

- c. Await Cleanup in Priority Score Order
 - Data indicates that the conditions do not warrant funding cleanup out of priority order and the site does not qualify for LtNAM or a Site Rehabilitation Completion Order (SRCO). Additional cleanup activities will continue after the site becomes eligible for funding based on priority ranking score.
- d. Closure Order
 - Qualifies for one of the following closure options:
 - If it is demonstrated that no petroleum contamination exists at a result of the applicable discharge, the DEP may issue a SRCO pursuant to Rule 62-780.680(1), Florida Administrative Code (FAC). (Risk Management Options Level I), or
 - II. If it is demonstrated that minimal contamination exists as a result of the applicable discharge and soil in the top two feet do not exceed appropriate soil cleanup target levels, a LSSI No Further Action (NFA) Order acknowledging such conditions shall be issued pursuant to Section 376.3071(11)(b), Florida Statutes (FS), or
 - III. If soil in the top two feet exceed appropriate soil cleanup target levels and the requirements of Section 376.3071(11) are met for the applicable discharge, a SRCO acknowledging such conditions shall be issued by DEP pursuant to Section 376.3071(11)(b), FS.

1.4 Regulatory Records Summary

Terracon reviewed site information posted on the DEP's OCULUS and Palm Beach County's CINEMA electronic document management websites for the former Palm Tran facility. Provided hereafter is the significant information identified for LSSI evaluation.

The former Palm Tran facility bus fueling area maintained three underground storage tanks (USTs) which were reportedly installed in 1977. Identified information regarding the size of the USTs was conflicting, but most of the file information suggests that the tanks were single-walled, constructed of steel, two 10,000-gallons in capacity for diesel fuel and one 12,000-gallons in capacity for gasoline. The file review information indicated that three fuel dispensers existed under a canopy adjacent west of the UST farm.

The Palm Tran facility reported a petroleum discharge in November 1987 as a result of elevated organic vapor readings during vapor screening of UST compliance wells. However, this data was not accepted by the DEP for State-funded cleanup Early Detection Incentive (EDI) program eligibility. Consequently, a tank compliance well was sampled in June 1988 and a groundwater sample was analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 602. The analysis documented concentrations of benzene of 5 micrograms per liter (μ g/L) and total xylenes of 50 μ g/L which exceeded groundwater cleanup target levels (GCTLs). The facility was subsequently determined eligible for State-funded cleanup under the EDI program by August 1988. The discharge was assigned a priority ranking cleanup score of



10. No evidence of assessment or remediation work was identified in the regulatory files for the 1987 EDI eligible discharge.

The UST system was taken out-of-service in November 1995 as the USTs were required to be upgraded. As a result, a 4,000-gallon skid-mount diesel fuel AST was temporarily used at the facility. The AST was reported to be connected to the existing diesel fuel dispensers associated with the USTs. In mid-July 1997, the USTs were removed from the site by Petropac, Inc. Seyfried & Associates, Inc. (Seyfried) was onsite during the removal activities to screen soils with an organic vapor analyzer (OVA) with the intention of segregating "excessively contaminated" soil during the USTs excavation. A formal tank closure assessment was not required at that time since the site was eligible for State-funded cleanup under the EDI program. During UST removal, Seyfried collected 20 soil samples from the sidewalls and base of the UST excavation at depths of either 2 or 4 feet below the ground surface (bgs) for OVA screening. OVA readings ranged from 2 to greater than 962 parts per million (ppm) with four samples exceeding 50 ppm and one sample exceeding 500 ppm. It was determined by Seyfried that two isolated areas of apparent "excessively contaminated" soil were present within the UST excavation. However, the impacted soils were not removed during tank removal since it was determined by Sevfried that the amount of impacted soil was minor and the cost for soil removal and treatment did not appear to justify the environmental benefit. Laboratory analysis of the collected soil samples was not reported by Seyfried.

It was noted during UST removal that the center tank (10,000-gallon diesel fuel) was missing its drain plug. The missing plug could not be located and it was not known if the plug corroded or had fallen off during removal. It was stated by the County tank inspector in its inspection report that the tanks were in good condition with limited corrosion and pitting.

Information found in the County tank inspection report during the removal event indicated that the pipelines leading from the USTs to the dispensers were capped. It does not appear that the fuel transfer lines and dispensers were removed in July 1997 as they may have continued to have been used for bus fueling in connection with the temporary AST. No additional regulatory information was identified with regard to removal of the dispensers and associated fuel pipelines. Based upon a review of historical aerial photographs, it appears that the canopy and underlying fuel dispensers may have been removed in 2004.

Free product was reportedly encountered on the water table exposed within the excavation during UST removal in 1997. The free product was removed from the water surface by Cliff Berry, Inc. using a vacuum truck. The product and petroleum contact water from tank cleaning was disposed offsite by Cliff Berry, Inc. No information could be found regarding the volume of free product recovered, residual product in the tanks or petroleum contacted water generated during tank cleaning disposed.



In Seyfried's tank removal summary letter, it was concluded that petroleum contamination appeared limited to the water table surface. It was opined that the water table was high during the tank removal causing a "smear zone" of contaminated soil at and below the water table. The depth of the water table below the ground surface was not reported by Seyfried. No further pertinent information concerning the 1987 discharge or bus fueling UST area was identified in the regulatory records.

2.0 SCOPE OF WORK

This report documents sampling activities conducted in accordance with the DEP LSSI Work Order No. 2015-95-W8884A.

Terracon completed field activities in accordance with the DEP's guidance document *Standard Operating Procedures for Field Activities*, DEP-SOP-001/01, dated February 1, 2004. Field activities were conducted under modified safety level D by environmental staff with Occupational Safety and Health Administration (OSHA) 1910.120 training. A *Site Safety and Health Plan* was been developed by Terracon for the safety of Terracon personnel engaged in field services at the site. Terracon provided notification of field activities to the DEP and contacted Sunshine 811 for underground utility locating prior to conducting field activities.

3.0 LSSI FIELD ACTIVITIES

3.1 Soil Screening, Sampling and Analysis

On October 12, 2015, Terracon's drilling subcontractor, Wombat Environmental, LLC, advanced 30 soil borings at the site which included planned borings SB-1 through SB-25 and "step-out" borings SB-26 through SB-30. Borings SB-1 through SB-5 were situated in the area of the former fuel dispensers and fuel transfer lines while borings SB-6 though SB-25 were positioned in a grid-like pattern at the former UST basin. The step-out borings were situated around the periphery of fuel dispenser area which had the highest indication of soil impacts based on field screening data. Approximate soil boring locations are shown on Exhibit 2 in Appendix B. Boring equipment was decontaminated using a wash of Liquinox detergent/water and rinsed with clean water. The borings were advanced using Geoprobe® direct-push technology (DPT) equipment to a depth of approximately 8 feet bgs.

Soil grab samples at boring locations were collected at 1-foot depth intervals to a depth of 4 feet bgs and at 2-foot depth intervals thereafter to a depth of approximately 8 feet bgs. Immediately prior to drilling, the groundwater table was measured at 5.3 feet bgs in an existing site monitoring well (arbitrarily designated MW-5) located within the work area. Soil grab samples were screened for physical characteristics such as soil type, color, moisture and odor, and physical indications of petroleum impacts. Soil samples were placed into pint-sized glass jars, filled to half-capacity, and covered with a layer of aluminum foil for head space screening. The head space within each



sample jar was screened for indications of volatile organic vapors using a hand-held photo ionization detector (PID)-type OVA. The OVA is useful for detecting volatile organic vapors in the head space of a soil container to a lower limit of 1 part per million (ppm) calibration gas equivalents. Field screening results are included on Table 1 in Appendix A. Soil OVA readings measured in the soil borings during the LSSI are depicted on Exhibit 3 in Appendix B.

The LSSI work area was surfaced with either asphalt or concrete pavement. The pavement sections were typically underlain with a thin layer (less than 0.5 foot) of lime rock base course followed by sandy soils to the terminal depth of exploration of approximately 8 feet bgs. Petroleum odors were noted in several soil samples collected from the soil borings as noted in Table 1 in Appendix A and the soil boring logs in Appendix C. OVA readings above 10 ppm in soil samples collected above the groundwater table were identified in all borings except SB-7, SB-11, SB-12, SB-14, SB-16, SB-20, SB-21, SB-25 and SB-28.

The soil screening data for borings SB-1 to SB-25 was provided to the DEP project manager to determine what boring and depths to collect grab samples for laboratory analysis. On October 12, 2015, Terracon collected DEP prescribed soil samples for laboratory analysis by re-drilling a soil boring adjacent to (approximately 4-inches away) previously advanced borings including: SB-2 at a depth of 1-2 feet bgs and 3-4 feet bgs, SB-4 at a depth of 3-4 feet bgs, SB-9 at a depth of 3-4 feet bgs, and SB-18 at a depth of 2-3 feet bgs

The soil samples were placed in laboratory prepared glassware, sealed with custody tape, and placed on ice in a cooler. The sample cooler and completed chain-of-custody record were delivered to a Florida Department of Health (FDOH)-certified and National Environmental Laboratory Accreditation Conference (NELAC)-accredited laboratory, Palm Beach Environmental Laboratories, Inc., for analysis for the following parameters:

- Benzene, toluene, ethylbenzene and total xylenes (BTEX) and methyl tert-butyl ether (MTBE) by EPA Method 8260
- Polynuclear aromatic hydrocarbons (PAH) by EPA Method 8270
- Total recoverable petroleum hydrocarbons (TRPH) by the FL-PRO method

Laboratory analytical results for the soil samples were compared to Florida's Soil Cleanup Target Levels (SCTLs) listed in Chapter 62-777 of the Florida Administrative Code (FAC). Tables 4, 5, 6, 6A and 6B in Appendix A contain a summary of soil analytical results. A copy of the laboratory analytical report and chain-of-custody record are provided in Appendix D. A summary of the analytical results which exceeded applicable SCTLs is provided hereafter:

 1-methylnaphthalene and 2-methylnaphthalene were reported in sample SB-2 (3-4 ft bgs) at concentrations of 10.7 and 12.3 milligrams per kilogram (mg/kg), respectively, exceeding their leachability-based SCTLs of 3.1 and 8.5 mg/kg.



- Benzo(a)pyrene was detected in sample SB-4 (3-4 ft bgs) at a concentration of 1.9 mg/kg and SB-18 (2-3 ft bgs) at a concentration of 0.6 mg/kg exceeding the residential direct-exposure SCTL of 0.1 mg/kg. The concentration for SB-4 (3-4 ft bgs) exceeds the commercial/industrial direct-exposure SCTL of 0.7 mg/kg.
- Benzo(b)fluoranthene was detected in sample SB-4 (3-4 ft bgs) at a concentration of 2.9 mg/kg exceeding its leachability-based SCTL of 2.4 mg/kg.
- Dibenz(a,h)anthracene was detected in sample SB-4 (3-4 ft bgs) at a concentration of 0.8 mg/kg and SB-18 (2-3 ft bgs) at a concertation of 1.2 mg/kg exceeding its leachability-based SCTL of 0.7 mg/kg.
- The calculated benzo(a)pyrene equivalents for SB-4 (3-4 ft bgs) and SB-18 (2-3 ft bgs) were reported at 3.2 and 2.0 mg/kg, respectively, exceeding the both the residential direct-exposure SCTL of 0.1 mg/kg and commercial/industrial direct-exposure SCTL of 0.7 mg/kg.
- TRPH was detected in sample SB-2 (3-4 ft bgs) at a concentration of 1,820 mg/kg exceeding the residential direct-exposure SCTL of 460 mg/kg and leachability-based SCTL of 340 mg/kg.

Performance of additional soil analysis such TRPH speciation and synthetic precipitation leaching procedure (SPLP) analysis included as contingencies in the work scope was not required by the DEP site manager based on the initial laboratory analysis results. At the end of the work day on October 12, 2015, soil borings were backfilled with soils removed for screening and the surface was capped with asphalt or concrete patch.

3.2 Monitor Well Installation

On October 13, 2015, Terracon's drilling subcontractor, Wombat Environmental, LLC, installed monitoring wells MW-1, MW-2, MW-3, and MW-4, under the supervision of Terracon. The locations of the monitoring wells were discussed with DEP site manager prior to installation, based on the soil screening results. Monitoring well locations are indicated on Exhibit 2 in Appendix B.

Monitoring wells MW-1, MW-2, MW-3, and MW-4 were installed using DPT and constructed with 1inch diameter polyvinyl chloride (PVC) well pipe with 10 feet of 0.010-inch slotted PVC screen set at approximately 3 to 13 feet bgs in order to bracket the water table. A filter pack of 20/30-graded silica sand was secured (i.e. pre-packed) around the well screen using a stainless steel mesh and clips. Additional filter sand was paced in the annular space between the borehole and monitoring well prepack to approximately 1 foot above the well screen followed by an approximately 1 foot layer of 30/65-graded fine sand seal. The fine sand seal was topped with cement grout to the land surface. Each well head was fitted with a water-tight locking cap and a steel covered manhole with a 2-foot by 2-foot by 4-inch thick concrete pad for surface protection. The wells were developed by over-pumping and purge water was discharged onto the surrounding pavements to evaporate. A summary of monitoring well construction details is provided on Table 2 in Appendix A. A monitoring well permit (#5410-15) obtained from the Palm Beach Health Department, well construction and development logs, and well completion reports for MW-1, MW-2, MW-3, and MW-4 submitted to



the Palm Beach Health Department by Wombat Environmental, LLC are provided in Appendix C, along with monitoring well construction and development logs.

3.3 Shallow Groundwater Flow

On October 15, 2015, the relative elevation at the top of each newly installed monitoring well (MW-1 through MW-4) and an existing monitoring well (arbitrarily designated MW-5) was measured using an arbitrary benchmark elevation established onsite. Groundwater level data are summarized on Table 3 in Appendix A. The water table was measured approximately 4.6 to 5.6 feet bgs. Free product was not observed in the site monitoring wells. Relative groundwater elevations were plotted on Exhibit 4 in Appendix B, which display that the shallow groundwater flow was measured toward the south-southeast. Field data are contained in Appendix C.

3.4 Groundwater Sampling and Analysis

Terracon collected groundwater samples from newly installed monitoring wells MW-1, MW-2, MW-3 and MW-4 and existing monitoring well MW-5 on October 15, 2015. Field sampling and equipment calibration logs are contained in Appendix C. Groundwater samples were collected after equilibration of field parameter measurements in accordance with DEP SOP 001/01, FS 2200 and PCS-5.

The groundwater samples were placed in laboratory supplied containers and stored on ice in a cooler. The sample cooler and completed chain-of-custody record were transported to Palm Beach Environmental Laboratories, Inc. for the following parameters:

- BTEX and MTBE by EPA Method 8260
- PAH by EPA Method 8270
- TRPH by the FL-PRO method
- 1,2-dibromoethane (EDB) by EPA Method 8260B
- Total lead by EPA Method 6020B

Copies of the laboratory analytical report and chain-of-custody record are provided in Appendix D. Laboratory analytical results for the groundwater samples were compared to Florida's GCTLs listed in Chapter 62-777, FAC. Tables 7 and 8 in Appendix A contain a summary of groundwater analytical results. A summary of the analytical results which exceeded applicable GCTLs is provided hereafter:

- 1-methylnaphthalene and 2-methylnaphthalene were reported in sample MW-1 at concentrations of 90.0 microgram per liter (µg/L) and 86.4 µg/L, respectively, exceeding the GCTL of 28 µg/L for these compounds.
- Acenaphthene was reported in MW-2 at a concentration of 35.3 μg/L exceeding the GCTL of 20 μg/L.



- Benzo(a)pyrene was detected in MW-1 at a concentration of 10.7 µg/L exceeding its GCTL of 0.2 µg/L.
- Benzo(b)fluoranthene was reported in MW-1 at a concentration of 7.68 µg/L and MW-2 at a concentration of 5.99 µg/L exceeding the GCTL of 0.05 µg/L.
- Benzo(k)fluoranthene was detected in MW-1 at a concentration of 4.85 µg/L and MW-2 at a concentration of 3.47 µg/L exceeding the GCTL of 0.5 µg/L.
- Dibenzo(a,h)anthracene was measured at a concentration of 33.9 µg/L exceeding the GCTL of 0.005 µg/L.
- Indeno(1,2,3-cd)pyrene was reported in MW-1 a concentration of 26.5 μg/L exceeding the GCTL of 0.05 μg/L.
- TRPH was reported in MW-1 at a concentration of 8,250 µg/L exceeding the GCTL of 5,000 µg/L.

The estimated extent of TRPH and select PAH compounds in groundwater exceeding the GCTL for the October 15, 2015 sampling event are plotted on Exhibits 5, 6 and 7 in Appendix B. A site map showing BTEX/MTBE in groundwater was not provided since GCTL exceedances for BTEX/MTBE were not identified.

4.0 FINDINGS AND CONCLUSIONS

The findings and conclusions of this assessment are as follows:

- Elevated vadose zone OVA readings above 10 ppm were measured at 21 of 30 boings. Based on laboratory analytical results, petroleum concentrations in excess of SCTLs were not identified in the top two feet. Concentrations of TRPH and select PAH measured between 2 and 4 feet bgs were exceed default SCTLs established for residential directexposure and leachability based on groundwater quality. Benzo(a)pyrene concentrations reported between 2 and 4 feet bgs in two soil samples exceed the SCTLs established for direct-exposure at commercial/industrial settings, but do not exceed the SCTL for leachability based on groundwater quality.
- The water table was measured at a depth of approximately 4.6 to 5.6 feet bgs during the October 15, 2015 sampling event at the site. Shallow groundwater flow was measured to the south-southeast. Free product was not observed in the site monitoring wells.
- TRPH and/or PAH compounds in excess of GCTLs but below NADCs were reported in two
 of five groundwater samples collected from five site monitoring wells. Concentrations of
 BTEX and MTBE did not exceed of GCTLs at the monitoring well locations.



5.0 **RECOMMENDATIONS**

The LSSI assessment data indicates the site does not qualify for LtNAM or an SRCO, due to petroleum concentrations exceeding SCTLs in the vadose zone. Based on the LSSI assessment results, it appears that the appropriate Screening Endpoint Category for the former Palm Tran Facility is to await State-funded cleanup in priority score order.

