Report of Groundwater Sampling and Analyses

For

JEA 5th Street West - Imeson Road To Melson Avenue
Jacksonville, Florida

MAE Project No. 0103-0018
December 12, 2019

Prepared for:

MOTT MACDONALD

Prepared by:

MAE
Meskel & Associates Engineering
Geotechnical ◤ Environmental ◤ Inspection ◤ Testing

3728 Philips Highway, Suite 208
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Geotechnical ⌜ Environmental ⌜ Inspection ⌜ Testing

December 12, 2019

Mr. Bruce A. Neu, P.E.
Mott MacDonald Florida, LLC
10245 Centurion Parkway North, Suite 320
Jacksonville, Florida 32256

Subject: Report of Groundwater Sampling and Analysis
JEA 5th Street West - Imeson Road to Melson Avenue
Jacksonville, Florida
MAE Project No. 0103-0018

Dear Mr. Neu,

Meskel & Associates Engineering, PLLC (MAE) is pleased to provide you with this Report of Groundwater Sampling for JEA 5th Street West - Imeson Road to Melson Avenue project, located in Jacksonville, Duval County, Florida.

If you have any questions or concerns, please contact the undersigned at (904) 519-6990.

Sincerely,

MESKEL & ASSOCIATES ENGINEERING, PLLC
MAE FL Certificate of Authorization No. 28142

Gabriel S. Pastrana, P.E.
Professional Associate

Scott A. Davidson, P.G.
Principal, Director of Environmental Services

Distribution: Mr. Bruce A. Neu, P.E. – Mott MacDonald Florida, LLC 1 PDF

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List of Acronyms and Abbreviations

BDL .....Below Detection Limits

BLS.....Below Land Surface

BTEX .....Benzene, Toluene, Ethyl benzene, and Xylenes

COC.....Contaminants of Concern

DO .....Dissolved Oxygen

DPE .....Dual Phase Extraction

MAE.....Meskel & Associates Engineering, PLLC.

EPA .....United States Environmental Protection Agency

FAC .....Florida Administrative Code

FDEP .....Florida Department of Environmental Protection

FL-PRO.....Florida Petroleum Residual Organic (testing method)

GCTL .....Groundwater Cleanup Target Levels (as defined in 62-777, FAC)

MSL.....Mean Sea Level

MTBE .....Methyl Tert-Butyl Ether

NADC .....Natural Attenuation Default Concentrations

NPDES.....National Pollutant Discharge Elimination System

NTU .....Nephelometric Turbidity Units

PAH.....Polycyclic Aromatic Hydrocarbons

RAP .....Remedial Action Plan

SVDFW .....Screening Values for Discharges into Fresh Waters

SVE .....Soil Vapor Extraction

TRPH.....Total Recoverable Petroleum Hydrocarbons

VCO .....Verbal Change Order

VOA .....Volatile Organic Aromatics

µg/L .....Micrograms per Liter

Report of Groundwater Sampling and Analysis

JEA 5th Street West - Imeson Road To Melson Avenue

Jacksonville, Florida

MAE Report No. 0103-0018

Prepared by:

MESKEL & ASSOCIATES ENGINEERING, PLLC

3728 PHILIPS HIGHWAY, SUITE 208

JACKSONVILLE, FLORIDA 32207

GEOLOGY BUSINESS LICENSE NUMBER – GB683

In accordance with the provisions of Florida Statutes Chapter 492, this Groundwater Sampling Report for the JEA 5th Street West - Imeson Road to Melson Avenue Project located in Jacksonville, Florida has been prepared under the direct supervision of a Professional Geologist registered in the State of Florida. This report was prepared in accordance with generally accepted professional practices pursuant to Chapter 492 of the Florida Statutes. The data, findings, recommendations, specifications or professional opinions were prepared solely for the use of the JEA and Mott McDonald Florida, LLC. Meskel & Associates Engineering, PLLC makes no other warranty, either expressed or implied, and is not responsible for the interpretation by others of these data.

Scott A. Davidson, P.G. Date: 12/10/19
Principal Geologist
Licensed, Florida No. PG1223

1.0 INTRODUCTION

Meskel & Associates Engineering, PLLC (MAE) has completed a groundwater sampling program to provide chemical background data to assist in the submittal of a Notice of Intent (NOI) to potentially discharge dewatering effluent to '*Waters of the State'* through the Florida Department of Environmental Protection (FDEP) under the auspices of the *Generic Permit for the Discharge of Produced Groundwater from Any Non-Contaminated Site Activity*, FAC 62-621.300(2). Based on the findings reported here in, a *Generic Permit for Petroleum Contaminated Site* under Chapter 63-621.300(1) may be required for a portion of the project.

General project information contained within the JEA Solicitation No. 112-18 was reviewed for this project. In addition, specific project details and proposed utility force main routes were provided in several emails from Mr. Bruce Neu, P.E. with Mott McDonald Florida, LLC. The site for the subject project is located Jacksonville, Florida. The general site location is shown on Figure 1.

Based on the provided information and our discussions with Mr. Neu, we understand that the JEA is installing a new 20-inch force main from Imeson Road to Melson Avenue in Jacksonville, Florida. There were originally three proposed routes for this project. The final route is along 5th Street West from Melson Avenue under I-295 to Pickettville Road, then north on Pickettville Road to the CSX Railroad easement and west along the easement to Imeson Road. The total length of this route is approximately 17,200 feet.

Currently, most of this drainage basin of the Buckman Wastewater Service area is connected by a series of 12-inch / 12-inch dual pipe and 16-inch single pipe force main segments to the 36-inch gravity trunk sewer at the Melson Avenue intersection with 5th Street West. The existing force mains are at capacity. It is proposed to install a parallel 20" force main from Imeson Road to Melson Avenue to relieve current flows and accommodate future flows from the west side of the service area.

The proposed 20-inch force main will be installed at Imeson Road and be installed west along the CSX RR easement to Pickettville Road. The force main will be installed south on Pickettville Road and head east following the existing double 12-inch mains on 5th Street to Melson Avenue. Along this alignment, there are multiple railroad crossings. In addition, the force main will need to be installed under I-295, Lane Avenue, Edgewood Avenue and West Palm Avenue. At the Edgewood Avenue crossing, the existing 12-inch force mains penetrated a box culvert.

Additionally, a receiving force main discharge doghouse manhole is included on the west side of the 5th Street West and Melson Avenue intersection over the existing 30-inch RCP trunk sewer south of the intersection.

There will be jack-and-bore crossings at Edgewood Avenue, Lane Avenue, West Palm Avenue and at the three CSX RR crossings. In addition, HDD will be used to cross under I-295 at 5th Street West. The remainder of the approximate 17,200-foot pipeline will be installed by open-cut construction.

2.0 REPORT LIMITATIONS

This report has been prepared for the exclusive use of Mott McDonald Florida, LLC for specific application to the proposed JEA 5th Street West - Imeson Road to Melson Avenue project as described in this report.

This groundwater evaluation was performed in accordance with generally accepted practices of this profession, undertaken in similar studies at the same time and in the same geographical area. We have endeavored to meet this standard of care, but may be limited by conditions encountered during performance or a client-driven scope of work. Where appropriate, these limitations are discussed in the text of the report, and an evaluation of their significance with respect to our findings has been conducted.

The evaluation and recommendations contained in this report are based on the data obtained from the water samples collected for this project. The scope of our services did not include any environmental assessment or testing for the presence or absence of hazardous or toxic materials in the soil, groundwater, or surface water above/beyond those parameters and chemical analytes examined. The collection of grab water samples, such as those collected at this site, are of limited scope and cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the site beyond what is identified by the limited water sampling and chemical analyses. No limited groundwater sampling program can wholly eliminate uncertainty regarding the potential for contamination in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for groundwater and surface water impacts. These risks may be further evaluated, but not eliminated, through additional research and/or chemical evaluation and assessment.

If changes in the design or location of the project occur, the conclusions and recommendations contained in this report may need to be modified. We recommend that these changes be provided to us for our consideration. MAE is not responsible for conclusions, interpretations, opinions or recommendations made by others based on the data contained in this report.

3.0 NEARBY CONTAMINATED SOURCES

This investigation included a review of FDEP databases for nearby contaminated sites. The FDEP Contamination Locator Map (CLM) was consulted to evaluate properties near the area of the proposed force main installation. http://prodenv.dep.state.fl.us/DepClnup/welcome.do In addition, the FDEP Institutional Controls Map (ICM) was reviewed to evaluate sites within the FDEP-specified 500-foot search radius. https://ca.dep.state.fl.us/mapdirect/?focus=icr

The results of the requisite FDEP database review of the CLM and ICM, showed two impacted sites within the prescribed 500-foot radius of the proposed dewatering area.

The **Estes Express Lines**, located at 1701 Pickettville Road, is a trucking facility and a listed waste cleanup site in the FDEP databases. MAE reviewed the FDEP Oculus database for files associated with this facility under Facility ID No. 8732017 and COM_69732. Based on the Remedial Action Plan dated March 24, 2009, petroleum and chlorinated solvent contamination was discovered in the area of a diesel AST in 1990. Pump and treat remedial activities were conducted in 1995 and 1996. The impacted area included the area north of West 5th Street approximately 300 feet to 700 feet east of Pickettville Road. Assessment and groundwater monitoring was conducted from 2009 to 2011. The FDEP issued the facility a Site Rehabilitation Completion Order on June 7, 2011. Based on the completion of cleanup at this facility, this previous contamination at this facility should not impact the project construction. A copy of the SRCO is provided in Appendix A.

The **Paxon Express**, located at 3157 West 5th Street, is a vacant gasoline station and a listed Leaking

Underground Storage Tank (LUST) site in the FDEP databases. MAE reviewed the FDEP Oculus database for files associated with this facility under Facility ID No. 8506940. A petroleum discharge was reported at this facility in February 1990 and the facility is eligible for State funded cleanup with a priority score of 6. Due to its low priority score, a Low Score Site Initiative (LSS) Assessment was conducted and a report was issued on August 2013. The facility formerly had a 6,000-gallon, a 4,000-gallon, and a 2,000-gallon unleaded gasoline USTs installed in 1969 and 1984 and were removed in 2004. The facility currently has one 10,000-gallon gasoline UST installed in 2005. The facility appeared vacant during the recent groundwater sampling event. Based on the LSSI report petroleum contaminated soils were identified at this facility. Impacts appeared to occupy the western portion of the property. No further assessment has been conducted at this facility due to the priority ranking score. The identified petroleum impacts to soil and unknown extent of impacts to groundwater may impact the project construction. Soil and groundwater in the area of this facility will need to be properly managed. A copy of the LSSI Report has been provided in Appendix A.

4.0 TEMPORARY MONITORING WELL INSTALLATION

Two temporary monitoring well was installed at the project site on October 11, 2019. Temporary monitoring well FS-TMW-1 was installed within the grassed west bound right-of-way of West 5th Street northeast of the intersection with Pickettville Road. The location of the temporary monitoring well is provided on Figure 2. Temporary monitoring well FS-TMW-2 was installed within a grassed area in the northbound right-of-way of Melson Avenue northeast of the intersection with West 5th Street.

The monitoring wells were installed by Transamerican Drilling and Testing, Inc. using a direct push rig. Continuous soil samples were collected from the surface to a depth of 15 feet below land surface (bls) to evaluate the groundwater depth and lithology. The well depths were determined based on groundwater level conditions. FS-TMW-1 was set to 13 feet bls and FS-TMW-2 was set to 15 feet. The monitoring wells were constructed of 10-feet of 1-inch diameter pre-packed PVC well screen (0.010-inch slot size), and sufficient riser to reach the ground surface. The sand pre-pack screens consisted of 20-30 Silica with a fine sand seal and cement to surface. The monitoring wells were flush-mounted and finished with an 8-inch manhole and 2 feet x 2 feet concrete pad and a locking cap. Appendix B contains the soil boring logs and well completion data.

5.0 WATER SAMPLING AND ANALYTICAL RESULTS

Groundwater samples were collected from the temporary monitoring wells FS-TMW-1 and FS-TMW-2 on October 30, 2019. During the sampling event, depth to water was measured at 1.88 feet bls and 8.88 feet bls, respectively. MAE established stable purging parameters at the respective sampling locations in general accordance with the FDEP Standard Operating Procedures (FS 2212) before the location was sampled. Appendix C contains the groundwater sampling log.

Following the purging activities, a groundwater sample was collected from the two temporary monitoring wells using poly-tubing connected to a peristaltic pump. The collected sample was placed into laboratory-supplied bottles, stored on wet ice, and submitted to a State of Florida approved analytical laboratory,

Pace Analytical Services in Ormond Beach, Florida. Pace is a NELAP-certified laboratory, Number E83079.

The groundwater sample from FS-TMW-1 was analyzed for the presence of Volatile Organic Compounds (VOCs) by EPA Method 8260, Polynuclear Aromatic Hydrocarbons (PAH) by EPA Method 8270, and the metals Arsenic, Chromium, Cadmium, and Lead by EPA Method 6010. The groundwater sample from FS-TMW-2 was analyzed for the Kerosene Analytical Group. This included Volatile Organic Aromatics and Volatile Organic Halogens (VOA/VOH) by EPA Method 8260, PAH by EPA Method 8270, Total Recoverable Petroleum Hydrocarbons (TRPH) by the FL-PRO Method, Ethylene Dibromide (EDB) by EPA Method 8011, and lead by EPA Method 6010. Field filtered samples were collected for dissolved metal analysis in case turbidity interference was encountered. Copies of the groundwater analytical results are provided in Appendix D.

The results from the laboratory analysis of the groundwater samples indicated the tested analytes did not exhibit concentrations exceeding the Groundwater or Surface Water Cleanup Target Levels defined in Chapter 62-777, Florida Administrative Code. However, concentrations of benzene, toluene, ethylbenzene, MTBE, 1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthene, Flourene, TRPH, and lead were detected, but were either at or below the Groundwater Cleanup Target Levels.

6.0 CONCLUSIONS AND PERMIT REQUEST

The results of laboratory analyses of groundwater samples collected indicate that there are no impacts to groundwater in the area of the installed monitoring wells. However, there is most likely elevated concentrations of petroleum impacts in groundwater at the Paxon Express site and potentially into the roadway right of ways. If dewatering activities in the area of the intersection of Melson Avenue and West 5th Street produces petroleum impacted groundwater that will be discharged to the storm sewer system, this will require the procurement of a Generic Permit for Petroleum Contaminated Site under Chapter 63-621.300(1). Alternatively, the petroleum impacted groundwater can be discharged to the JEA sanitary sewer system under JEA permit. It is our understanding that a 36-inch sanitary sewer trunk line is located in this area and may potentially be used to discharge the produced petroleum impacted groundwater.

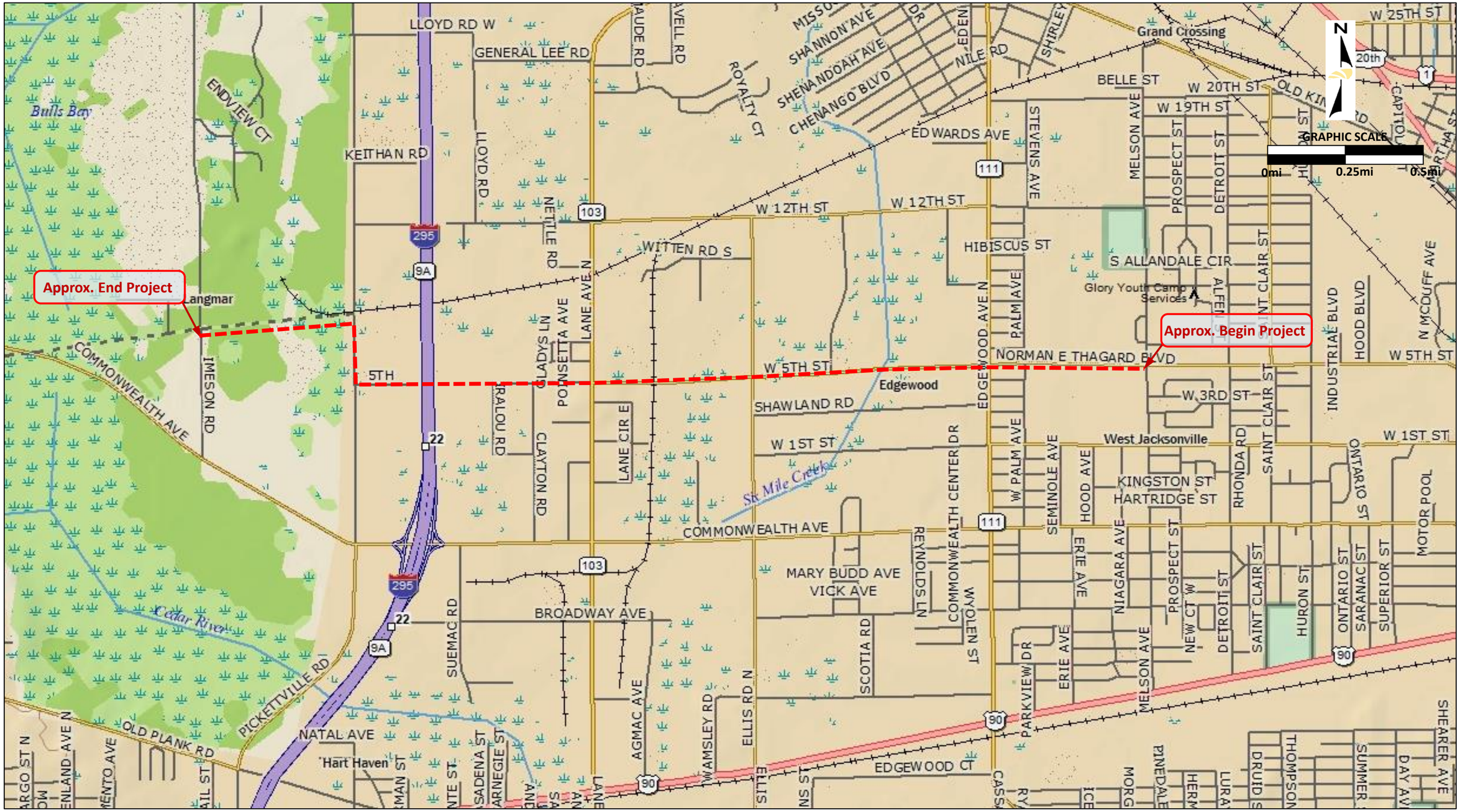
Other than this intersection, any groundwater produced along the project alignment can be discharged to the storm sewer system under the Generic Permit. Under Chapter 62-621.300(2) FAC when applying the NOI to use the generic permit, it will be noted that the review of regulatory CLM database information indicated one solvent impacted waste cleanup facility and one LUST facility was identified as contaminated within 500 feet of the proposed dewatering operation. Based on the groundwater sampling and analytical results presented, it appears no contaminants of concern are present in the groundwater at the dewatering site above surface water criteria defined in Chapter 62-302.530 FAC. Therefore, a NOI request for the use of the Generic Permit for the Discharge of Groundwater from Dewatering Operations, February 2015, FAC 62-621.300(2) is applicable for most of the project area. A copy of the Generic Permit application is provided in Appendix E.

If discharge to the JEA sanitary sewer is not feasible for the petroleum impacted area, then procurement of the Generic Permit for Petroleum Contaminated Sites will be required. This may require the treatment of groundwater by air stripper of carbon filtration prior to discharge to the storm sewer system. A copy of the Generic Permit requirements of Petroleum Contaminated Sites is provided include in Appendix E.

If the proposed area of dewatering is anticipated for a construction activity exceeding 1 acre in size, then MAE recommends the construction contractor acquire the dewatering permit as part of the Construction General Permit (CGP). The dewatering permit will not add any additional cost to the CGP, provided it is applied for at the time of its CGP application. The development of dewatering Best Management Practices (BMPs) will still be required prior to initiation of the dewatering operation, as per FAC 62-621.300(2).

Following the commencement of dewatering operations, per Chapter 62-621.300(1) or (2) FAC, BMPs, developed by the dewatering contractor, must be adhered to including record-keeping, and collection of effluent samples as required. Please be advised that the FDEP regulations state that the permittee is ultimately responsible for discharges to the waters of the State.

Figures



Project Manager:	BHH
Drawn by:	MCV
Checked by:	MCV
Approved by:	WJM

Project No.	0103-0018
Scale:	AS SHOWN
File Name:	0103-0018.BLP
Date:	12/11/2019

Meskel & Associates Engineering

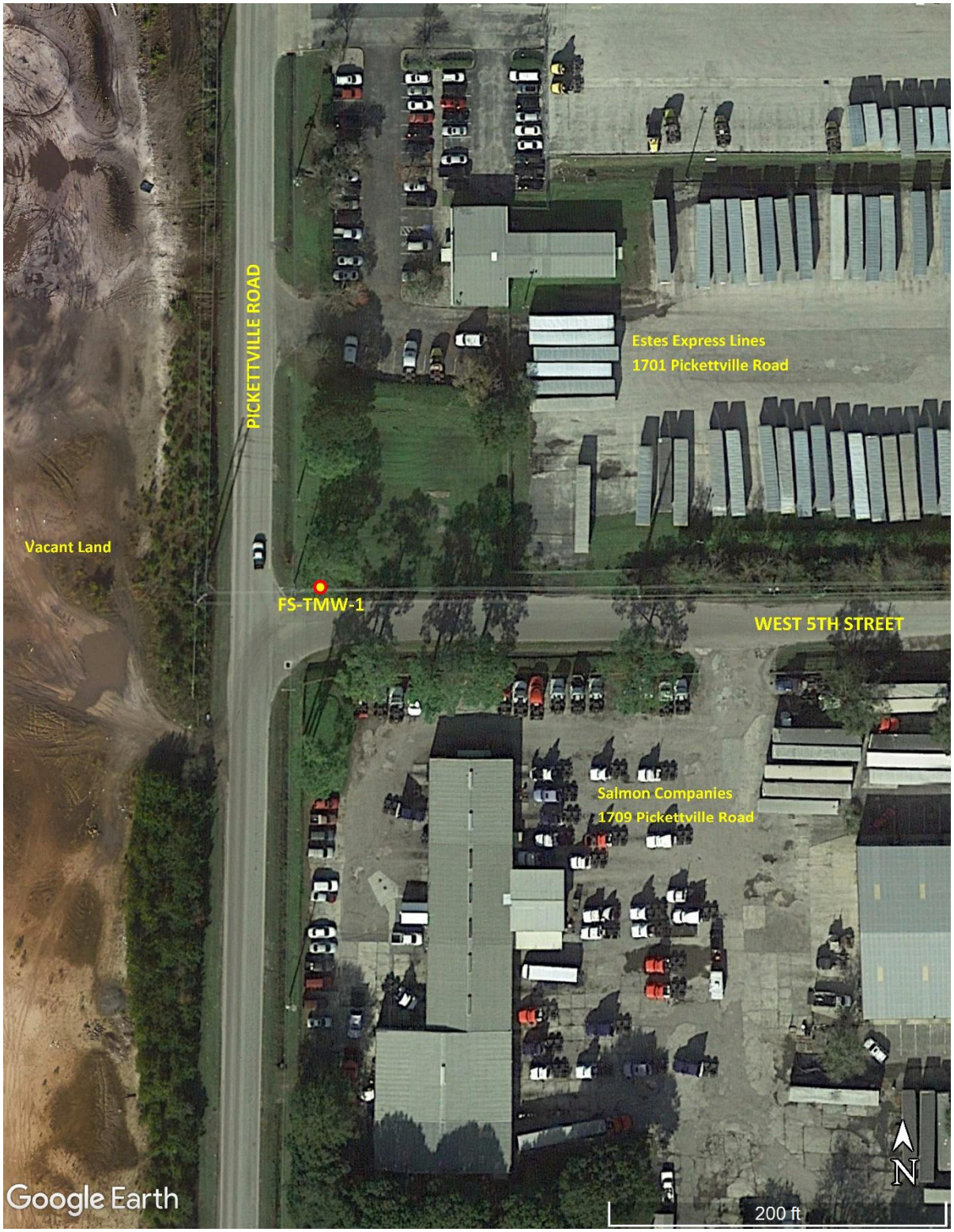
3728 PHILIPS HIGHWAY, SUITE 208, JACKSONVILLE, FL 32207

