily Calibr. & ICV below and list date of last quarterly depth verification: _____
If **NO**, what will be used? (circle one) **Secchi Disk Line / Sonar** Unique ID: _____; Date of last verification: _____

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

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

COMMENTS:

APPENDIX-C

Groundwater and Standing Water Laboratory Analytical Reports, Chain-of-Custody Documentation

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Tampa
6712 Benjamin Road
Suite 100
Tampa, FL 33634
Tel: (813)885-7427

Laboratory Job ID: 660-96164-1
Client Project/Site: South Street Site

For:
GFA International Inc
201 Waldo Ave
Lehigh Acres, Florida 33971

Attn: Scott McManus

Noël Savoie

Authorized for release by:
7/30/2019 3:16:35 PM

Noel Savoie, Project Manager I
(850)878-3994
noel.savoie@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Sample Summary 3
Case Narrative 4
Definitions/Glossary 5
Detection Summary 6
Client Sample Results 7
QC Sample Results 9
QC Association Summary 10
Lab Chronicle 11
Method Summary 12
Certification Summary 13
Chain of Custody 14
Receipt Checklists 15

Sample Summary

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96164-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
660-96164-1	P-A	Water	07/24/19 09:10	07/25/19 08:40	
660-96164-2	P-C	Water	07/24/19 09:15	07/25/19 08:40	
660-96164-3	P-B (E)	Water	07/24/19 09:18	07/25/19 08:40	
660-96164-4	P-B (W)	Water	07/24/19 09:23	07/25/19 08:40	
660-96164-5	Eq Field Blank	Water	07/24/19 09:30	07/25/19 08:40	

Case Narrative

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96164-1

Job ID: 660-96164-1

Laboratory: Eurofins TestAmerica, Tampa

Narrative

Job Narrative
660-96164-1

Comments
No additional comments.

Receipt
The samples were received on 7/25/2019 8:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96164-1

Qualifiers

Metals

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96164-1

Client Sample ID: P-A — Lab Sample ID: 660-96164-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.0780	I	0.200	0.0500	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.00481	I	0.0100	0.00185	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	0.0480	I	0.200	0.0247	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	0.00123	I	0.00400	0.00100	mg/L	1		200.7 Rev 4.4	Total Recoverable
Molybdenum	0.0474		0.0150	0.00179	mg/L	1		200.7 Rev 4.4	Total Recoverable

Client Sample ID: P-C — Lab Sample ID: 660-96164-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00761	I	0.0100	0.00185	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	0.146	I	0.200	0.0247	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	0.0127		0.00400	0.00100	mg/L	1		200.7 Rev 4.4	Total Recoverable
Molybdenum	0.0210		0.0150	0.00179	mg/L	1		200.7 Rev 4.4	Total Recoverable

Client Sample ID: P-B (E) — Lab Sample ID: 660-96164-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.140	I	0.200	0.0500	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.00486	I	0.0100	0.00185	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	0.0582	I	0.200	0.0247	mg/L	1		200.7 Rev 4.4	Total Recoverable
Molybdenum	0.0312		0.0150	0.00179	mg/L	1		200.7 Rev 4.4	Total Recoverable

Client Sample ID: P-B (W) — Lab Sample ID: 660-96164-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.0710	I	0.200	0.0500	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.00472	I	0.0100	0.00185	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	0.0351	I	0.200	0.0247	mg/L	1		200.7 Rev 4.4	Total Recoverable
Molybdenum	0.0287		0.0150	0.00179	mg/L	1		200.7 Rev 4.4	Total Recoverable

Client Sample ID: Eq Field Blank — Lab Sample ID: 660-96164-5

No Detections.

This Detection Summary does not include radiochemical test results.

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96164-1

Client Sample ID: P-A

Lab Sample ID: 660-96164-1

Date Collected: 07/24/19 09:10

Matrix: Water

Date Received: 07/25/19 08:40

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0780	I	0.200	0.0500	mg/L		07/26/19 06:31	07/26/19 14:24	1
Arsenic	0.00481	I	0.0100	0.00185	mg/L		07/26/19 06:31	07/26/19 14:24	1
Iron	0.0480	I	0.200	0.0247	mg/L		07/26/19 06:31	07/26/19 14:24	1
Manganese	0.00123	I	0.00400	0.00100	mg/L		07/26/19 06:31	07/26/19 14:24	1
Molybdenum	0.0474		0.0150	0.00179	mg/L		07/26/19 06:31	07/26/19 14:24	1

Client Sample ID: P-C

Lab Sample ID: 660-96164-2

Date Collected: 07/24/19 09:15

Matrix: Water

Date Received: 07/25/19 08:40

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.200	0.0500	mg/L		07/26/19 06:31	07/26/19 14:33	1
Arsenic	0.00761	I	0.0100	0.00185	mg/L		07/26/19 06:31	07/26/19 14:33	1
Iron	0.146	I	0.200	0.0247	mg/L		07/26/19 06:31	07/26/19 14:33	1
Manganese	0.0127		0.00400	0.00100	mg/L		07/26/19 06:31	07/26/19 14:33	1
Molybdenum	0.0210		0.0150	0.00179	mg/L		07/26/19 06:31	07/26/19 14:33	1

Client Sample ID: P-B (E)

Lab Sample ID: 660-96164-3

Date Collected: 07/24/19 09:18

Matrix: Water

Date Received: 07/25/19 08:40

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.140	I	0.200	0.0500	mg/L		07/26/19 06:31	07/26/19 14:36	1
Arsenic	0.00486	I	0.0100	0.00185	mg/L		07/26/19 06:31	07/26/19 14:36	1
Iron	0.0582	I	0.200	0.0247	mg/L		07/26/19 06:31	07/26/19 14:36	1
Manganese	0.00100	U	0.00400	0.00100	mg/L		07/26/19 06:31	07/26/19 14:36	1
Molybdenum	0.0312		0.0150	0.00179	mg/L		07/26/19 06:31	07/26/19 14:36	1

Client Sample ID: P-B (W)

Lab Sample ID: 660-96164-4

Date Collected: 07/24/19 09:23

Matrix: Water

Date Received: 07/25/19 08:40

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0710	I	0.200	0.0500	mg/L		07/26/19 06:31	07/26/19 14:39	1
Arsenic	0.00472	I	0.0100	0.00185	mg/L		07/26/19 06:31	07/26/19 14:39	1
Iron	0.0351	I	0.200	0.0247	mg/L		07/26/19 06:31	07/26/19 14:39	1
Manganese	0.00100	U	0.00400	0.00100	mg/L		07/26/19 06:31	07/26/19 14:39	1
Molybdenum	0.0287		0.0150	0.00179	mg/L		07/26/19 06:31	07/26/19 14:39	1