Appendix A - Tables

Facility ID#:	50/8514018		Facility	lity See notes at end of table.				
Name	e: Former Pa	alm Tran Fa	cility	-				
	SAM	PLE						
		DEPTH	SAMPLE	PID Reading	COMMENTS			
BORING No.	DATE	TO WATER	INTERVAL	(PPM)				
		(feet)	(feet)					
			0-1	<1				
			1-2	3.0				
SB-1	10/12/2015	53	2-3	60.3				
00 1	10,12/2010	0.0	3-4	9999+	Slight petroleum odor at 3 ft			
			4-6	9999+	Strong petroleum odor at 4-8 ft			
			6-8	9999+				
			0-1	48.4				
			1-2	528	SB-2(1-2) - Lab ID 13883-05			
SB-2	10/12/2015	53	2-3	9999+	Petroleum odor at 1-8 ft			
00 2	10,12/2010	0.0	3-4	9999+	SB-2(3-4) - Lab ID 13883-04			
			4-6	9999+	1-inch layer of concrete observed			
			6-8	9999+	at 5 ft			
			0-1	<1				
			1-2	252	Petroleum odor at 1-8 ft			
SB-3	10/12/2015	53	2-3	471				
02 0	10,12,2010	0.0	3-4	9999+				
			4-6	9999+				
		6-8	9999+					
			0-1	3.5				
			1-2	5.6				
SB-4	10/12/2015	5.3	2-3	3712	SB-4(2-3) - Lab ID 13883-03			
			3-4	9999+	Petroleum odor at 3-8 ft			
			4-6	9999+				
			6-8	9999+				
			0-1	3514				
			1-2	9999+	Petroleum odor at 0.5-8 ft			
SB-5	10/12/2015	5.3	2-3	9999+				
			3-4	9999+				
			4-6	9999+				
			6-8	9999+				
			0-1	2.4				
			1-2	41.5				
SB-6	10/12/2015	5.3	2-3	165				
			3-4	139				
			4-6	<1				
			6-8	<1				
			0-1	<1				
			1-2	<1				
SB-7	10/12/2015	5.3	2-3	<1				
			3-4	<1				
			4-6	<1				
			6-8	<1				

Facility ID#:	50/8514018		Facility	acility See notes at end of table.					
Name	e: Former Pa	alm Tran Fa	cility						
	SAM	PLE							
		DEPTH	SAMPLE	PID Reading	COMMENTS				
BORING No.	DATE	TO WATER	INTERVAL	(PPM)	COMMENTO				
		(feet)	(feet)						
			0-1	411	Slight petroleum odor at 0-1 ft				
			1-2	<1					
SB-8	10/12/2015	53	2-3	1.2					
00-0	10/12/2013	0.0	3-4	<1					
			4-6	1.4					
			6-8	10.3					
			0-1	<1					
			1-2	1.2					
SB-9	10/12/2015	5.3	2-3	31.1					
02 0	10, 12,2010	0.0	3-4	5437	SB-9(3-4) - Lab ID 13883-02				
			4-6	9999+	Strong petroleum odor at 3-8 ft				
			6-8	9999+					
			0-1	<1					
			1-2	<1					
SB-10	10/12/2015	53	2-3	<1					
02 10	10,12,2010	0.0	3-4	224	Petroleum odor at 3-8 ft				
			4-6	1472					
			6-8	970					
			0-1	<1					
			1-2	<1					
SB-11	10/12/2015	5.3	2-3	<1					
			3-4	<1					
			4-6	5.5					
			6-8	63.5					
			0-1	<1					
			1-2	<1					
SB-12	10/12/2015	5.3	2-3	<1					
			3-4	<1					
			4-6	<1					
			6-8	2.1					
			0-1	<1					
			1-2	<1					
SB-13	10/12/2015	5.3	2-3	<1					
			3-4	21.1	O N 11 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1				
			4-6	386	Slight petroleum odor from 4-8 ft				
			6-8	311					
			0-1	<1					
			1-2	<1					
SB-14	10/12/2015	5.3	2-3	<1					
			3-4	<1					
			4-6	8.5					
			6-8	9.1					

Facility ID#:	50/8514018		Facility	ility See notes at end of table							
Name	e: Former Pa	alm Tran Fa	cility								
	SAM	PLE									
		DEPTH	SAMPLE	PID Reading	COMMENTS						
BORING No.	DATE	TO WATER	INTERVAL	(PPM)							
		(feet)	(feet)								
			0-1	<1							
			1-2	209							
SB-15	10/12/2015	5.3	2-3	1.2							
			3-4	<1							
			4-6	<1							
			6-8	<1							
			0-1	<1							
			1-2	<1							
SB-16	10/12/2015	5.3	2-3	<1							
			3-4	<1							
			4-6	<1							
			6-8	1.7							
			0-1	<1							
			1-2	<1							
SB-17	10/12/2015	5.3	2-3	<1							
			3-4	<1							
			4-6	612	Petroleum odor at 4-8 ft						
		6-8	1232								
			0-1	21.2							
			1-2	180							
SB-18	10/12/2015	5.3	2-3	1837	SB-18(2-3) - Lab ID 13883-01						
			3-4	1039	Petroleum odor at 2-4 ft						
			4-6	21.4							
			6-8	18.5							
			0-1	<1							
			1-2	<1							
SB-19	10/12/2015	5.3	2-3	<1							
			3-4	1.2							
			4-6	368	Slight petroleum odor at 4-8 ft						
			6-8	508							
			0-1	<1							
			1-2	<1							
SB-20	10/12/2015	5.3	2-3	<1							
			3-4	<1							
			4-6	1.4							
			6-8	<1							
			0-1	<1							
			1-2	<1							
SB-21	10/12/2015	5.3	2-3	<1							
			3-4	<1							
			4-6	<1							
			6-8	<1							

Facility ID#:	50/8514018		Facility	See notes at end of table.				
Namo	e: Former Pa	alm Tran Fa	cility	-				
	SAM	PLE						
		DEPTH	SAMPLE	PID Reading	COMMENTS			
BORING No.	DATE	TO WATER	INTERVAL	(PPM)				
		(feet)	(feet)					
			0-1	<1				
			1-2	<1				
SB-22	10/12/2015	53	2-3	20.2				
00 22	10,12,2010	0.0	3-4	0.4				
			4-6	9.1				
			6-8	9999+				
			0-1	<1				
			1-2	<1				
SB-23	10/12/2015	5.3	2-3	<1				
			3-4	<1				
			4-6	3041	Petroleum odor at 4-8 ft			
			6-8	9999+				
			0-1	<1				
			1-2	<1				
SB-24	10/12/2015	5.3	2-3	2.1				
			3-4	2.2				
			4-6	2231	Petroleum odor at 4-8 ft			
			6-8	1587				
			0-1	<1				
			1-2	<1				
SB-25	10/12/2015	5.3	2-3	<1				
			3-4	<1				
			4-6	<1				
			6-8	<1				
			0-1	<1				
			1-2	<1				
SB-26	10/12/2015	5.3	2-3	<1				
			3-4	<1				
			4-6	9999+	Petroleum odor at 4-8 ft			
			6-8	1820				
			0-1	120	Slight petroleum odor at 0-1 ft			
			1-2	38.8				
SB-27	10/12/2015	5.3	2-3	1.1				
			3-4	8336				
			4-6	9999+	Strong petroleum odor at 4-8 ft			
			6-8	9999+				
			0-1	<1				
			1-2	<1				
SB-28	10/12/2015	5.3	2-3	6.2				
			3-4	<1				
			4-6	<1				
			6-8	<1				

Facility ID#:	50/8514018		Facility	y See notes at end of table.				
Name	e: Former Pa	alm Tran Fa	cility	36	e notes at end of table.			
	SAM	PLE						
		DEPTH	SAMPLE	PID Reading	000005070			
BORING No.	DATE	TO WATER	INTERVAL	(PPM)	COMMENTS			
		(feet)	(feet)					
			0-1	131	Slight petroleum odor at 0-8 ft			
SP 20 10/42/2015		1-2	91.0					
	10/12/2015	F 2	2-3	188				
3D-29		5.5	3-4	36.0				
			4-6	183				
			6-8	51.1				
			0-1	5085	Petroleum odor at 0-8 ft			
			1-2	3712				
SB-30	10/12/2015	F 2	2-3	3562				
	10/12/2015	0.5	3-4	4732				
			4-6	772				
			6-8	2442				

Notes:

ppm = parts per million. feet = feet below ground surface

TABLE 2: MONITORING WELL CONSTRUCTION DETAILS

Facility ID#: 50/8514	4018	Facility Name: Form		See notes at end of table.				
Well No.	Date Installed	Installation Method	Top of Casing Elevation (feet)	A/G Riser Length, if Applicable (feet)	Total well Depth (feet)	Screened Interval (bgs)	Well Diameter (Inches)	Lithology of Screened Interval
MW-1	10/13/15	Direct Push	99.77	n/a, at grade	13	3-13	1	SP
MW-2	10/13/15	Direct Push	99.93	n/a, at grade	13	3-13	1	SP
MW-3	10/13/15	Direct Push	99.65	n/a, at grade	13	3-13	1	SP
MW-4	10/13/15	Direct Push	99.62	n/a, at grade	13	3-13	1	SP
MW-5	Unknown	Unknown	99.57	n/a, at grade	13	3-13	2	Unknown

Notes: Monitoring wells MW-1, MW-2, MW-3 & MW-4 installed by Wombat Environmental, LLC. Monitoring wells MW-5 existing. Bgs indicates below ground surface. SP indicates poorly graded sand.

TABLE 3 : GROUNDWATER ELEVATION SUMMARY

Facility ID#: 50/8514018 Fa				ility Name: Former Palm Tran Facility							See notes at end of table.				
Well No.		MW-1		MW-2			MW-3		MW-4			MW-5			
Diameter (inches)	1		1		1		1			2					
Well Depth (feet)	Depth (feet) 13		13			13		13			13				
Screen Interval (feet)	3-13		3-13			3-13		3-13			3-13				
TOC Elevation (feet)		99.77		99.93		99.65		99.62			99.57				
DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP
10/15/15	94.17	5.60		94.94	4.99		94.98	4.67		94.95	4.67	-	94.95	4.62	

NOTES

MW - Monitoring Well

TOC - Top of Casing

ELEV - Elevation

DTW - Depth to groundwater, below TOC

FP - Free Product

TABLE 4: SOIL ANALYTICAL SUMMARY - VOAs and TRPHs

Facility ID#: 50/8514018

Facility Name: Former Palm Tran Facility

	Sam	ple		OVA			Laboratory	Analyses			
Boring/ Well No.	Date Collected	Depth to Water	Sample Interval	Net OVA Reading	Benzene	Ethyl- benzene	Toluene	Total Xylenes	MTBE	TRPHs	
		(ft)	(fbls)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	Comments
SB-2	10/12/2015	5.3	1 - 2	528	0.0002 U	0.0003 I	0.0003 U	0.0003 I	0.0003 U	11.7	
SB-2	10/12/2015	5.3	3 - 4	9,999+	0.0002 U	0.006	0.0003 U	0.0012 I	0.0003 U	1,820	
SB-4	10/12/2015	5.3	3 - 4	3,712	0.0002 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	141	
SB-9	10/12/2015	5.3	3 - 4	5,437	0.0002 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	18.0	
SB-18	10/12/2015	5.3	2 - 3	1,837	0.0002 U	0.0004 I	0.002	0.0005 I	0.0003 U	10.9	
Leachability Ba	ased on Groundwa	ater Criteria (m	g/kg)		0.007	0.6	0.5	0.2	0.09	340	
Residential Dir	Residential Direct-Exposure SCTL (mg/kg)				1.2	1,500	7,500	130	4,400	460	
Commercial-Ir	ndustrial Direct-Exp	posure SCTL (mg/kg)		1.7	9	60,000	700	24,000	2,700	

Notes: U=Indicates the compound was analyzed for, but not detected.

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

VOAs = Volatile organic aromatics

MTBE = Methyl tert-butyl ether

TRPHs = Total recoverable petroleum hydrocarbons

OVA = Organic vapor analyzer

ft = foot

fbls = Feet below ground surface

ppm = Parts per million

mg/kg = Milligram per kilogram

SCTL = Soil Cleanup Target Levels specified in Table II of Chapter 62-777, Florida Administrative Code (FAC)

TABLE 5: SOIL ANALYTICAL SUMMARY - Non-Carcinogenic PAHs

Facility ID#: 50/8514018

Facility Name: Former Palm Tran Facility

See notes at end of table.

	Sampl	е		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-2	10/12/2015	5.3	1 - 2	528	0.02 U	0.05 I	0.08 I	0.02 U	0.04 U	0.02 U	0.06 U	0.03 U	0.03 U	0.01 U	0.02 U	
SB-2	10/12/2015	5.3	3 - 4	9,999+	0.02 U	10.7	12.3	0.02 U	0.04 U	0.02 U	0.06 U	0.03 U	0.8	0.2	0.02 U	
SB-4	10/12/2015	5.3	3 - 4	3712	0.02 U	0.01 U	0.02 U	0.02 U	0.04 U	0.02 U	1.6	0.2 I	0.03 U	0.01 U	0.4	
SB-9	10/12/2015	5.3	3 - 4	5437	0.02 U	0.01 U	0.02 U	0.02 U	0.04 U	0.02 U	0.06 U	0.03 U	0.03 U	0.01 U	0.02 U	
SB-18	10/12/2015	5.3	2 - 3	1,837	0.02 U	0.01 U	0.02 U	0.02 U	0.04 U	0.02 U	2.5	0.2 I	0.03 U	0.01 U	0.3	
Leachability	Based on Groun	dwater Crite	eria (mg/kg)		1.2	3.1	8.5	2.1	27	2,500	32,000	1,200	160	250	880	
Direct Expos	Direct Exposure Residential (mg/kg)				55	200	210	2,400	1,800	21,000	2,500	3,200	2,600	2,200	2,400	
Commercial	Industrial Direct	Exposure S	CTL (mg/kg	1)	300	1,800	2,100	20,000	20,000	300,000	52,000	59,000	33,000	36,000	45,000	

Notes: U=Indicates the compound was analyzed for, but not detected.

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

PAHs = Polynuclear Aromatic Hydrocarbons

OVA = Organic vapor analyzer

ft = foot

fbls = Feet below ground surface

ppm = Parts per million

mg/kg = Milligram per kilogram

SCTL = Soil Cleanup Target Levels specified in Table II of Chapter 62-777, Florida Administrative Code (FAC)

TABLE 6: SOIL ANALYTICAL SUMMARY - Carcinogenic PAHs

Facility ID#: 50/8514018

Facility Name: Former Palm Tran Facility

See notes at end of table.

	Sam	ple		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-2	10/12/2015	5.3	1 - 2	528	0.05 U	0.04 U	0.04 U	0.02 U	0.02 U	0.08 U	0.04 U		
SB-2	10/12/2015	5.3	3 - 4	9,999+	0.05 U	0.04 U	0.04 U	0.02 U	0.02 U	0.08 U	0.04 U		
SB-4	10/12/2015	5.3	3 - 4	3712	1.9	0.3	2.9	1.1	0.02 U	0.8	1.4	3.2	
SB-9	10/12/2015	5.3	3 - 4	5437	0.05 U	0.04 U	0.04 U	0.02 U	0.02 U	0.08 U	0.04 U		
SB-18	10/12/2015	5.3	2 - 3	1,837	0.6	0.2	0.04 U	0.02 U	0.02 U	1.2	1.7	2.0	
Leachabil	ity Based on G	roundwater C	Criteria (mg/	/kg)	8	0.8	2.4	24	77	0.7	6.6	**	
Direct Exp	Direct Exposure Residential (mg/kg)			0.1	#	#	#	#	#	#	0.1		
Commerc	nmercial-Industrial Direct-Exposure SCTL (mg/kg)			g/kg)	0.7	#	#	#	#	#	#	0.7	

Notes: U=Indicates the compound was analyzed for, but not detected.

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

PAHs = Polynuclear Aromatic Hydrocarbons

OVA = Organic vapor analyzer

ft = foot

fbls = Feet below ground surface

ppm = Parts per million

mg/kg = Milligram per kilogram

SCTL = Soil Cleanup Target Levels specified in Table II of Chapter 62-777, Florida Administrative Code (FAC)

** = Leachability value not applicable.

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

Table 6A - Benzo(a)pyrene Conversion Table For Direct Exposure Soil Cleanup Target Levels Facility/Site Name: Former Palm Tran Facility Location: PBIA Facility/Site ID No.: 50/8514018

Soil Sample No.	SB-4
Sample Date	10/19/2015
Location:	Former Dispenser
Depth (ft):	2 - 3

<u>INSTRUCTIONS</u>: Calculate Total Benzo(a)pyrene Equivalents <u>if at least one of the carcinogenic PAHs is</u> <u>detected in the sample</u> at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

- 1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
- 2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
- 3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
- 4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
- 5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	1.900	1.0	1.9000
Benzo(a)anthracene	0.300	0.1	0.0300
Benzo(b)fluoranthene	2.900	0.1	0.2900
Benzo(k)fluoranthene	1.100	0.01	0.0110
Chrysene	0.010	0.001	0.0000
Dibenz(a,h)anthracene	0.800	1.0	0.8000
Indeno(1,2,3-cd)pyrene	1.400	0.1	0.1400

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents =

3.2

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries								
Detection Concentration Reported Data Qualifier Enter								
Various	Quantified with certainty	None	reported value					
Various	Estimated	J	reported (estimated) value					
ND at MDL	MDL	U	1/2 reported value					
< MDL	Estimated	Т	reported (estimated) value					
≥ MDL but < PQL	Estimated	1	reported (estimated) value					
≥ MDL but < PQL	PQL	M	1/2 reported value					

Table 6B - Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name:	Former Palm Tran Facility
Location:	PBIA
Facility/Site ID No .:	50/8514018
Soil Sample No.	SB-18
Sample Date	10/19/2015
Location:	Former UST area
Depth (ft):	2 - 3

<u>INSTRUCTIONS</u>: Calculate Total Benzo(a)pyrene Equivalents <u>if at least one of the carcinogenic PAHs is</u> <u>detected in the sample</u> at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

- 1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
- 2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
- If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
- 4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
- 5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.600	1.0	0.6000
Benzo(a)anthracene	0.200	0.1	0.0200
Benzo(b)fluoranthene	0.020	0.1	0.0020
Benzo(k)fluoranthene	0.010	0.01	0.0001
Chrysene	0.010	0.001	0.0000
Dibenz(a,h)anthracene	1.200	1.0	1.2000
Indeno(1,2,3-cd)pyrene	1.700	0.1	0.1700

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents =

2.0

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries								
Detection Concentration Reported Data Qualifier Enter								
Various	Quantified with certainty	None	reported value					
Various	Estimated	J	reported (estimated) value					
ND at MDL	MDL	U	1/2 reported value					
< MDL	Estimated	Т	reported (estimated) value					
≥ MDL but < PQL	Estimated	1	reported (estimated) value					
≥ MDL but < PQL	PQL	Μ	1/2 reported value					

TABLE 7: GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY - VOCs and Lead

Facility ID#: 50/8514018

Facility Name: Former Palm Tran Facility

Sample		Benzene	Toluene	Ethyl- benzene	Total Xylenes	МТВЕ	EDB	Total Lead
Location	Date	(µg/L)	(µ g/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1	10/15/2015	0.950 l	0.660 U	0.730 U	1.81	0.530 U	0.01120 U	31
MW-2	10/15/2015	0.640 U	0.660 U	0.730 U	1.63 U	4.14	0.01120 U	0.3 I
MW-3	10/15/2015	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	0.01120 U	0.4 l
MW-4	10/15/2015	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	0.01120 U	0.4 l
MW-5	10/15/2015	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	0.01120 U	0.1 I
G	CTLs	1**	40**	30**	20**	20	0.02**	15**
N	ADCs	100	400	300	200	200	2	150

Notes:

GCTLs = Groundwater Cleanup Target Levels specified in Table I of Chapter 62-777, Florida Administrative Code (FAC)

NADCs = Natural Attenuation Default Source Concentrations specified in Table V of Chapter 62-777, FAC

VOC = Volatile organic compounds

** = As provided in Chapter 62-550, FAC

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

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

MTBE = Methyl tert-butyl ether

EDB = 1,2-dibromoethane

µg/L = Microgram per liter

TABLE 8: GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY - PAHs and TRPHs

Facility ID#: 50/8514018

Facility Name: Former Palm Tran Facility

See notes at end of table.