PH. (904) 519-6990 • FAX (904) 519-6992 • www.MeskelEngineering.com

SITE LOCATION MAP

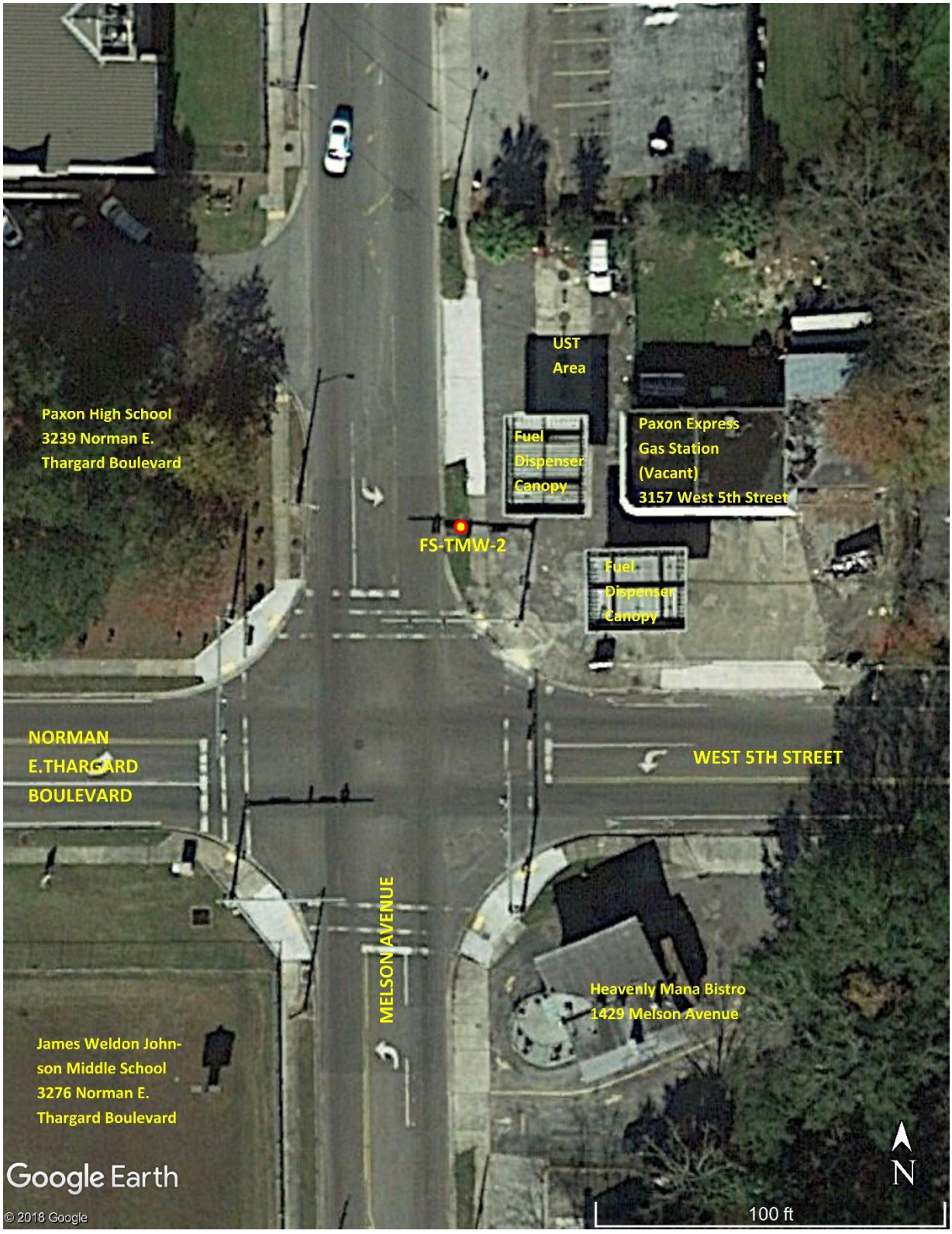
JEA 5TH STREET WEST - IMESON ROAD TO MELSON AVENUE
JACKSONVILLE, FLORIDA

FIG NO. 1



Temporary Monitoring Well Location Map – Pickettville Road and 5th Street West

PREPARED BY	PROJECT NAME	
Meskel & Associates Engineering	JEA 5TH STREET WEST - IMESON ROAD TO MELSON AVE JACKSONVILLE, FLORIDA	
	REFERERENCE	SCALE
	Google Earth 2019	As Shown
PREPARED FOR	MAE PROJECT NO.	FIGURE NO.
Mott McDonald Florida, LLC	0103-0018	2



Temporary Monitoring Well Location Map – Melson Avenue and 5th Street West

PREPARED BY	PROJECT NAME	
Meskel & Associates Engineering	JEA 5TH STREET WEST - IMESON ROAD TO MELSON AVE JACKSONVILLE, FLORIDA	
	REFERERENCE	SCALE
	Google Earth 2019	As Shown
PREPARED FOR	MAE PROJECT NO.	FIGURE NO.
Mott McDonald Florida, LLC	0103-0018	3

Tables

Table 1
Groundwater Analytical Summary
JEA 5th Street West – Imeson Road to Melson Avenue
New Force Main Project
Jacksonville, Duval County, Florida
MAE Project No. 0103-0018

Well No. Sample Date Location Parameter, Method (All Units in micrograms per liter - mg/L)	**FS-TMW-1** 10/29/2019 Northeast of Pickettville Road and West 5th Street	**FS-TMW-2** 10/29/2019 Northeast of Melson Avenue and West 5th Street	*Groundwater Cleanup Target Levels, Chapter 62-777, F.A.C. (µg/L)*	*Freshwater Surface Water Criteria, Chapter 62-777, F.A.C. and Chapter 62-302.530, F.A.C. (µg/L)*
Benzene, EPA Method 8260	0.10 U	1.2	*1*	*1.18*
Toluene, EPA Method 8260	0.50 U	0.56 I	*40*	*480*
Ethylbenzene, EPA Method 8260	0.50 U	1.6	*30*	*610*
Total Xylenes, EPA Method 8260	1.0 U	1.0 U	*20*	*370*
MTBE, EPA Method 8260	0.50 U	1.4 I	*20*	*200*
Dichloroethene, EPA Method 8260	0.48 I	NA	*63*	*35*
Carbon Disulfide, EPA Method 8260	1.2 I	NA	*700*	*7000*
All Other Volatile Organic Compounds (VOCs) analyzed by EPA Method 8260	BDL	BDL	*Various*	*Various*
Naphthalene, EPA Method 8270	0.29 U	2.5	*14*	*26*
1-Methylnaphthalene, EPA Method 8270	0.19 U	12.8	*28*	*95*
2-Methylnaphthalene, EPA Method 8270	0.68 U	8.4	*28*	*30*
Acenaphthene,EPA Method 8270	0.040 U	0.15 I	*20*	*200*
Fluorene, EPA Method 8270	0.088 U	0.15 I	*280*	*2800*
All other Polycyclic Aromatic Hydrocarbons (PAHS) analyzed by EPA Method 8270	BDL	BDL	*Various*	*Various*
Total Recoverable Petroleum Hydrocarbons analyzed by the FL-PRO Method	NA	780 I	*5,000*	*5,000*
1,2-Dibromoethane (EDB) by EPA Method 8011	0.31 U	0.0078 U	*0.02*	*13*
Lead by EPA Method 6010	4.6 U	8.41 I	*15*	*8.5*

Notes:

[1]Florida Department of Environmental Protection Groundwater Cleanup Target Levels (GCTLs) and Freshwater Surface Water Criteria per Table II of Chapter 62-777, FAC and Chapter 62-302.530, FAC

U or BDL - Below Laboratory Method Detection Limits

I - Concentration detected between Method Detection Limit and Practical Quantization Limit

Appendix A

585 775

F

Florida Department of Environmental Protection

Northeast District
7825 Baymeadows Way, Suite 200B
Jacksonville, Florida 32256

June 7, 2011

CERTIFIED MAIL #91 7108 2133 3936 4226 1797
RETURN RECEIPT REQUESTED

Mr. Richard L. Healy, Vice President
McKenzie Tank Lines
Post Office Box 1200
Tallahassee, Florida 32302

IN- ML CMT PI
OUT- CRF WL CMT PI EC
CODE -
CU

Re: Site Rehabilitation Completion Order (SRCO)
Former McKenzie Tank Lines Terminal
1701 Pickettville Road, Jacksonville, Florida
Duval County – Waste Cleanup
Site #: COM_69732, Project #: 74389

Dear Mr. Healy:

The Northeast District has reviewed the Remedial Action Status Update Report dated November 10, 2009, Post Active Remediation Summary Reports received March 8, 2010, and June 25, 2010, and the Fourth Quarter Post Active Remediation Summary Report with No Further Action Proposal, dated October 28, 2010, that was prepared by Geovac Environmental Services, Inc., for the Former McKenzie Tank Lines Terminal located at 1701 Pickettville Road, Jacksonville, Florida. Maps showing the location of the Former McKenzie Tank Lines Terminal and the former location of the "contaminated site" (i.e., contaminant plume) for which this Order is being issued are attached as Exhibits 1 and 2 and are incorporated by reference herein.

The contamination, which resulted from a discharge that was discovered by the Petroleum Section and referred to the Waste Cleanup Section on October 25, 1993, consisted of chlorinated solvents and their degradation compounds (tetrachloroethene, trichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, vinyl chloride, 1,1-dichloroethane and methylene chloride). The discharge appears to be a result of rinsate of solvents disposed of in a slop tank pit from semi-trailer storage tanks after transportation was completed. The NFA Proposal is supported by earlier submittals, prepared pursuant to the requirements of Chapter 62-780, Florida Administrative Code (F.A.C.), including, but not limited to:

Site Assessment Report (SAR), dated 6-14-1991, and addenda dated 8-31-1992;
Supplemental Assessment Report Addendums, dated 9-25-2008 & 11-26-2008;
Remedial Action Plan (RAP), dated 3-10-2009 and Addendum dated 3-25-2009;
Remedial Action Status Update Report, dated November 10, 2009;
Post Active Remediation Summary Reports received March 8, 2010 and June 25, 2010;
Fourth Quarter Post Active Remediation Summary Report with No Further Action Proposal, dated October 28, 2010.

Based on the documentation submitted with the NFA Proposal and the above-referenced documents, the Department of Environmental Protection (Department) has reasonable assurance that McKenzie Tank Lines has met the criteria in Chapter 62-780, F.A.C. The submittals indicate that soil, groundwater, and surface water contaminant concentrations are below the applicable Soil Cleanup Target Levels, Groundwater Cleanup Target Levels, and Surface Water Taget Levels as adopted in Chapter 62-777, F.A.C. (Effective date April 17, 2005.) Therefore, you have satisfied the site rehabilitation requirements for the above-referenced contaminated site and are released from any further obligation to conduct site rehabilitation at the contaminated site, except as set forth below. See attached table (Exhibit 3), incorporated by reference herein, which includes information regarding the contaminants, affected media, and applicable cleanup target levels for the contaminated site that is the subject of this Order.

Failure to meet the following requirements will result in the revocation of this Order:

(a) You are required to properly abandon all monitoring wells within 60 days of receipt of this Order. The monitoring wells must be plugged and abandoned in accordance with the requirements of Section 62-532.500(4), F.A.C.

Further, in accordance with Section 376.30701(4), Florida Statutes (F.S.), upon completion of site rehabilitation, additional site rehabilitation is not required unless it is demonstrated that:

(a) Fraud was committed in demonstrating site conditions or completion of site rehabilitation;

(b) New information confirms the existence of an area of previously unknown contamination which exceeds the site-specific rehabilitation levels established in

accordance with Section 376.30701(2), F.S., or which otherwise poses the threat of real and substantial harm to public health, safety, or the environment;

(c) A new discharge of pollutants or hazardous substances occurs at the site subsequent to the issuance of this Order.

Legal Issues

The Department's Order shall become final unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S., within **21** days of receipt of this Order. The procedures for petitioning for a hearing are set forth below.

Persons affected by this Order have the following options:

A. If you choose to accept the Department's decision regarding this SRCO, you do not have to do anything. This Order is final and effective on the date filed with the Clerk of the Department, which is indicated on the last page of this Order.

B. If you choose to challenge the decision, you may do the following:

1. File a request for an extension of time to file a petition for hearing with the Department's Agency Clerk in the Office of General Counsel within **21** days of receipt of this Order. Such a request should be made if you wish to meet with the Department in an attempt to informally resolve any disputes without first filing a petition for hearing; or

2. File a petition for administrative hearing with the Department's Agency Clerk in the Office of General Counsel within **21** days of receipt of this Order.

Please be advised that mediation of this decision pursuant to Section 120.573, F.S., is not available.

How to Request an Extension of Time to File a Petition for Hearing

For good cause shown, pursuant to Section 62-110.106(4), F.A.C., the Department may grant a request for an extension of time to file a petition for hearing. Such a request must be filed (received) by the Agency Clerk in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000, within **21** days of receipt of this Order. Petitioner, if different from the

McKenzie Tank Lines, shall mail a copy of the request to the McKenzie Tank Lines at the time of filing. Timely filing a request for an extension of time tolls the time period within which a petition for administrative hearing must be made.

How to File a Petition for Administrative Hearing

A person whose substantial interests are affected by this Order may petition for an administrative hearing under Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) by the Agency Clerk in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, MS 35, Tallahassee, Florida, 32399-3000, within **21** days of receipt of this Order. Petitioner, if different from the McKenzie Tank Lines, shall mail a copy of the petition to the McKenzie Tank Lines at the time of filing. Failure to file a petition within this time period shall waive the right of anyone who may request an administrative hearing under sections 120.569 and 120.57, F.S.

Pursuant to Section 120.569(2), F.S., and Rule 28-106.201, F.A.C., a petition for administrative hearing shall contain the following information:

a) The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any; the site owner's name and address, if different from the petitioner; the Department facility number; and the name and address of the facility;
b) A statement of when and how each petitioner received notice of the Department's action or proposed action;
c) An explanation of how each petitioner's substantial interests are or will be affected by the Department's action or proposed action;
d) A statement of the disputed issues of material fact, or a statement that there are no disputed facts;
e) A statement of the ultimate facts alleged, including a statement of the specific facts the petitioner contends warrant reversal or modification of the Department's action or proposed action;
f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the Department's action or proposed action; and
g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the Department to take with respect to the Department's action or proposed action.

This Order is final and effective on the date filed with the Clerk of the Department, which is indicated on the last page of this Order. Timely filing a petition for

administrative hearing postpones the date this Order takes effect until the Department issues either a final order pursuant to an administrative hearing or an Order Responding to Supplemental Information provided to the Department pursuant to meetings with the Department.

Judicial Review

Any party to this Order has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the Agency Clerk of the Department in the Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within thirty days after this order is filed with the clerk of the Department (see below).

Questions

Any questions regarding the Department's review of your NFA Proposal should be directed to John D. Phillips at 7825 Baymeadows Way, Suite B200, Jacksonivlle, Florida 32256, via phone at 904.256.1549, or email john.d.phillips@dep.state.fl.us. Questions regarding legal issues should be referred to the Department's Office of General Counsel at 850.245.2242. Contact with any of the above does not constitute a petition for administrative hearing or request for an extension of time to file a petition for administrative hearing.

Sincerely,

Gregory J. Strong
District Director

Enclosures (Exhibits 1, 2, and 3)

cc: John M. Elrod, P.G., Geovac Environmental Services, Inc. (geovac@mckenzietank.com)

FILED, on this date, pursuant to Section 120.52, F.S., with the designated Department Clerk, receipt of which is hereby acknowledged.

Beverly J. McGraw
6/8/2011

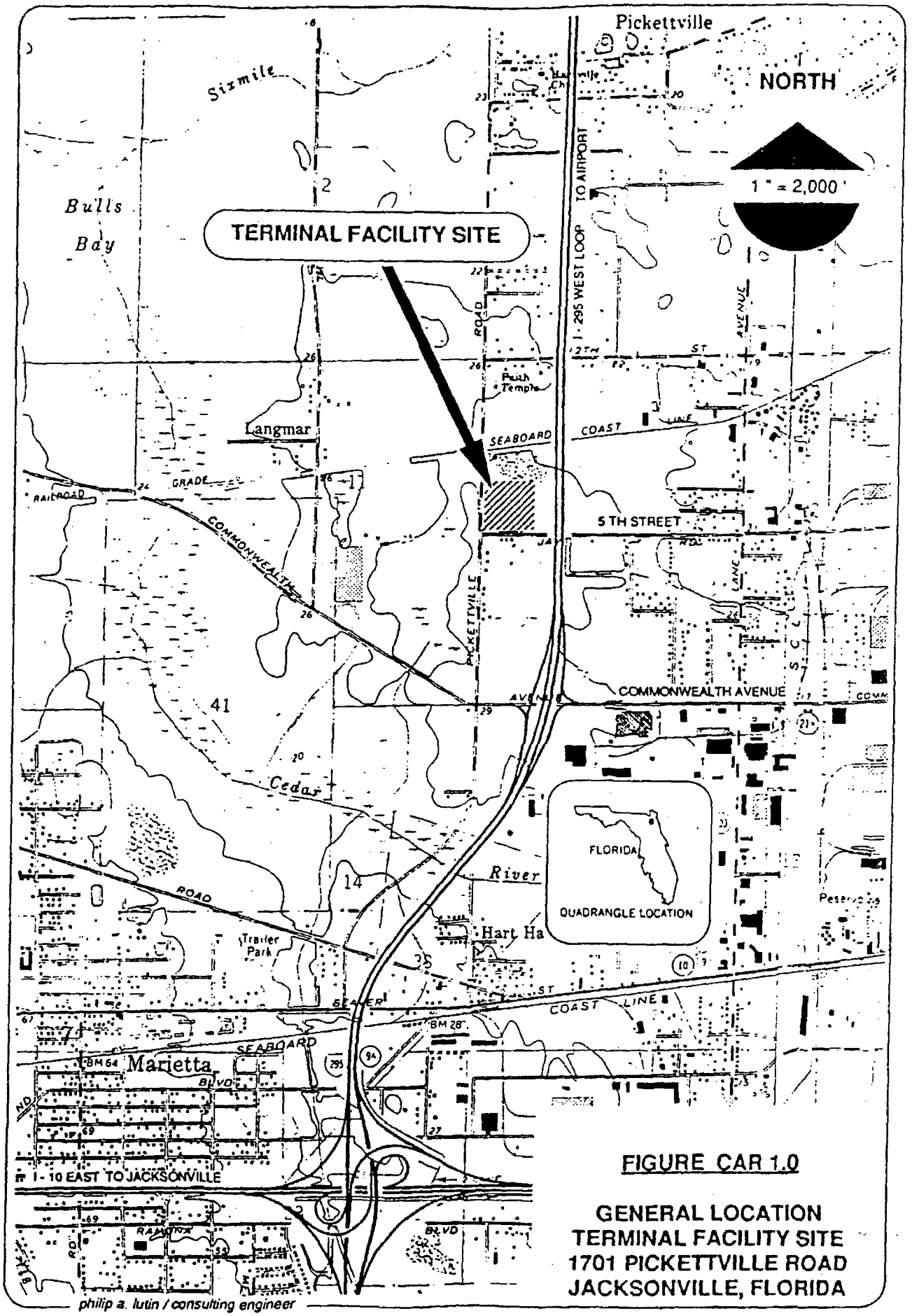
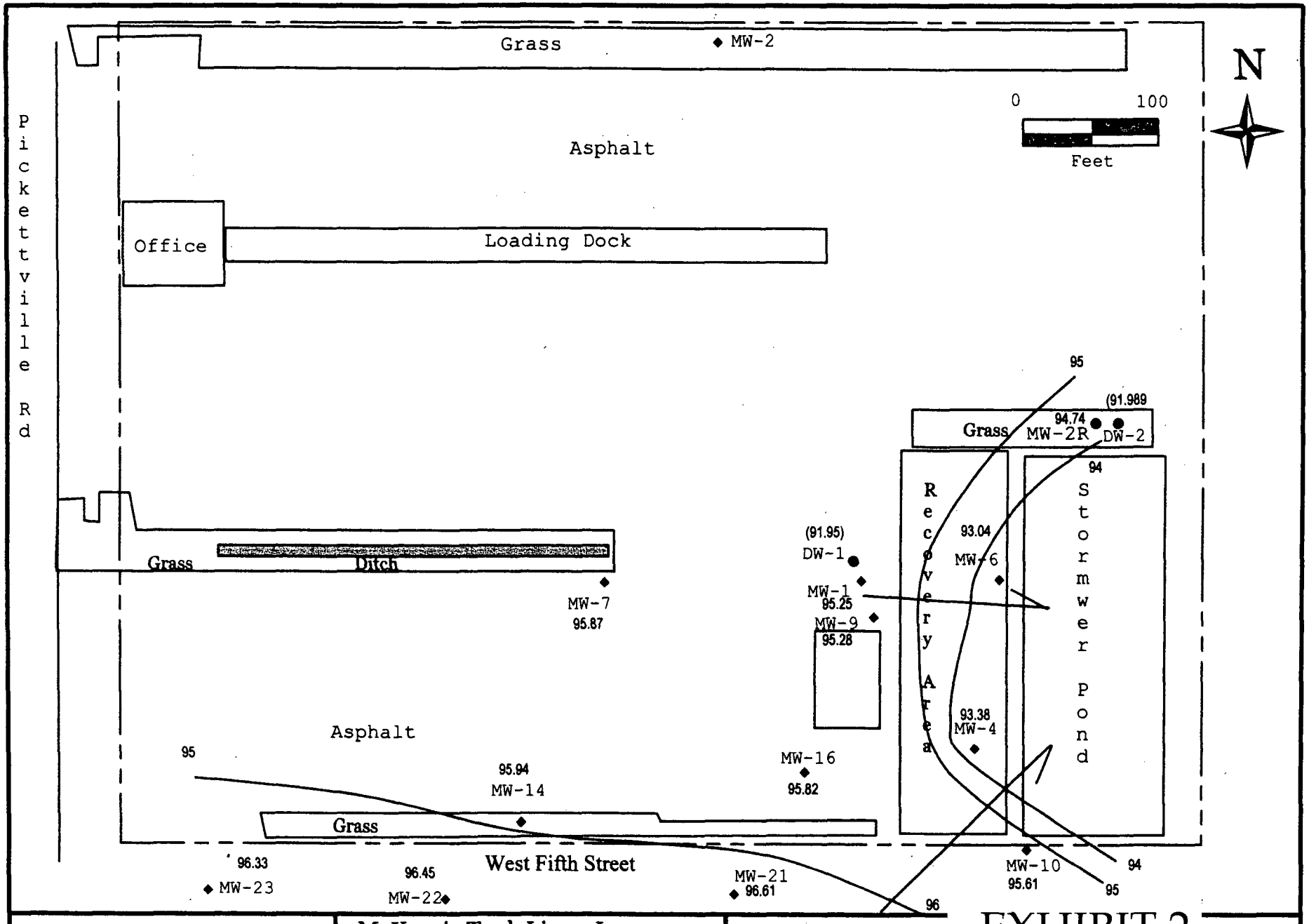


FIGURE CAR 1.0

GENERAL LOCATION
TERMINAL FACILITY SITE
1701 PICKETTVILLE ROAD
JACKSONVILLE, FLORIDA

EXHIBIT 1



GEOVAC Environmental Services	McKenzie Tank Lines, Inc. Pickettville Road Facility 1701 Pickettville Road Jacksonville FL.	Figure 1: Site Map with Well Locations and Groundwater Flow 10/07/10

EXHIBIT 2

Table 1: Surface Water Analytical Results, North and South Trenches, data in µg/L