Client Sample ID: Eq Field Blank

Lab Sample ID: 660-96164-5

Date Collected: 07/24/19 09:30

Matrix: Water

Date Received: 07/25/19 08:40

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.200	0.0500	mg/L		07/26/19 06:31	07/26/19 14:48	1
Arsenic	0.00185	U	0.0100	0.00185	mg/L		07/26/19 06:31	07/26/19 14:48	1
Iron	0.0247	U	0.200	0.0247	mg/L		07/26/19 06:31	07/26/19 14:48	1

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96164-1

Client Sample ID: Eq Field Blank
Date Collected: 07/24/19 09:30
Date Received: 07/25/19 08:40

Lab Sample ID: 660-96164-5
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.00100	U	0.00400	0.00100	mg/L		07/26/19 06:31	07/26/19 14:48	1
Molybdenum	0.00179	U	0.0150	0.00179	mg/L		07/26/19 06:31	07/26/19 14:48	1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 660-213568/1-A
Matrix: Water
Analysis Batch: 213591

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 213568

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.200	0.0500	mg/L		07/26/19 06:31	07/26/19 13:35	1
Arsenic	0.00185	U	0.0100	0.00185	mg/L		07/26/19 06:31	07/26/19 13:35	1
Iron	0.0247	U	0.200	0.0247	mg/L		07/26/19 06:31	07/26/19 13:35	1
Manganese	0.00100	U	0.00400	0.00100	mg/L		07/26/19 06:31	07/26/19 13:35	1
Molybdenum	0.00179	U	0.0150	0.00179	mg/L		07/26/19 06:31	07/26/19 13:35	1

Lab Sample ID: LCS 660-213568/2-A
Matrix: Water
Analysis Batch: 213591

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 213568

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	1.00	1.047		mg/L		105	85 - 115
Arsenic	1.00	1.027		mg/L		103	85 - 115
Iron	1.00	1.037		mg/L		104	85 - 115
Manganese	1.00	1.046		mg/L		105	85 - 115
Molybdenum	1.00	1.046		mg/L		105	85 - 115

Lab Sample ID: 660-96164-1 MS
Matrix: Water
Analysis Batch: 213591

Client Sample ID: P-A
Prep Type: Total Recoverable
Prep Batch: 213568

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	0.0780	I	1.00	1.117		mg/L		104	85 - 115
Arsenic	0.00481	I	1.00	1.069		mg/L		106	85 - 115
Iron	0.0480	I	1.00	1.096		mg/L		105	85 - 115
Manganese	0.00123	I	1.00	1.042		mg/L		104	85 - 115
Molybdenum	0.0474		1.00	1.110		mg/L		106	85 - 115

Lab Sample ID: 660-96164-1 MSD
Matrix: Water
Analysis Batch: 213591

Client Sample ID: P-A
Prep Type: Total Recoverable
Prep Batch: 213568

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	0.0780	I	1.00	1.113		mg/L		104	85 - 115	0	20
Arsenic	0.00481	I	1.00	1.061		mg/L		106	85 - 115	1	20
Iron	0.0480	I	1.00	1.093		mg/L		105	85 - 115	0	20
Manganese	0.00123	I	1.00	1.048		mg/L		105	85 - 115	1	20
Molybdenum	0.0474		1.00	1.103		mg/L		106	85 - 115	1	20

QC Association Summary

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96164-1

Metals

Prep Batch: 213568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-96164-1	P-A	Total Recoverable	Water	200.7	
660-96164-2	P-C	Total Recoverable	Water	200.7	
660-96164-3	P-B (E)	Total Recoverable	Water	200.7	
660-96164-4	P-B (W)	Total Recoverable	Water	200.7	
660-96164-5	Eq Field Blank	Total Recoverable	Water	200.7	
MB 660-213568/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 660-213568/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
660-96164-1 MS	P-A	Total Recoverable	Water	200.7	
660-96164-1 MSD	P-A	Total Recoverable	Water	200.7	

Analysis Batch: 213591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-96164-1	P-A	Total Recoverable	Water	200.7 Rev 4.4	213568
660-96164-2	P-C	Total Recoverable	Water	200.7 Rev 4.4	213568
660-96164-3	P-B (E)	Total Recoverable	Water	200.7 Rev 4.4	213568
660-96164-4	P-B (W)	Total Recoverable	Water	200.7 Rev 4.4	213568
660-96164-5	Eq Field Blank	Total Recoverable	Water	200.7 Rev 4.4	213568
MB 660-213568/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	213568
LCS 660-213568/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	213568
660-96164-1 MS	P-A	Total Recoverable	Water	200.7 Rev 4.4	213568
660-96164-1 MSD	P-A	Total Recoverable	Water	200.7 Rev 4.4	213568

Lab Chronicle

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96164-1

Client Sample ID: P-A
Lab Sample ID: 660-96164-1
Date Collected: 07/24/19 09:10
Matrix: Water
Date Received: 07/25/19 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.7			213568	07/26/19 06:31	GAF	TAL TAM
Total Recoverable	Analysis	200.7 Rev 4.4		1	213591	07/26/19 14:24	GAF	TAL TAM

Client Sample ID: P-C
Lab Sample ID: 660-96164-2
Date Collected: 07/24/19 09:15
Matrix: Water
Date Received: 07/25/19 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.7			213568	07/26/19 06:31	GAF	TAL TAM
Total Recoverable	Analysis	200.7 Rev 4.4		1	213591	07/26/19 14:33	GAF	TAL TAM

Client Sample ID: P-B (E)
Lab Sample ID: 660-96164-3
Date Collected: 07/24/19 09:18
Matrix: Water
Date Received: 07/25/19 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.7			213568	07/26/19 06:31	GAF	TAL TAM
Total Recoverable	Analysis	200.7 Rev 4.4		1	213591	07/26/19 14:36	GAF	TAL TAM

Client Sample ID: P-B (W)
Lab Sample ID: 660-96164-4
Date Collected: 07/24/19 09:23
Matrix: Water
Date Received: 07/25/19 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.7			213568	07/26/19 06:31	GAF	TAL TAM
Total Recoverable	Analysis	200.7 Rev 4.4		1	213591	07/26/19 14:39	GAF	TAL TAM

Client Sample ID: Eq Field Blank
Lab Sample ID: 660-96164-5
Date Collected: 07/24/19 09:30
Matrix: Water
Date Received: 07/25/19 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.7			213568	07/26/19 06:31	GAF	TAL TAM
Total Recoverable	Analysis	200.7 Rev 4.4		1	213591	07/26/19 14:48	GAF	TAL TAM