Sa	imple	TRPHs	Naph- thalene	1-Methyl- naph- thalene	2-Methyl- naph- thalene	Acen- aph- thene	Acen- aph- thylene	Anthra- cene	Benzo (g,h,i) pery- lene	Fluoran- thene	Fluor- ene	Phenan- threne	Pyrene	Benzo (a) pyrene	Benzo (a) anthra- cene	Benzo (b) fluoran- thene	Benzo (k) fluoran- thene	Chry- sene	Dibenz (a,h) anthra- cene	Indeno (1,2,3-cd) pyrene
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1	10/15/2015	8,250	0.147 U	90.0	86.4	0.188 U	0.393 U	0.0100 U	55.5	0.0100 U	0.217 U	0.215 U	0.409 U	10.7	0.0500 U	7.68	4.85	0.169 U	33.9	26.5
MW-2	10/15/2015	1,450	0.147 U	20.9	19.3	35.2	0.393 U	6.76	0.341 U	0.0100 U	20.0	9.22 I	4.38 I	0.200 U	0.0500 U	5.99	3.47	0.169 U	0.0050 U	0.0500 U
MW-3	10/15/2015	265 I	0.147 U	0.285 U	0.288 U	0.188 U	0.393 U	0.0100 U	0.341 U	0.0100 U	0.217 U	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
MW-4	10/15/2015	1,450	0.147 U	20.1	11.3	0.188 U	0.393 U	0.0100 U	0.341 U	0.0100 U	0.680 I	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
MW-5	10/15/2015	527	0.147 U	0.285 U	0.288 U	0.188 U	0.393 U	0.0100 U	0.341 U	0.0100 U	0.217 U	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
G	CTLs	5,000	14	28	28	20	210	2,100	210	280	280	210	210	0.2**	0.05 ^a	0.05 ^a	0.5	4.8	0.005 ^a	0.05 ^a
N	ADCs	50,000	140	280	280	200	2,100	21,000	2,100	2,800	2,800	2,100	2,100	20	5	5	50	480	0.5	5

Notes: GCTLs = Groundwater Cleanup Target Levels specified in Table I of Chapter 62-777, Florida Administrative Code (FAC)

NADCs = Natural Attenuation Default Source Concentrations specified in Table V of Chapter 62-777, FAC

** = As provided in Chapter 62-550, F.A.C.

^a = See the October 12, 2004 "Guidance for the Selection of Analytical Methods and for the Evaluation of Practical Quantitation Limits" to determine how to evaluate data when the CTL is lower than the PQL.

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

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

µg/L = Microgram per liter

PAH = Polynuclear aromatic hydrocarbons

TRPH = Total recoverable petroleum hydrocarbons

Appendix B - Exhibits



Nov09, 2015-2:30pm N:\Projects-Other Offices\West Palm Beach\2015\HD157021\cad\nov2015\7021-usgs-1.dwg



EXISTING MONITORING WELL

▲ NEW TERRACON MONITORING WELL

TERRACON SOIL BORING

SITE DIAGRAM

LOW-SCORED SITE INITIATIVE ASSESSMENT REPORT FORMER PALM TRAN FACILITY PALM BEACH INTERNATIONAL AIRPORT (PBIA) - BLDG. S-1440 WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA FDEP FACILITY ID No. 50 / 8514018

EXHIBIT

2



TERRACON SOIL BORING

SOIL OVA READING (ppm) **OVA - ORGANIC VAPOR ANALYZER** ppm - PARTS PER MILLION

SB-2	
DEPTH	OVA
(feet)	(ppm)
0-1	48.4
1-2	528
2-3	9999+
3-4	9999+
4-6	9999+
6-8	9999+

SB-3	
DEPTH (feet)	OVA (ppm)
0-1	<1
1-2	252
2-3	471
3-4	9999+
4-6	9999+
6-8	9999+

SB-8

DEPTH OVA

0-1 411

1-2 <1

2-3 1.2 3-4 <1

4-6 1.4

DEPTH OVA

0-1 <1

1-2 <1 2-3 <1

3-4 21.1

4-6 <u>386</u> 6-8 <u>311</u>

(feet) (ppm)

SB-13

6-8 10.3

(feet) (ppm)

SB-4	
DEPTH	OVA
(feet)	(ppm)
0-1	3.5
1-2	5.6
2-3	3712
3-4	9999+
4-6	9999+
6-8	9999+

SB-9

DEPTH OVA

0-1 <1

1-2 1.2

2-3 31.1 3-4 5437

4-6 9999+

6-8 9999+

DEPTH OVA (feet) (ppm)

0-1 <1

1-2 < 12-3 <1

3-4 <1

SB-14

(feet) (ppm)

SB-5	
DEPTH	OVA
(feet)	(ppm)
0-1	3514
1-2	9999+
2-3	9999+
3-4	9999+
4-6	9999+
6-8	9999+

SB-10

DEPTH OVA

0-1 <1

1-2 <1

2-3 < 13-4 224

4-6 1472

6-8 970

(feet) (ppm)

SB-7	
DEPTH (feet)	OVA (ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	<1
4-6	<1
6-8	<1

SB-12	
DEPTH (feet)	OVA (ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	<1
4-6	<1
6-8	2.1

SB-17	
DEPTH (feet)	OVA (ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	<1
4-6	612
6-8	1232

SB-22

(feet)

1-2

SB-27

(feet)

4-6

DEPTH OVA

0-1 <1

2-3 20.2

6-8 9999+

DEPTH OVA

0-1 120

1-2 38.8 2-3 1.1

3-4 8336

6-8 9999+

(ppm)

9999+

3-4 0.4 4-6 9.1

(ppm)

<1

SB-18	
DEPTH (feet)	OVA (ppm)
0-1	21.2
1-2	180
2-3	1837
3-4	1039
4-6	21.4
6-8	18.5

SB-23

DEPTH OVA

0-1 <1 $\begin{array}{c|cccc} 1 - 2 & < 1 \\ 2 - 3 & < 1 \\ 3 - 4 & < 1 \end{array}$

(feet) (ppm)

4-6 3041

6-8 9999+

DEPTH OVA

0-1 <1

1-2 < 12-3 6.2

3-4 <1

4-6 <1

6-8 <1

(feet) (ppm)

SB-28

	~ .
4-6	8.5
6-8	9.1
SB-19	
DEPTH	OVA
(feet)	(ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	1.2
4-6	368

6-8 508

DEPTH OVA

0-1 <1

 $\begin{array}{c|cccc} 1 - 2 & < 1 \\ 2 - 3 & 2.1 \\ 3 - 4 & 2.2 \end{array}$

4-6 2231

6-8 1587

DEPTH OVA

0-1 131

1-2 91.0 2-3 188

3-4 36.0

4-6 183

6-8 51.1

(feet) (ppm)

SB-29

(feet) (ppm)

SB-24

SB-15	
DEPTH (feet)	OVA (ppm)
0-1	<1
1-2	209
2-3	1.2
3-4	<1
4-6	<1
6-8	<1

SB-20		
DEPTH	OVA	
(feet)	(ppm)	
0-1	<1	
1-2	<1	
2-3	<1	
3-4	<1	
4-6	1.4	
6-8	<1	

SB-25	
DEPTH	OVA 🔪
(feet)	(ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	<1
4-6	<1
6-8	<1

SB-30		
DEPTH	OVA	
(feet)	(ppm)	
0-1	5085	
1-2	3712	
2-3	3562	
3-4	4732	
4-6	772	
6-8	2442	



VADOSE SOIL SCREENING DIAGRAM (10-12-2015)
LOW-SCORED SITE INITIATIVE ASSESSMENT REPORT
PALM BEACH INTERNATIONAL AIRPORT (PBIA) - BLDG. S-1440 WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA
FDEP FACILITY ID No. 50 / 8514018

EXHIBIT

3



LEGEND

- EXISTING MONITORING WELL
- ▲ NEW TERRACON MONITORING WELL
- (94.17) RELATIVE GROUNDWATER ELEVATION AT WELL (feet)
- 94.75 RELATIVE GROUNDWATER ELEVATION CONTOUR (feet)
 - INFERRED DIRECTION OF SHALLOW GROUNDWATER FLOW

GROUNDWATER ELEVATION DIAGRAM (10-15-2015) LOW-SCORED SITE INITIATIVE ASSESSMENT REPORT FORMER PALM TRAN FACILITY PALM BEACH INTERNATIONAL AIRPORT (PBIA) - BLDG. S-1440 WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA FDEP FACILITY ID No. 50 / 8514018

EXHIBIT



Ν	١	
M		

	LEGEND		
	EXISTING MONITORING WELL	-	
		G WELL	
S	CREENING CRITERIA (ug/L micrograms/L	ITER)	
P	ARAMETER	GCTL	NADC
TF	PH	5000	50000
2.	CHAPTER 62–777, FLORIDA ADMINISTR NADC = NATURAL ATTENUATION DEFAU CHAPTER 62–777, FLORIDA ADMINISTR CONCENTRATIONS GREATER THAN GCTL	ATIVE CC LT CONC ATIVE CC (BOLD	DDE (F.A.C.) CENTRATION, DDE (F.A.C.) TEXT/YELLO
	 I = REPORTED VALUES ARE BETWEEN METHOD DETECTION LIMIT (MDL) AND PRACTICAL QUANTITATION LIMIT. 		
3.	I = REPORTED VALUES ARE BETWEEN LIMIT (MDL) AND PRACTICAL QUANTITAT	METHOI	D DETECTION
3. 4.	I = REPORTED VALUES ARE BETWEEN LIMIT (MDL) AND PRACTICAL QUANTITAT U = ANALYTE WAS NOT DETECTED. R ARE BELOW MDL.	METHOI	D DETECTION IT. D VALUES

EXHIR	





LEGEND

EXISTING MONITORING WELL

A NEW TERRACON MONITORING WELL

SCREENING CRITERIA (ug/L micrograms/LITER)			
PARAMETER	GCTL	NADC	
1M – 1-METHYLNAPHTHALENE (ug/L)	28	280	
2M – 2–METHYLNAPHTHALENE (ug/L)	28	280	

NOTES:

- 1. GCTL = GROUNDWATER CLEANUP TARGET LEVEL, CHAPTER 62-777, FLORIDA ADMINISTRATIVE CODE (F.A.C.)
- NADC = NATURAL ATTENUATION DEFAULT CONCENTRATION, CHAPTER 62-777, FLORIDA ADMINISTRATIVE CODE (F.A.C.)

30 CONCENTRATIONS GREATER THAN GCTL (BOLD TEXT/YELLOW)

- 3. I = REPORTED VALUES ARE BETWEEN METHOD DETECTION LIMIT (MDL) AND PRACTICAL QUANTITATION LIMIT.
- U = ANALYTE WAS NOT DETECTED. REPORTED VALUES ARE BELOW MDL.

ESTIMATED EXTENT OF GROUNDWATER CONCENTRATIONS EXCEEDING GCTL'S (ug/L) RED (INFERRED WHERE DASHED)



& 2 - METHYLNAPHTHALENE IN GROUNDWATER (10-15-2015)	EXHIBIT
LOW-SCORED SITE INITIATIVE ASSESSMENT REPORT FORMER PALM TRAN FACILITY PALM BEACH INTERNATIONAL AIRPORT (PBIA) - BLDG. S-1440 WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA FDEP FACILITY ID No. 50 / 8514018	6







EXISTING MONITORING WELL

A NEW TERRACON MONITORING WELL

SCREENING CRITERIA (ug/L micrograms/LITER)									
PARAMETER (PAH)	GCTL	NADC							
AN – ACENAPHTHENE (ug/L)	20	200							
BaP – BENZO(a)PYRENE (ug/L)	0.2	20							
BbF - BENZO(b)FLUORANTHENE (ug/L)	0.05	5							
BkF – BENZO(k)FLUORANTHENE (ug/L)	0.05	5							
DaA — DIBENZ(a,h)ANTHRACENE (ug/L)	0.005	0.5							
IP - IDENO(1,2,3-cd)PYRENE (ug/L)	0.05	5							

NOTES:

- 1. GCTL = GROUNDWATER CLEANUP TARGET LEVEL, CHAPTER 62-777, FLORIDA ADMINISTRATIVE CODE (F.A.C.)
- NADC = NATURAL ATTENUATION DEFAULT CONCENTRATION, CHAPTER 62-777, FLORIDA ADMINISTRATIVE CODE (F.A.C.)
- 30 CONCENTRATIONS GREATER THAN GCTL (BOLD TEXT/YELLOW) 300 CONCENTRATIONS GREATER THAN NADC (BOLD TEXT/ORANGE)
- 3. I = REPORTED VALUES ARE BETWEEN METHOD DETECTION LIMIT (MDL) AND PRACTICAL QUANTITATION LIMIT.
- 4. U = ANALYTE WAS NOT DETECTED. REPORTED VALUES ARE BELOW MDL.
 - ESTIMATED EXTENT OF GROUNDWATER CONCENTRATIONS EXCEEDING GCTL'S (ug/L) RED (INFERRED WHERE DASHED)



SELECT PAHs IN GROUNDWATER (10-15-2015) LOW-SCORED SITE INITIATIVE ASSESSMENT REPORT FORMER PALM TRAN FACILITY PALM BEACH INTERNATIONAL AIRPORT (PBIA) - BLDG. S-1440 WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA FDEP FACILITY ID No. 50 / 8514018

EXHIBIT

Appendix C - Field Logs and Well Completion Report

											Paş		1			
Boring/Well Number:						Permit Number: FDEP Facili					ity Identification Number:					
SB-1				N/A				50/8514018								
Site Name:						Boreho	le Start D	ate: 10/12/15 ^H	Borehole Start	Time: 0	9:10		АМ 🗌 РМ			
	Former Palm Tran Site						End D	ate: 10/12/15	End 7	Time: 0	9:20		AM 🗌 PM			
Enviro	onmenta	l Contr	actor:	(Geolog	ist's Nam	e:		Environmen	's Name:					
Drillir	I erra	icon C	onsultan	ts, Inc.	Davam	ont Thial	mass (inc	Andrew Petric, P.G.	tor (inchas);	Por	Rand	Idall Murphy				
W	Wombat Environmental LLC					g Company: Pavement Thickness (inches): Borehole Diameter (inches): Borehole Diameter (inches): Borehole Diameter (inches): Borehole Diameter (inches): Pavement Thickness (inches): Borehole Diameter									(leet). 8	
Drillir	Drilling Method(s): Apparent Boreho					environmental, LLC 2 2 od(s): Apparent Borehole DTW (in feet Measured Well DTW (in feet after OVA (lis							model and check type):			
I	Direct-F	Push ([DP)	from so	oil moistu	ire conten	nt): 5.3	3 water recharges in w	vell): NM	MiniRae 2	2000		FID 🔽 PID			
Dispo	Disposition of Drill Cuttings [check method(s)]:															
(descr	(describe if other or multiple items are checked):															
Boreh	ole Con	pletion	1 (check o	ne):		Well	Gro	out 🔲 Bentonite	✓ Backf	ill 🗖 (Other	(descr	ibe			
		1	()									(
		70										7	Lab Soil and			
Sai	San Int	amj	S] (per	Unfi	File	7	De				US	Iois	Groundwater			
nplo	nple erva	ple F (incl	PT H six	lter	erec	let (pth	(include grain size base	Description	rs staining	CS S	ture	Samples (list			
е Ту	Dej 1 (fe	Reco hes)	3low incl	ed C	101	DVA	(fee	and oth	er remarks)	rs, stannig,	ym	Coi	sample number and depth or			
ре	pth et)	ver	7S hes)	OVA	VA		Ŭ				bol	nten	temporary screen			
		y		, r				Apphalt payament (2 in t	thick) Tan lima	rook booo		ıt	interval)			
DP	0-1					0		course (0.2-1 ft)	unick), ran inne	TUCK Dase	GP	D				
							1	Grav fine grained sand v	with some shell	fragments						
DP	1-2					3.0	2	from 2-3 ft (1-8 ft)			SP	D				
							2	Slight petroleum odor at	3 ft							
DP	2-3					60.3	3				SP	D				
								Strong petroleum odor a	nt 4-8 ft							
DP	3-4					9999+	4				SP	D				
	4.0					0000.					00	N4/14/				
DP	4-6					9999+	5				5P	101/ 00				
DP											SP	S				
Di							6				01	0				
DP	6-8					9999+					SP	s				
							7									
DP											SP	s				
							8									
							0									
							9									
							10									
							10									
							11									
							12									
		-				•										