Ex-N / Trench -North	TCL	4/10/2009	5/1/09	5/15/09	6/10/2009	7/22/2009	10/7/2009	10/21/2009
1,1,1-Trichloroethane	200	**410**	**280**	**89**	7.2	2.9 I	<0.4	<0.4
1,1-Dichloroethane	70	<45	21	14 I	2	6.6	2.2	<0.45
1,1-Dichloroethene	7	<50	8.7 I	<12	0.72 I	<1.6	<0.5	<0.5
cis 1,2-Dichloroethene	700	**4300**	**1900**	**2800**	280	380	58	3.5
trans 1,2-Dichloroethene	100	<47	15	<12	3.2	3.6 I	0.71 I	<0.47
Tetrachloroethene	3	**4800**	**2000**	**580**	**8**	2.3 I	<0.43	<0.43
Trichloroethene	3	**930**	**1900**	**520**	3.2	<2.8	1.3	<0.39
Vinyl Chloride	1	**360**	**13**	**49**	**36**	**290**	**66**	<0.48
Methylene Chloride						3.4 IV		<0.41

Sump		4/10/2009	5/1/09	5/15/09	6/10/09	7/22/2009
1,1,1-Trichloroethane	200	2.7	<4	<0.4	<0.35	<0.35
1,1-Dichloroethene	7	1.3	<5	1.3	0.46 I	<0.32
cis 1,2-Dichloroethene	700	170	76	200	24	5.5
trans 1,2-Dichloroethene	100	1.4	<4.7	1.3	<0.46	<0.46
Tetrachloroethene	3	**4600**	**590**	440	**8.6**	1.6
Trichloroethene	3	**190**	62	85	**3.2**	<0.56
Vinyl Chloride	1	**26**	<4.8	26	**8.7**	2.5

Ex-S southern excavation		4/10/2009	5/1/09	5/15/09	6/10/09
1,1,1-Trichloroethane	200	<0.4	<4	<0.4	<0.35
cis 1,2-Dichloroethene	700	16	<4.1	1.9	1.1
Tetrachloroethene	3	**24**	<4.3	<0.43	1.4
Trichloroethene	3	1.1	<3.9	<0.39	<0.56
Vinyl Chloride	1	<0.48	<4.8	0.62 I	<0.58

6/10/2009: trench south and excavation south were joined. One sample taken

Table 2: Soil Analytical Results, data in mg/Kg

Pile S	Dir. Ex	Leach	04/11/09	05/01/09	5/15/09	6/10/09
1,1,1-Trichloroethane	730	1.9	<0.038	<0.0003	<0.0005	<0.0004
1.1-Dichloroethene	95	0.06	<0.063	<0.0005	<0.0009	<0.0007
cis 1,2-Dichloroethene	33	0.4	<0.037	<0.0003	<0.0003	0.0013
Tetrachloroethene	8.8	0.03	0.67	0.034	0.02	0.0035
Trichloroethene	6.4	0.03	<0.041	<0.0004	<0.0006	0.0014
Vinyl Chloride	0.2	0.007	<0.030	<0.0003	<0.0007	<0.0006

Pile N	mg/Kg Dir. Ex	Leach	04/11/09	05/01/09	5/15/09	6/10/09	10/7/09
1,1,1-Trichloroethane	730	1.9	<0.032	<0.0003	<0.041	0.0004J	<0.0003
1.1-Dichloroethene	95	0.06	<0.053	<0.0005	<0.076	<0.0005	<0.0004
cis 1,2-Dichloroethene	33	0.4	0.18	0.019	0.44	0.035	0.0024
Tetrachloroethene	8.8	0.03	3.2	0.054	0.8	0.066	0.12
Trichloroethene	6.4	0.03	0.074 I	0.0034	0.1 I	0.0041	0.0063
Vinyl Chloride	0.2	0.007	<0.025	<0.0002	<0.064	<0.0005	<0.0002

EXHIBIT 3

S-Ex-N	Dir. Ex	Leach	04/11/09	06/10/09
cis 1,2-Dichloroethene	33	0.4	<0.03	0.0087
Tetrachloroethene	8.8	0.03	0.35	0.25
Trichloroethene	6.4	0.03	<0.034	0.022
Vinyl Chloride	0.2	0.007	<0.024	<0.0006
trans-1,2-Dichloroethene	53	0.7	<0.027	0.0007 J

S-Ex-W	Dir. Ex	Leach	04/11/09	06/10/09
cis 1,2-Dichloroethene	33	0.4	<0.0004	<0.0003
Tetrachloroethene	8.8	0.03	0.002	0.0014 J
Trichloroethene	6.4	0.03	<0.0004	<0.0004
Vinyl Chloride	0.2	0.007	<0.0003	<0.0005
trans-1,2-Dichloroethene	53	0.7	<0.0003	<0.0003

Soils mg/Kg

S-Ex-E	Dir. Ex	Leach	04/11/09	06/10/09
cis 1,2-Dichloroethene	33	0.4	<0.0004	<0.0002
Tetrachloroethene	8.8	0.03	0.035	<0.0009
Trichloroethene	6.4	0.03	<0.0004	<0.0005
Vinyl Chloride	0.2	0.007	<0.0003	<0.0006
trans-1,2-Dichloroethene	53	0.7	<0.0003	<0.0004

Soils mg/Kg

S-Ex-S	Dir. Ex	Leach	04/11/09	06/10/09
cis 1,2-Dichloroethene	33	0.4	0.0009 J	0.0005 J
Tetrachloroethene	8.8	0.03	0.0008 J	0.0032
Trichloroethene	6.4	0.03	<0.0004	<0.0005
Vinyl Chloride	0.2	0.007	<0.0002	<0.0005
trans-1,2-Dichloroethene	53	0.7	<0.0003	<0.0003

Groundwater samples were collected from monitoring wells MW-1, MW-2R, MW-4R, MW-6R, and MW-10 on October 7 and 9, 2009 for analysis of EPA Method 8260 Halocarbons. A summary of the results is included in the following table.

Table 3: Groundwater Analytical Results, Data in ug/L, October, 2009

	Tetrachloro ethene	Trichloro ethene	cis-1,2-Dichloro ethene	trans-1,2-Dichloro ethene	Vinyl Chloride	1,1-Dichloro ethane	Methylene Chloride**
TCL*	3 P	3 P	70 p	100 p	1 P	700 G	5.0 P
MW-1	<0.43	<0.39	<0.41	<0.47	<0.48	<0.45	<0.41
MW-2R	<0.43	<0.39	<0.41	<0.47	<0.48	<0.45	<0.41
MW-4R	<0.43	<0.39	<0.41	<0.47	<0.48	<0.45	<0.41
MW-6R	<2.2	<2.0	<2.0	<2.4	<2.4	<2.2	<2.0
MW-10	<0.43	<0.39	<0.41	<0.47	<0.48	<0.45	<0.41

* TCL = Target Cleanup Levels: Drinking Water Standards P= Primary, G = Guidance

**Methylene Chloride is flagged as a common laboratory contaminant

The groundwater analytical results for the monitoring wells are all below laboratory reporting limits. The surface water sample from the north trench was acceptable except for vinyl chloride in the next to last sample. The surface water was resampled on

Table 1: Summary of Groundwater Analytical Data, Pickettville Road

All data in µg/L

MW-1	Tetrachloro ethene	Trichloro ethene	c-1,2-Dichloro ethene	t-1,2-Dichloro ethene	Vinyl Chloride	1,1-Dichloro ethane	Methylene Chloride
TCL*	3 P	3 P	70 P	100 P	1 P	700 G	5 P
Oct-09	<0.43	<0.39	<0.41	<0.47	<0.48	<0.45	<0.41
Feb-10	<0.43	<0.39	<0.41	<0.47	<0.48	<0.45	<0.41
Jun-10	<0.099	<0.13	0.43 I	<0.11	0.43 I	<0.05	<0.07
Oct-10	<0.42	<0.48	<0.44	<0.60	<0.66	<0.60	<1.2

MW2R	Tetrachloro ethene	Trichloro ethene	c-1,2-Dichloro ethene	t-1,2-Dichloro ethene	Vinyl Chloride	1,1-Dichloro ethane	Methylene Chloride
TCL	3 P	3 P	70 P	100 P	1 P	700 G	5 P
Oct-09	<0.43	<0.39	<0.41	<0.47	<0.48	<0.45	<0.41
Feb-10	<0.43	<0.39	<0.41	<0.47	<0.48	<0.45	<0.41
Jun-10	<0.099	<0.13	<0.075	<0.11	<0.083	<0.05	<0.07
Oct-10	<0.42	<0.48	<0.44	<0.60	<0.66	<0.60	<1.2

MW-4R	Tetrachloro ethene	Trichloro ethene	c-1,2-Dichloro ethene	t-1,2-Dichloro ethene	Vinyl Chloride	1,1-Dichloro ethane	Methylene Chloride
TCL	3 P	3 P	70 P	100 P	1 P	700 G	5 P
Oct-09	<0.43	<0.39	<0.41	<0.47	<0.48	<0.45	<0.41
Feb-10	<0.43	<0.39	<0.41	<0.47	<0.48	<0.45	<0.41
Jun-10	<0.099	<0.13	<0.075	<0.11	<0.083	<0.05	<0.07
Oct-10	<0.42	<0.48	<0.44	<0.60	<0.66	<0.60	<1.2

MW-6R	Tetrachloro ethene	Trichloro ethene	c-1,2-Dichloro ethene	t-1,2-Dichloro ethene	Vinyl Chloride	1,1-Dichloro ethane	Methylene Chloride
TCL	3 P	3 P	70 P	100 P	1 P	700 G	5 P
Oct-09	<2.2	<2	<2	<2.4	<2.4	<2.2	<2
Feb-10	<0.43	0.46 I**	1.1	<0.47	<0.48	1.9	<0.41
Jun-10	<20	<26	<15	<22	<17	<10	<14
Aug-10	<0.21	<0.24	<0.22	<0.3	0.71 I	<0.3	<0.62
Oct-10	<0.42	<0.48	<0.44	<0.60	<0.66	<0.60	<1.2

MW-10	Tetrachloro ethene	Trichloro ethene	c-1,2-Dichloro ethene	t-1,2-Dichloro ethene	Vinyl Chloride	1,1-Dichloro ethane	Methylene Chloride
TCL	3 P	3 P	70 P	100 P	1 P	700 G	5 P
Oct-09	<0.43	<0.39	<0.41	<0.47	<0.48	<0.45	<0.41
Feb-10	<0.43	<0.39	<0.41	<0.47	<0.48	<0.45	<0.41
Jun-10	<0.099	<0.13	<0.075	<0.11	<0.083	<0.05	<0.07
Oct-10	<0.42	<0.48	<0.44	<0.60	<0.66	<0.60	<1.2

* TCL = Target Cleanup Levels: Drinking Water Standards:
P = Primary, S = Secondary, G = Guidance concentration

** I-Flag indicates that the result is between the laboratory detection limit and reporting limit.

Two surface water samples were collected from the adjacent stormwater retention pond on August 28, 2008. The locations are east of monitoring well MW-6 and east of monitoring well MW-4. The samples were analyzed for the same parameters, as the monitoring wells. The analytical results are summarized below and the data package included as an attachment. Sample locations are shown in Figure 2

Surface Water Analytical Results, in µg/L

	Methylene Chloride	1,1-Dichloro ethene	1,1-Dichloro ethane	c-1,2-Dichloro ethene	t-1,2-Dichloro ethene	Vinyl Chloride	Tetrachloro ethene	Trichloro ethene
Pond N 6	<0.65	<0.36	<0.45	<0.45	<0.41	<0.52	<0.35	<0.26
Pond N 4	<0.65	<0.36	<0.45	<0.45	<0.41	<0.52	<0.35	<0.26

5. **The former slop tank is located just south of MW-6. Soil samples should be collected around the vicinity of the slop tank and MW-6 to determine if the clay layer is leaching VOHs into the surface water.**

Two soil samples, MW-6 Soil, and MW6+20 Soil, were collected on August 29, 2008 and submitted to the laboratory for analysis of the same constituents as the surface and ground waters. The samples were collected at a depth of 2 feet below ground surface and just above the groundwater table. MW-6 Soil was collected approximately feet west of MW-6 and MW6+20 was collected 20 feet south of MW-6, toward the main sump. The results are summarized below and the data package included as an attachment. Sample locations are shown in Figure 2.

Soil Sample Analytical Results, data in mg/Kg

	Methylene Chloride	1,1-Dichloro ethene	1,1-Dichloro ethane	c-1,2-Dichloro ethene	t-1,2-Dichloro ethene	Vinyl Chloride	Tetrachloro ethene	Trichloro ethene
MW6 Soil	<0.0003	<0.0005	<0.0002	<0.0003	<0.0004	<0.0002	0.0048	<0.0006
MW6+20 Soil	<0.0003	<0.0005	<0.0002	<0.0003	<0.0004	<0.0002	0.014	0.0041

As documented, only very low concentrations of Tetrachloroethene and Trichloroethene are present in the soils. The results are well below the soil cleanup target levels (62-777, Table 2 F.A.C.) of 8.8 mg/Kg and 6.4 mg/Kg, respectively.

6. **Since the conception of the remediation system a total of 2,511,533 million gallons of contaminated water has been recovered and treated, but contamination remains above GCTLs and contaminant concentrations in some wells is increasing. The remediation system appears to have proven ineffective and should be used in conjunction with other remedial options. Please provide an evaluation and proposed modifications to the remedial action plan.**

P.G. CERTIFICATION

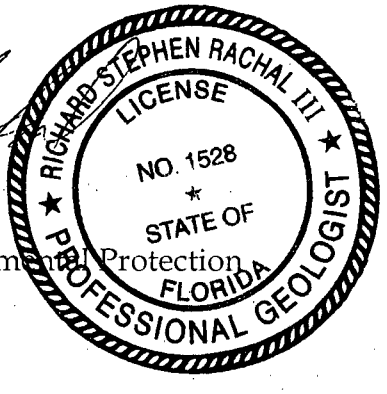
Information presented in the Remedial Action Status Update Report dated November 10, 2009, Post Active Remediation Summary Reports received March 8, 2010, and June 25, 2010, and the Fourth Quarter Post Active Remediation Summary Report with No Further Action Proposal, dated October 28, 2010, that was prepared by Geovac Environmental Services, Inc., for the Former McKenzie Tank Lines Terminal located at 1701 Pickettville Road, Jacksonville, Florida provides reasonable assurance that trichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, vinyl chloride, 1,1-dichloroethane and methylene chloride) are no longer present in the area related to discharge of rinsate water and solvents disposed of in a slop tank pit. In this area for the above contaminants the reports indicate that concentrations above soil or groundwater cleanup target levels are no longer present and this area has met the criteria in Chapter 62-780, Florida Administrative Code (FAC).

Therefore, I recommend the issuance of the accompanying Site Rehabilitation Completion Order.

This review was performed consistent with the degree of care and skill ordinarily exercised under similar circumstances by registered professionals practicing in the field of geology at the time of review. No other representation, expressed or implied, is made.

_____ I personally completed this review.

__X__ This review was conducted by John D. Phillips working under my direct supervision.



Richard S. Rachal, P.G.
Professional Geologist #1528
Florida Department of Environmental Protection

May 26, 2011
Date

HCR
HANDEX CONSULTING & REMEDIATION, LLC
SOUTHEAST

PALL

August 23, 2013

Ms. Kristy Trueblood
Florida Department of Environmental Protection
Bureau of Petroleum Storage Systems, Team 5
2600 Blair Stone Road, MS 4585
Tallahassee, FL 32399-2400

RE: LSSI General Report
Paxon Express
3157 W 5th St.
Jacksonville, Duval County, Florida
FDEP Facility ID No.: 16/8506940
Work Order No: 2013-95-W5410A
Site Priority Ranking Score: 6
HCR Project #: 128094

Dear Ms. Trueblood:

Please find enclosed one original Low Scored Site Initiative Report for the activities conducted at the above referenced site as authorized by the Pre-Approval Program Work Order No. 2013-95-W5410A. Copies of the work order and verbal change order (VCO) are included in **Appendix A.** A site plan is included as **Figure 1**.

Handex Consulting & Remediation-Southeast, LLC, (HCR) appreciates the opportunity to provide these services to the Florida Department of Environmental Protection, Petroleum Cleanup Section 5, Bureau of Petroleum Storage Systems. Should you have any questions or comments concerning this report, please contact the undersigned at your convenience at (850) 878-0813, extension 1423.

Sincerely,
HANDEX CONSULTING AND REMEDIATION-SOUTHEAST, LLC

Matthew Hendrix
Staff Engineer
mhendrix@handexmail.com

Samantha Fillmore

8/23/13

Samantha Fillmore, P.G.
LSSI and SCS Program Manager
Florida License No.: 2498

cc: Mr. Robert A. Miller, Seminole Boosters, Inc. P.O. Box 1353, Tallahassee, FL 32302

LSSI General Report

Paxon Express
3157 W 5th St.
Jacksonville, Duval County, Florida
FDEP Facility ID#: 16/8506940
Work Order Number 2013-95-W5410A
Site Score: 6

Prepared for:
Florida Department of Environmental Protection
Twin Towers Office Building
Petroleum Cleanup Section 5
2600 Blair Stone Road, MS 4585
Tallahassee, Florida 32399-2400

Prepared by:
Handex Consulting and Remediation-Southeast, LLC
3031 Eliza Road, Suite 2
Tallahassee, Florida 32308

August 2013

SITE HISTORY

The site is located at 3157 West 5th Street, Jacksonville, Florida. The property is owned John and Sandy Lao, and operates as a gas station. The site contained one 6,000 gallon unleaded gasoline underground storage tank (UST), one 2,000 gallon unleaded gasoline UST, and one 4,000 gallon unleaded gasoline UST. A discharge reporting form was submitted in February 1990 in response to contamination discovered during manual testing of the compliance wells. In July 2004, all three tanks were removed. The removed tanks were replaced by one 22,000 gallon unleaded gasoline UST which was set in place in August 2004 and completely installed in January 2005. To date, no further work has been completed.

HCR has discussed the LSSI program with the property owner, Mr. John Lao. At this time, Mr. Lao wishes to receive an SRCO only for his property.

SOIL SCREENING

On June 5, 2013 HCR personnel mobilized to the referenced site to conduct soil boring/screening and soil sampling in accordance with the approved LSSI work order. Prior to advancing soil borings, ground penetrating radar (GPR) services were performed by GroundHound of Jacksonville, Florida. GPR was performed due to the high possibility of encountering underground product and electrical lines. A total of thirteen (13) borings were installed on the property in all potential source areas. Groundwater was encountered at approximately 8 feet below land surface. Standard operating procedures for the field screening and soil sampling were in accordance with Chapter 62-770, Florida Administrative Code (FAC).

All collected soil samples were field screened for petroleum hydrocarbon vapors using a calibrated Organic Vapor Analyzer (OVA) equipped with a Flame Ionization Detector (FID). Each collected soil sample was divided and placed in two (2) 16-ounce glass mason jars, then covered with aluminum foil. The soil headspace was subsequently measured with the OVA. One reading was obtained with an activated charcoal filter and one reading was obtained without a filter. The total corrected hydrocarbon measurement was determined by subtracting the filtered

reading from the unfiltered reading. During the soil screening activities, personnel detected elevated levels (over 10 ppm) of OVA FID responses in the soil samples collected from all thirteen borings at varying depths. **Figure 2** illustrates soil screening locations and net OVA readings. OVA results are also summarized in **Table 1**. Copies of the boring logs with lithologic descriptions are included as **Appendix B**.

SOIL SAMPLING

While on site, HCR contacted the FDEP site manager to discuss results of the OVA screening. It was agreed that soil samples would be collected from soil borings SB-3 at 4', SB-4 at 4', SB-7 at 2', SB-9 at 2', and SB-13 at 2'. The FDEP site manager requested HCR halt all additional field assessment activities due to the high OVA responses and strong petroleum vapors. Representative samples were sent to the approved laboratory for analysis for the presence of petroleum compounds. Soil samples chosen for laboratory analyses were placed in laboratory provided sample containers, labeled, packed on ice and delivered under chain of custody to TestAmerica of Tallahassee, FL. Soil Samples were then analyzed by Environmental Protection Agency (EPA) Method 8260 for benzene, toluene, ethylbenzene, total xylenes (BTEX) and methyl tert butyl ether (MTBE), by EPA Method 8270 for polynuclear aromatic hydrocarbons (PAHs), and by the Florida Petroleum Residual Organics (FL-PRO) Method for total recoverable petroleum hydrocarbons (TRPH). Additionally, soil aliquot was collected for contingent TRPH Fractionation analysis via TPHCWG and the Synthetic Precipitation Leaching Procedure (SPLP).

SOIL ANALYTICAL RESULTS

According to laboratory data, the sample collected from SB-9 did not yield concentrations above Table II Soil Cleanup Target Levels (SCTLs) as defined in Chapter 62-777 of the Florida Administrative Code (FAC).

Laboratory results indicate the sample collected from SB-3 contained concentrations of benzene, toluene, ethylbenzene, total xylenes, and MTBE over leachability SCTLs. SB-4 contained concentrations of ethylbenzene and total xylenes above SCTLs. SB-7 contained concentrations

of benzene, toluene, and ethylbenzene above SCTLs. SB-13 contained concentrations of benzene, toluene, ethylbenzene, total xylenes, naphthalene,1 -methylnaphthalene, and 2-methylnaphthalene above SCTLs.

Laboratory results also indicate the samples collected from SB-4, SB-7, and SB-13 produced concentrations over residential direct exposure SCTLs per Chapter 62-777, FAC. SB-4 contained a concentration of benzene above the residential direct exposure SCTL. SB-7 yielded a concentration of total xylenes over the respective residential direct exposure SCTL. SB-13 produced a concentration of TRPH above the residential direct exposure SCTL. Benzo(a)pyrene conversion tables were generated for SB-4, SB-7, SB-9, and SB-13. The calculated equivalents were below SCTLs. Contingent SPLP and TRPH fractionation analyses were not authorized by the FDEP site manager due to the high soil concentrations.

Soil analytical results are presented on **Table 2**. Soil analytical results are shown on **Figure 3**. The soil laboratory analytical report has been attached as **Appendix C**. Benzo(a)pyrene conversion tables are included as **Appendix D**.