Laboratory References:

TAL TAM = Eurofins TestAmerica, Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

Method Summary

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96164-1

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	EPA	TAL TAM
200.7	Preparation, Total Recoverable Metals	EPA	TAL TAM

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL TAM = Eurofins TestAmerica, Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

Accreditation/Certification Summary

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96164-1

Laboratory: Eurofins TestAmerica, Tampa

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Florida	NELAP	4	E84282	06-30-20

Eurofins TestAmerica, Tampa
6712 Benjamin Road Suite 100
Tampa, FL 33634
Phone: 813-885-7427 Fax: 813-885-7049

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler:	Lab PM: Savoie, Noel	Carrier Tracking No(s):	COC No: 660-87562-28441.2
Client Contact: Scott McManus	Phone:	E-Mail: noel.savoie@testamericainc.com		Page: Page 1 of 1
Company: GFA International Inc				Job #:
Address: 201 Waldo Ave	Due Date Requested:			
City: Lehigh Acres	TAT Requested (days):			
State, Zip: FL, 33971				
Phone: 239-489-2443(Tel)	PO #: Purchase Order not required			
Email: smcmanus@teamgfa.com	WO #:			
Project Name: South Street Site	Project #: 66011942			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7 - Al, As, Fe, Mn, Mo	2540C - Total Dissolved Solids, (TDS)	SUBCONTRACT - Gross Alpha	SUBCONTRACT - Radium 226	SUBCONTRACT - Radium 228	SUBCONTRACT - Uranium	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	N	D	D	D	D	X	
P-A	7/24/19	910	G	W			/							
P-C	↓	915	↓	↓			/							
P-B(E)	↓	918	↓	↓			/							
P-B(W)	↓	923	↓	↓			/							
Eq Field Blank	↓	930	↓	↓			/							

660-96164 Chain of Custody

Loc: 660
96164

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 7/25/19 840	Company: TAMang
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes ✓ No

Custody Seal No.: N/A

Cooler Temperature(s) °C and Other Remarks: 1.4/1.4 CV09

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: GFA International Inc

Job Number: 660-96164-1

Login Number: 96164

List Source: Eurofins TestAmerica, Tampa

List Number: 1

Creator: Edwards, Erricka

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Tampa
6712 Benjamin Road
Suite 100
Tampa, FL 33634
Tel: (813)885-7427

Laboratory Job ID: 660-96162-1
Client Project/Site: South Street Site

For:
GFA International Inc
201 Waldo Ave
Lehigh Acres, Florida 33971

Attn: Scott McManus

Noël Savoie

Authorized for release by:
8/12/2019 2:18:50 PM

Noel Savoie, Project Manager I
(850)878-3994
noel.savoie@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Sample Summary 3
Case Narrative 4
Definitions/Glossary 5
Detection Summary 6
Client Sample Results 8
QC Sample Results 11
QC Association Summary 13
Lab Chronicle 14
Method Summary 16
Certification Summary 17
Subcontract Data 18
Chain of Custody 27
Receipt Checklists 28

Sample Summary

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96162-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
660-96162-1	MWR-1	Water	07/24/19 09:45	07/25/19 08:40	
660-96162-2	MWR-5	Water	07/24/19 10:53	07/25/19 08:40	
660-96162-3	MWR-6	Water	07/24/19 11:44	07/25/19 08:40	
660-96162-4	MW-7	Water	07/24/19 14:07	07/25/19 08:40	
660-96162-5	MW-8	Water	07/24/19 13:23	07/25/19 08:40	
660-96162-6	MW-9	Water	07/24/19 15:05	07/25/19 08:40	
660-96162-7	MW-10	Water	07/24/19 12:31	07/25/19 08:40	
660-96162-8	Field Blank	Water	07/24/19 14:24	07/25/19 08:40	

Job ID: 660-96162-1

Laboratory: Eurofins TestAmerica, Tampa

Narrative

Job Narrative
660-96162-1

Comments
No additional comments.

Receipt
The samples were received on 7/25/2019 8:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.0º C, 1.4º C and 3.6º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 2540C: The method's minimum weight requirement of 2.5 mg dried residue was not met. The entire sample was consumed for the analysis: Field Blank (660-96162-8)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Subcontract Work
Methods Gross Alpha, Radium 226, Radium 228, Uranium: These methods were subcontracted to KNL Laboratory Services. The subcontract laboratory certifications are different from that of the facility issuing the final report. Report attached.

Definitions/Glossary

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96162-1

Qualifiers

Metals

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96162-1

Client Sample ID: MWR-1 — Lab Sample ID: 660-96162-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.223		0.200	0.0500	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.00206	I	0.0100	0.00185	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	1.71		0.200	0.0247	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	0.0322		0.00400	0.00100	mg/L	1		200.7 Rev 4.4	Total Recoverable
Molybdenum	0.0198		0.0150	0.00179	mg/L	1		200.7 Rev 4.4	Total Recoverable
Total Dissolved Solids	710		20.0	20.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MWR-5 — Lab Sample ID: 660-96162-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.353		0.200	0.0500	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	5.48		0.200	0.0247	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	0.110		0.00400	0.00100	mg/L	1		200.7 Rev 4.4	Total Recoverable
Molybdenum	0.0225		0.0150	0.00179	mg/L	1		200.7 Rev 4.4	Total Recoverable
Total Dissolved Solids	592		20.0	20.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MWR-6 — Lab Sample ID: 660-96162-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.191	I	0.200	0.0500	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	4.62		0.200	0.0247	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	0.0475		0.00400	0.00100	mg/L	1		200.7 Rev 4.4	Total Recoverable
Molybdenum	0.0132	I	0.0150	0.00179	mg/L	1		200.7 Rev 4.4	Total Recoverable
Total Dissolved Solids	406		20.0	20.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-7 — Lab Sample ID: 660-96162-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.0902	I	0.200	0.0500	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.00672	I	0.0100	0.00185	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	2.05		0.200	0.0247	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	0.0415		0.00400	0.00100	mg/L	1		200.7 Rev 4.4	Total Recoverable
Molybdenum	0.00269	I	0.0150	0.00179	mg/L	1		200.7 Rev 4.4	Total Recoverable
Total Dissolved Solids	230		20.0	20.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-8 — Lab Sample ID: 660-96162-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.0552	I	0.200	0.0500	mg/L	1		200.7 Rev 4.4	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Tampa