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

-											Pa	ge I OI	1
Boring/Well Number:				Permit Number: F				FDEP Facility Identification Number:					
SB-2				N/A				50/8514018			18		
Site Name:						Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 0	9:22	\checkmark	АМ 🔲 РМ
Former Palm Tran Site						End Date: 10/12/15 End Time: 0					9:35	\checkmark	AM 🗌 PM
Environmental Contractor:						Geologist's Name: Environme					tal Tec	hniciar	i's Name:
Terracon Consultants, Inc.					1			Andrew Petric, P.G.			Randall Murphy		
Drilling Company: Paveme					Paveme	ent Thicl	kness (inc	hes): Borehole Dian	neter (inches):	Boi	rehole	Depth	(feet):
Wombat Environmental, LLC						In DTW/	2 In fact	Maarin d Wall DTW	Z Z (in fact often	OVA (list m	o dol or	d ahaa	8 Is trime):
Dinn	Direct-F	ush ([) P)	from sc	n Boreno	ire conten	(11) (5)	3 water recharges in	well). NM	MiniRae 2	00er ar		EID PID
Directification of Drill Outlines [shack method(s)]											Other		
Dispo	Disposition of Drill Cuttings [check method(s)]:											Other	
(descr	ibe if ot	her or i	multiple ii	tems are	checked	d):		_	_				
Boreh	ole Con	pletion	n (check o	ne):		Well	Gro	out 🔲 Bentonit	e 🔽 Backf	ill 🔲 (Other	(descr	ibe
	1				r	1	1				1	1	
0	E S	Saı	(p	Ur	T		_				С	Mo	Lab Soil and
amj	amp nter	nple (ir	SP1 er s	ıfilte	ilter	Ne	Dept	Sample	e Description		SCS	istu	Samples (list
ple	le D val (e Re 1che	' Ble ix in	ered	ed	0	h (f	(include grain size bas	sed on USCS, odo	rs, staining,	Sy	re C	sample number
Гуре	ept] feet	cove s)	ows	OV	AAC	'A	eet)	and of	ther remarks)		mbo	ont	and depth or
	с <u>с</u>	ry	5)	A	F						1	ent	interval)
ΠP	0-1					48.4		Concrete pavement (5-	-in thick), brown	fine grained	SP	П	
Di	0-1					40.4	1	Sanu (0.4-3 II)			51		
DP	1-2					528		Petroleum odor at 1-8	ft		SP	D	SB-2(1-2) - Lab
							2						ID 13883-05
DP	2-3					9999+					SP	D	
							3	Crowfing grained cond	(2 4 #)				
DP	3-4					9999+		Gray line grained sand	i (3-4 il)		SP	D	SB-2(3-4) - Lab
							4	Reddish-brown fine ar	ained sand (1-5 f	t) 1-inch			ID 13885-04
DP	4-6					9999+	_	layer of concrete obser	rved at 5 ft	l), 1-inch	SP	M/W	
							5	Grav fine grained sand	l (5-8 ft)				
DP							C				SP	S	
							0						
DP	6-8					9999+	7				SP	S	
							/						
DP							8				SP	S	
							0						
							9						
							⊢ ́						
							10						
							11						
							12						

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

D ·																		
Boring/Well Number:						Permit Number: FDEP Fac				FDEP Facili	' Facility Identification Number:							
SB-3						N/A				50/8514018								
Site Name:				Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 0	9:40	✓	АМ 🔲 РМ							
	Former Palm Tran Site						Former Palm Tran Site					End Da	ate: 10/12/15	End	Time: 0	9:46		АМ 🗌 РМ
Enviro	onmenta	l Contr	actor:			Geologi	ist's Nam	e:		Environment	's Name:							
5.00	Terra	con C	onsultan	ts, Inc.	-			Andrew Petric, P.G.		Ra		all Mu	rphy					
Drillir	Wombat Environmental LLC						ent Thickness (inches): Borehole Diameter (inches):					Depth ((feet):					
Drilling Method(s): Apparent Borehole DTW (in feet Measured Well DTW (in feet after ON								OVA (list m	odel ar	nd chec	k type):							
Dinni I	Direct-F	Push (E	DP)	from sc	oil moistu	re conten	t): 5.3	water recharges in	well): NM	MiniRae 2	2000		FID FID					
Disposition of Drill Cuttings [check method(s)]: \Box Drum \Box Spread \bigtriangledown Backfill \Box Stockpile \Box Other																		
(descr	(describe if other or multiple items are checked):																	
Doroh	(aescribe ij oiner or multiple tiems are checkea):											ihe						
Borehole Completion (check one): 🔲 Well 🔲 Grout 📔 Bentonite 🗹 Backfill 📔 Other (describe											IDς							
Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample (include grain size bas and of	e Description sed on USCS, odd ther remarks)	ors, staining,	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)					
DP	0-1					0		Asphalt pavement (2-ir sand with lime rock gra	n thick), gray fine avel (0.2-2 ft)	grained	SP	D						
							1					-						
DP	1-2					252	2				5P	D						
DP	2-3					471	3	Brown line grained sar	iu (2-3 il)		SP	D						
DP	3-4					9999+		Gray fine grained sand	l (3-4.5 ft)		SP	D						
							4	Brown fine grained sar	nd (4.5-5 ft)									
DP	4-6					9999+	5				SP	M/W						
DP							6	Gray fine grained sand 8 ft	l (5-8 ft), petroleu	um odor at 1-	SP	S						
DP	6-8					9999+	7				SP	S						
DP							8				SP	S						
							9											
							10											
							11											
							11											
							12											

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill CuttingsMoisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

Boring/Well Number: Permit Number: FDEP Facility Identifica SB-4 N/A 50/8514 Site Name: Borehole Start Date: 10/12/15 Borehole Start Time: 09:48 Image: 09:48 Former Palm Tran Site End Date: 10/12/15 End Time: 10:13 Image: 09:48 Environmental Contractor: Geologist's Name: Environmental Technicia	AM DM AM PM AM PM									
SB-4N/A50/8514Site Name:Borehole Start Date:10/12/15Borehole Start Time:09:48Image: Comparison of the start Time:Former Palm Tran SiteEnd Date:10/12/15End Time:10:13Image: Comparison of the start Time:Environmental Contractor:Geologist's Name:Environmental Technicia	018 АМ 🔽 РМ АМ 🗌 РМ									
Site Name:Borehole Start Date:10/12/15Borehole Start Time:09:48Image: Comparison of the compari	АМ 🔽 РМ АМ 🔲 РМ									
Former Palm Tran SiteEnd Date:10/12/15End Time:10:13Environmental Contractor:Geologist's Name:Environmental Technicia	AM 🔲 PM									
Environmental Contractor: Geologist's Name: Environmental Technica										
	in's Name:									
Derilling Company: Revenue Thickness (inches): Revenue Thickness (inches): Revenue Rev	Randall Murphy									
Wombat Environmental LLC 2 2	8									
Drilling Method(s): Apparent Borehole DTW (in feet Measured Well DTW (in feet after OVA (list model and che	ck type):									
Direct-Push (DP) from soil moisture content): 5.3 water recharges in well): NM MiniRae 2000	FID 🔽 PID									
Disposition of Drill Cuttings [check method(s)]:										
(describe if other or multiple items are checked):										
Borehole Completion (check one): 🔲 Well 🔲 Grout 🔲 Bentonite 🔽 Backfill 🔲 Other (dese	eribe									
	Lab Soil and									
Sau	Groundwater									
B B Sample Description	Samples (list									
$\begin{bmatrix} e \\ T \\$	sample number and depth or									
pth hes	temporary screen									
	interval)									
DP 0-1 3.5 Asphalt pavement (2-in thick), tan lime rock base GP/ course (0.2-0.7 ft) SP D										
Grav to red-brown fine grained sand (0.7-2 ft)										
DP 1-2 5.6 SP D										
Very dark gray fine grained sand, petroleum	SR 4(2.2) Lab									
DP 2-3 3712 staining (2-4 ft) SP D	ID 13883-03									
Petroleum odor at 3-8 ft										
DP 3-4 9999+ 4 SP D										
Brown fine grained sand (4-4.5 ft)	,									
DP 4-6 9999+ 5										
Gray fine grained sand (4.5-8 ft)										
DP 6-8 9999+ SP S										
DP SP S										
12										

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
-											Pa	ge I of	1
Boring	g/Well N	lumber	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:
			SB-5					N/A			50/3	85140	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	0:16	✓	АМ 🔲 РМ
	Fo	mer P	alm Tran	site			End D	ate: 10/12/15	End	Гime: 1	0:38	\checkmark	АМ 🔲 РМ
Enviro	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environmen	tal Tec	hniciar	i's Name:
	Terra	icon C	onsultan	ts, Inc.	1			Andrew Petric, P.G.			Rand	all Mu	rphy
Drillir	ng Com	any:			Paveme	ent Thicl	cness (inc	hes): Borehole Dian	neter (inches):	Bo	rehole	Depth ((feet):
VV (Deillie	ombat E		nmental,	LLC	t Doroho		2 in faat	Manager d Wall DTW	Z	OVA (list m	o dol or	d ah aa	8 Is tring)
Dinni	Direct-F	ush ([JP)	from sc	n Boreno	ie D1 w ((1) 5.	3 water recharges in	well) NM	MiniRae 2	00er ar		FID P PID
Diana	sition of		Suttings [ahaalt m	athad(a)				Backfill		zknile		Other
Dispo		, Dhii C		check in	ethod(s)						крпс		Other
(descr	ibe if ot	her or i	multiple ii	tems are	checked	d):	_		_				
Boreh	ole Con	pletion	n (check o	one):		Well	∐ Gro	out 📙 Bentonit	e 🗹 Backf	ill 🔲 (Other	(descr	ibe
						-						-	
	E S	Sai	(p	U 1	T		_				C	M_0	Lab Soil and
Samj	amp nter	mplo (iı	SP1 er s	nfilt	ïlteı	Ne	Dept	Sample	e Description		ISC	istu	Samples (list
ple])le D val (e Re 1che	' Ble ix in	ered	ed	V01	h (f	(include grain size bas	sed on USCS, odo	rs, staining,	Sy	re C	sample number
Гуро) ept] feet	cove s)	ows	OV	AAC	'A	eet)	and of	ther remarks)		mbo	ont	and depth or
()) h	ery	5)	A	F						1	ent	interval)
פח	0-1					3514		Concrete pavement (5-	in thick), light br	own fine	SD	П	
Di	0-1					5514	1	grained sand (0.4-2 ft)			51		
DP	1-2					9999+		Petroleum odor at 0.5-	8 ft		SP	D	
							2		(A)				
DP	2-3					9999+		Gray fine grained sand	(2-8 ft)		SP	D	
							3						
DP	3-4					9999+					SP	D	
							4						
DP	4-6					9999+	-				SP	M/W	
							>						
DP							G				SP	S	
							0						
DP	6-8					9999+	7				SP	S	
							′						
DP							8				SP	S	
							9						
							10						
							11						
							12						

											Pag	ge I of	1
Borin	g/Well N	Jumber	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:
		5	SB-6					N/A			50/8	85140	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	0:49	✓	АМ 🔲 РМ
	Fo	mer P	alm Tran	site			End Da	ate: 10/12/15	End	Гime: 1	1:01		АМ 🔲 РМ
Envir	onmenta	l Conti	actor:			Geolog	ist's Nam	e:		Environment	tal Tec	hniciar	's Name:
	Terra	icon C	onsultan	ts, Inc.	1			Andrew Petric, P.G.			Rand	all Mu	rphy
Drilli	ng Com	any:			Paveme	ent Thicl	kness (inc	hes): Borehole Dian	eter (inches):	Boi	rehole	Depth ((feet):
VV(ombat E		nmental,		4 D 1		2		2	OVA (list an	- 1-1		8
Driim	ig Meth	oa(s): Push (I	P)	from so	it Boreno.	re conten	$5^{\text{in leet}}$	Measured Well DI w	(in feet after	MiniRae 2			
D:	-:4:			-11		1.			Backfill		knilo		Cther
Dispo	sition of	Drii (спеск т	etnod(s)						крпе		Other
(descr	ibe if ot	her or i	multiple it	tems are	checked	1):		_					
Boreh	ole Con	pletion	n (check o	one):		Well	Gro	out 📃 Bentonite	e 🔽 Backf	ill 🔲 (Other	(descr	ibe
		Sa	•	U	_							M	Lab Soil and
Sam	nter	mpl (i	SP per s	nfilt	Filte	Z	Dep	Sample	Description		JSC	oistu	Groundwater
ple	ple] val	e Ro ncho	ſ Bl six i	erec	red	Ŭ,	th ()	(include grain size bas	sed on USCS, odo	ors, staining,	S Sy	ıre (sample number
Тур) (fee	ecov es)	ows nche	101	OV.	VA	feet)	and of	her remarks)		mb	Cont	and depth or
e	t) H	ery	S)	'A	1		_				ol	ent	temporary screen interval)
								Concrete pavement (4-	in thick), light br	own fine		_	
DP	0-1					2.4	1	grained sand (0.3-8 ft)			SP	D	
	4.0					44.5					0.0		
DP	1-2					41.5	2				5P	D	
DP	2.2					165					SD	р	
Di	2-5					105	3				51	D	
DP	3-4					139					SP	р	
5.	0 1					100	4				01	2	
DP	4-6					0					SP	M/W	
							5					,	
DP											SP	s	
							6						
DP	6-8					0					SP	s	
							7						
DP											SP	s	
							8						
							9						
							10						
							10						
							11						
							- ¹¹						
							12						
							12						

-										1	1 4	ge i oi	1
Boring	g/Well N	Number	•			Permit	Number:			FDEP Facil	ity Iden	tificati	on Number:
			SB-7					N/A	-		50/8	85140	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	1:06	✓	АМ 🔲 РМ
	Fo	mer P	alm Tran	Site			End Da	ate: 10/12/15	End	Гime: 1	1:15	\checkmark	AM 🗌 PM
Enviro	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environmen	tal Tec	hnician	's Name:
	Terra	icon C	onsultan	ts, Inc.	_			Andrew Petric, P.G.			Rand	all Mu	rphy
Drillin	ng Component F	bany: Enviror	montal		Paveme	ent Thicl	kness (inc	hes): Borehole Dian	neter (inches):	Во	rehole	Depth ((feet):
Drillir	or Meth	od(s).	intental,	Apparen	t Boreho	le DTW (in feet	Measured Well DTW	∠ / (in feet after	OVA (list m	odel ar	nd chec	k type):
l	Direct-F	Push ([DP)	from sc	oil moistu	ire conter	it): 5.3	3 water recharges in	well): NM	MiniRae	2000		FID FID
Dispo	sition of	Drill C	Cuttings [c	check m	ethod(s))]:	I	Drum 🔲 Spread	✓ Backfill	Sto	ckpile		Othei
(descr	ibe if ot	her or i	multiple it	tems are	checked	d):							
Boreh	ole Con	pletior	n (check o	ne):		Well	Gro	out 🔲 Bentonite	e 🔽 Backf	ïll 🗖	Other	(descr	ibe
													I ah Sail and
Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample (include grain size bas and of	e Description sed on USCS, odd her remarks)	rs, staining,	USCS Symbol	Moisture Content	Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1					0		Asphlat pavement (2-ir	n thick), tan lime	rock base	GP/	D	
Di	01					Ŭ	1				SP		
DP	1-2					0		Light brown fine graine	d sand (0.5-8 ft)		SP	D	
							2						
DP	2-3					0	3				SP	D	
DP	3-4					0	4				SP	D	
DP	4-6					0					SP	M/\//	
5.	10					Ű	5				0.		
DP											SP	s	
							6						
DP	6-8					0	7				SP	S	
							/						
DP							8				SP	S	
							9						
							10						
							11						
							12						
Sample	e Type C	ndes: F	PH – Post F	Hole H	Δ – Hana	d Auger	SS – Split	Spoon: ST – Shelby Tu	be: DP – Direct	Push: $SC = S$	I Sonic Co	re DC	r – Drill Cuttings

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Borin	g/Well N	lumber	:			Permit	Number:			FDEP Facili	ty Iden	tification	on Number:
			SB-8					N/A			50/8	85140	18
Site N	lame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	1:35		АМ 🔲 РМ
	Fo	mer P	alm Tran	Site			End Da	ate: 10/12/15	End	Гime: 1	1:42		АМ 🔲 РМ
Envir	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environment	tal Tec	hnician	's Name:
	Terra	con C	onsultan	ts, Inc.	1			Andrew Petric, P.G.			Rand	all Mu	rphy
Drilli	ng Com	any:			Paveme	ent Thicl	cness (inc	hes): Borehole Dian	neter (inches):	Boı	ehole	Depth ((feet):
VV(ombat E		nmental,		4 D 1		2		2	OVA (list an	- 4-1) 	8
Driim	ng Meth Direct-F	Da(s): Push (F	P)	from so	it Boreno	ie DTW (in leet	Weasured Well DI water recharges in	well) NM	MiniRae 2			
D:				-hl		1.			Rockfill		knilo		Cther
Dispo	sition of	Drii (спеск т	etnod(s)						крпе		Other
(descr	ibe if ot	her or i	multiple ii	tems are	checked	d):		_	_				
Boreh	ole Con	pletior	n (check o	ne):		Well	Gro	out 📔 Bentonit	e 🔽 Backf	ill 🔲 (Other	(descr	ibe
		Sa	(U	_							M	Lab Soil and
Sam	jam] inter	mpl (i	SP per s	nfilt	filte	Z	Dep	Sample	e Description		JSC	oistu	Groundwater
ple	ple] val	e Ro ncho	ſ Bl six i	erec	red	Õ	th ()	(include grain size bas	sed on USCS, odd	ors, staining,	S Sy	ıre (sample number
Тур) (fee	ecov es)	ows nche	101	OV.	VA	feet)	and of	ther remarks)		mb	Cont	and depth or
e	red OVA red OVA									ol	ent	temporary screen interval)	
								Asphlat pavement (2-ir	thick), tan lime	rock base	GP/		
DP	0-1					411	1	course (0.2-0.6 ft), slig	ht petroleum odo	or at 0-1 ft	SP	D	
	1.0					0		Brown fine grained sar	nd (0.6-5 ft)		00		
DF	1-2					0	2				35	D	
DP	2-3					12					SP	П	
	20					1.2	3				01		
DP	3-4					0					SP	D	
							4						
DP	4-6					1.4					SP	M/W	
							5						
DP								Light brown fine graine	d sand (5-8 ft)		SP	s	
							6						
DP	6-8					10.3					SP	s	
							7						
DP											SP	s	
							8						
							9						
							10						
							10						
							11						
							11						
							12						
	<u>I</u>						12				1		