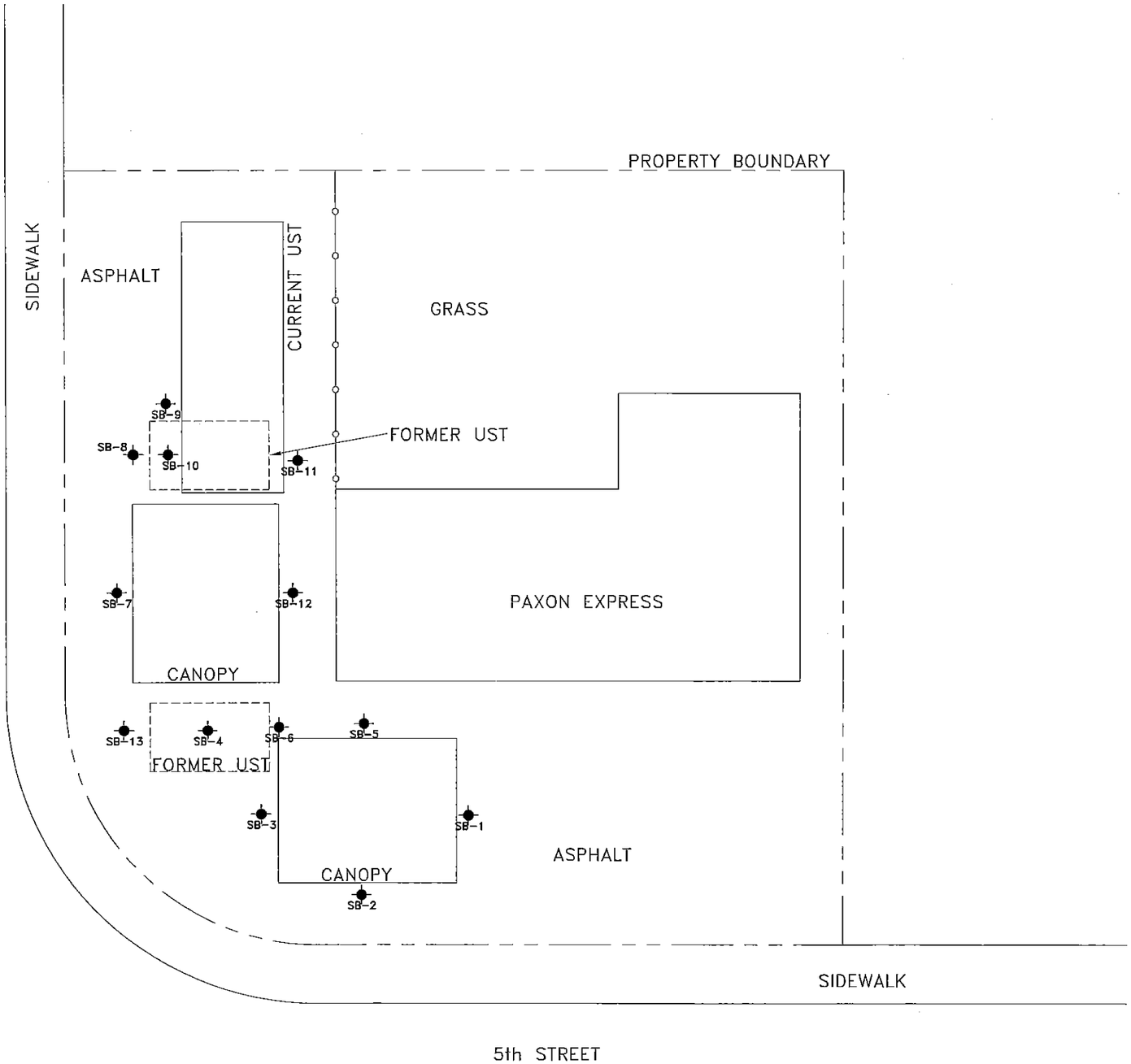
CONCLUSIONS & RECOMMENDATIONS

Under LSSI guidance, HCR performed a limited soil assessment at the Paxon Express site in Jacksonville, Florida. Laboratory reports indicate concentrations of petroleum compounds above leachability and residential direct exposure SCTLs in soil on site. The site owner expressed interest in obtaining a Site Rehabilitation Completion Order (SRCO) for the property. Based on the results obtained from this assessment, this site is ineligible for an SRCO. A Site Characterization Screening Information (SCSI) worksheet has been attached as **Appendix E.**

FIGURES

LEGEND

SOIL BORING



N

0 10 20

SCALE: 1"=20'

HCR
HANDEX CONSULTING & REMEDIATION, LLC

3031 Eliza Road, Suite 2
Tallahassee, Florida 32308
Telephone: (850) 878-0813
Fax: (850) 878-8492
Certificate of Authorization# 26812

PAXON EXPRESS
3157 5th STREET
JACKSONVILLE, FLORIDA

8-23-13

FIGURE 1
SITE PLAN

LEGEND

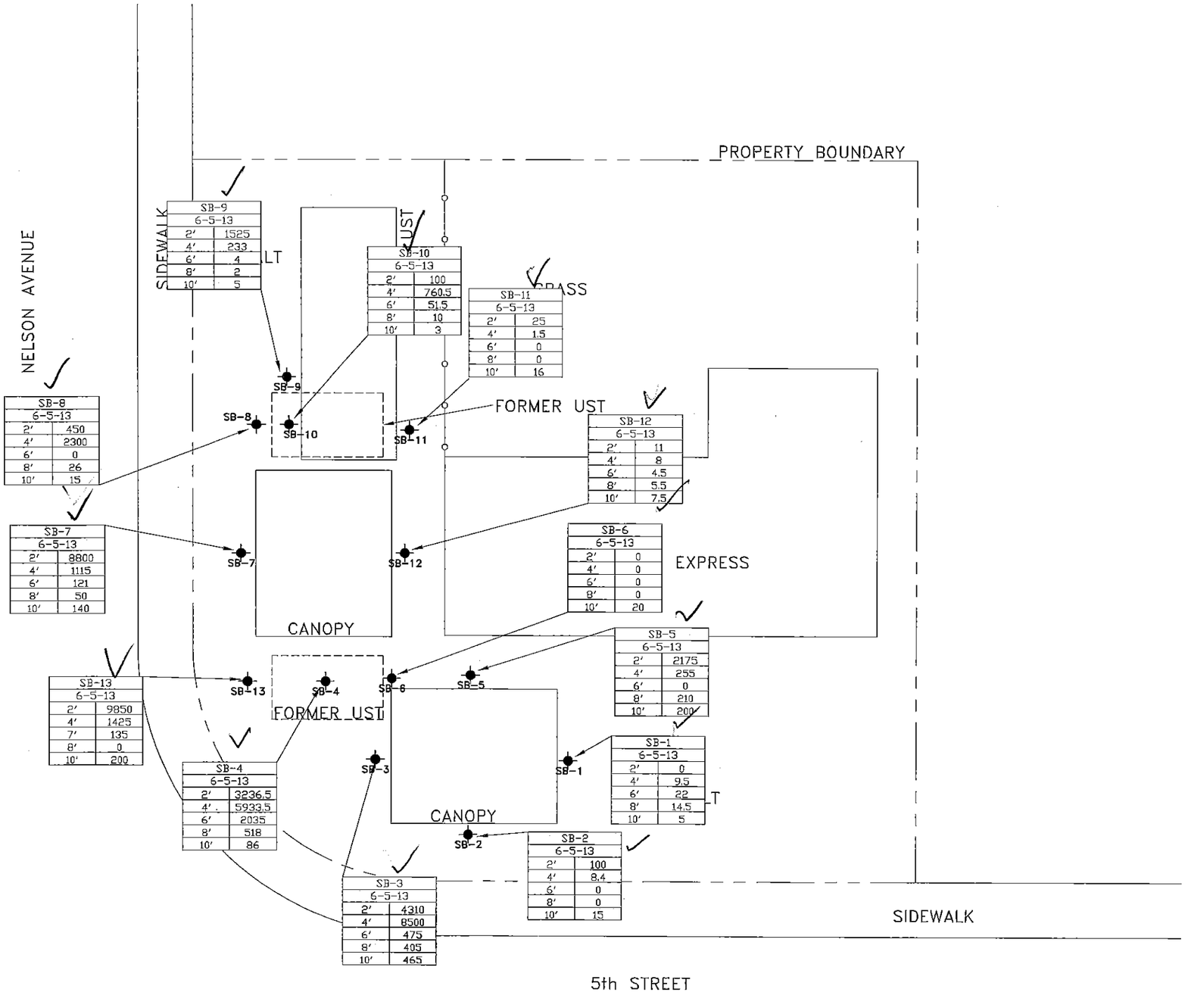
SOIL BORING

SB-1	– SOIL SAMPLE LOCATION
6-5-13	– DATE SAMPLED
2′ | 0	– SAMPLE DEPTH/NET OVA

N

0 10 20

SCALE: 1"=20'



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Certificate of Authorization# 26812

PAXON EXPRESS
3157 5th STREET
JACKSONVILLE, FLORIDA

8-23-13

FIGURE 2
NET OVA RESULTS

LEGEND

SOIL BORING

SB-1	SOIL SAMPLE LOCATION
6-5-13	DATE SAMPLED
2'	SAMPLE DEPTH BLS
0.007	BENZENE
0.5	TOLUENE
0.6	ETHYLBENZENE
0.2	TOTAL XYLENES
0.09	MTBE
3.1	1-METHYLNAPHTHALENE
8.5	2-METHYLNAPHTHALENE
2.1	ACENAPHTHENE
27	ACENAPTHYLENE
2500	ANTHRACENE
0.8	BENZO(a)ANTHRACENE
8	BENZO(a)PYRENE
2.4	BENZO(b)FLUORANTHENE
3200	BENZO(g,h,i,)PERYLENE
24	BENZO(k)FLUORANTHENE
77	CHRYSENE
0.7	DIBENZ(a,h)ANTHRACENE
1200	FLUORANTHENE
160	FLUORENE
6.6	INDENO(1,2,3-cd)PYRENE
12	NAPHTHALENE
250	PHENANTHRENE
880	PYRENE
340	TRPH

ALL UNITS ARE IN mg/Kg

BOLD – EXCEEDS SCTLs

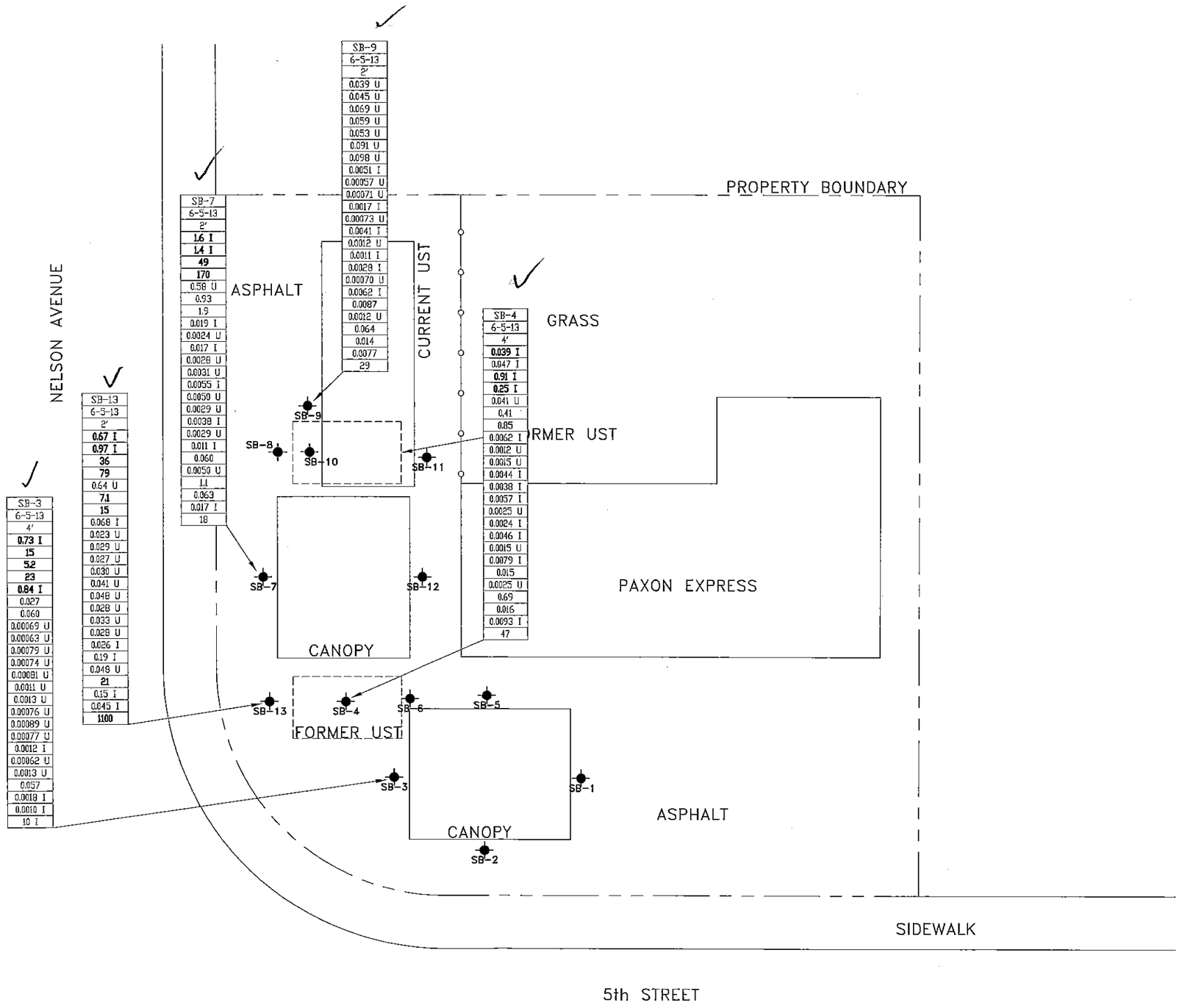

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FIGURE 3
SOIL ANALYTICAL RESULTS

TABLES

TABLE 1: SOIL SCREENING SUMMARY

Facility Name: Paxon Express
Facility ID No: 16/8506940

ND = No Data
NS= Not Sampled
BDL = Below Detection Limit

SAMPLE				OVA SCREENING RESULTS			
BORING NO.	DATE COLLECTED	DEPTH TO WATER	SAMPLE INTERVAL (FBLS)	TOTAL READING (ppm)	CARBON FILTERED (ppm)	NET READING (ppm)	COMMENTS
SB-1	6/5/2013		2	0	-	0	
			4	9.5	-	9.5	
			6	40	18	22	
		8	8	32.5	18	14.5	
			10	5	-	5	
SB-2	6/5/2013		2	145.8	45.8	100	
			4	75	66.6	8.4	
			6	31	31	0	LIGHT PETRO
		8	8	50	50	0	ODOR
			10	40	25	15	
SB-3	6/5/2013		2	9000+	4690	4310+	
			4	9000+	500	8500+	STRONG PETRO ODORS
			6	700	225	475	
		8	8	540	135	405	
			10	700	235	465	
SB-4	6/5/2013		2	3270	33.5	3236.5	
			4	6500+	566.5	5933.5+	VERY STRONG PETRO ODOR
			6	2750	715	2035	
		8	8	871	353	518	
			10	286	200	86	
SB-5	6/5/2013		2	2567	392	2175	PETRO ODORS
			4	620	365	255	
			6	520	520	0	
		8	8	515	305	210	
			10	490	290	200	
SB-6	6/5/2013		2	0	-	0	
			4	0	-	0	
			6	0	-	0	
		8	8	0	-	0	
			10	35	15	20	
SB-7	6/5/2013		2	9000+	200	8800+	STRAINED, STRONG PETRO
			4	1500	385	1115	
			6	286	165	121	
		8	8	210	160	50	
			10	420	280	140	
SB-8	6/5/2013		2	1350	900	450	
			4	2650	350	2300	
			6	30	30	0	
		8	8	26	0	26	
			10	15	0	15	

TABLE 1: SOIL SCREENING SUMMARY

Facility Name: Paxon Express
Facility ID No: 16/8506940

ND = No Data
NS= Not Sampled
BDL = Below Detection Limit

SAMPLE				OVA SCREENING RESULTS			
BORING NO.	DATE COLLECTED	DEPTH TO WATER	SAMPLE INTERVAL (FBLS)	TOTAL READING (ppm)	CARBON FILTERED (ppm)	NET READING (ppm)	COMMENTS
SB-9	6/5/2013		2	1755	230	1525	PETRO ODORS
			4	370	137	233	
			6	4	-	4	
		8	8	2	-	2	
			10	5	-	5	
SB-10	6/5/2013		2	300	200	100	
			4	863.5	103	760.5	
			6	86.5	35	51.5	
		8	8	10	-	10	
			10	3	-	3	
SB-11	6/5/2013		2	27.3	2.3	25	
			4	1.5	-	1.5	
			6	0	-	0	
		8	8	0	-	0	
			10	18.5	2.5	16	
SB-12	6/5/2013		2	25	14	11	
			4	25	17	8	
			6	4.5	-	4.5	
		8	8	5.5	-	5.5	
			10	7.5	-	7.5	
SB-13	6/5/2013		2	10000+	150	9850+	VERY STRONG PETRO ODOR
			4	2415	990	1425	
			7	275	140	135	
		8	8	65	65	0	
			10	500	300	200	

TABLE 2: SOIL ANALYTICAL SUMMARY - VOAs, TRPHs and Metals

Facility ID#: 16/8506940 **Facility Name: Paxon Express** See notes at end of table.

Sample				OVA	Laboratory Analyses										
Boring/ Well No.	Date Collected	Depth to Water (ft)	Sample Interval (fbls)	Net OVA Reading (ppm)	Benzene (mg/kg)	Ethyl-benzene (mg/kg)	Toluene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TRPHs (mg/kg)	Arsenic (mg/kg)	Cad-mium (mg/kg)	Chro-mium (mg/kg)	Lead (mg/kg)	Comments
SB-3	6/6/2013	8	4'	8500+	0.73 I	5.2	15	23	0.84 I	10 I	NS	NS	NS	NS	**Dilution Factor 200**
SB-4	6/6/2013	8	4'	5933.5+	0.039 I	0.91	0.047 I	0.25 I	0.041 U	47	NS	NS	NS	NS	**Dilution Factor 40**
SB-7	6/6/2013	8	2'	8800+	1.6 I	49	1.4 I	170	0.58 U	18	NS	NS	NS	NS	**Dilution Factor 500**
SB-9	6/6/2013	8	2'	1525	0.039 U	0.069 U	0.045 U	0.059 U	0.053 U	29	NS	NS	NS	NS	**Dilution Factor 40**
SB-13	6/6/2013	8	2'	9850+	0.67 I	36	0.97 I	79	0.64 U	1100	NS	NS	NS	NS	**Dilution Factor 500**
Leachability Based on Groundwater Criteria (mg/kg)					0.007	0.6	0.5	0.2	0.09	340	*	7.5	38	*	
Direct Exposure Residential (mg/kg)					1.2	1,500	7,500	130	4,400	460	2.1	82	210	400	

Notes: NA = Not Available.

NS = Not Sampled.

* = Leachability value may be determined using TCLP.

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

If an analyte is not detected, report the method detection limit [i.e., 0.01 U or ND(0.01); BDL or <0.01 are not acceptable].

TABLE 2: SOIL ANALYTICAL SUMMARY - Non-Carcinogenic PAHs

Facility ID#: 16/8506940 **Facility Name: Paxon Express**

Sample				OVA	Laboratory Analyses											
Boring/ Well No.	Date Collected	Depth to Water (ft)	Sample Interval (fbls)	Net OVA Reading (ppm)	Naph-thalene (mg/kg)	1-Methyl-naph-thalene (mg/kg)	2-Methyl-naph-thalene (mg/kg)	Acen-aph-thene (mg/kg)	Acen-aph-thylene (mg/kg)	Anthra-cene (mg/kg)	Benzo (g,h,i) pery-lene (mg/kg)	Fluoran-thene (mg/kg)	Fluor-ene (mg/kg)	Phenan-threne (mg/kg)	Pyrene (mg/kg)	Comments
SB-3	6/6/2013	8	4'	8500+	0.057	0.027	0.060	0.00069 U	0.00063 U	0.00079 U	0.0013 U	0.0012 I	0.00062 U	0.0018 I	0.0010 I	
SB-4	6/6/2013	8	4'	5933.5+	0.69	0.41	0.85	0.0062 I	0.0012 U	0.0015 U	0.0025 U	0.0079 I	0.015	0.016	0.0093 I	**Dilution Factor 2**
SB-7	6/6/2013	8	2'	8800+	1.1	0.93	1.9	0.019 I	0.0024 U	0.017 I	0.0050 U	0.011 I	0.060	0.063	0.017 I	**Dilution Factor 4**
SB-9	6/6/2013	8	2'	1525	0.064	0.091	0.098	0.0051 I	0.00057 U	0.00071 U	0.0012 U	0.0062 I	0.0087	0.014	0.0077	
SB-13	6/6/2013	8	2'	9850+	21	7.1	15	0.068 I	0.023 U	0.029 U	0.048 U	0.026 I	0.019 I	0.015 I	0.045 I	**Dilution Factor 40**
Leachability Based on Groundwater Criteria (mg/kg)					1.2	3.1	8.5	2.1	27	2,500	32,000	1,200	160	250	860	
Direct Exposure Residential (mg/kg)					55	200	210	2,400	1,800	21,000	2,500	3,200	2,600	2,200	2,400	

Notes: NA = Not Available.

NS = Not Sampled.

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

If analyte is not detected, report the method detection limit [i.e., 0.01 U or ND(0.01); BDL or <0.01 are not acceptable].

TABLE 2: SOIL ANALYTICAL SUMMARY - Carcinogenic PAHs

Facility ID#: 16/8506940 **Facility Name: Paxon Express** See notes at end of table.

Sample				OVA	Laboratory Analyses								
Boring/ Well No.	Date Collected	Depth to Water (ft)	Sample Interval (fbls)	Net OVA Reading (ppm)	Benzo (a) pyrene (mg/kg)	Benzo (a) anthra-cene (mg/kg)	Benzo (b) fluoran-thene (mg/kg)	Benzo (k) fluoran-thene (mg/kg)	Chry-sene (mg/kg)	Dibenz (a,h) anthra-cene (mg/kg)	Indeno (1,2,3-cd) pyrene (mg/kg)	Benzo (a) pyrene equivalent (mg/kg)	Comments
SB-3	6/6/2013	8	4'	8500+	0.00081 U	0.00074 U	0.0011 U	0.00076 U	0.00089 U	0.00077 U	0.0013 U	-	
SB-4	6/6/2013	8	4'	5933.5+	0.0038 I	0.0044 I	0.0057 I	0.0024 I	0.0046 I	0.0015 U	0.0025 U	0.0	**Dilution Factor 2**
SB-7	6/6/2013	8	2'	8800+	0.0031 U	0.0028 U	0.0055 I	0.0029 U	0.0038 I	0.0029 U	0.0050 U	0.0	**Dilution Factor 4**
SB-9	6/6/2013	8	2'	1525	0.00073 U	0.0017 I	0.0041 I	0.0011 I	0.0028 I	0.00070 U	0.0012 U	0.0	
SB-13	6/6/2013	8	2'	9850+	0.030 U	0.027 U	0.041 U	0.028 U	0.033 U	0.028 U	0.048 U	0.0	**Dilution Factor 40**
Leachability Based on Groundwater Criteria (mg/kg)					8	0.8	2.4	24	77	0.7	6.6	**	
Direct Exposure Residential (mg/kg)					0.1	#	#	#	#	#	#	0.1	

Notes: NA = Not Available.

NS = Not Sampled.

** = Leachability value not applicable.

= Direct Exposure value not applicable except as part of the Benzo(a)pyrene equivalent.

U = Indicates that the compound was analyzed for but not detected

If analyte is not detected, report the method detection limit [i.e., 0.01 U or ND(0.01); BDL or <0.01 are not acceptable].