Client Sample ID: MW-8 (Continued) — Lab Sample ID: 660-96162-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00518	I	0.0100	0.00185	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	0.124	I	0.200	0.0247	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	0.00286	I	0.00400	0.00100	mg/L	1		200.7 Rev 4.4	Total Recoverable
Molybdenum	0.0190		0.0150	0.00179	mg/L	1		200.7 Rev 4.4	Total Recoverable
Total Dissolved Solids	368		20.0	20.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-9 — Lab Sample ID: 660-96162-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	1.03		0.200	0.0500	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.00322	I	0.0100	0.00185	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	0.970		0.200	0.0247	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	0.00706		0.00400	0.00100	mg/L	1		200.7 Rev 4.4	Total Recoverable
Molybdenum	0.00991	I	0.0150	0.00179	mg/L	1		200.7 Rev 4.4	Total Recoverable
Total Dissolved Solids	540		20.0	20.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-10 — Lab Sample ID: 660-96162-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.0993	I	0.200	0.0500	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0149		0.0100	0.00185	mg/L	1		200.7 Rev 4.4	Total Recoverable
Iron	0.0808	I	0.200	0.0247	mg/L	1		200.7 Rev 4.4	Total Recoverable
Manganese	0.0410		0.00400	0.00100	mg/L	1		200.7 Rev 4.4	Total Recoverable
Molybdenum	0.0104	I	0.0150	0.00179	mg/L	1		200.7 Rev 4.4	Total Recoverable
Total Dissolved Solids	572		20.0	20.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: Field Blank — Lab Sample ID: 660-96162-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	2.63		1.25	1.25	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MWR-1

Lab Sample ID: 660-96162-1

Date Collected: 07/24/19 09:45

Matrix: Water

Date Received: 07/25/19 08:40

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.223		0.200	0.0500	mg/L		07/26/19 06:31	07/26/19 13:44	1
Arsenic	0.00206	I	0.0100	0.00185	mg/L		07/26/19 06:31	07/26/19 13:44	1
Iron	1.71		0.200	0.0247	mg/L		07/26/19 06:31	07/26/19 13:44	1
Manganese	0.0322		0.00400	0.00100	mg/L		07/26/19 06:31	07/26/19 13:44	1
Molybdenum	0.0198		0.0150	0.00179	mg/L		07/26/19 06:31	07/26/19 13:44	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	710		20.0	20.0	mg/L			07/29/19 11:36	1

Client Sample ID: MWR-5

Lab Sample ID: 660-96162-2

Date Collected: 07/24/19 10:53

Matrix: Water

Date Received: 07/25/19 08:40

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.353		0.200	0.0500	mg/L		07/26/19 06:31	07/26/19 13:56	1
Arsenic	0.00185	U	0.0100	0.00185	mg/L		07/26/19 06:31	07/26/19 13:56	1
Iron	5.48		0.200	0.0247	mg/L		07/26/19 06:31	07/26/19 13:56	1
Manganese	0.110		0.00400	0.00100	mg/L		07/26/19 06:31	07/26/19 13:56	1
Molybdenum	0.0225		0.0150	0.00179	mg/L		07/26/19 06:31	07/26/19 13:56	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	592		20.0	20.0	mg/L			07/29/19 11:36	1

Client Sample ID: MWR-6

Lab Sample ID: 660-96162-3

Date Collected: 07/24/19 11:44

Matrix: Water

Date Received: 07/25/19 08:40

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.191	I	0.200	0.0500	mg/L		07/26/19 06:31	07/26/19 13:59	1
Arsenic	0.00185	U	0.0100	0.00185	mg/L		07/26/19 06:31	07/26/19 13:59	1
Iron	4.62		0.200	0.0247	mg/L		07/26/19 06:31	07/26/19 13:59	1
Manganese	0.0475		0.00400	0.00100	mg/L		07/26/19 06:31	07/26/19 13:59	1
Molybdenum	0.0132	I	0.0150	0.00179	mg/L		07/26/19 06:31	07/26/19 13:59	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	406		20.0	20.0	mg/L			07/29/19 11:36	1

Client Sample ID: MW-7

Lab Sample ID: 660-96162-4

Date Collected: 07/24/19 14:07

Matrix: Water

Date Received: 07/25/19 08:40

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0902	I	0.200	0.0500	mg/L		07/26/19 06:31	07/26/19 14:02	1
Arsenic	0.00672	I	0.0100	0.00185	mg/L		07/26/19 06:31	07/26/19 14:02	1
Iron	2.05		0.200	0.0247	mg/L		07/26/19 06:31	07/26/19 14:02	1
Manganese	0.0415		0.00400	0.00100	mg/L		07/26/19 06:31	07/26/19 14:02	1

Client Sample ID: MW-7

Lab Sample ID: 660-96162-4

Date Collected: 07/24/19 14:07

Matrix: Water

Date Received: 07/25/19 08:40

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.00269	I	0.0150	0.00179	mg/L		07/26/19 06:31	07/26/19 14:02	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	230		20.0	20.0	mg/L			07/29/19 11:36	1

Client Sample ID: MW-8

Lab Sample ID: 660-96162-5

Date Collected: 07/24/19 13:23

Matrix: Water

Date Received: 07/25/19 08:40

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0552	I	0.200	0.0500	mg/L		07/26/19 06:31	07/26/19 14:11	1
Arsenic	0.00518	I	0.0100	0.00185	mg/L		07/26/19 06:31	07/26/19 14:11	1
Iron	0.124	I	0.200	0.0247	mg/L		07/26/19 06:31	07/26/19 14:11	1
Manganese	0.00286	I	0.00400	0.00100	mg/L		07/26/19 06:31	07/26/19 14:11	1
Molybdenum	0.0190		0.0150	0.00179	mg/L		07/26/19 06:31	07/26/19 14:11	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	368		20.0	20.0	mg/L			07/29/19 11:36	1

Client Sample ID: MW-9

Lab Sample ID: 660-96162-6

Date Collected: 07/24/19 15:05

Matrix: Water

Date Received: 07/25/19 08:40

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1.03		0.200	0.0500	mg/L		07/26/19 06:31	07/26/19 14:14	1
Arsenic	0.00322	I	0.0100	0.00185	mg/L		07/26/19 06:31	07/26/19 14:14	1
Iron	0.970		0.200	0.0247	mg/L		07/26/19 06:31	07/26/19 14:14	1
Manganese	0.00706		0.00400	0.00100	mg/L		07/26/19 06:31	07/26/19 14:14	1
Molybdenum	0.00991	I	0.0150	0.00179	mg/L		07/26/19 06:31	07/26/19 14:14	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	540		20.0	20.0	mg/L			07/29/19 11:36	1