											1 48	ge i oi	1
Borin	g/Well N	Jumber	:			Permit	Number:			FDEP Facili	ty Iden	tification	on Number:
			SB-9					N/A			50/8	85140 ⁻	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start '	Time: 1	1:45		АМ 🔲 РМ
	Fo	mer P	alm Trar	n Site			End D	ate: 10/12/15	End 7	Time: 1	1:54		AM 🔽 PM
Enviro	onmenta	l Conti	actor:			Geolog	ist's Nam			Environment	tal Tecl	hnician	's Name:
D .11.	lerra	icon C	onsultan	ts, Inc.	Б		(*	Andrew Petric, P.G.	((1)	n	Rand	all Mu	rphy
Drilli	ig Comp ombat F	any: Diviror	omental		Paveme	ent I nici	cness (inc	nes): Borenole Diam	eter (inches):	Во	renote	Depth ((Teet):
Drillin	on Meth	od(s).	imentai,	Apparen	t Boreho	le DTW (∠ in feet	Measured Well DTW	Z (in feet after	OVA (list m	odel ar	d chec	b k type):
	Direct-F	Push ([DP)	from so	oil moistu	ire conten	nt): 5.3	3 water recharges in	well): NM	MiniRae 2	2000		FID V PID
Dispo	sition of	Drill (Cuttings [check m	ethod(s))]:		Drum Spread	Backfill	Stoc	kpile		Other
(descr	ihe if at	heror	multinle i	toms are	checke	d)•					1		
Densh						<i>W</i> _11					241	(1	:h
Boren	ole Con	ipietioi	n (check o	ine):		wen					Jther	(descr	lD€
Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample (include grain size bas and of	e Description sed on USCS, odo her remarks)	rs, staining,	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1					0		Asphlat pavement (2-ir course (0.2-0.6 ft)	thick), tan lime	rock base	GP/	D	
							1	Brown fine grained san	d (0.6-2.5.ft)		SP		
DP	1-2					1.2	2	brown line grained san	a (0.0-2.5 ft)		SP	D	
							2	Gray fine grained sand	(2.5-8 ft)				
DP	2-3					31.1	3				SP	D	
DP	3-4					5437		Strong petroleum odor	at 3-8 ft		SP	D	SB-9(3-4) - Lab ID 13883-02
							4						
DP	4-6					9999+	5				SP	M/W	
DD											еD	c	
DF							6				SF	3	
DP	6-8					9999+	7				SP	s	
ΠP							/				SP	q	
ы							8				0	5	
							9						
							10						
							11						
							11						
							12						
											· · · · ·		

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Borin	g/Well N	lumber	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:
		S	SB-10					N/A	1		50/8	85140	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	1:57	✓	АМ 🔲 РМ
	Foi	mer P	alm Tran	site			End D	ate: 10/12/15	End	Fime: 12	2:04	\Box	AM 🔽 PM
Envir	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environment	tal Tec	hniciar	's Name:
	Terra	icon C	onsultan	ts, Inc.	1			Andrew Petric, P.G.			Rand	all Mu	rphy
Drilli	ng Comp	any:			Paveme	ent Thicl	cness (inc	hes): Borehole Dian	neter (inches):	Boı	ehole	Depth ((feet):
	ombat E		nmental,	LLC Annoron	t Poraho		Z	Manuard Wall DTW	Z I (in fact often	OVA (list m	odol or	d abaa	8 Is tupo):
DIIIII	Direct-F	ou(s). Push ([OP)	from so	n Boreno pil moistu	ire conten	in leet	3 water recharges in	well): NM	MiniRae 2	0000 ar		FID V PID
Dieno	sition of		Suttings [abook m	athod(a)				Backfill		knile		Other
Dispo		, DIIII (• Dackini		крпс		Other
(descr	ibe if of	her or i	multiple ii	tems are	checked	<i>d):</i>		_					
Boreh	ole Con	pletion	n (check o	one):		Well	📙 Gro	out 📙 Bentonite	e 🗹 Backf	111 🔲 (Other	(descr	ibe
	1			1	1	1	r				1	1	
70	E S	Sai	(p	U	Ŧ						U	Mo	Lab Soil and
amj	amp nter	nple (ir	SPT er sj	nfilte	ilter	Net	Dept	Sample	e Description		SCS	istu	Samples (list
ple T	le D val (e Re Iche	' Blo ix in	red	ed (V0	h (f	(include grain size bas	sed on USCS, odo	ors, staining,	Syı	re C	sample number
Гуре	red OVA ered OVA f Blows f Blows ix inches ix inches ix over nches) nches) ole Depth ole Depth						eet)	and of	ther remarks)		mbo	onte	and depth or
()	h)	ery	5)	A							l	ent	interval)
ΠP	0-1					0		Asphlat pavement (2-in	n thick), tan lime	rock base	GP/	П	
	01					Ū	1	course (0.2-0.0 h)			SP		
DP	1-2					0		Light brown fine graine	d sand (0.6-8 ft)		SP	D	
							2						
DP	2-3					0					SP	D	
							3	Detroloum oder et 2.0	<i>t</i> 1				
DP	3-4					224		Petroleum odor at 3-8	IT		SP	D	
							4						
DP	4-6					1472	_				SP	M/W	
							5						
DP							6				SP	s	
							0						
DP	6-8					970	7				SP	S	
							/						
DP							8				SP	S	
							0						
							9						
							⊢ ́						
							10						
							11						
							12						

						1				•	1 4	50 1 01	1
Borin	g/Well N	Jumber	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:
		S	SB-11					N/A	•		50/8	85140	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	2:06		АМ 🔽 РМ
	Foi	mer P	alm Tran	Site			End Da	ate: 10/12/15	End	Time: 1	2:23	\Box	АМ 🔽 РМ
Envir	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environmen	tal Tec	hniciar	's Name:
	Terra	icon C	onsultan	ts, Inc.	1			Andrew Petric, P.G.			Rand	all Mu	rphy
Drilliı	ng Comp	any:			Paveme	ent Thick	tness (inc	hes): Borehole Dian	neter (inches):	Boi	rehole	Depth ((feet):
W	ombat E	nviror	nmental,		(D. 1.)		2		2		1 1	1 1	8
Drillii	ng Meth	od(s): Duch /[וסר	Apparen	it Boreho	le DTW (in feet	Measured Well DTW	(in feet after	OVA (list m MiniPae 2	odel ar	id chec	k type):
D'									Dealsfill		1		FID PID
Dispo	sition of	Drill	Juttings [c	check m	ethod(s)]:		orun 📋 Spread	M Backfill		крпе		Othei
(descr	ibe if ot	her or i	multiple it	tems are	checked	<i>d):</i>							
Boreh	ole Con	pletior	n (check o	ne):		Well	Gro	out 🔲 Bentonite	e 🔽 Backf	fill 🔲 🤇	Other	(descr	ibe
		3S	(U	L .						_	Μ	Lab Soil and
San	Sam Inte	i) (j	SP	nfil	Filte	Z	Dep	Sample	Description		USC	oistı	Groundwater
ıple	ple_ rval	le R nch	T B) six i	tere	red	et O	oth ((include grain size bas	sed on USCS, odd	ors, staining,	SS	ıre	Samples (list
Туј	Dep (fe	ecov les)	low: nch	d O	VO	VA	feet	and ot	her remarks)	, 6,	ymł	Con	and depth or
be	ů fr	very	s es)	VA	A		0				ol	tent	temporary screen
								Concrete pavement (4-	in thick), light br	own fine		, ,	interval)
DP	0-1					0	1	grained sand (0.3-8 ft)	, C		SP	D	
							¹						
DP	1-2					0	2				SP	D	
							2						
DP	2-3					0	3				SP	D	
							_ 3						
DP	3-4					0	4				SP	D	
DP	4-6					5.5	5				SP	M/W	
												_	
DP							6				SP	S	
DP	6-8					63.5	7				SP	S	
											0.5	~	
DP							8				SP	S	
							9						
							10						
							11						
							12						

											Pag	ge I of	1
Borin	g/Well N	Number	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:
		S	B-12					N/A			50/8	85140	18
Site N	lame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 12	2:24		АМ 🔽 РМ
	Fo	mer P	alm Tran	n Site			End D	ate: 10/12/15	End	Fime: 12	2:36	\Box	АМ 🔽 РМ
Envir	onmenta	l Conti	actor:			Geolog	ist's Nam	e:		Environment	tal Tec	hniciar	's Name:
	Terra	icon C	onsultan	ts, Inc.				Andrew Petric, P.G.			Rand	all Mu	rphy
Drilli	ng Com	oany:			Paveme	ent Thicl	kness (inc	hes): Borehole Dian	neter (inches):	Boi	ehole	Depth ((feet):
VV(ombat E		nmental,		4 D 1		2		2	OVA (list an	- 4-1	ll	8
Driim	ng Meth Direct-F	oa(s): Push (I	P)	from so	it Boreno	ie DIW ($5^{\text{in leet}}$	Measured Well DIW	(in feet after	MiniRae 2			
D:				-11					Bookfill		knilo		Cther
Dispo	sition of	. Driit (check m	ethod(s))]:					крис		Other
(descr	ibe if ot	her or i	multiple ii	tems are	checked	d):	_		_				
Boreh	ole Con	pletion	n (check o	one):		Well	Gro	out 📔 Bentonit	e 🔽 Backf	ill 🔲 (Other	(descr	ibe
		Sa	•	U	_							M	Lab Soil and
Sam	jam] inter	mpl (i	SP per s	nfilt	filte	Z	Dep	Sample	• Description		JSC	oistu	Groundwater
ple	ple] val	e Ro ncho	ſ Bl six i	erec	red	Õ	th ()	(include grain size bas	sed on USCS, odo	ors, staining,	S Sy	ıre (sample number
Тур) (fee	ecov es)	ows nche	101	OV.	VA	feet)	and of	ther remarks)		mb	Ont	and depth or
e	C h	ery	S)	'A	1		_				ol	ent	temporary screen interval)
								Concrete pavement (4-	in thick), light br	own fine		_	
DP	0-1					0	1	grained sand (0.3-8 ft),	gravel in upper	1 ft	SP	D	
	4.0										00		
DP	1-2					0	2				32		
ΠP	2-3					0					SD	П	
Di	2-3					0	3				01		
DP	3-4					0					SP	П	
21						Ű	4				0.		
DP	4-6					0					SP	M/W	
							5					,	
DP											SP	s	
							6						
DP	6-8					2.1					SP	s	
							7						
DP											SP	s	
							8						
							9						
							10						
							10						
							11						
							- 11						
							12						
I	I	l				l	12				1	l	

-										1	1 a	ge i oi	1
Boring	g/Well N	Jumber	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:
		S	B-13					N/A			50/3	85140 ⁻	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	2:39		АМ 🔽 РМ
	Foi	mer P	alm Tran	Site			End Da	ate: 10/12/15	End	Гime: 1	2:49		AM 🔽 PM
Enviro	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environment	tal Tec	hnician	's Name:
	Terra	con C	onsultan	ts, Inc.	_			Andrew Petric, P.G.			Rand	all Mu	rphy
Drillir	ng Comp	any:			Paveme	ent Thick	aness (inc	hes): Borehole Dian	neter (inches):	Boı	ehole	Depth (feet):
VV (Drillir	ombat E		imental,	Apparan	t Borehol		Z in feet	Mangurad Wall DTW	Z I (in fact ofter	OVA (list m	odal ar	d choo	b k type):
	Direct-F	Push ([DP)	from sc	il moistu	re conten	in leet	3 water recharges in	well): NM	MiniRae 2	2000 an		FID V PID
Dispo	sition of	Drill (Suttings [/	shock m	athod(s)	1.		Drum Spread	Backfill		knile		Other
		, ,]. 1)		Spread	• Duckini	Biot	мр не		Other
(aescr	ibe if of	her or i	multiple ii	tems are	спеске	<i>1):</i>				_			
Boreh	ole Con	pletion	n (check o	ne):		Well	Gro	out 📋 Bentonite	e M Backt	111 📋 🤇	Other	(descr	ibe
												ы	Lab Soil and
Samp Samp											US	Mois	Groundwater
mpl	nple	ple] (inc	PT] r six	ilter	tere	Net (epth	Sample	e Description		CS	ture	Samples (list
e Ty	e De al (fi	Reco hes)	Blov	ed (d O	0V/	(fee	(include grain size bas	sed on USCS, odd ther remarks)	rs, staining,	Sym	e Co	sample number and depth or
pe	pth eet)	over	vs hes)	JVA	VA		et)				bol	nter	temporary screen
		y		r				Concrete povement (4	in thick) ton lim	orock fill (0.2		ıt	interval)
DP	0-1					0		4 ft)	-in thick), tan inn	elock IIII (0.3-	GP	D	
							1						
DP	1-2					0	2				GP	D	
							2						
DP	2-3					0	3				GP	D	
DP	3-4					21.1	4				GP	D	
								Brown fine grained san	nd (4-8 ft), slight	petroleum			
DP	4-6					386	5	odor from 4-8 ft			SP	M/W	
DP							6				SP	S	
											0.5		
DP	6-8					311	7				SP	S	
											00	<u> </u>	
DP							8				32	3	
							9						
							10						
							11						
							12						

-										T	Pa	ge I OI	1
Boring	g/Well N	Jumber	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:
		S	B-14					N/A	•		50/3	85140	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 12	2:51		АМ 🔽 РМ
	Foi	mer P	alm Tran	Site			End Da	ate: 10/12/15	End	Time: 13	3:01		AM 🔽 PM
Enviro	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environment	al Tec	hnician	's Name:
	Terra	con C	onsultan	ts, Inc.				Andrew Petric, P.G.			Rand	all Mu	rphy
Drillir	ng Comp	any:			Paveme	ent Thick	tness (inc	hes): Borehole Diam	neter (inches):	Bor	ehole	Depth (feet):
	ombat E		imental,	LLC Apparan	t Porcho		Z	Maggured Well DTW	Z I (in fact often	OVA (list m	odol or	d ahaa	8 Is tupo):
Dinni	Direct-F	ush ([DP)	from sc	il moistu	re conten	t): 5.3	water recharges in	well): NM	MiniRae 2	0000		FID V PID
Dieno	sition of		Suttings [hook m	athod(a)	1.			Backfill		knile		Other
Dispo		, Dime		meek m				Juli Diplead	Je Dackini		крпс		Other
(descr	ibe if of	her or i	multiple if	ems are	checked	1):	_	_	_	_			
Boreh	ole Con	pletion	n (check o	ne):		Well	∟ Gro	out 📙 Bentonite	e 🗹 Backf	ill 🔲 🤇	Other	(descr	ibe
70	E S	Sa	(p	Ū	Ŧ		L.				J	Mo	Lab Soil and
Sam	amj nter	mpl (i)	SP] ber s	nfilt	lite	Ne	Dep	Sample	e Description		JSC	oistu	Groundwater
ple	ple I val	e Re nche	ſ Ble ix ir	ered	red	tO	th (1	(include grain size bas	sed on USCS, odo	ors, staining,	S Sy	re (sample number
Гур) (feet	соv (S)	ows 1che	101	0V/	VA	leet)	and ot	her remarks)		mbe	ont	and depth or
e	h ()	ery	s)	'A	-						bl	ent	temporary screen interval)
	0.4					0		Concrete pavement (4-	in thick), tan lim	erock fill (0.3-			
DP	0-1					0	1	1 ft)			GP	D	
	1.0					0		Brown fine grained san	id with shell fragi	ments (1-4 ft)	00		
DF	1-2					0	2				35	D	
ΠP	2-3					0					SP	П	
Di	20					Ū	3				01		
DP	3-4					0					SP	D	
						-	4						
DP	4-6					8.5		Brown fine grained san	id (4-8 ft)		SP	M/W	
							5						
DP											SP	s	
							6						
DP	6-8					9.1					SP	S	
							7						
DP											SP	S	
							8						
							0						
							9						
							10						
							10						
							11						
							12						
			1	1		l .							