APPENDICES

Appendix B

BORING LOG

Boring/Well Number: FS-TMW-1	Permit Number: NA	FDEP Facility Identification Number: NA
Site Name: JEA West 5th St	Borehole Start Date: 10/10/19 End Date: 10/10/19	Borehole Start Time: 9:10 ☑ AM ☐ PM End Time: 9:30 ☑ AM ☐ PM
Environmental Contractor: Meskel & Associates Engineering PLLC	Geologist's Name: Scott Davidson, P.G.	Field Engineer's Name: Gabriel Pastrana, P.E.
Drilling Company: Transamerican Drilling & Testing	Pavement Thickness (inches): None	Borehole Diameter (inches): 1.25
Borehole Depth (feet): 15		
Drilling Method(s): Hand Auger/Hollow Stem	Apparent Borehole DTW (in feet from soil moisture content): 3	Measured Well DTW (in feet after water recharges in well): 3
OVA (list model and check type): None ☐ FID ☐ PID		

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

(describe if other or multiple items are checked):

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)
HA							1	0-2' Topsoil then Fine Sand; light brown and grey; no odors or staining	SP	D	
							2		SP	D	
							3	2'-4' Clayey Sand; orange, no odors or staining Groundwater at 3 feet bls	SC	M	
							4		SC	W	
							5	4'-8' Fine Sand; light grey, no odors or staining	SP	S	
DP	60"						6		SP	S	
							7		SP	S	
							8		SP	S	
							9	8'-9' Clayey Sand; medium grey; no odors or staining	SC	S	
							10	9'-10' Fine Sand; medium grey; no odors or staining	SP	S	
DP	60"						11	10'-12' Clayey Sand; medium grey; no odors or staining	SC	S	
							12		SC	S	

BORING LOG

Boring/Well Number:	FDEP Facility Identification Number:	Site Name:	Borehole Start Date:	10/11/19
FS-TMW-1	NA	JEA West 5th St	End Date:	10/11/19

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)
DP							13	12'-13' Cley Sand; medium grey; no odors or staining	SC	S	
							14	13'-15' Fine Sand; light brown, no odors or staining	SP	S	
							15		sP	S	
							16	End boring at 15 feet bgs			
							17				
							18				
							2				
							20				
							21				
							22				
							23				
							24				
							25				
							26				
							27				
							28				
							29				
							30				

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: FS-TMW-2	Permit Number: NA	FDEP Facility Identification Number: NA
Site Name: JEA West 5th St	Borehole Start Date: 10/10/19 End Date: 10/10/19	Borehole Start Time: 11:00 ☑ AM ☐ PM End Time: 11:20 ☑ AM ☐ PM
Environmental Contractor: Meskel & Associates Engineering PLLC	Geologist's Name: Scott Davidson, P.G.	Field Engineer's Name: Gabriel Pastrana, P.E.
Drilling Company: Transamerican Drilling & Testing	Pavement Thickness (inches): None	Borehole Diameter (inches): 1.25
Borehole Depth (feet): 15		
Drilling Method(s): Hand Auger/Hollow Stem	Apparent Borehole DTW (in feet from soil moisture content): 8	Measured Well DTW (in feet after water recharges in well): 8
OVA (list model and check type): None ☐ FID ☐ PID		

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

(describe if other or multiple items are checked):

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)
HA							1	0-3' Fine Sand; light grey; no odors or staining	SP	D	
							2		SP	D	
							3		SP	D	
							4	3'-7' Fine Sand; light grey; PETROLEUM ODORS, no staining	SP	D	
							5		SP	D	
DP	48"						6		SP	D	
							7		SP	D	
							8	7'-12' Sandy Clay; light grey and brown; PETROLEUM ODORS, no staining Groundwater at 8'	CL	M	
							9		CL	W	
							10		CL	S	
DP	48"						11		CL	S	
							12		CL	S	

BORING LOG

Boring/Well Number:	FDEP Facility Identification Number:	Site Name:	Borehole Start Date:	10/11/19
FS-TMW-2	NA	JEA West 5th St	End Date:	10/11/19

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)
DP							13	12'-13' Sandy Clay; light grey and light brown, PETROLEUM ODORS, no staining	CL	S	
							14	13'-15' Fine Sand; medium brown, PETROLEUM ODORS, no staining	SP	S	
							15		SP	S	
								End boring at 15 feet bgs			
							16				
							17				
							18				
							2				
							20				
							21				
							22				
							23				
							24				
							25				
							26				
							27				
							28				
							29				
							30				

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

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
FS-TMW-1	JEA West 5th Street	NA	10/11/2019

Well Location and Type (check appropriate boxes):
- ☐ On-Site ■ Right-of-Way
- ☐ Off-Site Private Property
- ☐ Above Grade (AG) ■ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose:
- ☐ Perched Monitoring
- ■ Shallow (Water-Table) Monitoring
- ☐ Intermediate or Deep Monitoring
- ☐ Remediation or Other (describe)

Well Install Method: Direct Push

Surface Casing Install Method: PVC

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size: None
15	13	3	8	____ feet by ____ feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
1" PVC	☑ Flush-Threaded ☐ Other (describe)	3 feet; from 0 feet to 3 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
1" PVC	0.010"	10 feet; from 3 feet to 13 feet

1st Surface Casing Material: also check: ☐ Permanent ☐ Temporary	1st Surface Casing I.D. (inches):	1st Surface Casing Length: ____ feet; from 0 feet to ____ feet
2nd Surface Casing Material: also check: ☐ Permanent ☐ Temporary	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length: ____ feet; from 0 feet to ____ feet
3rd Surface Casing Material: also check: ☐ Permanent ☐ Temporary	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length: ____ feet; from 0 feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
20/30 Sand	☑ Yes ☐ No	10 feet; from 3 feet to 13 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
30/60 Fine Sand	2 feet; from 1 feet to 3 feet

Surface Seal Material:	Surface Seal Length:
Neat Cement	1 feet; from 0 feet to 1 feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one):
10/11/19	☐ Surge/Pump ☑ Pump ☐ Compressed Air ☐ Other (describe)

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☐ Centrifugal ☐ Peristaltic ☑ Submersible ☐ Other (describe)	3

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
0.7	NA	☐ Yes ☑ No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
☑ Continuous ☐ Intermittent	20	30	☐ Yes ☑ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Brown cloudy	Clear

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

Temporary monitoring well FS-TMW-1 installed in the north right-of-way of West 5th Street northeast of the intersection with Pickettville Road

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
FS-TMW-2	JEA West 5th Street	NA	10/11/2019

Well Location and Type (check appropriate boxes): ☐ On-Site ■ Right-of-Way ☐ Off-Site Private Property ☐ Above Grade (AG) ■ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose: ☐ Perched Monitoring ■ Shallow (Water-Table) Monitoring ☐ Intermediate or Deep Monitoring ☐ Remediation or Other (describe)

Well Install Method: Direct Push

Surface Casing Install Method: PVC

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size: None
15	15	3	8	____ feet by ____ feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
1" PVC	☑ Flush-Threaded ☐ Other (describe)	5 feet from 0 feet to 5 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
1" PVC	0.010"	10 feet from 5 feet to 15 feet

1st Surface Casing Material:	1st Surface Casing I.D. (inches):	1st Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from 0 feet to ____ feet

2nd Surface Casing Material:	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from 0 feet to ____ feet

3rd Surface Casing Material:	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from 0 feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
20/30 Sand	☑ Yes ☐ No	10 feet from 5 feet to 15 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
30/60 Fine Sand	2 feet from 3 feet to 5 feet

Surface Seal Material:	Surface Seal Length:
Neat Cement	3 feet from 0 feet to 3 feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one):
10/11/19	☐ Surge/Pump ☑ Pump ☐ Compressed Air ☐ Other (describe)

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☐ Centrifugal ☐ Peristaltic ☑ Submersible ☐ Other (describe)	8

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
0.7	NA	☐ Yes ☑ No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
☐ Continuous ☑ Intermittent	10	30	☐ Yes ☑ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Brown cloudy	Clear

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

Temporary monitoring well FS-TMW-2 installed in the southbound right-of-way of Melson Avenue northeast of the intersection with West 5th Street

Appendix C

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: JEA #5TH ST WEST	SITE LOCATION: 5TH ST WEST / PICKETVILLE RD	
WELL NO: FS-TMW-1	SAMPLE ID: FS-TMW-1	DATE: 10/29/2019

PURGING DATA

WELL DIAMETER (inches): 4"	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 2' feet to 12' feet	STATIC DEPTH TO WATER (feet): 1.88	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)
= (12.00 feet – 1.88 feet) X 0.04 gallons/foot = 0.40 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): 3.88	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 3.88	PURGING INITIATED AT: 1020	PURGING ENDED AT: 1034	TOTAL VOLUME PURGED (gallons): 1.40

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)
1028	0.80	0.80	0.10		6.52	26.14	504	0.50	10.2	CLEAR	NONE
1030	0.20	1.00	0.10		6.56	26.26	509	0.46	6.03	CLEAR	NONE
1032	0.20	1.20	0.10		6.60	26.26	511	0.45	2.81	CLEAR	NONE
1034	0.20	1.40	0.10		6.60	26.27	512	0.46	2.19	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: Gabe Pastrana / MAE	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1034	SAMPLING ENDED AT: 1045
PUMP OR TUBING DEPTH IN WELL (feet): 3.88	TUBING MATERIAL CODE: PE/S	FIELD-FILTERED: [Y] N Filtration Equipment Type:	FILTER SIZE: 1 µm
FIELD DECONTAMINATION: PUMP Y [N]	TUBING Y [N] (replaced)	DUPLICATE: Y [N]	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
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)
	3	CG	40 mL	HCl	-	<2	EPA 8260 (BTEX/M) VOH	RFPP	<90
	1	AG	250 mL	-	-	-	EPA 8270 (PAH)	APP	<90
	2	PE	250 mL	HNO3	-	<2	RCRA 4 Metals	APP	<90

REMARKS:
CLEAR 1.12 NTU

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

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

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

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: JEA 5TH ST. WEST	SITE LOCATION: 5TH ST WEST / MELSON AVE.	
WELL NO: FS-TMW-2	SAMPLE ID: FS-TMW-2	DATE: 10/29/2019

PURGING DATA

WELL DIAMETER (inches): 4"	TUBING DIAMETER (inches): 1/4"	WELL SCREEN INTERVAL DEPTH: 5 feet to 15 feet	STATIC DEPTH TO WATER (feet): 8.88	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)

= (15.00 feet – 8.88 feet) X 0.04 gallons/foot = 0.25 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): 10.88	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 14.0	PURGING INITIATED AT: 1154	PURGING ENDED AT: 1214	TOTAL VOLUME PURGED (gallons): 1.00

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)
1204	0.50	0.50	0.05		6.81	28.60	712	1.20	71000	BROWN CLOUDY	PETRO
1214	0.50	1.00	0.05		6.79	28.67	705	1.05	71000	BROWN CLOUDY	PETRO
			0.05								
					– PURGED DRY –						

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: Gabe Pastrana / MAE	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1224	SAMPLING ENDED AT: 1234
PUMP OR TUBING DEPTH IN WELL (feet): 14.0	TUBING MATERIAL CODE: PE/S	FIELD-FILTERED: [Y] N Filtration Equipment Type:	FILTER SIZE: 1 µm
FIELD DECONTAMINATION: PUMP Y [N]	TUBING Y [N] (replaced)	DUPLICATE: Y [N]	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
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)
	3	CG	40 mL	HCl	-	<2	EPA 8260 (BTEX/M)	RFPP	<90
	1	AG	250 mL	-	-	-	EPA 8270 (PAH)	APP	<90
	2	PE	250 mL	HNO3	-	<2	RCRA 4 Metals	APP	<90
	2	AG	100 mL	H_2SO_4	–	<2	TRPH FL-PRO	APP	<90
	2	CG	40mL	–	–	–	EDB	APP	<90

REMARKS:
FILTERED TURBIDITY = 7.94 NTU. PURGED DRY 2X DURING SAMPLING

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

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

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

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Appendix D

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

November 06, 2019

Mr. Scott A. Davidson, P.G.
Meskel & Associates Engineering, Inc.
8936 Western Way
Jacksonville, FL 32256

RE: Project: JEA 5TH ST
Pace Project No.: 35508499

Dear Mr. Davidson, P.G.:
Enclosed are the analytical results for sample(s) received by the laboratory on October 30, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Todd Rea
todd.rea@pacelabs.com
(904) 903-7948
Project Manager

Enclosures

cc: Mr. Gabriel S. Pastrana, P.E., Pastrana Engineering & Environment, LLC

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

CERTIFICATIONS

Project: JEA 5TH ST
Pace Project No.: 35508499

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alaska DEC- CS/UST/LUST
Alabama Certification #: 41320
Arizona Certification# AZ0819
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
New Hampshire Certification #: 2958
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

SAMPLE SUMMARY

Project: JEA 5TH ST
Pace Project No.: 35508499

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35508499001	**FS-TMW-1**	Water	10/29/19 10:34	10/30/19 12:10
35508499002	**FS-TMW-2**	Water	10/29/19 12:24	10/30/19 12:10

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

SAMPLE ANALYTE COUNT

Project: JEA 5TH ST
Pace Project No.: 35508499

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35508499001	**FS-TMW-1**	EPA 6010	ATC	4	PASI-O
		EPA 8270 by SIM	CB1	20	PASI-O
		EPA 8260	VAA	57	PASI-O
35508499002	**FS-TMW-2**	EPA 8011	TSW	1	PASI-O
		FL-PRO	RJR	3	PASI-O
		EPA 6010	ATC	1	PASI-O
		EPA 8270 by SIM	CB1	20	PASI-O
		EPA 8260	SK1	37	PASI-O

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

ANALYTICAL RESULTS

Project: JEA 5TH ST
Pace Project No.: 35508499

Sample: FS-TMW-1 **Lab ID: 35508499001** Collected: 10/29/19 10:34 Received: 10/30/19 12:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Arsenic	**7.1 U**	ug/L	10.0	7.1	1	10/31/19 06:45	11/01/19 00:10	7440-38-2	
Cadmium	**0.33 U**	ug/L	1.0	0.33	1	10/31/19 06:45	11/01/19 00:10	7440-43-9	
Chromium	**1.7 U**	ug/L	5.0	1.7	1	10/31/19 06:45	11/01/19 00:10	7440-47-3	
Lead	**4.6 U**	ug/L	10.0	4.6	1	10/31/19 06:45	11/01/19 00:10	7439-92-1	
8270 MSSV PAHLV by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510								
Acenaphthene	**0.040 U**	ug/L	0.50	0.040	1	11/01/19 10:23	11/02/19 19:50	83-32-9	
Acenaphthylene	**0.030 U**	ug/L	0.50	0.030	1	11/01/19 10:23	11/02/19 19:50	208-96-8	
Anthracene	**0.043 U**	ug/L	0.50	0.043	1	11/01/19 10:23	11/02/19 19:50	120-12-7	
Benzo(a)anthracene	**0.055 U**	ug/L	0.10	0.055	1	11/01/19 10:23	11/02/19 19:50	56-55-3	
Benzo(a)pyrene	**0.12 U**	ug/L	0.20	0.12	1	11/01/19 10:23	11/02/19 19:50	50-32-8	
Benzo(b)fluoranthene	**0.027 U**	ug/L	0.10	0.027	1	11/01/19 10:23	11/02/19 19:50	205-99-2	
Benzo(g,h,i)perylene	**0.15 U**	ug/L	0.50	0.15	1	11/01/19 10:23	11/02/19 19:50	191-24-2	
Benzo(k)fluoranthene	**0.16 U**	ug/L	0.50	0.16	1	11/01/19 10:23	11/02/19 19:50	207-08-9	
Chrysene	**0.026 U**	ug/L	0.50	0.026	1	11/01/19 10:23	11/02/19 19:50	218-01-9	
Dibenz(a,h)anthracene	**0.13 U**	ug/L	0.15	0.13	1	11/01/19 10:23	11/02/19 19:50	53-70-3	
Fluoranthene	**0.018 U**	ug/L	0.50	0.018	1	11/01/19 10:23	11/02/19 19:50	206-44-0	
Fluorene	**0.088 U**	ug/L	0.50	0.088	1	11/01/19 10:23	11/02/19 19:50	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.12 U**	ug/L	0.15	0.12	1	11/01/19 10:23	11/02/19 19:50	193-39-5	
1-Methylnaphthalene	**0.19 U**	ug/L	2.0	0.19	1	11/01/19 10:23	11/02/19 19:50	90-12-0	
2-Methylnaphthalene	**0.68 U**	ug/L	2.0	0.68	1	11/01/19 10:23	11/02/19 19:50	91-57-6	
Naphthalene	**0.29 U**	ug/L	2.0	0.29	1	11/01/19 10:23	11/02/19 19:50	91-20-3	
Phenanthrene	**0.16 U**	ug/L	0.50	0.16	1	11/01/19 10:23	11/02/19 19:50	85-01-8	
Pyrene	**0.032 U**	ug/L	0.50	0.032	1	11/01/19 10:23	11/02/19 19:50	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	71	%	38-92		1	11/01/19 10:23	11/02/19 19:50	321-60-8	
p-Terphenyl-d14 (S)	80	%	54-112		1	11/01/19 10:23	11/02/19 19:50	1718-51-0	
8260 MSV	Analytical Method: EPA 8260								
Acetone	**5.3 U**	ug/L	20.0	5.3	1		10/31/19 23:11	67-64-1	J(v3)
Acetonitrile	**24.5 U**	ug/L	40.0	24.5	1		10/31/19 23:11	75-05-8	
Benzene	**0.10 U**	ug/L	1.0	0.10	1		10/31/19 23:11	71-43-2	
Bromochloromethane	**0.37 U**	ug/L	1.0	0.37	1		10/31/19 23:11	74-97-5	
Bromodichloromethane	**0.19 U**	ug/L	0.60	0.19	1		10/31/19 23:11	75-27-4	
Bromoform	**2.6 U**	ug/L	3.0	2.6	1		10/31/19 23:11	75-25-2	
Bromomethane	**4.0 U**	ug/L	5.0	4.0	1		10/31/19 23:11	74-83-9	J(v2)
2-Butanone (MEK)	**5.0 U**	ug/L	10.0	5.0	1		10/31/19 23:11	78-93-3	
Carbon disulfide	**1.2 I**	ug/L	10.0	0.45	1		10/31/19 23:11	75-15-0	J(v2),V
Carbon tetrachloride	**0.50 U**	ug/L	3.0	0.50	1		10/31/19 23:11	56-23-5	
Chlorobenzene	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	108-90-7	
Chloroethane	**3.7 U**	ug/L	10.0	3.7	1		10/31/19 23:11	75-00-3	
Chloroform	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	67-66-3	
Chloromethane	**0.97 U**	ug/L	1.0	0.97	1		10/31/19 23:11	74-87-3	
1,2-Dibromo-3-chloropropane	**1.9 U**	ug/L	5.0	1.9	1		10/31/19 23:11	96-12-8	
Dibromochloromethane	**0.45 U**	ug/L	2.0	0.45	1		10/31/19 23:11	124-48-1	
1,2-Dibromoethane (EDB)	**0.31 U**	ug/L	1.0	0.31	1		10/31/19 23:11	106-93-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

ANALYTICAL RESULTS

Project: JEA 5TH ST
Pace Project No.: 35508499

Sample: FS-TMW-1 **Lab ID: 35508499001** Collected: 10/29/19 10:34 Received: 10/30/19 12:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Dibromomethane	**0.68 U**	ug/L	2.0	0.68	1		10/31/19 23:11	74-95-3	
1,2-Dichlorobenzene	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	95-50-1	
1,4-Dichlorobenzene	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	106-46-7	
trans-1,4-Dichloro-2-butene	**2.5 U**	ug/L	10.0	2.5	1		10/31/19 23:11	110-57-6	
1,1-Dichloroethane	**0.34 U**	ug/L	1.0	0.34	1		10/31/19 23:11	75-34-3	
1,2-Dichloroethane	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	107-06-2	
1,2-Dichloroethene (Total)	**0.48 I**	ug/L	1.0	0.27	1		10/31/19 23:11	540-59-0	N2
1,1-Dichloroethene	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	75-35-4	
cis-1,2-Dichloroethene	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	156-59-2	
trans-1,2-Dichloroethene	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	156-60-5	
1,2-Dichloropropane	**0.23 U**	ug/L	1.0	0.23	1		10/31/19 23:11	78-87-5	
cis-1,3-Dichloropropene	**0.17 U**	ug/L	0.50	0.17	1		10/31/19 23:11	10061-01-5	
trans-1,3-Dichloropropene	**0.17 U**	ug/L	0.50	0.17	1		10/31/19 23:11	10061-02-6	
Ethylbenzene	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	100-41-4	
2-Hexanone	**0.85 U**	ug/L	10.0	0.85	1		10/31/19 23:11	591-78-6	J(v2)
Iodomethane	**9.3 U**	ug/L	10.0	9.3	1		10/31/19 23:11	74-88-4	
Isopropylbenzene (Cumene)	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	98-82-8	
Methylene Chloride	**2.0 U**	ug/L	5.0	2.0	1		10/31/19 23:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	**0.32 U**	ug/L	10.0	0.32	1		10/31/19 23:11	108-10-1	
Methyl-tert-butyl ether	**0.50 U**	ug/L	2.0	0.50	1		10/31/19 23:11	1634-04-4	
Styrene	**0.26 U**	ug/L	1.0	0.26	1		10/31/19 23:11	100-42-5	
1,1,1,2-Tetrachloroethane	**0.32 U**	ug/L	1.0	0.32	1		10/31/19 23:11	630-20-6	
1,1,2,2-Tetrachloroethane	**0.20 U**	ug/L	0.50	0.20	1		10/31/19 23:11	79-34-5	
Tetrachloroethene	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	127-18-4	
Toluene	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	108-88-3	
1,1,1-Trichloroethane	**0.30 U**	ug/L	1.0	0.30	1		10/31/19 23:11	71-55-6	
1,1,2-Trichloroethane	**0.30 U**	ug/L	1.0	0.30	1		10/31/19 23:11	79-00-5	
Trichloroethene	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	79-01-6	
Trichlorofluoromethane	**0.35 U**	ug/L	1.0	0.35	1		10/31/19 23:11	75-69-4	
1,2,3-Trichloropropane	**1.1 U**	ug/L	2.0	1.1	1		10/31/19 23:11	96-18-4	
1,2,4-Trimethylbenzene	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	95-63-6	
1,3,5-Trimethylbenzene	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	108-67-8	
Vinyl acetate	**0.19 U**	ug/L	10.0	0.19	1		10/31/19 23:11	108-05-4	J(v2)
Vinyl chloride	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	75-01-4	
Xylene (Total)	**1.0 U**	ug/L	5.0	1.0	1		10/31/19 23:11	1330-20-7	
m&p-Xylene	**1.0 U**	ug/L	4.0	1.0	1		10/31/19 23:11	179601-23-1	
o-Xylene	**0.50 U**	ug/L	1.0	0.50	1		10/31/19 23:11	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		10/31/19 23:11	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		10/31/19 23:11	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		10/31/19 23:11	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