Client Sample ID: MW-10

Lab Sample ID: 660-96162-7

Date Collected: 07/24/19 12:31

Matrix: Water

Date Received: 07/25/19 08:40

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0993	I	0.200	0.0500	mg/L		07/26/19 06:31	07/26/19 14:18	1
Arsenic	0.0149		0.0100	0.00185	mg/L		07/26/19 06:31	07/26/19 14:18	1
Iron	0.0808	I	0.200	0.0247	mg/L		07/26/19 06:31	07/26/19 14:18	1
Manganese	0.0410		0.00400	0.00100	mg/L		07/26/19 06:31	07/26/19 14:18	1
Molybdenum	0.0104	I	0.0150	0.00179	mg/L		07/26/19 06:31	07/26/19 14:18	1

Client Sample ID: MW-10

Lab Sample ID: 660-96162-7

Date Collected: 07/24/19 12:31

Matrix: Water

Date Received: 07/25/19 08:40

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	572		20.0	20.0	mg/L			07/29/19 11:36	1

Client Sample ID: Field Blank

Lab Sample ID: 660-96162-8

Date Collected: 07/24/19 14:24

Matrix: Water

Date Received: 07/25/19 08:40

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.200	0.0500	mg/L		07/26/19 06:31	07/26/19 14:21	1
Arsenic	0.00185	U	0.0100	0.00185	mg/L		07/26/19 06:31	07/26/19 14:21	1
Iron	0.0247	U	0.200	0.0247	mg/L		07/26/19 06:31	07/26/19 14:21	1
Manganese	0.00100	U	0.00400	0.00100	mg/L		07/26/19 06:31	07/26/19 14:21	1
Molybdenum	0.00179	U	0.0150	0.00179	mg/L		07/26/19 06:31	07/26/19 14:21	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2.63		1.25	1.25	mg/L			07/29/19 11:36	1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 660-213568/1-A
Matrix: Water
Analysis Batch: 213591

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 213568

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.200	0.0500	mg/L		07/26/19 06:31	07/26/19 13:35	1
Arsenic	0.00185	U	0.0100	0.00185	mg/L		07/26/19 06:31	07/26/19 13:35	1
Iron	0.0247	U	0.200	0.0247	mg/L		07/26/19 06:31	07/26/19 13:35	1
Manganese	0.00100	U	0.00400	0.00100	mg/L		07/26/19 06:31	07/26/19 13:35	1
Molybdenum	0.00179	U	0.0150	0.00179	mg/L		07/26/19 06:31	07/26/19 13:35	1

Lab Sample ID: LCS 660-213568/2-A
Matrix: Water
Analysis Batch: 213591

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 213568

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	1.00	1.047		mg/L		105	85 - 115
Arsenic	1.00	1.027		mg/L		103	85 - 115
Iron	1.00	1.037		mg/L		104	85 - 115
Manganese	1.00	1.046		mg/L		105	85 - 115
Molybdenum	1.00	1.046		mg/L		105	85 - 115

Lab Sample ID: 660-96162-1 MS
Matrix: Water
Analysis Batch: 213591

Client Sample ID: MWR-1
Prep Type: Total Recoverable
Prep Batch: 213568

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	0.223		1.00	1.246		mg/L		102	85 - 115
Arsenic	0.00206	I	1.00	1.061		mg/L		106	85 - 115
Iron	1.71		1.00	2.678		mg/L		96	85 - 115
Manganese	0.0322		1.00	1.059		mg/L		103	85 - 115
Molybdenum	0.0198		1.00	1.070		mg/L		105	85 - 115

Lab Sample ID: 660-96162-1 MSD
Matrix: Water
Analysis Batch: 213591

Client Sample ID: MWR-1
Prep Type: Total Recoverable
Prep Batch: 213568

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	0.223		1.00	1.257		mg/L		103	85 - 115	1	20
Arsenic	0.00206	I	1.00	1.067		mg/L		107	85 - 115	1	20
Iron	1.71		1.00	2.709		mg/L		100	85 - 115	1	20
Manganese	0.0322		1.00	1.049		mg/L		102	85 - 115	1	20
Molybdenum	0.0198		1.00	1.075		mg/L		106	85 - 115	0	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 660-213660/1
Matrix: Water
Analysis Batch: 213660

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5.00	U	5.00	5.00	mg/L			07/29/19 11:36	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 660-213660/2
Matrix: Water
Analysis Batch: 213660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			10000	9840		mg/L		98	80 - 120		

Lab Sample ID: 660-96162-2 DU
Matrix: Water
Analysis Batch: 213660

Client Sample ID: MWR-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	592			590.0		mg/L				0.3	5.0

QC Association Summary

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96162-1

Metals

Prep Batch: 213568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-96162-1	MWR-1	Total Recoverable	Water	200.7	
660-96162-2	MWR-5	Total Recoverable	Water	200.7	
660-96162-3	MWR-6	Total Recoverable	Water	200.7	
660-96162-4	MW-7	Total Recoverable	Water	200.7	
660-96162-5	MW-8	Total Recoverable	Water	200.7	
660-96162-6	MW-9	Total Recoverable	Water	200.7	
660-96162-7	MW-10	Total Recoverable	Water	200.7	
660-96162-8	Field Blank	Total Recoverable	Water	200.7	
MB 660-213568/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 660-213568/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
660-96162-1 MS	MWR-1	Total Recoverable	Water	200.7	
660-96162-1 MSD	MWR-1	Total Recoverable	Water	200.7	

Analysis Batch: 213591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-96162-1	MWR-1	Total Recoverable	Water	200.7 Rev 4.4	213568
660-96162-2	MWR-5	Total Recoverable	Water	200.7 Rev 4.4	213568
660-96162-3	MWR-6	Total Recoverable	Water	200.7 Rev 4.4	213568
660-96162-4	MW-7	Total Recoverable	Water	200.7 Rev 4.4	213568
660-96162-5	MW-8	Total Recoverable	Water	200.7 Rev 4.4	213568
660-96162-6	MW-9	Total Recoverable	Water	200.7 Rev 4.4	213568
660-96162-7	MW-10	Total Recoverable	Water	200.7 Rev 4.4	213568
660-96162-8	Field Blank	Total Recoverable	Water	200.7 Rev 4.4	213568
MB 660-213568/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	213568
LCS 660-213568/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	213568
660-96162-1 MS	MWR-1	Total Recoverable	Water	200.7 Rev 4.4	213568
660-96162-1 MSD	MWR-1	Total Recoverable	Water	200.7 Rev 4.4	213568