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Borin	g/Well N	Jumber	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:
		S	SB-15					N/A			50/8	85140	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	3:03		АМ 🔽 РМ
	Foi	mer P	alm Tran	Site			End Da	ate: 10/12/15	End	Time: 1	3:20	\Box	АМ 🔽 РМ
Envire	onmenta	l Conti	actor:			Geolog	ist's Nam	e:		Environment	tal Tec	hniciar	's Name:
	Terra	icon C	onsultan	ts, Inc.	1			Andrew Petric, P.G.			Rand	all Mu	rphy
Drillii	ng Comp	any:			Paveme	ent Thicl	cness (inc	hes): Borehole Dian	neter (inches):	Boi	rehole	Depth ((feet):
	ombat E		nmental,	LLC	4 D 1 1		2		2	OVA (list an	- 1-1		8
Drillin	ig Meth	oa(s): Push (I	P)	from sc	it Boreno	re conten	5°	Measured Well DIW	(in feet after	MiniRae 2			
D:	-:::			h e ala ma		1.			Bookfill		knilo		Cther
Dispo	sition of		uttings [c	спеск т	etnod(s)]:					крпе		Other
(descr	ibe if ot	her or i	multiple it	ems are	checked	<i>d</i>):		_					
Boreh	ole Con	pletio	n (check o	ne):		Well	Gro	out 🗌 Bentonit	e 🔽 Backf	ill 🔲 🤇	Other	(descr	ibe
												M	Lab Soil and
Sam	Sam Inte	mp (i	SP per :	nfil	Filte	z	Dep	Sample	Description		JSC	oistu	Groundwater
ıple	ple] rval	le Ro nch	T Bl six i	tere	red	et O	th ((include grain size bas	sed on USCS, odd	ors, staining,	S Sy	ıre (samples (list
Туг	Dep (fee	ecov es)	lows	d O	VO	VA	feet	and of	her remarks)	-	ymb	Con	and depth or
)e	Ë É	/ery	s es)	VA	A		0				ol	tent	temporary screen
								Concrete pavement (4-	in thick), tan to l	orown			interval)
DP	0-1					0	1	limerock fill (0.3-2 ft)			GP	D	
							1						
DP	1-2					209	2				GP	D	
								Brown fine grained sar	nd (2-8 ft)				
DP	2-3					1.2	3				SP	D	
												_	
DP	3-4					0	4				SP	D	
DP	4-6					0	5				SP	M/W	
											0.0	~	
DP							6				SP	S	
	<u> </u>					0					00	<u> </u>	
DP	6-8					0	7				5P	5	
DD											еD	c	
DF							8				35	3	
							9						
							10						
							11						
							12						

	ATT 11 3										1 48		1
Boring	g/Well N	lumber	••			Permit	Number:			FDEP Facilit	ty Iden	tificatio	on Number:
a: -		S	SB-16			D :	1 0 -	N/A	1 1 6	.	50/8	35140 ⁻	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15 Bo	orehole Start 7	l'ime: 12	2:32		AM 🔽 PM
	Foi	mer P	alm Tran	n Site			End Da	ate: 10/12/15	End T	Time: 12	2:43		АМ 🔽 РМ
Enviro	onmenta	l Contr	actor:			Geolog	ist's Nam			Environment	al Tec	hnician	's Name:
D .III.	lerra	icon C	onsultan	ts, Inc.	D	(TT1 * 1		Andrew Petric, P.G.	(1)		Rand	all Mui	rphy
Drillin	ng Comp Sombat F	any: Diviror	omental		Paveme	ent Thick	aness (inc	hes): Borehole Diamete	er (inches):	Bor	ehole l	Depth (teet):
Drillir	or Meth	od(s).	imentai,	Apparen	t Boreho	le DTW (∠ in feet	Measured Well DTW (ii	∠ n feet after	OVA (list m	odel ar	d chec	s k type):
	Direct-F	Push ([DP)	from so	oil moistu	re conten	it): 5.3	3 water recharges in well	11): NM	MiniRae 2	:000		FID V PID
Disno	sition of	Drill ('uttings [4	check m	ethod(s)	ŀ		Drum Spread	Backfill	Stoc	kpile		Other
(Jan									Duomin		np 110		Other
(aescr	ibe if of	ner or i		tems are	спеске	<i>i):</i>							
Boreh	ole Con	pletion	n (check o	one):		well	📙 Gro	out 🔝 Bentonite	M Backfi	ш Ц (Other	(descr	IDE
L													
70	E S	Sai	(p	U	H						C	Mo	Lab Soil and
amj	amp nter	nplo (ii	SP1 er s	ıfilt	ilteı	Ne	Depi	Sample D	Description		SC	istu	Samples (list
ple	le I val (e Re 1che	Ble Ble	ered	ed (VO 1	th (f	(include grain size based	on USCS, odo	rs, staining,	Sy	re C	sample number
Гур)ept (feet	cove s)	ows Iche	VO	OVA	/A	eet)	and other	r remarks)		mbe	ont	and depth or
æ	S P	ery	s)	A	-)	ent	interval)
	0.4					0		Concrete pavement (4-in	thick), tan lime	erock fill (0.3-	0.0	5	
DP	0-1					0	1	3.5 ft)			GP	D	
	4.0					0						5	
DP	1-2					0	2				GP	D	
ПП	2.2					0					CD	D	
DF	2-3					0	3				GF	D	
סח	3-1					0		Brown fine grained sand ((3.5-8 ft)		GP/	П	
Di	5-4					U	4				SP	D	
DP	4-6					0					SP	M/\//	
Di	- 0					Ū	5				01	101/ 00	
DP											SP	S	
21							6				0.	Ũ	
DP	6-8					1.7					SP	s	
							7				•.	-	
DP											SP	S	
							8						
							9						
							10						
							11						
							10						
							12						

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Boring	g/Well N	Jumber	:			Permit	Number:			FDEP Facili	ty Iden	tificatio	on Number:
		S	SB-17					N/A			50/8	85140 ⁻	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 12	2:45		АМ 🔽 РМ
	Foi	mer P	alm Tran	n Site			End Da	ate: 10/12/15	End	Гime: 1	2:56		АМ 🔽 РМ
Enviro	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environment	al Tec	hnician	's Name:
D '11'	lerra	icon C	onsultan	ts, Inc.	D			Andrew Petric, P.G.	· / 1)		Rand	all Mui	phy
Drillin	ng Comp Sombat F	any: Diviror	omental		Paveme	ent I nici	cness (inc	nes): Borenole Diam	eter (inches):	Bor	enole	Depth (feet):
Drillir	on Meth	nd(s).	imentai,	Apparen	t Boreho	le DTW (∠ in feet	Measured Well DTW	Z (in feet after	OVA (list m	odel ar	d chec	b k type):
l	Direct-F	Push ([DP)	from so	oil moistu	ire conten	nt): 5.3	3 water recharges in	well): NM	MiniRae 2	2000		FID FID
Dispo	sition of	Drill (Cuttings [check m	ethod(s)]:		Drum 🔲 Spread	Backfill	Stoc	kpile		Other
(descr	ibe if ot	her or i	multiple i	tems are	checked	- d):							
Roreh	ole Con	nletior) (check o	ne).		Well	Gro	out 🗖 Bentonite	- 🔽 Backf	511 🗖 (Other	(descr	ibe
Doren		ipicitoi	I (CHECK)	ne).		W CH			Ducki		Junei	(ueser	
		70										7	Lab Soil and
Sa	Sample Description											Iois	Groundwater
mpl	nple erv:	ple] (inc	PT] . six	lter	tere	Vet (pth	Sample	e Description		CS	ture	Samples (list
eΤ	e De al (f	Reco	Blov	ed (d O	0V	l (fe	(include grain size bas	ed on USCS, odd her remarks)	ors, staining,	Syn	e Co	sample number
ype	eet)	ove)	vs hes	0V/	VA		et)				ıbol	onte	temporary screen
		rу)	*							-	nt	interval)
DP	0-1					0		Concrete pavement (4-	in thick), tan lim	erock fill (0.3-	GP	D	
Di	01					Ŭ	1	2.5 10			01	D	
DP	1-2					0					GP	D	
							2	Brown fine grained san	d (2.5-8 ft)				
DP	2-3					0	2	Lietti inte graniea ean			SP/ SP	D	
							3						
DP	3-4					0	4				SP	D	
							·	Petroleum odor at 4-8 f	ít				
DP	4-6					612	5				SP	M/W	
DP							6				SP	S	
	6.9					1000					00	6	
DP	0-8					1232	7				5P	5	
DP											SP	S	
21							8				0.	Ũ	
							9						
							10						
							11						
							10						
							12						

											1 42	ge i oi	1
Boring	g/Well N	Number	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:
		S	SB-18					N/A			50/8	85140	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start '	Time: 1	2:59		АМ 🔽 РМ
	Fo	mer P	alm Trar	n Site			End D	ate: 10/12/15	End 7	Time: 1	3:10	\Box	AM 🔽 PM
Enviro	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environment	tal Tec	hnician	's Name:
D .III.	lerra	icon C	onsultan	ts, Inc.	Б		Ċ	Andrew Petric, P.G.	((1)		Rand	all Mu	rphy
Drillin	ng Comp Sombat F	bany: Enviror	nmental		Paveme	ent I nici	cness (inc	nes): Borenole Diam	eter (inches):	Во	enole	Depth ((Teet):
Drillir	or Meth	od(s).	intentai,	Apparer	t Boreho	le DTW (in feet	Measured Well DTW	L (in feet after	OVA (list m	odel ar	nd chec	k type):
l	Direct-F	Push ([DP)	from so	oil moistu	ire conter	nt): 5.3	3 water recharges in	well): NM	MiniRae 2	2000		FID FID
Dispo	sition of	Drill (Cuttings [check m	ethod(s))]:	🗌 I	Drum 🔲 Spread	✓ Backfill	Stoc	kpile		Othei
l (descr	ihe if ot	her or i	multinle i	tems are	checkei	d).							
Boroh	olo Con	molation	a (abaak a	no):		Woll	Gr/		a 🔽 Backf	511 – (Other	(decor	ibc
Doren		ipietioi		nie).		wen		Jui Demonito			Julei	(desci	100
													Lah Soil and
Sa	Sa	Sam	(pe	Unf	Fi		Ð				US	Mois	Groundwater
mp	mpl terv	ple (inc	PT r six	ilter	tere	Net	eptł	Sample	Description		CS	stur	Samples (list
le T	e De al (f	Rec hes	Blo [,] c inc	ed o	0 b	OV.	ı (fe	(include grain size bas and of	ed on USCS, odo her remarks)	rs, staining,	Syn	e Co	sample number
уре	epth leet)	ove)	ws ches	OV.	VA	A	et)		ner remarks)		abol	onte	and depth or temporary screen
		ry)	*								nt	interval)
DP	0-1					21.2		Concrete pavement (4-	in thick), tan lime	erock fill with	GP	D	
	0.						1		()		0.	_	
DP	1-2					180					GP	D	
							2	Petroleum odor at 2-4 f	ŕt				
DP	2-3					1837	2		-		GP	D	SB-18(2-3) - Lab ID 13883-01
							3	Brown fine grained san	d (3-8 ft)				
DP	3-4					1039	4	-	. ,		SP	D	
							— Ť						
DP	4-6					21.4	5				SP	M/W	
												_	
DP							6				SP	S	
DP	6-8					18.5	7				SP	S	
DD											сD	c	
DF							8				35	3	
							9						
							10						
							11						
							10						
							12						

-						1					1 ag	ge i oi	1
Borin	g/Well N	Jumber	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:
		S	B-19					N/A			50/8	85140	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	3:13		АМ 🔽 РМ
	Foi	mer P	alm Tran	Site			End Da	ate: 10/12/15	End	Time: 1	3:26	\Box	АМ 🔽 РМ
Envire	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environment	tal Tec	hniciar	's Name:
	Terra	con C	onsultan	ts, Inc.				Andrew Petric, P.G.			Rand	all Mu	rphy
Drillin	ng Comp	any:			Paveme	ent Thick	ness (inc	hes): Borehole Dian	neter (inches):	Boi	ehole	Depth ((feet):
W(ombat E		nmental,		4 D 1		2		2	OVA (list an	- 4-1		8
Drillin	ig Meth	Da(s): Push (F	P)	from so	it Boreno.	re conten	the formula 5^{\prime}	Measured Well DIW	(in feet after	MiniRae 2			
D:				-hl		1.			Bookfill		knilo		Cther
Dispo	sition of	Drii (uttings [c	спеск т	etnod(s)]:					крпе		Other
(descr	ibe if ot	her or i	multiple it	tems are	checked	<i>d):</i>	_	_	_				
Boreh	ole Con	pletior	n (check o	ne):		Well	Gro	out 📃 Bentonit	e 🔽 Backf	ill 🔲 (Other	(descr	ibe
	-			-									
70	E S	Sa	(p	Ū	Ŧ						L	Mo	Lab Soil and
Sam	amp	npl (ii	SP] er s	nfilt	ilte	Ne	Dep	Sample	e Description		ISC	oistu	Groundwater Samples dist
ple	ole I val	e Re 1che	ſ Ble ix ir	ered	red	t O1	th (1	(include grain size bas	sed on USCS, odo	ors, staining,	S Sy	re (sample number
Гур)ept (feet	соv((S)	ows 1che	V0	OV∤	VΑ	eet)	and of	her remarks)		mbo	ont	and depth or
e))	ery	s)	'A	-						bl	ent	interval)
	0.4					0		Concrete pavement (4-	in thick), tan lim	erock fill (0.3-			
DP	0-1					0	1	3 π)			GP	D	
DD	1 2					0					CP	р	
Di	1-2					U	2				01	D	
DP	2-3					0					GP	П	
21	20					Ũ	3				0.	2	
DP	3-4					1.2		Brown fine grained sar	nd with some she	ell fragments	SP	D	
							4						
DP	4-6					368		Slight petroleum odor a	at 4-8 ft		SP	M/W	
							5						
DP											SP	s	
							6						
DP	6-8					508					SP	s	
							7						
DP							0				SP	S	
							8						
							0						
							9						
							10						
							10						
							11						
							12						
L					1	1							

										-	Paş	ge I OI	1
Borin	g/Well N	Jumber	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:
		S	SB-20					N/A			50/8	85140	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	3:22		АМ 🔽 РМ
	Foi	mer P	alm Tran	Site			End Da	ate: 10/12/15	End	Time: 1	3:34		АМ 🔽 РМ
Envire	onmenta	l Conti	actor:			Geolog	ist's Nam	e:		Environment	tal Tec	hniciar	's Name:
	Terra	icon C	onsultan	ts, Inc.	1			Andrew Petric, P.G.			Rand	all Mu	rphy
Drillii	ng Comp	any:			Paveme	ent Thick	cness (inc	hes): Borehole Dian	neter (inches):	Boı	rehole	Depth ((feet):
W(ombat E		nmental,		4 D 1		2		2	OVA (list an	- 1-1		8
Drillin	ig Meth	oa(s): Push (I	P)	from so	it Boreno.	re conten	the formula 5^{\prime}	Measured Well DI w	(in feet after	MiniRae 2			
D:	-:4:			-hl		1.			Bookfill		knilo		Cther
Dispo		Drin (check m	ethod(s)]:					крпс		Other
(descr	ibe if ot	her or i	multiple it	tems are	checked	1):	_		_				
Boreh	ole Con	pletion	n (check o	ne):		Well	Gro	out 📃 Bentonite	e 🔽 Backf	ill 🔲 (Other	(descr	ibe
		Sa	(1	U								M	Lab Soil and
Sam	Sam] Inter	mpl (i	SP per s	nfilt	Filte	Z	Dep	Sample	Description		JSC	oistu	Groundwater
ple	ple] val	e Ro ncho	F Bl six i	erec	red	0 tõ	th ()	(include grain size bas	sed on USCS, odo	ors, staining,	S Sy	ıre (samples (list sample number
Тур	Dept (fee	ecov es)	ows nche	101	VO	VA	feet)	and of	her remarks)		mb	Cont	and depth or
e	t f	ery	(S;	/A	₽		-				ol	ent	temporary screen interval)
						-		Concrete pavement (4-	in thick), tan to b	orown		_	
DP	0-1					0	1	limerock fill (0.3-4 ft)			GP	D	
	4.0										0.0		
DP	1-2					0	2				GP	D	
ПП	2.2					0					CD	D	
DF	2-3					0	3				GF	D	
ΠP	3-4					0					GP	П	
Di	0 4					Ū	4				01	D	
DP	4-6					1.4		Gray fine grained sand	(4-8 ft)		SP	M/W	
							5				0.	,	
DP											SP	s	
							6				_	_	
DP	6-8					0					SP	s	
							7						
DP											SP	s	
							8						
							9						
							10						
							1.1						
							12						
I							12						

											1 ag		1
Borin	g/Well N	lumber	:			Permit	Number:			FDEP Facili	ty Iden	tificatio	on Number:
		S	SB-21					N/A			50/8	85140	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start '	Time: 1	1:35		АМ 🔲 РМ
	Fo	mer P	alm Trar	n Site			End Da	ate: 10/12/15	End 7	Fime: 1	1:44		АМ 🔲 РМ
Enviro	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environmen	tal Tec	hnician	's Name:
Deillia	l erra	icon C	onsultan	ts, Inc.	Dovom	ant Thiol	maga (in a	Andrew Petric, P.G.	ator (in choc).	Der	Rand	all Mu	rphy
Driini	ng Comp Sombat F	any: Inviror	mental	ЦС	Paveme	ent i nici	2	nes): Borenole Dian	2	ВО	enole	Depth ((leet):
Drillin	ng Meth	od(s):	interitai,	Apparen	t Boreho	le DTW (in feet	Measured Well DTW	/ (in feet after	OVA (list m	odel ar	nd chec	k type):
	Direct-F	Push ([DP)	from so	oil moistu	ire conter	nt): 5.3	3 water recharges in	well): NM	MiniRae 2	2000		FID 🗹 PID
Dispo	sition of	Drill (Cuttings [check m	ethod(s))]:	🗌 I	Drum 🔲 Spread	✓ Backfill	Stoc	kpile		Othei
(descr	ibe if ot	her or i	multiple in	tems are	checked	d):							
Boreh	ole Con	pletion	ı (check o	me):		Well	Gro	out 🔽 Bentonite	e 🔽 Backf	ill 🗖 (Other	(descr	ib€
		1	- ((
		S										N	Lab Soil and
San	San Inte	amp (SP (per	J nfil	Filt	z	De	Samul	Deservention		USC	loist	Groundwater
nple	iple rval	le R inch	'T B six i	tere	ered	et O	pth	Sample (include grain size bas	e Description sed on USCS, odo	rs, staining,	S	ure	Samples (list
Туј	Dep (fee	les)	lows	d O	VO	VA	(feet	and ot	her remarks)	, 6,	ymt	Con	and depth or
be	ë fi	very	s es)	VA	Ā		0				ol	tent	temporary screen
								Concrete pavement (4-	in thick), Light b	rown fine			inter var)
DP	0-1					0	1	grained sand (0.3-8 ft)			SP	D	
DP	1-2					0	2				SP	D	
ПР	2-3					0					SD	П	
Di	20						3				01		
DP	3-4					0					SP	D	
							4						
DP	4-6					0	_				SP	M/W	
							5						
DP							6				SP	S	
							0						
DP	6-8					0	7				SP	S	
							<u> </u>						
DP							8				SP	S	
							9						
							10						
							11						
							10						
							12						

-						-				-	Paş	ge I of	1
Borin	g/Well N	Jumber	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:
		S	B-22					N/A			50/8	85140	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	1:47	✓ .	АМ 🔲 РМ
	Foi	mer P	alm Trar	site			End Da	ate: 10/12/15	End	Гime: 1	1:59	\checkmark	АМ 🔲 РМ
Enviro	onmenta	l Conti	actor:			Geolog	ist's Nam	e:		Environmen	tal Tec	hniciar	's Name:
	Terra	icon C	onsultan	ts, Inc.	1			Andrew Petric, P.G.			Rand	all Mu	rphy
Drillii	ng Comp	any:			Paveme	ent Thick	cness (inc	hes): Borehole Dian	neter (inches):	Boi	rehole	Depth ((feet):
	ombat E		imental,	LLC Annoron	t Poraho	10 DTW (Z	Manured Wall DTW	Z I (in fact often	OVA (list m	odal ar	d abaa	8 Is tupo):
Dimi	Direct-F	ou(s). Push ([)P)	from so	n Boreno pil moistu	ire conten	in leet	3 water recharges in	well): NM	MiniRae 2	00er ar		FID V PID
Dieno	sition of		Suttings [abook m	athod(a)				Backfill		knile		Other
Dispo		, Drift (check m	ethod(s)						крпс		Other
(descr	ibe if ot	her or i	nultiple ii	tems are	checked	d):	_		_				
Boreh	ole Con	pletion	n (check o	one):		Well	Gro	out 📔 Bentonit	e 🔽 Backf	ill 🔲 (Other	(descr	ibe
		Sa	(U	_							M	Lab Soil and
Sam	amj	mpl (i	SP per s	nfilt	filte	Z	Dep	Sample	• Description		JSC	oistu	Groundwater
ple	ple] val	e Ro ncho	ſ Bl six i	erec	red	Õ	th ()	(include grain size bas	sed on USCS, odo	ors, staining,	S Sy	ıre (sample number
Тур	Depi (fee	ecov es)	ows	101	OV.	VA	feet	and of	ther remarks)		mb	Cont	and depth or
ē	t) H	ery	es)	VA	A		Ŭ				ol	tent	temporary screen
								Concrete pavement (4-	in thick), tan lim	e rock base			inter (ui)
DP	0-1					0	1	course (0.3-1 ft)			GP	D	
						_		Light brown fine graine	d sand (1-6 ft)			_	
DP	1-2					0	2				SP	D	
						00.0					0.0	_	
DP	2-3					20.2	3				5P	D	
DD	2.4					0.4					6 D		
DF	3-4					0.4	4				35		
DD	4.6					0.1					SD	N#/\A/	
Di	4-0					5.1	5				51	101/ 00	
DP											SP	s	
Di							6				01	Ŭ	
DP	6-8					9999+		Brown fine grained sar	nd (6-8 ft)		SP	s	
Di	00					00001	7				01	Ŭ	
DP											SP	s	
							8					-	
							9						
							10						
							11						
							10						
							12						