ANALYTICAL RESULTS

Project: JEA 5TH ST
Pace Project No.: 35508499

Sample: FS-TMW-2 **Lab ID: 35508499002** Collected: 10/29/19 12:24 Received: 10/30/19 12:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.0078 U**	ug/L	0.010	0.0078	1	10/31/19 13:57	11/05/19 09:51	106-93-4	
FL-PRO Water, Low Volume	Analytical Method: FL-PRO Preparation Method: EPA 3510								
Petroleum Range Organics	**0.78 I**	mg/L	0.96	0.77	1	11/01/19 16:43	11/04/19 13:04		
Surrogates									
o-Terphenyl (S)	52	%	66-139		1	11/01/19 16:43	11/04/19 13:04	84-15-1	1p, J(S5)
N-Pentatriacontane (S)	53	%	42-159		1	11/01/19 16:43	11/04/19 13:04	630-07-09	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	**8.4 I**	ug/L	10.0	4.6	1	10/31/19 06:45	11/01/19 00:15	7439-92-1	
8270 MSSV PAHLV by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510								
Acenaphthene	**0.15 I**	ug/L	0.50	0.040	1	11/01/19 10:23	11/02/19 20:56	83-32-9	
Acenaphthylene	**0.030 U**	ug/L	0.50	0.030	1	11/01/19 10:23	11/02/19 20:56	208-96-8	
Anthracene	**0.043 U**	ug/L	0.50	0.043	1	11/01/19 10:23	11/02/19 20:56	120-12-7	
Benzo(a)anthracene	**0.055 U**	ug/L	0.10	0.055	1	11/01/19 10:23	11/02/19 20:56	56-55-3	
Benzo(a)pyrene	**0.12 U**	ug/L	0.20	0.12	1	11/01/19 10:23	11/02/19 20:56	50-32-8	
Benzo(b)fluoranthene	**0.027 U**	ug/L	0.10	0.027	1	11/01/19 10:23	11/02/19 20:56	205-99-2	
Benzo(g,h,i)perylene	**0.15 U**	ug/L	0.50	0.15	1	11/01/19 10:23	11/02/19 20:56	191-24-2	
Benzo(k)fluoranthene	**0.16 U**	ug/L	0.50	0.16	1	11/01/19 10:23	11/02/19 20:56	207-08-9	
Chrysene	**0.026 U**	ug/L	0.50	0.026	1	11/01/19 10:23	11/02/19 20:56	218-01-9	
Dibenz(a,h)anthracene	**0.13 U**	ug/L	0.15	0.13	1	11/01/19 10:23	11/02/19 20:56	53-70-3	
Fluoranthene	**0.018 U**	ug/L	0.50	0.018	1	11/01/19 10:23	11/02/19 20:56	206-44-0	
Fluorene	**0.15 I**	ug/L	0.50	0.088	1	11/01/19 10:23	11/02/19 20:56	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.12 U**	ug/L	0.15	0.12	1	11/01/19 10:23	11/02/19 20:56	193-39-5	
1-Methylnaphthalene	**12.8**	ug/L	2.0	0.19	1	11/01/19 10:23	11/02/19 20:56	90-12-0	
2-Methylnaphthalene	**8.4**	ug/L	2.0	0.68	1	11/01/19 10:23	11/02/19 20:56	91-57-6	
Naphthalene	**2.5**	ug/L	2.0	0.29	1	11/01/19 10:23	11/02/19 20:56	91-20-3	
Phenanthrene	**0.16 U**	ug/L	0.50	0.16	1	11/01/19 10:23	11/02/19 20:56	85-01-8	
Pyrene	**0.032 U**	ug/L	0.50	0.032	1	11/01/19 10:23	11/02/19 20:56	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	77	%	38-92		1	11/01/19 10:23	11/02/19 20:56	321-60-8	
p-Terphenyl-d14 (S)	80	%	54-112		1	11/01/19 10:23	11/02/19 20:56	1718-51-0	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**1.2**	ug/L	1.0	0.10	1		11/04/19 07:41	71-43-2	
Bromodichloromethane	**0.19 U**	ug/L	0.60	0.19	1		11/04/19 07:41	75-27-4	
Bromoform	**2.6 U**	ug/L	3.0	2.6	1		11/04/19 07:41	75-25-2	
Bromomethane	**4.0 U**	ug/L	5.0	4.0	1		11/04/19 07:41	74-83-9	J(v2)
Carbon tetrachloride	**0.50 U**	ug/L	3.0	0.50	1		11/04/19 07:41	56-23-5	
Chlorobenzene	**0.50 U**	ug/L	1.0	0.50	1		11/04/19 07:41	108-90-7	
Chloroethane	**3.7 U**	ug/L	10.0	3.7	1		11/04/19 07:41	75-00-3	
2-Chloroethylvinyl ether	**1.4 U**	ug/L	40.0	1.4	1		11/04/19 07:41	110-75-8	J(v2),c2
Chloroform	**0.50 U**	ug/L	1.0	0.50	1		11/04/19 07:41	67-66-3	
Chloromethane	**0.97 U**	ug/L	1.0	0.97	1		11/04/19 07:41	74-87-3	J(v2)

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

ANALYTICAL RESULTS

Project: JEA 5TH ST
Pace Project No.: 35508499

Sample: FS-TMW-2 **Lab ID: 35508499002** Collected: 10/29/19 12:24 Received: 10/30/19 12:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Dibromochloromethane	**0.45 U**	ug/L	2.0	0.45	1		11/04/19 07:41	124-48-1	
1,2-Dichlorobenzene	**0.50 U**	ug/L	1.0	0.50	1		11/04/19 07:41	95-50-1	
1,3-Dichlorobenzene	**0.50 U**	ug/L	1.0	0.50	1		11/04/19 07:41	541-73-1	
1,4-Dichlorobenzene	**0.50 U**	ug/L	1.0	0.50	1		11/04/19 07:41	106-46-7	
1,1-Dichloroethane	**0.34 U**	ug/L	1.0	0.34	1		11/04/19 07:41	75-34-3	
1,2-Dichloroethane	**0.50 U**	ug/L	1.0	0.50	1		11/04/19 07:41	107-06-2	
1,1-Dichloroethene	**0.50 U**	ug/L	1.0	0.50	1		11/04/19 07:41	75-35-4	
cis-1,2-Dichloroethene	**0.50 U**	ug/L	1.0	0.50	1		11/04/19 07:41	156-59-2	
trans-1,2-Dichloroethene	**0.50 U**	ug/L	1.0	0.50	1		11/04/19 07:41	156-60-5	
1,2-Dichloropropane	**0.23 U**	ug/L	1.0	0.23	1		11/04/19 07:41	78-87-5	
cis-1,3-Dichloropropene	**0.17 U**	ug/L	0.50	0.17	1		11/04/19 07:41	10061-01-5	
trans-1,3-Dichloropropene	**0.17 U**	ug/L	0.50	0.17	1		11/04/19 07:41	10061-02-6	
Ethylbenzene	**1.6**	ug/L	1.0	0.50	1		11/04/19 07:41	100-41-4	
Methylene Chloride	**2.0 U**	ug/L	5.0	2.0	1		11/04/19 07:41	75-09-2	
Methyl-tert-butyl ether	**1.4 I**	ug/L	2.0	0.50	1		11/04/19 07:41	1634-04-4	
1,1,2,2-Tetrachloroethane	**0.20 U**	ug/L	0.50	0.20	1		11/04/19 07:41	79-34-5	
Tetrachloroethene	**0.50 U**	ug/L	1.0	0.50	1		11/04/19 07:41	127-18-4	
Toluene	**0.56 I**	ug/L	1.0	0.50	1		11/04/19 07:41	108-88-3	
1,2,4-Trichlorobenzene	**0.32 U**	ug/L	1.0	0.32	1		11/04/19 07:41	120-82-1	J(v2)
1,1,1-Trichloroethane	**0.30 U**	ug/L	1.0	0.30	1		11/04/19 07:41	71-55-6	
1,1,2-Trichloroethane	**0.30 U**	ug/L	1.0	0.30	1		11/04/19 07:41	79-00-5	
Trichloroethene	**0.50 U**	ug/L	1.0	0.50	1		11/04/19 07:41	79-01-6	
Vinyl chloride	**0.50 U**	ug/L	1.0	0.50	1		11/04/19 07:41	75-01-4	
Xylene (Total)	**1.0 U**	ug/L	5.0	1.0	1		11/04/19 07:41	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		11/04/19 07:41	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/04/19 07:41	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/04/19 07:41	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

QUALITY CONTROL DATA

Project: JEA 5TH ST
Pace Project No.: 35508499

QC Batch: 583131 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 35508499001, 35508499002

METHOD BLANK: 3170474 Matrix: Water
Associated Lab Samples: 35508499001, 35508499002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	7.1 U	10.0	7.1	10/31/19 23:14	
Cadmium	ug/L	0.33 U	1.0	0.33	10/31/19 23:14	
Chromium	ug/L	1.7 U	5.0	1.7	10/31/19 23:14	
Lead	ug/L	4.6 U	10.0	4.6	10/31/19 23:14	

LABORATORY CONTROL SAMPLE: 3170475

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	250	248	99	80-120	
Cadmium	ug/L	25	25.3	101	80-120	
Chromium	ug/L	250	254	101	80-120	
Lead	ug/L	250	262	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3170476 3170477

Parameter	Units	35508355001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	7.1 U	250	250	247	250	99	100	75-125	1	20	
Cadmium	ug/L	0.33 U	25	25	24.8	25.4	99	102	75-125	3	20	
Chromium	ug/L	2.7 I	250	250	254	260	100	103	75-125	2	20	
Lead	ug/L	4.6 U	250	250	259	265	103	106	75-125	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

QUALITY CONTROL DATA

Project: JEA 5TH ST
Pace Project No.: 35508499

QC Batch: 583339 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 35508499001

METHOD BLANK: 3171193 Matrix: Water
Associated Lab Samples: 35508499001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	0.32 U	1.0	0.32	10/31/19 12:45	
1,1,1-Trichloroethane	ug/L	0.30 U	1.0	0.30	10/31/19 12:45	
1,1,2,2-Tetrachloroethane	ug/L	0.20 U	0.50	0.20	10/31/19 12:45	
1,1,2-Trichloroethane	ug/L	0.30 U	1.0	0.30	10/31/19 12:45	
1,1-Dichloroethane	ug/L	0.34 U	1.0	0.34	10/31/19 12:45	
1,1-Dichloroethene	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
1,2,3-Trichloropropane	ug/L	1.1 U	2.0	1.1	10/31/19 12:45	
1,2,4-Trimethylbenzene	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
1,2-Dibromo-3-chloropropane	ug/L	1.9 U	5.0	1.9	10/31/19 12:45	
1,2-Dibromoethane (EDB)	ug/L	0.31 U	1.0	0.31	10/31/19 12:45	
1,2-Dichlorobenzene	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
1,2-Dichloroethane	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
1,2-Dichloroethene (Total)	ug/L	0.27 U	1.0	0.27	10/31/19 12:45	N2
1,2-Dichloropropane	ug/L	0.23 U	1.0	0.23	10/31/19 12:45	
1,3,5-Trimethylbenzene	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
1,4-Dichlorobenzene	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
2-Butanone (MEK)	ug/L	5.0 U	10.0	5.0	10/31/19 12:45	
2-Hexanone	ug/L	0.85 U	10.0	0.85	10/31/19 12:45	J(v2)
4-Methyl-2-pentanone (MIBK)	ug/L	0.32 U	10.0	0.32	10/31/19 12:45	
Acetone	ug/L	5.3 U	20.0	5.3	10/31/19 12:45	J(v3)
Acetonitrile	ug/L	24.5 U	40.0	24.5	10/31/19 12:45	
Benzene	ug/L	0.10 U	1.0	0.10	10/31/19 12:45	
Bromochloromethane	ug/L	0.37 U	1.0	0.37	10/31/19 12:45	
Bromodichloromethane	ug/L	0.19 U	0.60	0.19	10/31/19 12:45	
Bromoform	ug/L	2.6 U	3.0	2.6	10/31/19 12:45	
Bromomethane	ug/L	4.0 U	5.0	4.0	10/31/19 12:45	J(v2)
Carbon disulfide	ug/L	1.7 I	10.0	0.45	10/31/19 12:45	J(v3)
Carbon tetrachloride	ug/L	0.50 U	3.0	0.50	10/31/19 12:45	
Chlorobenzene	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
Chloroethane	ug/L	3.7 U	10.0	3.7	10/31/19 12:45	
Chloroform	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
Chloromethane	ug/L	0.97 U	1.0	0.97	10/31/19 12:45	
cis-1,2-Dichloroethene	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
cis-1,3-Dichloropropene	ug/L	0.17 U	0.50	0.17	10/31/19 12:45	
Dibromochloromethane	ug/L	0.45 U	2.0	0.45	10/31/19 12:45	
Dibromomethane	ug/L	0.68 U	2.0	0.68	10/31/19 12:45	
Ethylbenzene	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
Iodomethane	ug/L	9.3 U	10.0	9.3	10/31/19 12:45	
Isopropylbenzene (Cumene)	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
m&p-Xylene	ug/L	1.0 U	4.0	1.0	10/31/19 12:45	
Methyl-tert-butyl ether	ug/L	0.50 U	2.0	0.50	10/31/19 12:45	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

QUALITY CONTROL DATA

Project: JEA 5TH ST
Pace Project No.: 35508499

METHOD BLANK: 3171193 Matrix: Water
Associated Lab Samples: 35508499001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Methylene Chloride	ug/L	2.0 U	5.0	2.0	10/31/19 12:45	
o-Xylene	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
Styrene	ug/L	0.26 U	1.0	0.26	10/31/19 12:45	
Tetrachloroethene	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
Toluene	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
trans-1,2-Dichloroethene	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
trans-1,3-Dichloropropene	ug/L	0.17 U	0.50	0.17	10/31/19 12:45	
trans-1,4-Dichloro-2-butene	ug/L	2.5 U	10.0	2.5	10/31/19 12:45	
Trichloroethene	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
Trichlorofluoromethane	ug/L	0.35 U	1.0	0.35	10/31/19 12:45	
Vinyl acetate	ug/L	0.19 U	10.0	0.19	10/31/19 12:45	J(v2)
Vinyl chloride	ug/L	0.50 U	1.0	0.50	10/31/19 12:45	
Xylene (Total)	ug/L	1.0 U	5.0	1.0	10/31/19 12:45	
1,2-Dichloroethane-d4 (S)	%	99	70-130		10/31/19 12:45	
4-Bromofluorobenzene (S)	%	95	70-130		10/31/19 12:45	
Toluene-d8 (S)	%	99	70-130		10/31/19 12:45	

LABORATORY CONTROL SAMPLE: 3171194

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.0	95	70-130	
1,1,1-Trichloroethane	ug/L	20	18.0	90	70-130	
1,1,2,2-Tetrachloroethane	ug/L	20	19.4	97	68-125	
1,1,2-Trichloroethane	ug/L	20	18.6	93	70-130	
1,1-Dichloroethane	ug/L	20	18.6	93	70-130	
1,1-Dichloroethene	ug/L	20	16.8	84	66-133	
1,2,3-Trichloropropane	ug/L	20	18.5	93	62-127	
1,2,4-Trimethylbenzene	ug/L	20	18.6	93	70-130	
1,2-Dibromo-3-chloropropane	ug/L	20	17.0	85	45-137	
1,2-Dibromoethane (EDB)	ug/L	20	19.4	97	70-130	
1,2-Dichlorobenzene	ug/L	20	18.5	92	70-130	
1,2-Dichloroethane	ug/L	20	17.0	85	70-130	
1,2-Dichloroethene (Total)	ug/L	40	33.2	83	70-130	N2
1,2-Dichloropropane	ug/L	20	18.6	93	70-130	
1,3,5-Trimethylbenzene	ug/L	20	18.2	91	70-130	
1,4-Dichlorobenzene	ug/L	20	17.8	89	70-130	
2-Butanone (MEK)	ug/L	40	34.2	85	47-143	
2-Hexanone	ug/L	40	34.9	87	48-145	J(v3)
4-Methyl-2-pentanone (MIBK)	ug/L	40	36.3	91	57-132	
Acetone	ug/L	40	29.5	74	46-148	
Acetonitrile	ug/L	200	163	82	33-175	
Benzene	ug/L	20	18.3	91	70-130	
Bromochloromethane	ug/L	20	19.0	95	70-130	
Bromodichloromethane	ug/L	20	18.8	94	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

QUALITY CONTROL DATA

Project: JEA 5TH ST
Pace Project No.: 35508499

LABORATORY CONTROL SAMPLE: 3171194

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	16.5	82	49-126	
Bromomethane	ug/L	20	13.9	69	10-165	J(v3)
Carbon disulfide	ug/L	20	13.4	67	60-141	J(v3)
Carbon tetrachloride	ug/L	20	16.2	81	63-126	
Chlorobenzene	ug/L	20	17.6	88	70-130	
Chloroethane	ug/L	20	16.9	84	71-142	
Chloroform	ug/L	20	18.1	91	70-130	
Chloromethane	ug/L	20	13.6	68	40-140	
cis-1,2-Dichloroethene	ug/L	20	17.2	86	70-130	
cis-1,3-Dichloropropene	ug/L	20	17.7	89	70-130	
Dibromochloromethane	ug/L	20	16.8	84	62-118	
Dibromomethane	ug/L	20	17.9	89	70-130	
Ethylbenzene	ug/L	20	17.9	89	70-130	
Iodomethane	ug/L	40	36.3	91	10-164	
Isopropylbenzene (Cumene)	ug/L	20	18.6	93	70-130	
m&p-Xylene	ug/L	40	36.7	92	70-130	
Methyl-tert-butyl ether	ug/L	20	17.1	85	64-124	
Methylene Chloride	ug/L	20	18.6	93	65-136	
o-Xylene	ug/L	20	18.2	91	70-130	
Styrene	ug/L	20	19.4	97	70-130	
Tetrachloroethene	ug/L	20	16.4	82	64-134	
Toluene	ug/L	20	18.4	92	70-130	
trans-1,2-Dichloroethene	ug/L	20	16.0	80	68-127	
trans-1,3-Dichloropropene	ug/L	20	17.6	88	65-121	
trans-1,4-Dichloro-2-butene	ug/L	20	16.7	83	42-129	
Trichloroethene	ug/L	20	17.1	85	70-130	
Trichlorofluoromethane	ug/L	20	14.8	74	65-135	
Vinyl acetate	ug/L	20	13.6	68	60-144	J(v3)
Vinyl chloride	ug/L	20	15.4	77	68-131	
Xylene (Total)	ug/L	60	54.9	92	70-130	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 3171238

Parameter	Units	35508425002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	20	19.5	97	70-130	
1,1,1-Trichloroethane	ug/L	0.50 U	20	21.6	108	70-130	
1,1,2,2-Tetrachloroethane	ug/L	0.12 U	20	19.1	96	68-125	
1,1,2-Trichloroethane	ug/L	0.50 U	20	18.8	94	70-130	
1,1-Dichloroethane	ug/L	0.50 U	20	20.5	103	70-130	
1,1-Dichloroethene	ug/L	0.50 U	20	21.4	107	66-133	
1,2,3-Trichloropropane	ug/L	0.59 U	20	15.7	78	62-127	J(v3)
1,2,4-Trimethylbenzene	ug/L	0.50 U	20	20.4	102	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

QUALITY CONTROL DATA

Project: JEA 5TH ST
Pace Project No.: 35508499

MATRIX SPIKE SAMPLE: 3171238

Parameter	Units	35508425002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dibromo-3-chloropropane	ug/L	1.0 U	20	16.6	83	45-137	
1,2-Dibromoethane (EDB)	ug/L	0.50 U	20	18.9	95	70-130	
1,2-Dichlorobenzene	ug/L	0.50 U	20	19.3	97	70-130	
1,2-Dichloroethane	ug/L	0.50 U	20	17.0	84	70-130	
1,2-Dichloroethene (Total)	ug/L	0.50 U	40	37.1	93	70-130	N2
1,2-Dichloropropane	ug/L	0.50 U	20	19.6	98	70-130	
1,3,5-Trimethylbenzene	ug/L	0.50 U	20	20.4	102	70-130	
1,4-Dichlorobenzene	ug/L	0.50 U	20	18.9	94	70-130	
2-Butanone (MEK)	ug/L	5.0 U	40	31.2	78	47-143	
2-Hexanone	ug/L	5.0 U	40	32.4	81	48-145	
4-Methyl-2-pentanone (MIBK)	ug/L	5.0 U	40	34.2	85	57-132	
Acetone	ug/L	10.0 U	40	26.6	63	46-148	J(v3)
Acetonitrile	ug/L	5.0 U	200	174	87	33-175	J(v3)
Benzene	ug/L	0.10 U	20	19.5	98	70-130	
Bromochloromethane	ug/L	0.50 U	20	17.0	85	70-130	
Bromodichloromethane	ug/L	0.27 U	20	19.7	99	70-130	
Bromoform	ug/L	0.50 U	20	15.8	79	49-126	J(v3)
Bromomethane	ug/L	0.50 U	20	7.5	37	10-165	J(v3)
Carbon disulfide	ug/L	5.0 U	20	20.7	97	60-141	
Carbon tetrachloride	ug/L	0.50 U	20	19.7	99	63-126	
Chlorobenzene	ug/L	0.50 U	20	19.0	95	70-130	
Chloroethane	ug/L	0.50 U	20	21.0	105	71-142	
Chloroform	ug/L	0.50 U	20	19.3	96	70-130	
Chloromethane	ug/L	0.62 U	20	16.4	82	40-140	J(v3)
cis-1,2-Dichloroethene	ug/L	0.50 U	20	18.7	94	70-130	
cis-1,3-Dichloropropene	ug/L	0.25 U	20	17.2	86	70-130	
Dibromochloromethane	ug/L	0.26 U	20	16.4	82	62-118	
Dibromomethane	ug/L	0.50 U	20	17.4	87	70-130	
Ethylbenzene	ug/L	0.50 U	20	20.0	100	70-130	
Iodomethane	ug/L	0.50 U	40	16.8	42	10-164	J(v3)
Isopropylbenzene (Cumene)	ug/L	0.50 U	20	21.4	107	70-130	
m&p-Xylene	ug/L	1.0 U	40	41.2	103	70-130	
Methyl-tert-butyl ether	ug/L	0.50 U	20	16.8	84	64-124	
Methylene Chloride	ug/L	2.5 U	20	19.3	96	65-136	
o-Xylene	ug/L	0.50 U	20	19.8	99	70-130	
Styrene	ug/L	0.50 U	20	20.4	102	70-130	
Tetrachloroethene	ug/L	0.50 U	20	18.4	92	64-134	
Toluene	ug/L	0.50 U	20	20.6	103	70-130	
trans-1,2-Dichloroethene	ug/L	0.50 U	20	18.4	92	68-127	
trans-1,3-Dichloropropene	ug/L	0.25 U	20	17.4	87	65-121	
trans-1,4-Dichloro-2-butene	ug/L	5.0 U	20	16.9	85	42-129	
Trichloroethene	ug/L	0.50 U	20	19.0	95	70-130	
Trichlorofluoromethane	ug/L	0.50 U	20	21.1	105	65-135	
Vinyl acetate	ug/L	1.0 U	20	15.9	80	60-144	
Vinyl chloride	ug/L	0.50 U	20	21.2	106	68-131	
Xylene (Total)	ug/L	1.0 U	60	61.0	102	70-130	
1,2-Dichloroethane-d4 (S)	%				98	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

QUALITY CONTROL DATA

Project: JEA 5TH ST
Pace Project No.: 35508499

MATRIX SPIKE SAMPLE: 3171238

Parameter	Units	35508425002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				100	70-130	

SAMPLE DUPLICATE: 3171237

Parameter	Units	35508425001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	0.32 U		40	
1,1,1-Trichloroethane	ug/L	0.50 U	0.30 U		40	
1,1,2,2-Tetrachloroethane	ug/L	0.12 U	0.20 U		40	
1,1,2-Trichloroethane	ug/L	0.50 U	0.30 U		40	
1,1-Dichloroethane	ug/L	0.50 U	0.34 U		40	
1,1-Dichloroethene	ug/L	0.50 U	0.50 U		40	
1,2,3-Trichloropropane	ug/L	0.59 U	1.1 U		40	
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U		40	
1,2-Dibromo-3-chloropropane	ug/L	1.0 U	1.9 U		40	
1,2-Dibromoethane (EDB)	ug/L	0.50 U	0.31 U		40	
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U		40	
1,2-Dichloroethane	ug/L	0.50 U	0.50 U		40	
1,2-Dichloroethene (Total)	ug/L	0.50 U	0.27 U		40	N2
1,2-Dichloropropane	ug/L	0.50 U	0.23 U		40	
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U		40	
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U		40	
2-Butanone (MEK)	ug/L	5.0 U	5.0 U		40	
2-Hexanone	ug/L	5.0 U	0.85 U		40	J(v2)
4-Methyl-2-pentanone (MIBK)	ug/L	5.0 U	0.32 U		40	
Acetone	ug/L	10.0 U	5.3 U		40	J(v3)
Acetonitrile	ug/L	5.0 U	24.5 U		40	
Benzene	ug/L	0.10 U	0.10 U		40	
Bromochloromethane	ug/L	0.50 U	0.37 U		40	
Bromodichloromethane	ug/L	0.27 U	0.19 U		40	
Bromoform	ug/L	0.50 U	2.6 U		40	
Bromomethane	ug/L	0.50 U	4.0 U		40	J(v2)
Carbon disulfide	ug/L	5.0 U	1.4 I		40	J(v3)
Carbon tetrachloride	ug/L	0.50 U	0.50 U		40	
Chlorobenzene	ug/L	0.50 U	0.50 U		40	
Chloroethane	ug/L	0.50 U	3.7 U		40	
Chloroform	ug/L	0.50 U	0.50 U		40	
Chloromethane	ug/L	0.62 U	0.97 U		40	
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U		40	
cis-1,3-Dichloropropene	ug/L	0.25 U	0.17 U		40	
Dibromochloromethane	ug/L	0.26 U	0.45 U		40	
Dibromomethane	ug/L	0.50 U	0.68 U		40	
Ethylbenzene	ug/L	0.50 U	0.50 U		40	
Iodomethane	ug/L	0.50 U	9.3 U		40	
Isopropylbenzene (Cumene)	ug/L	0.50 U	0.50 U		40	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