General Chemistry

Analysis Batch: 213660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-96162-1	MWR-1	Total/NA	Water	SM 2540C	
660-96162-2	MWR-5	Total/NA	Water	SM 2540C	
660-96162-3	MWR-6	Total/NA	Water	SM 2540C	
660-96162-4	MW-7	Total/NA	Water	SM 2540C	
660-96162-5	MW-8	Total/NA	Water	SM 2540C	
660-96162-6	MW-9	Total/NA	Water	SM 2540C	
660-96162-7	MW-10	Total/NA	Water	SM 2540C	
660-96162-8	Field Blank	Total/NA	Water	SM 2540C	
MB 660-213660/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 660-213660/2	Lab Control Sample	Total/NA	Water	SM 2540C	
660-96162-2 DU	MWR-5	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96162-1

Client Sample ID: MWR-1
Date Collected: 07/24/19 09:45
Date Received: 07/25/19 08:40

Lab Sample ID: 660-96162-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.7			213568	07/26/19 06:31	GAF	TAL TAM
Total Recoverable	Analysis	200.7 Rev 4.4		1	213591	07/26/19 13:44	GAF	TAL TAM
Total/NA	Analysis	SM 2540C		1	213660	07/29/19 11:36	SGF	TAL TAM

Client Sample ID: MWR-5
Date Collected: 07/24/19 10:53
Date Received: 07/25/19 08:40

Lab Sample ID: 660-96162-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.7			213568	07/26/19 06:31	GAF	TAL TAM
Total Recoverable	Analysis	200.7 Rev 4.4		1	213591	07/26/19 13:56	GAF	TAL TAM
Total/NA	Analysis	SM 2540C		1	213660	07/29/19 11:36	SGF	TAL TAM

Client Sample ID: MWR-6
Date Collected: 07/24/19 11:44
Date Received: 07/25/19 08:40

Lab Sample ID: 660-96162-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.7			213568	07/26/19 06:31	GAF	TAL TAM
Total Recoverable	Analysis	200.7 Rev 4.4		1	213591	07/26/19 13:59	GAF	TAL TAM
Total/NA	Analysis	SM 2540C		1	213660	07/29/19 11:36	SGF	TAL TAM

Client Sample ID: MW-7
Date Collected: 07/24/19 14:07
Date Received: 07/25/19 08:40

Lab Sample ID: 660-96162-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.7			213568	07/26/19 06:31	GAF	TAL TAM
Total Recoverable	Analysis	200.7 Rev 4.4		1	213591	07/26/19 14:02	GAF	TAL TAM
Total/NA	Analysis	SM 2540C		1	213660	07/29/19 11:36	SGF	TAL TAM

Client Sample ID: MW-8
Date Collected: 07/24/19 13:23
Date Received: 07/25/19 08:40

Lab Sample ID: 660-96162-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.7			213568	07/26/19 06:31	GAF	TAL TAM
Total Recoverable	Analysis	200.7 Rev 4.4		1	213591	07/26/19 14:11	GAF	TAL TAM
Total/NA	Analysis	SM 2540C		1	213660	07/29/19 11:36	SGF	TAL TAM

Lab Chronicle

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96162-1

Client Sample ID: MW-9

Lab Sample ID: 660-96162-6

Date Collected: 07/24/19 15:05

Matrix: Water

Date Received: 07/25/19 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.7			213568	07/26/19 06:31	GAF	TAL TAM
Total Recoverable	Analysis	200.7 Rev 4.4		1	213591	07/26/19 14:14	GAF	TAL TAM
Total/NA	Analysis	SM 2540C		1	213660	07/29/19 11:36	SGF	TAL TAM

Client Sample ID: MW-10

Lab Sample ID: 660-96162-7

Date Collected: 07/24/19 12:31

Matrix: Water

Date Received: 07/25/19 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.7			213568	07/26/19 06:31	GAF	TAL TAM
Total Recoverable	Analysis	200.7 Rev 4.4		1	213591	07/26/19 14:18	GAF	TAL TAM
Total/NA	Analysis	SM 2540C		1	213660	07/29/19 11:36	SGF	TAL TAM

Client Sample ID: Field Blank

Lab Sample ID: 660-96162-8

Date Collected: 07/24/19 14:24

Matrix: Water

Date Received: 07/25/19 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.7			213568	07/26/19 06:31	GAF	TAL TAM
Total Recoverable	Analysis	200.7 Rev 4.4		1	213591	07/26/19 14:21	GAF	TAL TAM
Total/NA	Analysis	SM 2540C		1	213660	07/29/19 11:36	SGF	TAL TAM

Laboratory References:

SC0009 = KNL Laboratory Services, 3202 North Florida Avenue, Tampa, FL 33603, TEL (813)229-2879

TAL TAM = Eurofins TestAmerica, Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

Method Summary

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96162-1

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	EPA	TAL TAM
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL TAM
900	Gross Alpha	RAD EPA	SC0009
903.1	EPA Method 903.1 - Radium 226	RAD EPA	SC0009
908	EPA 908 Uranium	RAD EPA	SC0009
Ra-05	RAD-228	EPA	SC0009
200.7	Preparation, Total Recoverable Metals	EPA	TAL TAM

Protocol References:

EPA = US Environmental Protection Agency

RAD EPA = EPA Radioanalytical Methodology

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

SC0009 = KNL Laboratory Services, 3202 North Florida Avenue, Tampa, FL 33603, TEL (813)229-2879

TAL TAM = Eurofins TestAmerica, Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

Accreditation/Certification Summary

Client: GFA International Inc
Project/Site: South Street Site

Job ID: 660-96162-1

Laboratory: Eurofins TestAmerica, Tampa

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Florida	NELAP	4	E84282	06-30-20

KNL ENVIRONMENTAL TESTING

FL DOH Certification #E84025

Report Date: August 6, 2019

Eurofins TestAmerica, Tampa
6712 Benjamin Road
Tampa, FL 33634

Attn: H. Gudnason

Field Custody: Client
Client/Field ID: 660-96162-1
MWR-1
Sample Collection: 07-24-19/0945
Lab ID No: 19.9245
Lab Custody Date: 07-26-19/0940
Sample description: Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	25.7 ± 1.5	7-29-19/1736	EPA 900.0	1.7
Combined Radium (Radium-226 + Radium 228)	pCi/l	2.2 ± 0.6	Calc	Calc	1.0
Radium-226	pCi/l	2.2 ± 0.6	8-6-19/1135	EPA 903.0*	0.4
Radium-228	pCi/l	0.0 ± 0.6	8-6-19/1106	EPA Ra-05	1.0
Uranium	pCi/l	19.5 ± 1.4	8-5-19/0913	EPA 908.0	0.4
Uranium	ppb	28.9 ± 2.1	Calc	EPA 908.0	Calc

Alpha Standard: Th-230
* 103% carrier recovery

Thomas J. Weeks
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed.
Contact person: Thomas Weeks (813) 229-2879.