												Pa	ge 1 of	1
Boring	g/Well M	Jumber	:			Permit	Number:				FDEP Faci	ility Ider	tificati	on Number:
<i>a</i>		S	B-23						N/A			50/	85140	18
Site N	ame:					Boreho	le Start D	ate:	10/12/15	Borehole Start	Time:	12:01		AM 🔽 PM
	Fo	mer P	alm Trar	i Site			End D	ate:	10/12/15	End 7	Гime:	12:07		AM 🔽 PM
Enviro	onmenta	l Contr	actor:	(Geolog	ist's Nam	e: A se al se a			Environme	ental Tec	hnician	's Name:
Drillir		icon C	onsultan	ts, Inc.	Daveme	ant Thicl	mess (inc	Andrev	V Petric, P.G. Borehole Diam	neter (inches):	B	Rand	Denth (rpny
W	ombat E	Enviror	nmental.	LLC	1 aveni	Int Thier	2	nes).	Dorenoie Dian	2	D D			8
Drillir	ng Meth	od(s):	,	Apparen	t Boreho	le DTW (in feet	Me	asured Well DTW	/ (in feet after	OVA (list	model ar	nd chec	k type):
I	Direct-F	ush ([OP)	from so	oil moistu	ire conten	t): 5.3	3 w	ater recharges in	well): NM	MiniRae	e 2000		FID 🔽 PID
Dispo	sition of	Drill (Cuttings [check m	ethod(s)]:	🗌 I	Drum	Spread	Backfill	Ste	ockpile		Othei
(descr	ibe if ot	her or i	multiple i	tems are	checked	d):								
Boreh	ole Con	pletior	n (check o	one):		Well	Gro	out	Bentonite	e 🔽 Backf	ïll 🗖	Other	(descr	ibe
	1			1	1	-								
Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	(inclu	Sample de grain size bas and ot	e Description sed on USCS, odo ther remarks)	ors, staining,	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1					0		Concre course	te pavement (4- (0.3-1 ft)	in thick), tan lime	e rock base	GP	D	
DP	1-2					0	1	Light br	rown fine graine	d sand (1-8 ft)		SP	D	
DP	2-3					0	2					SP	D	
ΠP	3-4					0	3					SP		
							4	Petrole	um odor at 4-8 f	ft		01		
DP	4-6					3041	5					SP	M/VV	
DP							6					SP	S	
DP	6-8					9999+	7					SP	S	
DP							8					SP	S	
							9							
							10							
							10							
							11							
							12							

						-				-	Pa	ge I OI	1
Boring	g/Well N	Jumber	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:
		S	SB-24					N/A			50/3	85140 ⁻	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	2:09		АМ 🔽 РМ
	Fo	mer P	alm Tran	Site			End Da	ate: 10/12/15	End	Гime: 1	2:17		АМ 🔽 РМ
Enviro	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environment	al Tec	hnician	's Name:
	Terra	con C	onsultan	ts, Inc.	1			Andrew Petric, P.G.			Rand	all Mu	rphy
Drillir	ng Com	any:			Paveme	ent Thick	cness (inc	hes): Borehole Dian	neter (inches):	Boı	ehole	Depth ((feet):
VV (ombat E		nmental,		4 D 1		2		2	OVA (list an	- 4 - 1) 	8
Driini	ig Meth	Da(s): Push (F	P)	from so	it Boreno.	ie DTW (5°	Measured Well DI w	(in feet after	MiniRae 2			
D:	-:4:			-hl		1.			Bookfill		knilo		Other
Dispo	sition of	Drii (uttings [c	спеск т	etnod(s)	n]: 					крпе		Other
(descr	ibe if ot	her or i	multiple it	tems are	checked	d):		_					
Boreh	ole Con	pletior	n (check o	ne):		Well	Gro	out 🔲 Bentonite	e 🔽 Backf	ill 🔲 (Other	(descr	ibe
	1				1	1					1	1	
0	E S	Saı	(p	Ur	T		_				U	Mo	Lab Soil and
amj	amp nter	nple (ir	SP1 er s	ıfilte	ilter	Ne	Dept	Sample	e Description		SCS	istu	Samples (list
ple]	le D val (e Re 1che	' Ble ix in	ered	ed (NO 1	h (f	(include grain size bas	sed on USCS, odo	ors, staining,	Sy:	re C	sample number
Гур)ept (feet	соv(s)	ows	VO	0V/	A/	eet)	and of	her remarks)		mbe	ont	and depth or
æ	C h	ery	s)	'A	-						bl	ent	interval)
	0.1					0		Concrete pavement (4-	in thick), tan lim	erock fill (0.3-			
DP	0-1					0	1	4 ft)			GP	D	
ПП	1.2					0					CD	D	
DF	1-2					0	2				Gr	D	
ΠP	2-3					21					GP	П	
Di	20					2.1	3				01	D	
DP	3-4					2.2					GP	D	
	0.						4				0.	_	
DP	4-6					2231		Brown fine grained san 4-8 ft	nd (4-8 ft), petrole	eum odor at	SP	M/W	
						_	5					-	
DP											SP	S	
							6						
DP	6-8					1587					SP	s	
							7						
DP											SP	S	
							8						
							9						
							10						
							10						
							11						
							11						
							12						
	l						12						

-						1				T	газ	ge i oi	1
Boring	g/Well N	Jumber	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:
		S	B-25					N/A	•		50/8	85140	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	2:20		АМ 🔽 РМ
	Foi	mer P	alm Tran	Site			End Da	ate: 10/12/15	End	Time: 1	2:30		АМ 🔽 РМ
Enviro	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environment	al Tec	hniciar	's Name:
	Terra	con C	onsultan	ts, Inc.				Andrew Petric, P.G.			Rand	all Mu	rphy
Drillir	ng Comp	any:			Paveme	ent Thick	cness (inc	hes): Borehole Dian	eter (inches):	Boi	ehole	Depth ((feet):
W(ombat E		nmental,		4 D 1 1		2		2	OVA (list an	- 4 - 1		8
Driini	ig Meth	Da(s): Push (F	P)	from sc	il moistu	re conten	the formula 5^{\prime}	Measured Well DI w	(in feet after	MiniRae 2			
D'				1 1					Poolefill		lenilo		
Dispo	sition of	Drill	uttings [c	cneck m	etnod(s)]:			▶ Dackilli		крпе		Other
(descr	ibe if ot	her or i	multiple it	tems are	checked	<i>d</i>):	_						
Boreh	ole Con	pletion	n (check o	ne):		Well	Gro	out 🗌 Bentonite	e 🔽 Backf	ill 🔲 🤇	Other	(descr	ibe
		Sa	()	U							_	M	Lab Soil and
Sam	Sam Inte	imp]	SP per :	nfili	Filte	z	Dep	Sample	Description		USC	oistı	Groundwater
ıple	ple] rval	le R nch	T B] six i	iere	red	et O	th ((include grain size bas	sed on USCS, odo	ors, staining,	S S	ıre (samples (list
Тур	Dep (fee	ecov es)	lows	d O'	OV	VA	feet	and of	her remarks)		ymb	Con	and depth or
ĕ	ë f	/ery	s es)	VA	A)				ol	tent	temporary screen
								Concrete pavement (4-	in thick), tan lim	erock fill (0.3-			inter var)
DP	0-1					0	1	1 ft)			GP	D	
							_ `	Brown fine grained san	id (1-4 ft)				
DP	1-2					0	2				SP	D	
												_	
DP	2-3					0	3				SP	D	
	0.4										00		
DP	3-4					0	4				SP	D	
	1.0							Gray fine grained sand	(4-8 ft)		00		
DP	4-6					0	5				5P	IVI/ VV	
											00	<u> </u>	
DP							6				5P	5	
חח	6 9					0					еD	c	
DF	0-0					0	7				3F	3	
ΠP											SP	9	
Di							8				51	3	
							9						
							10						
							11						
							12						

											1 a	ge i oi	1
Boring	g/Well N	Jumber	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:
		S	SB-26					N/A	•		50/3	85140	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	5:26		АМ 🔽 РМ
	Foi	mer P	alm Tran	n Site			End Da	ate: 10/12/15	End	Гime: 1	5:36		АМ 🔽 РМ
Enviro	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environmen	tal Tec	hnician	's Name:
	Terra	icon C	onsultan	ts, Inc.	1			Andrew Petric, P.G.			Rand	all Mu	rphy
Drillir	ng Comp	any:			Paveme	ent Thick	cness (inc	hes): Borehole Dian	neter (inches):	Boi	rehole	Depth ((feet):
	ombat E		nmental,	LLC	4 D 1		2		2	OVA (list an	- 1-1) 	8
Dunn	Direct-F	ou(s): Push ([JP)	from so	n Boreno	ie DT w (t)· 5.	3 water recharges in	well). NM	MiniRae 2	00er ar		FID F ID
Diana	sition of		Suttings [ah a alt m	athad(a)				Backfill		zknile		Other
Dispo		, Dhii C		check m	ethod(s))]:					крпс		Other
(descr	ibe if ot	her or i	multiple ii	tems are	checked	d):	_		_				
Boreh	ole Con	pletior	n (check o	one):		Well	Gro	out 📃 Bentonit	e 🔽 Backf	ill 🔲 (Other	(descr	ibe
	Unf Fil D Sam												Lab Soil and
Sam	Sam] Inter	mpl (i	SP per s	nfilt	Filte	Z	Dep	Sample	• Description		JSC	oistu	Groundwater
ple	ple] val	e Ro ncho	ſ Bl six i	erec	red	Õ	th ()	(include grain size bas	sed on USCS, odo	ors, staining,	S Sy	ıre (sample number
Тур	Depi (fee	ecov es)	ows	10	OV.	VA	feet	and of	ther remarks)		mb	Cont	and depth or
ē	t) H	ery	es)	VA	A		Ŭ				ol	tent	temporary screen
								Asphlat pavement (2-ir	n thick), tan lime	rock base	GP/		inter var)
DP	0-1					0	1	course (0.2-0.6 ft)			SP	D	
								Light brown fine graine	d sand (0.6-4 ft)			_	
DP	1-2					0	2				SP	D	
											0.5		
DP	2-3					0	3				5P	D	
ПП	2.4					0					сD		
DF	3-4					0	4				35	D	
סח	4.6					00001		Gray fine grained sand	l (4-6 ft), petroleu	im odor at 4-	SD	N#/\A/	
Di	4-0					33337	5	0 11			51	101/ 00	
DP											SP	s	
Di							6				01	0	
DP	6-8					1820		Light brown grained sa	nd (6-8 ft)		SP	s	
Di	00					1020	7				01	Ŭ	
DP											SP	s	
							8					-	
							9						
							10						
							11						
							12						

											газ		1
Boring	g/Well N	lumber	:			Permit	Number:			FDEP Facili	ty Iden	tificatio	on Number:
		S	SB-27					N/A	ſ		50/8	85140	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	5:12		АМ 🔽 РМ
	Fo	mer P	alm Tran	n Site			End D	ate: 10/12/15	End	Time: 1	5:19		AM 🔽 PM
Enviro	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environmen	tal Tec	hnician	's Name:
D '11'	lerra	icon C	onsultan	ts, Inc.	Б			Andrew Petric, P.G.			Rand	all Mu	rphy
Drillin	ig Comp ombat F	any: Diviror	omental		Paveme	ent I nici	cness (inc	nes): Borenole Diam	neter (inches):	BOI	renole	Depth ((Teet):
Drillir	or Meth	od(s).	imentai,	Apparen	t Boreho	le DTW (∠ in feet	Measured Well DTW	Z / (in feet after	OVA (list m	odel ar	nd chec	b k type):
	Direct-F	Push ([DP)	from so	oil moistu	ire conten	nt): 5.3	3 water recharges in	well): NM	MiniRae 2	2000		FID V PID
Dispo	sition of	`Drill (· ·uttings [a	check m	ethod(s))]·		Drum Spread	Backfill	□ Stoc	ckpile		Other
(descr	ihe if ot	horor	multinle i	toms are	chocko	d)•					1	,	
(uescr		1		iems ure		xx-11					0.1	< 1	.,
ьoreh	ole Con	ipietioi	i (cneck o	me):		vv en		Jui 📔 Bentonito		ш [_ (Jther	(descr	IDE
					1	1						1	Lab Calland
ŝ	II S	San	(p	Un	Ξ		н				U	Moi	Lab Soli and Groundwater
amp	ump Iterv	nple (in	SPT er si	filte	lter	Net	Dept	Sample	e Description		SCS	stu	Samples (list
le T	le D al (j	Rec ches	Blo x inc	red	ed C	VO	h (fe	(include grain size bas	sed on USCS, odo har romarks)	rs, staining,	Syn	e Co	sample number
уре	epth feet)	:ove ;)	ws ches	OV.	IVA	A	et)		nei remarks)		nbo	onte	and depth or temporary screen
		ry)									nt	interval)
DP	0-1					120		Asphlat pavement (2-ir lime rock base course	n thick), tan to lig (0.2-0.6 ft)	ght brown	GP/	D	
							- ¹	Gray fine grained sand	(0.6-8 ft), slight	petroleum	01		
DP	1-2					38.8	2	odor at 0-1 ft	()) - 3 -		SP	D	
DP	2-3					1.1	3				SP	D	
	2.4					0000		Strong petroleum odor	at 4-8 ft		00		
DP	3-4					8330	4				5P	D	
DD	4.6					00001					SD	N#/\A/	
DF	4-0					9999+	5				35	101/ 00	
DP											SP	s	
							6				0.		
DP	6-8					9999+					SP	s	
							7						
DP											SP	s	
							8						
							0						
							<u>و</u>						
							10						
							10						
							11						
							12						
								I					

											1 ag	50 1 01	1
Borin	g/Well N	Number	:			Permit	Number:			FDEP Facili	ty Iden	tification	on Number:
		S	B-28					N/A			50/8	85140 ⁻	18
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	5:01		АМ 🔽 РМ
	Foi	mer P	alm Tran	Site			End Da	ate: 10/12/15	End	Гime: 1	5:10		AM 🔽 PM
Enviro	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environmen	tal Tec	hnician	's Name:
D 111	Terra	icon C	onsultan	ts, Inc.	5			Andrew Petric, P.G.			Rand	all Mu	rphy
Drillii	ng Comp Sombat F	bany: Enviror	montal		Paveme	ent Thick	aness (inc	hes): Borehole Diam	eter (1nches):	Bo	rehole	Depth (teet):
Drillin	or Meth	od(s).	imentai,	Apparen	t Boreho	le DTW (∠ in feet	Measured Well DTW	Z (in feet after	OVA (list m	odel ar	nd chec	s k type):
	Direct-F	Push ([DP)	from sc	oil moistu	ire conten	t): 5.3	water recharges in	well): NM	MiniRae 2	2000		FID FID
Dispo	sition of	Drill (Cuttings [c	check m	ethod(s)	1:		Drun Spread	Backfill	Stoc	ckpile		Othei
(descr	ibe if ot	her or i	multiple it	tems are	checked	d):					-		
Rorah	ole Con	nlation	(check o	no):		Well	Gr(ut 🗖 Bentonite	Backf	511 🗖	Othor	(dos or	ibc
Doren		ipietioi	I (CHECK O	ne).		wen		Jut Dentoning	Dacki		other	(ueser	IDC
S	Sa In	Sam	(pe	Uní	Fi		D				Sn	Moi	Lab Soil and Groundwater
mpl	mplo terva	ple] (inc	PT] r six	ilter	tere	Net	epth	Sample	Description		CS	sture	Samples (list
e Ty	e De al (fi	Reco hes)	Blov	ed (d O	0V∤	(fee	(include grain size bas	ed on USCS, odo her remarks)	ors, staining,	Sym	e Co	sample number and depth or
pe	pth eet)	over	vs hes)	JVA	VA	-	et)				bol	nter	temporary screen
		y						Asphlat pavement (2-in	thick) tan lime	rock base		īt	interval)
DP	0-1					0	1	course (0.2-0.6 ft)			GP/ SP	D	
							1	Tan fine grained sand v	with shell fragme	ents (0.6-2 ft)			
DP	1-2					0	2	0	C C	, , , , , , , , , , , , , , , , , , ,	SP	D	
								Brown fine grained san	d (2-8 ft)				
DP	2-3					6.2	3				SP	D	
											0.0		
DP	3-4					0	4				SP	D	
DD	4.6					0					SD	N#/\A/	
ы	4-0					U	5				5	101/ 00	
DP											SP	s	
							6						
DP	6-8					0					SP	s	
							7						
DP							0				SP	S	
							0						
							0						
							_ `						
							10						
							11						
							12						
Sample	e Type Co	odes: F	$\mathbf{PH} = \mathbf{Post} \mathbf{H}$	Hole H	$\mathbf{A} = \mathbf{Han}\mathbf{a}$	1 Auger	SS – Split	Spoon: ST - Shelby Tu	he: DP – Direct	Push: $SC = S$	onic Co	re DC	- Drill Cuttings