QUALITY CONTROL DATA

Project: JEA 5TH ST
Pace Project No.: 35508499

SAMPLE DUPLICATE: 3171237

Parameter	Units	35508425001 Result	Dup Result	RPD	Max RPD	Qualifiers
m&p-Xylene	ug/L	1.0 U	1.0 U		40	
Methyl-tert-butyl ether	ug/L	0.50 U	0.50 U		40	
Methylene Chloride	ug/L	2.5 U	2.0 U		40	
o-Xylene	ug/L	0.50 U	0.50 U		40	
Styrene	ug/L	0.50 U	0.26 U		40	
Tetrachloroethene	ug/L	0.50 U	0.50 U		40	
Toluene	ug/L	0.50 U	0.50 U		40	
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U		40	
trans-1,3-Dichloropropene	ug/L	0.25 U	0.17 U		40	
trans-1,4-Dichloro-2-butene	ug/L	5.0 U	2.5 U		40	
Trichloroethene	ug/L	0.50 U	0.50 U		40	
Trichlorofluoromethane	ug/L	0.50 U	0.35 U		40	
Vinyl acetate	ug/L	1.0 U	0.19 U		40	J(v2)
Vinyl chloride	ug/L	0.50 U	0.50 U		40	
Xylene (Total)	ug/L	1.0 U	1.0 U		40	
1,2-Dichloroethane-d4 (S)	%	102	101		40	
4-Bromofluorobenzene (S)	%	92	93		40	
Toluene-d8 (S)	%	101	101		40	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

QUALITY CONTROL DATA

Project: JEA 5TH ST
Pace Project No.: 35508499

QC Batch: 583908 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 35508499002

METHOD BLANK: 3175041 Matrix: Water
Associated Lab Samples: 35508499002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	0.30 U	1.0	0.30	11/03/19 21:56	
1,1,2,2-Tetrachloroethane	ug/L	0.20 U	0.50	0.20	11/03/19 21:56	
1,1,2-Trichloroethane	ug/L	0.30 U	1.0	0.30	11/03/19 21:56	
1,1-Dichloroethane	ug/L	0.34 U	1.0	0.34	11/03/19 21:56	
1,1-Dichloroethene	ug/L	0.50 U	1.0	0.50	11/03/19 21:56	
1,2,4-Trichlorobenzene	ug/L	0.32 U	1.0	0.32	11/03/19 21:56	
1,2-Dichlorobenzene	ug/L	0.50 U	1.0	0.50	11/03/19 21:56	
1,2-Dichloroethane	ug/L	0.50 U	1.0	0.50	11/03/19 21:56	
1,2-Dichloropropane	ug/L	0.23 U	1.0	0.23	11/03/19 21:56	
1,3-Dichlorobenzene	ug/L	0.50 U	1.0	0.50	11/03/19 21:56	
1,4-Dichlorobenzene	ug/L	0.50 U	1.0	0.50	11/03/19 21:56	
2-Chloroethylvinyl ether	ug/L	1.4 U	40.0	1.4	11/03/19 21:56	J(v2)
Benzene	ug/L	0.10 U	1.0	0.10	11/03/19 21:56	
Bromodichloromethane	ug/L	0.19 U	0.60	0.19	11/03/19 21:56	
Bromoform	ug/L	2.6 U	3.0	2.6	11/03/19 21:56	
Bromomethane	ug/L	4.0 U	5.0	4.0	11/03/19 21:56	J(v2)
Carbon tetrachloride	ug/L	0.50 U	3.0	0.50	11/03/19 21:56	
Chlorobenzene	ug/L	0.50 U	1.0	0.50	11/03/19 21:56	
Chloroethane	ug/L	3.7 U	10.0	3.7	11/03/19 21:56	
Chloroform	ug/L	0.50 U	1.0	0.50	11/03/19 21:56	
Chloromethane	ug/L	0.97 U	1.0	0.97	11/03/19 21:56	J(v2)
cis-1,2-Dichloroethene	ug/L	0.50 U	1.0	0.50	11/03/19 21:56	
cis-1,3-Dichloropropene	ug/L	0.17 U	0.50	0.17	11/03/19 21:56	
Dibromochloromethane	ug/L	0.45 U	2.0	0.45	11/03/19 21:56	
Ethylbenzene	ug/L	0.50 U	1.0	0.50	11/03/19 21:56	
Methyl-tert-butyl ether	ug/L	0.50 U	2.0	0.50	11/03/19 21:56	
Methylene Chloride	ug/L	2.0 U	5.0	2.0	11/03/19 21:56	
Tetrachloroethene	ug/L	0.50 U	1.0	0.50	11/03/19 21:56	
Toluene	ug/L	0.50 U	1.0	0.50	11/03/19 21:56	
trans-1,2-Dichloroethene	ug/L	0.50 U	1.0	0.50	11/03/19 21:56	
trans-1,3-Dichloropropene	ug/L	0.17 U	0.50	0.17	11/03/19 21:56	
Trichloroethene	ug/L	0.50 U	1.0	0.50	11/03/19 21:56	
Vinyl chloride	ug/L	0.50 U	1.0	0.50	11/03/19 21:56	
Xylene (Total)	ug/L	1.0 U	5.0	1.0	11/03/19 21:56	
1,2-Dichloroethane-d4 (S)	%	102	70-130		11/03/19 21:56	
4-Bromofluorobenzene (S)	%	100	70-130		11/03/19 21:56	
Toluene-d8 (S)	%	104	70-130		11/03/19 21:56	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

QUALITY CONTROL DATA

Project: JEA 5TH ST
Pace Project No.: 35508499

LABORATORY CONTROL SAMPLE: 3175042

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.7	103	70-130	
1,1,2,2-Tetrachloroethane	ug/L	20	18.8	94	68-125	
1,1,2-Trichloroethane	ug/L	20	19.2	96	70-130	
1,1-Dichloroethane	ug/L	20	19.7	99	70-130	
1,1-Dichloroethene	ug/L	20	19.3	96	66-133	
1,2,4-Trichlorobenzene	ug/L	20	16.7	84	63-124	J(v3)
1,2-Dichlorobenzene	ug/L	20	19.1	96	70-130	
1,2-Dichloroethane	ug/L	20	16.7	84	70-130	
1,2-Dichloropropane	ug/L	20	19.2	96	70-130	
1,3-Dichlorobenzene	ug/L	20	19.3	96	70-130	
1,4-Dichlorobenzene	ug/L	20	18.8	94	70-130	
2-Chloroethylvinyl ether	ug/L	20	15.7 I	79	41-140	J(v3)
Benzene	ug/L	20	19.5	98	70-130	
Bromodichloromethane	ug/L	20	19.6	98	70-130	
Bromoform	ug/L	20	17.3	86	49-126	
Bromomethane	ug/L	20	4.0 U	13	10-165	J(v3)
Carbon tetrachloride	ug/L	20	19.5	98	63-126	
Chlorobenzene	ug/L	20	19.1	95	70-130	
Chloroethane	ug/L	20	20.6	103	71-142	
Chloroform	ug/L	20	19.2	96	70-130	
Chloromethane	ug/L	20	14.6	73	40-140	J(v3)
cis-1,2-Dichloroethene	ug/L	20	18.3	92	70-130	
cis-1,3-Dichloropropene	ug/L	20	18.1	91	70-130	
Dibromochloromethane	ug/L	20	17.8	89	62-118	
Ethylbenzene	ug/L	20	19.8	99	70-130	
Methyl-tert-butyl ether	ug/L	20	17.2	86	64-124	
Methylene Chloride	ug/L	20	18.3	92	65-136	
Tetrachloroethene	ug/L	20	19.5	98	64-134	
Toluene	ug/L	20	20.1	101	70-130	
trans-1,2-Dichloroethene	ug/L	20	17.3	86	68-127	
trans-1,3-Dichloropropene	ug/L	20	18.1	90	65-121	
Trichloroethene	ug/L	20	18.8	94	70-130	
Vinyl chloride	ug/L	20	18.8	94	68-131	
Xylene (Total)	ug/L	60	60.3	101	70-130	
1,2-Dichloroethane-d4 (S)	%			96	70-130	
4-Bromofluorobenzene (S)	%			103	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 3175044

Parameter	Units	35508182003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	0.30 U	20	19.7	99	70-130	
1,1,2,2-Tetrachloroethane	ug/L	0.20 U	20	19.3	96	68-125	
1,1,2-Trichloroethane	ug/L	0.30 U	20	18.4	92	70-130	
1,1-Dichloroethane	ug/L	0.34 U	20	18.5	93	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

QUALITY CONTROL DATA

Project: JEA 5TH ST
Pace Project No.: 35508499

MATRIX SPIKE SAMPLE: 3175044

Parameter	Units	35508182003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	0.50 U	20	18.9	94	66-133	
1,2,4-Trichlorobenzene	ug/L	0.32 U	20	14.8	74	63-124	J(v3)
1,2-Dichlorobenzene	ug/L	0.50 U	20	17.6	88	70-130	
1,2-Dichloroethane	ug/L	0.50 U	20	16.0	80	70-130	
1,2-Dichloropropane	ug/L	0.23 U	20	17.9	89	70-130	
1,3-Dichlorobenzene	ug/L	0.50 U	20	17.7	88	70-130	
1,4-Dichlorobenzene	ug/L	0.50 U	20	17.4	87	70-130	
2-Chloroethylvinyl ether	ug/L	1.4 U	20	1.4 U	0	41-140	J(M1),J(v2)
Benzene	ug/L	0.10 U	20	18.1	91	70-130	
Bromodichloromethane	ug/L	0.19 U	20	18.0	90	70-130	
Bromoform	ug/L	2.6 U	20	15.4	77	49-126	
Bromomethane	ug/L	4.0 U	20	4.0 U	5	10-165	J(M1),J(v2)
Carbon tetrachloride	ug/L	0.50 U	20	18.7	93	63-126	
Chlorobenzene	ug/L	0.50 U	20	17.4	87	70-130	
Chloroethane	ug/L	3.7 U	20	19.4	97	71-142	
Chloroform	ug/L	0.50 U	20	17.6	88	70-130	
Chloromethane	ug/L	0.97 U	20	12.9	65	40-140	J(v3)
cis-1,2-Dichloroethene	ug/L	0.50 U	20	17.0	85	70-130	
cis-1,3-Dichloropropene	ug/L	0.17 U	20	15.1	75	70-130	
Dibromochloromethane	ug/L	0.45 U	20	16.1	81	62-118	
Ethylbenzene	ug/L	0.50 U	20	18.2	91	70-130	
Methyl-tert-butyl ether	ug/L	0.50 U	20	16.1	80	64-124	
Methylene Chloride	ug/L	2.0 U	20	17.3	86	65-136	
Tetrachloroethene	ug/L	0.50 U	20	17.2	86	64-134	
Toluene	ug/L	0.50 U	20	19.2	96	70-130	
trans-1,2-Dichloroethene	ug/L	0.50 U	20	16.4	82	68-127	
trans-1,3-Dichloropropene	ug/L	0.17 U	20	16.2	81	65-121	
Trichloroethene	ug/L	0.50 U	20	17.2	86	70-130	
Vinyl chloride	ug/L	0.50 U	20	15.7	79	68-131	
Xylene (Total)	ug/L	1.0 U	60	54.7	91	70-130	
1,2-Dichloroethane-d4 (S)	%				100	70-130	
4-Bromofluorobenzene (S)	%				97	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 3175043

Parameter	Units	35508182002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	0.30 U	0.30 U		40	
1,1,2,2-Tetrachloroethane	ug/L	0.20 U	0.20 U		40	
1,1,2-Trichloroethane	ug/L	0.30 U	0.30 U		40	
1,1-Dichloroethane	ug/L	0.34 U	0.34 U		40	
1,1-Dichloroethene	ug/L	0.50 U	0.50 U		40	
1,2,4-Trichlorobenzene	ug/L	0.32 U	0.32 U		40	J(v2)
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U		40	
1,2-Dichloroethane	ug/L	0.50 U	0.50 U		40	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

QUALITY CONTROL DATA

Project: JEA 5TH ST
Pace Project No.: 35508499

SAMPLE DUPLICATE: 3175043

Parameter	Units	35508182002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloropropane	ug/L	0.23 U	0.23 U		40	
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U		40	
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U		40	
2-Chloroethylvinyl ether	ug/L	1.4 U	1.4 U		40	J(v2)
Benzene	ug/L	0.10 U	0.10 U		40	
Bromodichloromethane	ug/L	0.19 U	0.19 U		40	
Bromoform	ug/L	2.6 U	2.6 U		40	
Bromomethane	ug/L	4.0 U	4.0 U		40	J(v2)
Carbon tetrachloride	ug/L	0.50 U	0.50 U		40	
Chlorobenzene	ug/L	0.50 U	0.50 U		40	
Chloroethane	ug/L	3.7 U	3.7 U		40	
Chloroform	ug/L	0.50 U	0.50 U		40	
Chloromethane	ug/L	0.97 U	0.97 U		40	J(v2)
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U		40	
cis-1,3-Dichloropropene	ug/L	0.17 U	0.17 U		40	
Dibromochloromethane	ug/L	0.45 U	0.45 U		40	
Ethylbenzene	ug/L	0.50 U	0.50 U		40	
Methyl-tert-butyl ether	ug/L	0.50 U	0.50 U		40	
Methylene Chloride	ug/L	2.0 U	2.0 U		40	
Tetrachloroethene	ug/L	0.50 U	0.50 U		40	
Toluene	ug/L	0.50 U	0.50 U		40	
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U		40	
trans-1,3-Dichloropropene	ug/L	0.17 U	0.17 U		40	
Trichloroethene	ug/L	0.50 U	0.50 U		40	
Vinyl chloride	ug/L	0.50 U	0.50 U		40	
Xylene (Total)	ug/L	1.0 U	1.0 U		40	
1,2-Dichloroethane-d4 (S)	%	103	100		40	
4-Bromofluorobenzene (S)	%	94	96		40	
Toluene-d8 (S)	%	102	101		40	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
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QUALITY CONTROL DATA

Project: JEA 5TH ST
Pace Project No.: 35508499

QC Batch: 583130 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: 8011 EDB DBCP
Associated Lab Samples: 35508499002

METHOD BLANK: 3170470 Matrix: Water
Associated Lab Samples: 35508499002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.0075 U	0.010	0.0075	11/05/19 05:35	

LABORATORY CONTROL SAMPLE: 3170471

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.25	102	60-140	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3170472 3170473

Parameter	Units	35508201001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	0.0077 U	0.44	0.44	0.50	0.50	113	115	60-140	1	40	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

QUALITY CONTROL DATA

Project: JEA 5TH ST
Pace Project No.: 35508499

QC Batch: 583454 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAHLV by SIM MSSV
Associated Lab Samples: 35508499001, 35508499002

METHOD BLANK: 3172127 Matrix: Water
Associated Lab Samples: 35508499001, 35508499002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	0.19 U	2.0	0.19	11/02/19 14:18	
2-Methylnaphthalene	ug/L	0.68 U	2.0	0.68	11/02/19 14:18	
Acenaphthene	ug/L	0.040 U	0.50	0.040	11/02/19 14:18	
Acenaphthylene	ug/L	0.030 U	0.50	0.030	11/02/19 14:18	
Anthracene	ug/L	0.043 U	0.50	0.043	11/02/19 14:18	
Benzo(a)anthracene	ug/L	0.055 U	0.10	0.055	11/02/19 14:18	
Benzo(a)pyrene	ug/L	0.12 U	0.20	0.12	11/02/19 14:18	
Benzo(b)fluoranthene	ug/L	0.027 U	0.10	0.027	11/02/19 14:18	
Benzo(g,h,i)perylene	ug/L	0.15 U	0.50	0.15	11/02/19 14:18	
Benzo(k)fluoranthene	ug/L	0.16 U	0.50	0.16	11/02/19 14:18	
Chrysene	ug/L	0.026 U	0.50	0.026	11/02/19 14:18	
Dibenz(a,h)anthracene	ug/L	0.13 U	0.15	0.13	11/02/19 14:18	
Fluoranthene	ug/L	0.018 U	0.50	0.018	11/02/19 14:18	
Fluorene	ug/L	0.088 U	0.50	0.088	11/02/19 14:18	
Indeno(1,2,3-cd)pyrene	ug/L	0.12 U	0.15	0.12	11/02/19 14:18	
Naphthalene	ug/L	0.29 U	2.0	0.29	11/02/19 14:18	
Phenanthrene	ug/L	0.16 U	0.50	0.16	11/02/19 14:18	
Pyrene	ug/L	0.032 U	0.50	0.032	11/02/19 14:18	
2-Fluorobiphenyl (S)	%	68	38-92		11/02/19 14:18	
p-Terphenyl-d14 (S)	%	79	54-112		11/02/19 14:18	

LABORATORY CONTROL SAMPLE: 3172128

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	5	3.6	72	40-96	
2-Methylnaphthalene	ug/L	5	3.5	70	40-94	
Acenaphthene	ug/L	5	4.0	80	42-96	
Acenaphthylene	ug/L	5	3.7	73	39-90	
Anthracene	ug/L	5	4.3	86	46-109	
Benzo(a)anthracene	ug/L	5	4.5	90	50-116	
Benzo(a)pyrene	ug/L	5	4.6	92	48-117	
Benzo(b)fluoranthene	ug/L	5	4.7	94	51-124	
Benzo(g,h,i)perylene	ug/L	5	4.7	93	47-121	
Benzo(k)fluoranthene	ug/L	5	4.8	96	50-125	
Chrysene	ug/L	5	5.0	99	53-122	
Dibenz(a,h)anthracene	ug/L	5	4.6	92	45-123	
Fluoranthene	ug/L	5	4.4	87	52-119	
Fluorene	ug/L	5	3.8	77	44-100	
Indeno(1,2,3-cd)pyrene	ug/L	5	4.6	92	46-121	
Naphthalene	ug/L	5	3.6	72	40-91	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
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(386)672-5668

QUALITY CONTROL DATA

Project: JEA 5TH ST
Pace Project No.: 35508499

LABORATORY CONTROL SAMPLE: 3172128

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenanthrene	ug/L	5	4.5	89	47-111	
Pyrene	ug/L	5	4.4	89	51-120	
2-Fluorobiphenyl (S)	%			65	38-92	
p-Terphenyl-d14 (S)	%			76	54-112	

MATRIX SPIKE SAMPLE: 3172685

Parameter	Units	35508425001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	0.19 U	5	3.5	69	40-96	
2-Methylnaphthalene	ug/L	0.68 U	5	3.4	67	40-94	
Acenaphthene	ug/L	0.040 U	5	3.8	76	42-96	
Acenaphthylene	ug/L	0.030 U	5	3.5	70	39-90	
Anthracene	ug/L	0.043 U	5	4.4	88	46-109	
Benzo(a)anthracene	ug/L	0.055 U	5	4.6	91	50-116	
Benzo(a)pyrene	ug/L	0.12 U	5	4.6	91	48-117	
Benzo(b)fluoranthene	ug/L	0.027 U	5	4.6	92	51-124	
Benzo(g,h,i)perylene	ug/L	0.15 U	5	4.6	91	47-121	
Benzo(k)fluoranthene	ug/L	0.16 U	5	4.8	95	50-125	
Chrysene	ug/L	0.026 U	5	4.9	99	53-122	
Dibenz(a,h)anthracene	ug/L	0.13 U	5	4.6	91	45-123	
Fluoranthene	ug/L	0.018 U	5	4.5	90	52-119	
Fluorene	ug/L	0.088 U	5	3.7	74	44-100	
Indeno(1,2,3-cd)pyrene	ug/L	0.12 U	5	4.5	91	46-121	
Naphthalene	ug/L	0.29 U	5	3.6	72	40-91	
Phenanthrene	ug/L	0.16 U	5	4.4	88	47-111	
Pyrene	ug/L	0.032 U	5	4.5	90	51-120	
2-Fluorobiphenyl (S)	%				63	38-92	
p-Terphenyl-d14 (S)	%				77	54-112	

SAMPLE DUPLICATE: 3172686

Parameter	Units	35508497001 Result	Dup Result	RPD	Max RPD	Qualifiers
1-Methylnaphthalene	ug/L	0.19 U	0.19 U		40	
2-Methylnaphthalene	ug/L	0.68 U	0.68 U		40	
Acenaphthene	ug/L	0.040 U	0.040 U		40	
Acenaphthylene	ug/L	0.030 U	0.030 U		40	
Anthracene	ug/L	0.043 U	0.043 U		40	
Benzo(a)anthracene	ug/L	0.055 U	0.055 U		40	
Benzo(a)pyrene	ug/L	0.12 U	0.12 U		40	
Benzo(b)fluoranthene	ug/L	0.027 U	0.027 U		40	
Benzo(g,h,i)perylene	ug/L	0.15 U	0.15 U		40	
Benzo(k)fluoranthene	ug/L	0.16 U	0.16 U		40	
Chrysene	ug/L	0.026 U	0.026 U		40	
Dibenz(a,h)anthracene	ug/L	0.13 U	0.13 U		40	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

QUALITY CONTROL DATA

Project: JEA 5TH ST
Pace Project No.: 35508499

SAMPLE DUPLICATE: 3172686

Parameter	Units	35508497001 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoranthene	ug/L	0.018 U	0.018 U		40	
Fluorene	ug/L	0.088 U	0.088 U		40	
Indeno(1,2,3-cd)pyrene	ug/L	0.12 U	0.12 U		40	
Naphthalene	ug/L	0.29 U	0.29 U		40	
Phenanthrene	ug/L	0.16 U	0.16 U		40	
Pyrene	ug/L	0.032 U	0.032 U		40	
2-Fluorobiphenyl (S)	%	65	67			
p-Terphenyl-d14 (S)	%	77	77			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

QUALITY CONTROL DATA

Project: JEA 5TH ST
Pace Project No.: 35508499

QC Batch: 583705
QC Batch Method: EPA 3510
Analysis Method: FL-PRO
Analysis Description: FL-PRO Water Low Volume
Associated Lab Samples: 35508499002

METHOD BLANK: 3173560 Matrix: Water
Associated Lab Samples: 35508499002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Petroleum Range Organics	mg/L	0.80 U	1.0	0.80	11/04/19 09:36	
N-Pentatriacontane (S)	%	81	42-159		11/04/19 09:36	
o-Terphenyl (S)	%	80	66-139		11/04/19 09:36	

LABORATORY CONTROL SAMPLE: 3173561

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Petroleum Range Organics	mg/L	5	3.9	77	66-119	
N-Pentatriacontane (S)	%			94	42-159	
o-Terphenyl (S)	%			81	66-139	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3173737 3173738

Parameter	Units	35508703001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Petroleum Range Organics	mg/L	0.74 U	4.8	4.8	3.7	3.9	77	81	65-123	5	20	
N-Pentatriacontane (S)	%						92	88	42-159			
o-Terphenyl (S)	%						80	86	66-139			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
8 East Tower Circle
Ormond Beach, FL 32174
(386)672-5668

QUALIFIERS

Project: JEA 5TH ST
Pace Project No.: 35508499

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Compound was analyzed for but not detected.
1p	Surrogate loss due to heavy emulsion (noted in prep log)
J(M1)	Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
J(S5)	Estimated Value. Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).
J(v2)	The continuing calibration verification was below the method acceptance limit. The analyte was not detected in the associated samples and the sensitivity of the instrument was verified with a reporting limit check standard.
J(v3)	The continuing calibration verification was below the method acceptance limit. Any detection for the analyte in the associated samples may have a low bias.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
c2	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JEA 5TH ST
Pace Project No.: 35508499

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35508499002	**FS-TMW-2**	EPA 8011	583130	EPA 8011	583426
35508499002	**FS-TMW-2**	EPA 3510	583705	FL-PRO	583938
35508499001	**FS-TMW-1**	EPA 3010	583131	EPA 6010	583219
35508499002	**FS-TMW-2**	EPA 3010	583131	EPA 6010	583219
35508499001	**FS-TMW-1**	EPA 3510	583454	EPA 8270 by SIM	583689
35508499002	**FS-TMW-2**	EPA 3510	583454	EPA 8270 by SIM	583689
35508499001	**FS-TMW-1**	EPA 8260	583339		
35508499002	**FS-TMW-2**	EPA 8260	583908		

WO# : 35508499

35508499

/ Analytical Request Document

DOCUMENT. All relevant fields must be completed accurately.