Page 1 of 1

KNL ENVIRONMENTAL TESTING

FL DOH Certification #E84025

Report Date: August 6, 2019

Eurofins TestAmerica, Tampa
6712 Benjamin Road
Tampa, FL 33634

Attn: H. Gudnason

Field Custody: Client
Client/Field ID: 660-96162-2
MWR-5
Sample Collection: 07-24-19/1053
Lab ID No: 19.9246
Lab Custody Date: 07-26-19/0940
Sample description: Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	7.7 ± 1.0	7-29-19/1736	EPA 900.0	1.7
Combined Radium (Radium-226 + Radium 228)	pCi/l	2.0 ± 0.6	Calc	Calc	1.0
Radium-226	pCi/l	2.0 ± 0.6	8-6-19/1135	EPA 903.0*	0.6
Radium-228	pCi/l	0.0 ± 0.6	8-6-19/1106	EPA Ra-05	1.0
Uranium	pCi/l	2.8 ± 0.6	8-5-19/0913	EPA 908.0	0.4
Uranium	ppb	4.2 ± 0.9	Calc	EPA 908.0	Calc

Alpha Standard: Th-230
* 96% carrier recovery

Thomas J. Weeks
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed.
Contact person: Thomas Weeks (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

KNL ENVIRONMENTAL TESTING

FL DOH Certification #E84025

Report Date: August 6, 2019

Eurofins TestAmerica, Tampa
6712 Benjamin Road
Tampa, FL 33634

Attn: H. Gudnason

Field Custody:	Client
Client/Field ID:	660-96162-3 MWR-6
Sample Collection:	07-24-19/1144
Lab ID No:	19.9247
Lab Custody Date:	07-26-19/0940
Sample description:	Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	6.7 ± 0.9	7-29-19/1736	EPA 900.0	1.2
Combined Radium (Radium-226 + Radium 228)	pCi/l	2.2 ± 0.6	Calc	Calc	0.9
Radium-226	pCi/l	2.2 ± 0.5	8-6-19/1135	EPA 903.0*	0.4
Radium-228	pCi/l	0.0 ± 0.6	8-6-19/1106	EPA Ra-05	0.9
Uranium	pCi/l	3.3 ± 0.6	8-5-19/0913	EPA 908.0	0.3
Uranium	ppb	4.9 ± 0.9	Calc	EPA 908.0	Calc

Alpha Standard: Th-230
* 103% carrier recovery

Thomas J. Weeks
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed.
Contact person: Thomas Weeks (813) 229-2879.

Page 1 of 1

KNL ENVIRONMENTAL TESTING

FL DOH Certification #E84025

Report Date: August 8, 2019

Eurofins TestAmerica, Tampa
6712 Benjamin Road
Tampa, FL 33634

Attn: H. Gudnason

Field Custody:	Client
Client/Field ID:	660-96162-4 MW-7
Sample Collection:	07-24-19/1407
Lab ID No:	19.9248
Lab Custody Date:	07-26-19/0940
Sample description:	Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	1.1 ± 0.9	7-30-19/0732	EPA 900.0	1.5
Combined Radium (Radium-226 + Radium 228)	pCi/l	0.3 ± 0.6	Calc	Calc	1.0
Radium-226	pCi/l	0.3 ± 0.3	8-7-19/1136	EPA 903.0*	0.5
Radium-228	pCi/l	0.0 ± 0.6	8-6-19/1106	EPA Ra-05	1.0
Uranium	pCi/l	1.3 ± 0.4	8-5-19/0913	EPA 908.0	0.4
Uranium	ppb	1.9 ± 0.6	Calc	EPA 908.0	Calc

Alpha Standard: Th-230
* 101% carrier recovery

Thomas J. Weeks
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed.
Contact person: Thomas Weeks (813) 229-2879.

Page 1 of 1

KNL ENVIRONMENTAL TESTING

FL DOH Certification #E84025

Report Date: August 8, 2019

Eurofins TestAmerica, Tampa
6712 Benjamin Road
Tampa, FL 33634

Attn: H. Gudnason

Field Custody:	Client
Client/Field ID:	660-96162-5 MW-8
Sample Collection:	07-24-19/1323
Lab ID No:	19.9249
Lab Custody Date:	07-26-19/0940
Sample description:	Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	10.2 ± 1.7	7-30-19/0732	EPA 900.0	2.2
Combined Radium (Radium-226 + Radium 228)	pCi/l	3.5 ± 0.7	Calc	Calc	0.9
Radium-226	pCi/l	2.2 ± 0.6	8-7-19/1136	EPA 903.0*	0.7
Radium-228	pCi/l	1.3 ± 0.7	8-6-19/1106	EPA Ra-05	0.9
Uranium	pCi/l	3.9 ± 0.6	8-5-19/0913	EPA 908.0	0.5
Uranium	ppb	5.8 ± 0.9	Calc	EPA 908.0	Calc

Alpha Standard: Th-230
* 96% carrier recovery

Thomas J. Weeks
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed.
Contact person: Thomas Weeks (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

KNL ENVIRONMENTAL TESTING

FL DOH Certification #E84025

Report Date: August 8, 2019

Eurofins TestAmerica, Tampa
6712 Benjamin Road
Tampa, FL 33634

Attn: H. Gudnason

Field Custody:	Client
Client/Field ID:	660-96162-6 MW-9
Sample Collection:	07-24-19/1505
Lab ID No:	19.9250
Lab Custody Date:	07-26-19/0940
Sample description:	Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	18.5 ± 2.0	7-30-19/0732	EPA 900.0	2.5
Combined Radium (Radium-226 + Radium 228)	pCi/l	8.2 ± 1.1	Calc	Calc	0.9
Radium-226	pCi/l	8.2 ± 1.1	8-7-19/1136	EPA 903.0*	0.5
Radium-228	pCi/l	0.0 ± 0.6	8-6-19/1106	EPA Ra-05	0.9
Uranium	pCi/l	5.4 ± 0.7	8-5-19/0913	EPA 908.0	0.5
Uranium	ppb	8.0 ± 1.0	Calc	EPA 908.0	Calc

Alpha Standard: Th-230
* 102% carrier recovery

Thomas J. Weeks
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed.
Contact person: Thomas Weeks (813) 229-2879.