Section A — **Required Client Information:**

Company: Meskel & Associates Engineering, Inc.	Report To: Gabriel Pastrana, P.E.	Attention:	
Address: 12348 Guava Court	Copy To: SCOTT DAVIDSON	Company Name:	Regulatory Agency
Jacksonville, FL 32225		Address:	
Email: g.pastrana@outlook.com	Purchase Order #:	Pace Quote:	
Phone: NONE Fax:	Project Name: JEA 5th Street West	Pace Project Manager: todd.rea@pacelabs.com,	State / Location
Requested Due Date:	Project #: ~~[illegible]~~ 5 0103-0019	Pace Profile #: 10619-9,12	FL

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	VOC by 8260	PAH 8270 by SIM	RCRA 4 Total (6020)	RCRA 4 Dissolved (6020)	VOA/VOH by 8260	EDB by 8011	TRPH FL-PRO	Lead Total (6010)	Lead Dissolved (6010)	PAH 8270 by SIM		Residual Chlorine (Y/N)	
1	FS-TMW-1	WT	G	10/29/19	10:34														X	X	X	X									* HOLD DISS METALS PENDING TOTAL ANALYSIS
2	FS-TMW-2	WT	G	10/29/19	12:24																		X	X	X	X	X	X			
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
EMPTY CONTAINERS	PACE	10/28/2019	1100	MAE	10/29/19	0900	
Proj No. 0103-0018	MAE	10/30/19	1210	PACE	10/30/19	1210	
HOLD DISSOLVED METALS	PACE	10/30/19	1700	FLX	10/30/19	1700	
	FLX			JMT	10/31	0830	Y N Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: GABRIEL PASTRANA

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/30/19

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Y	N	Y

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

Sample Condition Upon Receipt Form (SCUR)

WO# : 35508499
PM: TSR Due Date: 11/06/19
CLIENT: MEASEN

Project #
Project Manager:
Client:

Date and Initials of person:
examining contents:
abel:
eliver:
pH:

Thermometer Used: T-300 Date: 10/31/19 Time: 00:40 Initials: JMV

State of Origin: _____ ☐ For WV projects, all containers verified to ≤6 °C

Cooler #1 Temp.°C	2.4 (Visual)	0 (Correction Factor)	2.4 (Actual)	☐ Samples on ice, cooling process has begun
Cooler #2 Temp.°C	_____ (Visual)	_____ (Correction Factor)	_____ (Actual)	☐ Samples on ice, cooling process has begun
Cooler #3 Temp.°C	_____ (Visual)	_____ (Correction Factor)	_____ (Actual)	☐ Samples on ice, cooling process has begun
Cooler #4 Temp.°C	_____ (Visual)	_____ (Correction Factor)	_____ (Actual)	☐ Samples on ice, cooling process has begun
Cooler #5 Temp.°C	_____ (Visual)	_____ (Correction Factor)	_____ (Actual)	☐ Samples on ice, cooling process has begun
Cooler #6 Temp.°C	_____ (Visual)	_____ (Correction Factor)	_____ (Actual)	☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace ☐ Other_____

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

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

Tracking # _____

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No **Seals intact:** ☐ Yes ☐ No **Ice:** (Wet) Blue Dry None

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other_____

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

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

Client Notification/ Resolution:
Person Contacted: _____ Date/Time: _____

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

Project Manager Review: _____ Date: _____

Appendix E

NOTICE OF INTENT
TO USE THE GENERIC PERMIT
FOR DISCHARGE OF GROUND WATER
FROM DEWATERING OPERATIONS
(subsection 62-621.300(2), F.A.C.)

PART I INSTRUCTIONS

A. Will dewatering operations be performed as part of construction activities?

☐ NO Continue completing this form.

☐ YES You may elect to obtain coverage under the Generic Permit for Stormwater Discharge from Large and Small Construction Activities (CGP), DEP Form 62-621.300(4)(b), which will cover both the construction and dewatering operations.

B. This Notice of Intent (NOI) form shall be completed and submitted to the industrial wastewater program at the local DEP office as part of the request for coverage under the Generic Permit for Discharge of Ground Water from Dewatering Operations subsection 62-621.300(2)(a), F.A.C., at least 14 days prior to planned commencement of discharge. For the purposes of this generic permit, 'dewatering operations' means temporarily lowering the water table by draining or pumping of ground water from activities such as excavations, building foundations, vaults, trenches and aquifer performance tests for exploratory purposes. Applicants should be familiar with the rule, generic permit document and instructions before completing this NOI form. Attach additional information on separate sheets as necessary.

1. Submit this completed form and supporting documentation and the $100.00 application fee to the industrial wastewater program at the local DEP office. Electronic submittal is preferred and may be available at http://www.dep.state.fl.us/water/wastewater/iw/iw-forms.htm. To locate a local DEP office, go to: http://www.dep.state.fl.us/secretary/dist/default.htm.
2. Checks should be payable to the Florida Department of Environmental Protection. **DEP will not process this form without the appropriate fee.**
3. If an item is not applicable to your project, indicate "NA" in the appropriate space provided.

PART II DEWATERING INFORMATION:

A. Is the project site currently identified as contaminated, or is there a site within 500 feet of the dewatering project identified as contaminated, by a DEP or EPA cleanup/restoration program? You may use the Quick Links to DEP's Contamination Locator Map (CLM) and DEP's Institutional Controls Registry (ICR) Web Viewer to determine cleanup restoration status. You may access the CLM at: http://webapps.dep.state.fl.us/DepClnup/welcome.do, or http://ca.dep.state.fl.us/mapdirect/?focus=contamlocator. The ICR may be accessed at: http://www.dep.state.fl.us/waste/categories/brownfields/pages/ICR.htm, or http://ca.dep.state.fl.us/mapdirect/?focus=icr

☐ YES Continue to B.

☐ NO Continue to D.

DEP Form 62-621.300(2)(b) incorporated in subsection 62-621.300(2), F.A.C.
Effective 02/2015

B. Has the site been remediated?

☐ YES Continue to D.

☐ NO Continue to C.

C. Are the pollutants of concern (i.e. contamination) present in ground water at the dewatering project site at concentrations equal to or exceeding the surface water criteria in Rule 62-302.530?

☐ YES Dewatering operations do not qualify for coverage under this generic permit. However, the site may qualify for coverage under Rule 62-621.300(1), F.A.C., or under an individual wastewater permit on the appropriate form listed in Rule 62-620.910, F.A.C.

☐ NO Continue to D.

D. Have Best Management Practices (BMPs) for this generic permit been developed or addressed in an existing BMP plan in accordance to the requirements of this generic permit. BMPs must be implemented upon commencement of the discharge

☐ YES Continue to Part III.

☐ NO Your application cannot be processed until this item is complete.

NOTE: Chemical treatment is allowed as described in the Best Management Practices of the Generic Permit. However, sites that use cationic treatment chemicals are not eligible for coverage under Generic Permit for Discharge of Ground Water from Dewatering Operations unless concurrence from the applicable local DEP office is obtained in advance of the submittal of this NOI. Appropriate controls and implementation procedures designed to ensure that the use of cationic treatment chemicals will not cause or contribute to a violation of water quality standards shall be included in the site specific BMPs.

PART III DISCHARGE INFORMATION:

A. Please identify receiving surface water body.

PART IV SITE INFORMATION

A. COVERAGE STATUS:

1. Is this application for new coverage or for renewal of coverage under the generic permit?	New ☐ Renewal ☐
2. If this application is for renewal of coverage under the generic permit, provide the FLG No.	FLG No:

B. NAME OF SITE:

Site Name:

C. PERMITTEE INFORMATION:

1. Name:	2. Title (Owner, Operator, Contractor, etc.):	
3. Phone No.: ( ) -	4. Fax No.: ( ) -	
4. Email Address:		
5. Street or P. O. Box:		
6. City or Town:	7. State:	8. Zip Code:

D. SITE LOCATION INFORMATION:

1. Street, Route or Other Specific Identifier:		
2. County:		
3. City or Town:	4. State:	5. Zip Code:
6. Latitude: ° ′ ″	7. Longitude: ° ′ ″	
8. If records required in accordance with Part V. of DEP Document 62-621.300(2)(a), are kept off-site, please provide the physical address of site where records will be kept. Note: location must be accessible for inspection of records by the Department.		

PART V CERTIFICATIONS

A. OWNER OR OPERATOR[1]

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ _____

Name & Official Title (type or print) Signature

_____ _____

Telephone No. Date signed

_____

Email Address

[1] Signatory requirements are contained in Rule 62-620.305, F.A.C.

DEP Form 62-621.300(2)(b) incorporated in subsection 62-621.300(2), F.A.C.
Effective 02/2015

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL PROTECTION

GENERIC PERMIT

FOR

DISCHARGES FROM PETROLEUM

CONTAMINATED SITES

Document number 62-621.300(1)
Effective Date: February 14, 2000

Generic Permit for Discharges From Petroleum Contaminated Sites

(1) Effluent Limitations and Monitoring Requirements for Existing Sources and New Dischargers.

(a) Contamination by Automotive Gasoline. The facility is authorized to discharge treated ground water and storm water that has been contaminated by automotive gasoline. These contaminated waters shall be treated by air stripping, followed by activated carbon adsorption, if necessary, or equivalent treatment to meet the following effluent limitations. Such discharges shall be limited and monitored by the permittee as specified in Table 1:

Table 1

	Effluent Limitations		Monitoring Requirements	
Effluent Characteristic	Daily Avg	Daily Max	Measurement Frequency	Sample Type
Flow, (MGD)	Report	Report	Continuous	Flowmeter
Benzene, μg/l	------	1.0	1/month	Grab
*Total Lead μg/l	------	30.0	1/month	Grab
pH, Standard Units	See Paragraph (1)(a)2			Grab or Continuous
Acute Whole Effluent Toxicity	See Paragraph (1)(a)1 and Paragraph (2)(b)			Grab

*Monitoring for this parameter is required only when contamination results from leaded fuel.

1. An LC_{50} of 100% or less in a test of 96 hours duration or less shall constitute a violation of Rule 62-4.244(3)(a), F.A.C., and the terms of this permit. The testing for this requirement must conform with Rule 62-621.800, F.A.C.

2. For fresh waters and coastal waters, the pH of the effluent shall not be lowered to less than 6.0 units for fresh waters, or less than 6.5 units for coastal waters, or raised above 8.5 units, unless the permittee submits natural background data in the NOI request confirming a natural background pH outside of this range. If natural background of the receiving water, as revealed by sampling data from the permittee in the NOI request, is determined to be less than 6.0 units for fresh waters, or less than 6.5 units in coastal waters, the pH shall not vary below natural background or vary more than one (1) unit above natural background for fresh and coastal waters. If natural

background of the receiving water, as revealed by sampling data from the permittee in the NOI request, is determined to be higher than 8.5 units, the pH shall not vary above natural background or vary more than one (1) unit below natural background of fresh and coastal waters. The acceptable pH range shall be included in the letter granting permit coverage and on the DMR. The pH shall be monitored once every month by grab sample, or continuously with a recorder. For purposes of this section only, fresh waters are those having a chloride concentration of less than 1500 mg/l, and coastal waters are those having a chloride concentration equal to or greater than 1500 mg/l.

3. In accordance with Rule 62-302.500(1)(a-c), F.A.C., the discharge shall at all times be free from floating solids, visible foam, turbidity, or visible oil in such amounts as to form nuisances on surface waters.

4. Samples taken in compliance with the monitoring requirements specified above shall be taken at the nearest accessible point after final treatment but prior to actual discharge or mixing with the receiving waters.

(b) Contamination by Aviation Gasoline, Jet Fuel or Diesel Fuel. The permittee is authorized to discharge treated ground water and storm water that has been contaminated by aviation gasoline, jet fuel or diesel fuel. These contaminated waters shall be treated by air stripping, followed by activated carbon adsorption, if necessary, or equivalent treatment to meet the following effluent limitations. Such discharges shall be limited and monitored by the permittee as specified in Table 2:

Table 2

	Effluent Limitations		Monitoring Requirements	
Effluent Characteristic	Daily Avg	Daily Max	Measurement Frequency	Sample Type
Flow, (MGD)	Report	Report	Continuous	Flowmeter
Benzene, μg/l	------	1.0	1/month	Grab
Naphthalene, μg/l	------	100.0	1/month	Grab
*Total Lead μg/l	------	30.0	1/month	Grab
pH, Standard Units	See Paragraph (1)(b)2			Grab or Continuous
Acute Whole Effluent Toxicity	See Paragraph (1)(b)1 and Paragraph (2)(b)			Grab

*Monitoring for this parameter is required only when contamination results from leaded fuel.

1. An LC_{50} of 100% or less in a test of 96 hours duration or less shall constitute a violation of Rule 62-4.244(3)(a), F.A.C., and the terms of this permit. The testing for this requirement must conform with Rule 62-621.800, F.A.C.

2. The permittee shall comply with the same pH requirements as specified in paragraph (1)(a)2, of this permit. The pH shall be monitored once every month by grab sample, or continuously with a recorder.

3. In accordance with Rule 62-302.500(1)(a-c), F.A.C., the discharge shall at all times be free from floating solids, visible foam, turbidity, or visible oil in such amounts as to form nuisances on surface waters.

4. Samples taken in compliance with the monitoring requirements specified above shall be taken at the nearest accessible point after final treatment but prior to actual discharge or mixing with the receiving waters.

(c) Short term discharges.

1. If benzene, naphthalene, or total lead concentrations indicative of contamination from petroleum fuels are known to be present as a result of site assessment, and the discharge will occur for thirty (30) days or less, the permittee shall comply with the applicable effluent limitations and monitoring requirements shown in Table 3.

Table 3

	Effluent Limitations		Monitoring Requirements	
Effluent Characteristic	Daily Avg	Daily Max	Measurement Frequency	Sample Type
Flow, (MGD)	Report	Report	Continuous	Flowmeter
Benzene, μg/l	------	1.0	1/week	Grab
Naphthalene, μg/l	------	100.0	1/week	Grab
*Total Lead μg/l	------	30.0	1/week	Grab
pH, Standard Units	See Paragraph (1)(a)2			Grab or Continuous

a. For discharges that last for less than one week, daily monitoring shall be required for the applicable parameters.

b. Discharge Monitoring Reports shall be submitted to the Department within thirty (30) days after termination of the discharge, along with a letter stating that discharge has ceased.

c. Coverage under paragraph (1)(c)1 is limited to a total of 30 days of discharge.

2. If benzene, naphthalene, or total lead concentrations indicative of contamination from petroleum fuels are known to be present as a result of site assessment, and the discharge is for a pump test to characterize the aquifer and will last for eight (8) hours or less, the discharge is covered under this generic permit if the following conditions are met.

a. The effluent limitations shown in Table 3 are met.

b. A Discharge Monitoring Report is sent to the Department within thirty (30) days after termination of the discharge.

c. Coverage under paragraph (1)(c)2 is limited to a total of eight (8) hours of discharge.

3. Applicants who wish to be covered under the provisions of paragraph(1)(c)1 or 2 but have not had the site assessed, may obtain coverage only if the reported values for the parameters listed in Table 4 do not exceed any of the listed screening values. Before discharge can occur, analytical tests on untreated samples of the ground water shall be performed for the parameters listed in Table 4.

Table 4

	Screening Values for Discharge into:	
Parameter	Fresh Waters	Coastal Waters
Total Organic Carbon (TOC)	10.0 mg/l	10.0 mg/l
pH, standard units	6.0-8.5	6.5-8.5
Total Recoverable Mercury	0.012 μg/l	0.025 μg/l
Total Recoverable Cadmium	9.3 μg/l	9.3 μg/l
Total Recoverable Copper	2.9 μg/l	2.9 μg/l
Total Recoverable Lead	0.03 mg/l	5.6 μg/l
Total Recoverable Zinc	86.0 μg/l	86.0 μg/l
Total Recoverable Chromium (Hex.)	11.0 μg/l	50.0 μg/l
Benzene	1.0 μg/l	1.0 μg/l
Naphthalene	100.0 μg/l	100.0 μg/l

a. If any of the analytical test results exceed the screening values in Table 4, except TOC, benzene, naphthalene, and lead, then discharge is not authorized by this permit.

b. For initial TOC values that exceed the screening values listed in Table 4, which may be caused by naturally-occurring, high molecular weight organic compounds, the permittee may request to be exempted from the TOC requirement. To request this exemption the permittee shall submit additional information with an NOI which describes the method used to determine that these compounds are naturally occurring.

c. If levels of benzene, naphthalene, or lead are detected in amounts that exceed the screening values listed in Table 4, which indicate contamination from petroleum fuels, the facility may proceed in accordance with paragraph (1)(c)1 or 2.

(2) Other permit requirements.

(a) Within sixty (60) days after the effective date of this permit or startup of discharge, the permittee shall submit the results of the following analyses. These analyses are not required for short term dischargers covered under paragraph (1)(c). These analyses shall be performed on a representative sample of the ground water effluent discharge, taken after final treatment.

The following analyses are required one time only during the coverage of this permit:

1. EPA Method 625 - Acid and Base/Neutral Extractable Organics

2. EPA Method 624 - Purgeable Organics

(b) Within thirty (30) days after commencement of discharge, permittees, other than those seeking coverage under paragraph (1)(c), shall test for acute toxicity as provided for in Rule 62-621.800, F.A.C., to evaluate whole effluent toxicity of the discharge from the outfall. If more than one (1) outfall exists, separate tests shall be performed on each outfall.

(c) If the pH is monitored continuously, the pH values shall not deviate outside the required range more than 1% of the time in any calendar month; and no individual excursion shall exceed sixty (60) minutes. An “excursion” is an unintentional and temporary incident in which the pH value of discharge wastewater exceeds the range set forth in this permit.

(d) All of the general conditions listed in Rule 62-621.250, F.A.C., are applicable to this generic permit.

(e) A Best Management Practices (BMP) Plan shall be prepared in accordance with Rule 62-621.700, F.A.C., and in conjunction with development of the Remedial Action Plan required by the Department.

(f) The permittee shall notify the Department in writing within thirty (30) days after the permanent termination of discharge to surface waters from the facility.

(3) Test Procedures.

(a) In performing analyses for dissolved constituents in surface and ground waters, the permittee shall use the guidelines recommended and described in Rules 62-770.600(8)(a-d), F.A.C.

(b) If the petroleum contamination is from a petroleum fuel in which the source of contamination has not been identified, the ground water shall be analyzed using the recommended methods listed below for the following parameters as described in Rule 62-770.600(8)(c)1, F.A.C.:

1. Lead - EPA Method 239.2 or Standard Method 304;

2. Priority Pollutant Volatile Organics - EPA Method 624;

3. Priority Pollutant Extractable Organics - EPA Method 625; and

4. Non-Priority Pollutant Organics (with GC/MS Peaks greater than 10 ppb) - EPA Methods 624 & 625.

(4) Reporting of Monitoring Results. Monitoring results obtained for each calendar month shall be summarized and reported on a Discharge Monitoring Report (DMR) form (DEP form 62-620.910(10)), once each month. Unless stated otherwise in this permit, these forms shall be submitted

after each calendar quarter and postmarked no later than the 28th day of the month following the completed calendar quarter. For example, data for January-March shall be submitted by April 28. Calendar quarters are January-March, April-June, July-September and October-December. Signed copies of these and all other reports required by this permit shall be submitted to the Department at the following address:

Department of Environmental Protection
Bureau of Water Facilities Regulation
Wastewater Compliance Evaluation Section
Mail Station #3551
2600 Blair Stone Road
Tallahassee, FL 32399-2400

If no discharge occurs during the reporting period, sampling requirements of this permit do not apply. The statement "No Discharge" shall be written on the DMR form.

(5) Application Requirements

(a) Unless stated otherwise in this permit, all dischargers seeking coverage under this generic permit are required to submit a Notice of Intent (NOI) to the appropriate Department district office. The NOI shall include:

1. the name and address of the person that the permit coverage will be issued to;

2. the name, and address of the operation, including county location;

3. any applicable individual wastewater permit number(s);

4. if applicable, the identification of any new discharge location not contained in the expired permit;

5. evidence that the operation has obtained approval of a Remedial Action Plan (RAP) Order from the Department;

6. a map showing the facility and discharge location (including latitude and longitude);

7. the name of the receiving water; and

8. a Pollution Prevention Plan prepared in accordance with paragraph (6) of this permit, for discharges lasting over one (1) year.

(b) Dischargers who have not previously obtained an individual wastewater permit are required to submit the NOI at least thirty (30) days before the discharge is to begin.

(c) Dischargers with current individual wastewater permits that desire coverage under this generic permit are required to file an NOI with the Department at least thirty (30) days prior to expiration of their current permit(s).

(d) Facilities seeking coverage under paragraph (1)(c)1 of this permit shall be required to submit to the Department the date the discharge is expected to cease, results of the analytical data required under paragraph (1)(c)3, if applicable, and the same information in paragraph (5)(a), except items (5)(a)3, 4, 5, and 8. Notification of coverage to discharge will be upon receipt of a letter from the Department acknowledging short-term coverage. The Department shall process requests for short-term coverage pursuant to the provisions of Rule 62-620.510(1)-(5), F.A.C. The Department shall render a decision as to whether to grant or deny coverage within 30 days after the Department has received all of the information necessary to make the application complete. If this time schedule is not met, the applicant may apply for an order from the circuit court requiring the Department to render a decision within a specified time. Discharge may not begin until the applicant receives this letter from the Department.

(e) For facilities seeking coverage under paragraph (1)(a) or (b) of this permit, notification of coverage shall be given by the Department by certified mail to the permittee, with the issuance date for each facility being the effective date of coverage by the Department. The Department shall process requests for coverage pursuant to the provisions of Rule 62-620.510(1)-(5), F.A.C. The Department shall render a decision as to whether to grant or deny coverage within 30 days after the Department has received all of the information necessary to make the application complete. If this time schedule is not met, the applicant may apply for an order from the circuit court requiring the Department to render a decision within a specified time. Discharge may not begin until the applicant receives the notice of coverage.

(f) Facilities seeking coverage under paragraph (1)(c)2 of this permit, shall be covered automatically once the facility receives acceptable ground water screening values, if applicable.

(g) Coverage under this generic permit is limited to a term not to exceed five years from the effective date of coverage. Permittees may request continued coverage under this generic permit by submitting a complete NOI in accordance with paragraph (5)(a) to the Department district office. Requests for continued coverage shall be made at least 180 days before expiration of the current coverage.

(h) Annual regulatory program and surveillance fees are required for all facilities that discharge in excess of

thirty (30) days during the life of this permit. The fees are due in accordance with Rule 62-4.052, F.A.C.

(6) Pollution Prevention Plan. New permittees with long term treatment systems expected to discharge one (1) year or more shall develop a Pollution Prevention Plan for the site and submit it with the NOI. It shall contain the following information:

(a) A narrative of what caused the ground water contamination.

(b) Methods currently being deployed at the site to prevent ground water contamination from reoccurring.

(c) Other alternative treatment options which were considered in reducing the ground water contamination.

(d) Explanation of why long term treatment of discharge to surface waters of the State was chosen as opposed to:

1. An in situ ground water remediation technique which does not involve recovery of contaminated water;

2. An alternative means of discharge or disposal of treated ground water, such as re-infiltration on site; or,

3. Using a limited scope cleanup strategy which involves short term ground water recovery followed by monitoring-only at the site.