KNL ENVIROMENTAL TESTING, INC. | 3202 NORTH FLORIDA AVENUE | TAMPA, FLORIDA 33603
813.229.2879 | KNLENVIRONMENTAL.COM

KNL ENVIRONMENTAL TESTING

FL DOH Certification #E84025

Report Date: August 8, 2019

Eurofins TestAmerica, Tampa
6712 Benjamin Road
Tampa, FL 33634

Attn: H. Gudnason

Field Custody:	Client
Client/Field ID:	660-96162-7 MW-10
Sample Collection:	07-24-19/1231
Lab ID No:	19.9251
Lab Custody Date:	07-26-19/0940
Sample description:	Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	22.8 ± 1.8	7-30-19/0732	EPA 900.0	2.0
Combined Radium (Radium-226 + Radium 228)	pCi/l	3.5 ± 0.8	Calc	Calc	1.0
Radium-226	pCi/l	3.0 ± 0.8	8-7-19/1136	EPA 903.0*	0.9
Radium-228	pCi/l	0.5 ± 0.7	8-6-19/1106	EPA Ra-05	1.0
Uranium	pCi/l	13.9 ± 1.1	8-5-19/0913	EPA 908.0	0.4
Uranium	ppb	20.7 ± 1.6	Calc	EPA 908.0	Calc

Alpha Standard: Th-230
* 102% carrier recovery

Thomas J. Weeks
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed.
Contact person: Thomas Weeks (813) 229-2879.

Page 1 of 1

KNL ENVIRONMENTAL TESTING

FL DOH Certification #E84025

Report Date: July 30, 2019

Eurofins TestAmerica, Tampa
6712 Benjamin Road
Tampa, FL 33634

Attn: N. Savoie

Field Custody: Client
Client/Field ID: 660-96162-8
Field Blank
Sample Collection: 07-24-19/1424
Lab ID No: 19.9252
Lab Custody Date: 07-26-19/0940
Sample description: Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	1.3 ± 1.2	7-30-19/0732	EPA 900.0	1.6

Alpha Standard: Th-230

Thomas J. Weeks
Laboratory Manager

Test results meet all requirements of NELAC standards. Test results refer only to sample(s) listed. Contact person: Thomas Weeks (813) 229-2879.

Page 1 of 1

Eurofins TestAmerica, Tampa
6712 Benjamin Road Suite 100
Tampa, FL 33634
Phone: 813-885-7427 Fax: 813-885-7049

Chain of Custody Record

19.924552

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Savoie, Noel	Carrier Tracking No(s):	COC No: 660-115346.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: noel.savoie@testamericainc.com	State of Origin: Florida	Page: Page 1 of 1
Company: KNL Laboratory Services		Accreditations Required (See note): NELAP - Florida		Job #: 660-96162-1
Address: 3202 North Florida Avenue, ,	Due Date Requested: 8/1/2019			
City: Tampa	TAT Requested (days):			
State, Zip: FL, 33603				
Phone: 813-229-2879(Tel)	PO #:			
Email:	WO #:			
Project Name: South Street Site	Project #: 66011942			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Radium 226)/ Radium 226	SUB (Radium 228)/ Radium 228	SUB (Gross Alpha)/ Gross Alpha	SUB (Uranium)/ Uranium	Total Number of containers	Special Instructions/Note:
			Preservation Code:									
9245 MWR-1 (660-96162-1)	7/24/19	09:45 Eastern		Water			X	X	X	X	4	
9246 MWR-5 (660-96162-2)	7/24/19	10:53 Eastern		Water			X	X	X	X	4	
9247 MWR-6 (660-96162-3)	7/24/19	11:44 Eastern		Water			X	X	X	X	4	
9248 MW-7 (660-96162-4)	7/24/19	14:07 Eastern		Water			X	X	X	X	4	
9249 MW-8 (660-96162-5)	7/24/19	13:23 Eastern		Water			X	X	X	X	4	
9250 MW-9 (660-96162-6)	7/24/19	15:05 Eastern		Water			X	X	X	X	4	
9251 MW-10 (660-96162-7)	7/24/19	12:31 Eastern		Water			X	X	X	X	4	
9252 Field Blank (660-96162-8)	7/24/19	14:24 Eastern		Water					X		4	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 7-26-19 @ 0800	Company TA TAM	Received by: KNL	Date/Time: 7-26-19 / 0940	Company KNL	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

8/12/2019

Eurofins TestAmerica, Tampa
6712 Benjamin Road Suite 100
Tampa, FL 33634
Phone: 813-885-7427 Fax: 813-885-7049

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler:	Lab PM: Savoie, Noel	Carrier Tracking No(s):	COC No: 660-87562-28441.2
Client Contact: Scott McManus	Phone:	E-Mail: noel.savoie@testamericainc.com		Page: Page 1 of 1
Company: GFA International Inc				Job #:
Address: 201 Waldo Ave	Due Date Requested:			
City: Lehigh Acres	TAT Requested (days):			
State, Zip: FL, 33971				
Phone: 239-489-2443(Tel)	PO #: Purchase Order not required			
Email: smcmanus@teamgfa.com	WO #:			
Project Name: South Street Site	Project #: 66011942			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone

660-96162 Chain of Custody

Loc: 660
96162

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7 - Al, As, Fe, Mn, Mo	2540C - Total Dissolved Solids, (TDS)	SUBCONTRACT - Gross Alpha	SUBCONTRACT - Radium 226	SUBCONTRACT - Radium 228	SUBCONTRACT - Uranium	Total	Special Instructions/Note:
			Preservation Code:				D	N	D	D	D	D		
MWR-1	7/24/19	945	G	W			1	1	1	1	1	1		
MWR-5		1053					1	1	1	1	1	1		
MWR-6		1144					1	1	1	1	1	1		
MW-7		1407					1	1	1	1	1	1		
MW-8		1323					1	1	1	1	1	1		
MW-9		1505					1	1	1	1	1	1		
MW-10		1331					1	1	1	1	1	1		
Field Blank		1424					1	1	1					No Rad 226/Rad228 for the field blank

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
K. Esteves	7/24/19	GFA	Kierston Fallwell	7/25/19 0840	TAL TAMPA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
Δ Yes ☑ No	N/A	1.4/1.4 CU 09 3.6/3.6 1.0/1.0

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: GFA International Inc

Job Number: 660-96162-1

Login Number: 96162
List Number: 1
Creator: Edwards, Erricka

List Source: Eurofins TestAmerica, Tampa

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	