-						-				-	Paş	ge I OI	1			
Borin	g/Well N	Jumber	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:			
		S	SB-29					N/A			50/8	85140	18			
Site N	ame:					Borehole Start Date: 10/12/15 Borehole Star			Borehole Start	Time: 1	5:38		АМ 🔽 РМ			
	Fo	mer P	alm Tran	n Site			End D	ate: 10/12/15	End	Time: 1	5:46	\Box	АМ 🔽 РМ			
Enviro	onmenta	l Contr	actor:			Geolog	ist's Nam	e:	Environmental Technician's Name:							
	Terra	icon C	onsultan	ts, Inc.				Andrew Petric, P.G.			Rand	all Mu	rphy			
Drillii	ng Com	g Company: Pavement Thickness (inches): Borehole Diameter (inches): Borehole Depth (feet):									(feet):					
Wo	ombat E	nviror	nmental,		. D. 1.	2 2 8										
Drillii	ng Meth	od(s): Push /[וסר	Apparen	it Boreho	le DTW (in feet	Measured Well DTW	(in feet after	OVA (list m MiniRae 2	odel ar	id chec	k type):			
											1					
Dispo	sition of	Drill	Juttings [check m	ethod(s))]:		Drum Spread	▶ Васкпії		крпе		Othei			
(descr	ibe if ot	her or i	multiple i	tems are	checked	d):										
Boreh	ole Con	pletio	n (check o	one):		Well	🗌 Gro	out 🔲 Bentonit	e 🔽 Backf	ill 🔲 (Other	(descr	ibe			
		Ň		U							_	Μ	Lab Soil and			
San	Sam Inte	() ()	SP per	nfil	Filte	z	Dej	Somnl	Decomintion		USC	oist	Groundwater			
ıple	ple rval	le R inch	T B six i	tere	ered	et O	oth ((include grain size bas	sed on USCS, odo	ors, staining,	S. S.	ure	Samples (list			
Tyj	Dep (fe	les)	low	d O	9	VA	(fee	and of	ther remarks)	, 8,	yml	Cor	and depth or			
pe	et)	very	s les)	VA	'A		(1				loc	iten	temporary screen			
		7						Asphlat pavement (2-ir	thick), tan lime	rock base		C.	interval)			
DP	0-1					131	1	course (0.2-0.6 ft), slig	ht petroleum odc	or at 0-8 ft	GP/ SP	D				
							1	Light brown fine graine	d sand (0.6-8 ft)		0.					
DP	1-2					91.0	2				SP	D				
							2									
DP	2-3					188	2				SP	D				
							3									
DP	3-4					36.0	4				SP	D				
							Ŧ									
DP	4-6					183	5				SP	M/W				
DP							6				SP	S				
							_ 0									
DP	6-8					51.1	7				SP	S				
DP							8				SP	S				
							0									
							9									
							⊢ ́									
							10									
							11									
							12									
	-				-		-					-				

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Borin	g/Well N	lumber	:			Permit	Number:			FDEP Facili	ty Iden	tificati	on Number:	
		S	SB-30					N/A			50/3	85140	18	
Site N	ame:					Boreho	le Start D	ate: 10/12/15	Borehole Start	Time: 1	5:05		АМ 🔽 РМ	
	Fo	mer P	alm Tran	site			End Da	ate: 10/12/15	End	Time: 15:25 🗌 AM 🔽 PM				
Enviro	onmenta	l Contr	actor:			Geolog	ist's Nam	e:		Environment	tal Tec	hniciar	's Name:	
	Terra	icon C	onsultan	ts, Inc.	1	Andrew Petric, P.G.					Randall Murphy			
Drillin	ng Com	any:			Paveme	ent Thicl	cness (inc	hes): Borehole Dian	neter (inches):	Boi	Borehole Depth (feet):			
W(ombat E		nmental,		4 D 1		2		2	OVA (list an	- 4 - 1	ll	8	
Drillin	ig Meth	Da(s): Push (F	P)	from so	it Boreno.	ie DTW (5°	3 water recharges in	well) MM	MiniRae 2				
D:				-11		1.			Bookfill		knilo		Other	
Dispo	sition of	Drii (спеск т	etnod(s)						крпе		Other	
(descr	ibe if ot	her or i	multiple ii	tems are	checked	d):		_	_					
Boreh	ole Con	pletior	n (check o	one):		Well	Gro	out 📃 Bentonit	e 🔽 Backf	ill 🔲 (Other	(descr	ibe	
70	E S	Sa	(p	Ū	Ŧ						J	M	Lab Soil and	
Sam	amp	npl (ii	SP] er s	nfilt	ilte	Ne.	Dep	Sample	e Description		ISC	oistu	Groundwater Samples dist	
ple	ole I val	e Re 1che	[Bl ix ir	ered	red	t O	th (1	(include grain size bas	sed on USCS, odo	ors, staining,	S Sy	re (sample number	
Гур)ept (feet	соv (s)	ows 1che	V0	OV⊬	Λ	eet)	and of	ther remarks)		mbo	ont	and depth or	
e	C h	ery	s)	A	-						bl	ent	interval)	
	0.1					5005		Concrete pavement (5-	-in thick), tan lim	erock fill (0.4-				
DP	0-1					5065	1	π , petroleum odor at	τ 0-8 π		GP			
DD	1.2					2712		Gray fine grained sand	l (1-3 ft)		сD			
Di	1-2					5/12	2				51			
DP	2-3					3562					SP	р		
-						0001	3				0.			
DP	3-4					4732		Light brown fine graine	d sand (3-4 ft)		SP	D		
							4		(4.0.6)					
DP	4-6					772		Gray fine grained sand	I (4-8 ft)		SP	M/W		
							5							
DP											SP	s		
							6							
DP	6-8					2442	_				SP	s		
DP							0				SP	s		
							8							
							0							
							9							
							10							
							10							
							11							
							12							

		PLEASE EM	IAIL PERMIT			
		STATE OF FLORID REPAIR, MODIFY, (A PERMIT APPLICA OR ABANDON A WE	TION TO CONSTRUCT, LL	Permit No. 5410	5-15
		Southwest Northwest Southwest	PLEASE FILL OUT AL (Denotes Requir	I. APPLICABLE FIELDS ed Fields Where Applicable	Pionoa Unique ID) Permit Stipulations Require	ed (See Attached)
		St. Jonns River South Florida Suwannee River	The water well contrac this form and forwardir appropriate delegated	tor is responsible for completing to the permit application to the authority where applicable.	62-524 Quad No	Delineation No.
etric		DEP	(if Applicable)		CUP/WUP Application No.	
			(114)	· · · · · · · · · · · · · · · · · · ·	ABOVE THIS LINE I	FOR OFFICIAL USE ONLY
	1. Palm Beach Owner, Legal Narr 2. Former Palm	County te if Corporation Tran Facility	2633 Vista Parkwa Address Palm Beach Int'l	City City Airport Building S-1	n Beach, FL 33411 State ZIP	561-233-0252 Telephone Number
	3. 00-43-43-3 Parcel ID No. (PIN	2-00-000-1090	One)	Perimeter	Lot BH	ock Unit
ł	4. 32	43 43	Palm Beac	subdivision	Chec	k if 62-524: Yes No
	5. Paul Poorbau	gh	11193	772-215-3395	wombatenv@y	ahoo.com
	Water Well Contra	ctor prog Poad	License Number	Telephone Number	E-mail Address	24007
	Water Well Contra	ctor's Address		City	State	ZIP
	7. Type of Work: XX	XConstructionReps	irModification	Abandonment Reason for	Repair, Modification, or Abandon.	nent -
	 Number of Proposition Specify Intended L 	ed Wells 4 Jse(s) of Well(s):	Lizzier Ag	ricultural prination	Site investigation	Date Slamp
	Domestic Bottled Water Su	pplyRecreation	Area IrrigationA9	estock XXXX	Monitoring Test	20 F
	Public Water Sup	iply (Limited Use/DOH) iply (Community or Non-C	community/DEP)	ommercial/Industrial	Earth-Coupled Geotherma HVAC Supply HVAC Return	
	Class V Injection:	RechargeCommerc	cial/Industrial Disposal _	Aquifer Storage and Re	coveryDrainage	
	Remediation:Ro	coveryAir Sparge _	Olher (Describe)			ficial Use Only
	Other (Describe)	(a Puello (200 P >2)		Note: Not all types of wells are permi	itled by a given permitting authority	1 Star Late 10-12-15
	13. Estimated Well De	pth <u>13</u> ft. Estimated	Casing Depth 10_ft	Primary Casing Diameter	er _1in. Open Hol	e: From_()_Toft.
	14. Estimated Screen I	nterval: From 3 To	13_ft.			
	 Primary Casing Ma 	iterial:Black Ste	elGalvanized d Other:	<u>XXX_</u> PVC	_Stainless Steel	
ł	16. Secondary Casing:	Telescope Casing	Liner Sur	face Casing Diameter	in.	
1	7. Secondary Casing	Material:Black Ste	eolGalvanized	PVCStainless \$	SteelOther	
1	 Method of Construction Combination 	ction, Repair, or Abandonn n (Two or More Methods)	nent:Auger Hand Driven (W	Cable ToolJett ell Point, Sand Point) XXX	tedRotary X_Hydraulic Point (Direct	_Sonic Push)
	Horizontal E	Drilling Plugged by	Approved Method	Olher (Describe)		
	From 0 To From 1 To 1 From To From To From To	Seal Material (Seal Material (Seal Material (Seal Material (Seal Material (Bentonite Neat C Bentonite XXX Neat C Bentonite Neat C Bentonite Neat C	ement XXX Other Sand ement Other ement Other ement Other)	
1	20. Indicate total numbe	er of existing wells on site _	unknown Li	st number of existing unuser	d wells on site <u>unknown</u>	
2	21. Is this well or any ex or CUP/WUP Applie	cisting well or water withdra cation? Yes XXX	wal on the owner's continues on the owner's continues of the second seco	guous property covered unc following: CUP/WUP No	der a Consumptive/Water L	Jse Permit (CUP/WUP) Welt ID No.
	22. Latitude 26° 4'	1.303'N Long	gitude 80° 4.658'V		07 VVV MAD 03	WOR 94
	 Data Obtained From release which will comply with 	h:GPSMap	ministration Code, and Asta water	Fordify that I am the outper of th	e property, that the information provided i	vectore and that I are awate of my
10 10 10 10 10 10 10 10 10 10 10 10 10 1	Control for addictor rach type person of decision. Chimner to day that addi- tere scary approval from other federal smaller microsoft to the Dayloct within a informment advicting of by the person of addictor advicting of the term.	t, dimension), has been as well be obtained interaction previded in relia applicable is state, on scale generation and applicable is days after completion of the constraint d, or the parent expertion, which were ac- set.	pika to como, socernin of see acurate and tant i withorian n i agnet la provide a tra lava, pipe'r, renderation, ar ana fau	responservities under Chapter 3 the agent for the owner, that the response to these as statisf in the we to the well site during the constru- te the well site during the constru-	73. Florida Statutes, to mainitain or proper information provided is accurate, and two Downr consents to nicow, ig perconnet of uction, repair, modification, or abandooma uction, repair, modification, or abandooma	ly abardon trist we'll oc. Leart's Unit Fam Et have informed the owner of his Hiss WiND or Diseptice Authority access Int authorized by this primit.
	Raul Poorb	augh	11193	Stranting of Change	s i neol	10-5-15
	Signature of Contractor	DO N	OT WRITE BELOW THI	S LINE - FOR OFFICIAL U	SE ONLY	LITE IN
A	pproval Granted By	Kajaj-	Receipt No.	Dale 10/7/15 Expira	heck No.	ologist Approval <u>KB.</u>
т Р	HIS PERMIT IS NOT VAL	ID UNTIL PROPERLY SIGNE VBLE AT THE WELL SITE DU	D BY AN AUTHORIZED OF	FICER OR REPRESENTATIVI	e of the wmd or delega OR ABANDONMENT ACTIVIT	TED AUTHORITY. THE

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Mission: To protect, promote & improve the health of all people in Florida through integrated state, county & community efforts.



John H. Armstrong, MD, FACS State Surgeon General & Secretary

Vision: To be the Healthiest State in the Nation

PERMIT CONDITIONS

Per	mit Number:	5410	-15	Page	2	of	2			
	Condition	1		I						
1.	The Well Drille of the well at le (FDOHPB.Wel	er shall provide ast 24 hours pr ls@flhealth.go	notice to the Department of the approximate ior to the start of construction either by fax ($\frac{y}{2}$).	start date and t 61-837-5293)	ime t or e-i	hat o mail	construction			
2.	The well shall b construction det	e drilled and g tails and site pla	routed in accordance with the requirements o an submitted with the application.	f Chapter 40E-3	3, F.A	4.C.	and the			
3.	The well shall not be located in any low area subject to flooding or within the minimum setback distance from any know hazard.									
4.	If this is a replace neat cement gro	cement well, th ut. This shall b	e existing well shall be abandoned by filling be accomplished before the new well is releas	it from the botto ed for service.	om to) the	top with			
5.	This permit does agencies or of a	s not indicate a ny permit requi	waiver of or approval of any permits require red by the Department for other aspects of th	d by other feder e total project.	ral/st	ate/l	ocal			
6.	Separate well co	mpletion repor	ts are required for each monitoring well desp	ite having a sin	gle p	erm	it.			
7.	Upon completion can be put into s a. Private Driv (i). A well of (ii). One sat contractor. b. Non-Potabl (i). A well of (i). A well of (i). A well of (ii). Five (5) be taken by (iii). Chemi	n of the well an ervice: nking Water W completion Rep isfactory bacte e Wells (Irrigat completion Rep Well. completion Rep) satisfactory b a certified lab. cal analysis for	nd prior to use, the following must be submitt ell. ort (No Later than 30 days from completion riological sample result, no older than 30 da tion, Fire Protection, etc.). ort (No Later than 30 days from completion ort (No Later then 30 days from completion of acteriological sample results taken for five (The last sample shall be no older than 30 days r lead and nitrate.	ed to the Depar of construction, tys. Sample to b of construction, of construction) δ) consecutive of tys.	tmer). be ta). lays.	ıt be ken i Sar	fore the well by the well mple shall			
0.	Environmental C casing shall be su directions and the 2005 – 003] Environmental C between the verti	ontrol Rule II, prounded at gr e upper terminu ontrol Rule II, cal casing and	Section 8, A.5 - For private and multi-family ade level by a two-inch thick concrete pad ex is of the well casing shall project at least 12 i Section 8, A.6 - Whenever the pump is not so pump shall be considered an extension of the	water wells an tending at least nches above fir et at the vertical casing and pro	d irri six i tishe casi tecte	gatio incho d gra ng, t	on wells the es in all ade. [Ord. the line om sanitary			

	STATE OF FLORID	A WELL COMPL	ETION REPORT		Date Stamp
tric	☐ Southwest ☐ Northwest ☐ St. Johns River ☐ South Florida ☐ Suwannee River ☐ DEP ☐ Delegated Authority (If /	PLEASE, FILL OUT ALL. (*Denotes Required	APPLICABLE FIELDS Fields Where Applicable)		Official Use Only
E 44	0.45				
1.*Permit Number <u>341</u>	<u>U-15</u> *CUP/WUP N	umber	*DID Number	62-524 De	lineation No.
2. Number of permitted	vells constructed, repaired, of	r abandoned _4	Number of permitted well	s not constructed, repair	red, or abandoned _U
3.*Owner's Name Pa		4	*Completion Date 10-1	2-15 5. Florida Unio	que ID
6. 1250 Perimeter	Road 33413 ss. Road Name or Number, C	ity. ZIP			
7 *County Pam Beau	ch *Sectior		ł	*Township	13 *Range 43
2 Lotitudo 26º 41	00000	80° 4 658		Townomp	
9. Data Obtained From:	xxx GPS Map	Survey	Datum: N	AD 27 XXX NAD 83	WGS 84
11.*Specify Intended Use Domestic Bottled Water Suppl Public Water Suppl Public Water Suppl Class I Injection Class V Injection:Remediation:Reco	S(s) of Well(s): La plyRe y (Limited Use/DOH) y (Community or Non-Commu Recharge Commercial/li overyAir Sparge	andscape Irrigation ecreation Area Irrigation unity/DEP) ndustrial Disposal	Abandonment Agricultural Livestock Nursery Irrig Commercia Golf Course	IrrigationSite I xxx_Monit gationTest I/IndustrialEarth e IrrigationHVAQ Drainage	nvestigation coring -Coupled Geothermal C Supply C Return
Other (Describe)					
13.*Measured Static Wat 14.*Measuring Point (Des 15.*Casing Material: 16.*Total Well Depth 17.*Abandonment: Fromft. To	rer Level ft. Mea scribe) Black SteelGalvar ft. Cased Depth <u>10</u> Other (Explain) ft. No. of Bags	Asured Pumping Water L Which is hized XXX PVC ft. *Open Hole: From Seal Material (Check	.evelft. Aboveft. _ft. Aboveft. _Stainless SteelN N To1ft. *Scr	terHours at_ Below Land Surface * F Not CasedOther een: From_ 3 To 12 entBentonite	GPM Flowing:YesNo 2ft. Slot Size 0.010 Other
Fromft. To Fromft. To Fromft. To Fromft. To	ft. No. of Bags ft. No. of Bags ft. No. of Bags ft. No. of Bags	Seal Material (Checl Seal Material (Checl Seal Material (Checl Seal Material (Checl Seal Material (Checl	< One):Neat Cem < One):Neat Cem < One):Neat Cem < One):Neat Cem	entBentonite entBentonite entBentonite entBentonite	Other Other Other Other
18.*Surface Casing Dian Diain. From Diain. From	neter and Depth: ft. Toft. No. ft. Toft. No.	of Bags Seal of Bags Seal	Material (Check One): Material (Check One):	_Neat CementBer _Neat CementBer	toniteOther toniteOther
19.*Primary Casing Diar Diain.From Diain.From Diain.From Diain.From Diain.From	neter and Depth: <u>0</u> ft. To <u>1</u> ft. No. <u>1</u> ft. To <u>ft.</u> No. <u>1</u> ft. To <u>13</u> ft. No. <u>ft.</u> To <u>ft.</u> No. <u>ft.</u> To <u>ft.</u> No.	of Bags5 Seal of Bags_ Seal of Bags_ Seal of Bags_ Seal of Bags_ Seal of Bags_ Seal	Material (Check One): X Material (Check One): Material (Check One): Material (Check One): Material (Check One):	Neat Cement Ber Neat Cement Ber Neat Cement Ber Neat Cement Ber Neat Cement Ber	toniteOther toniteOther tonite xxx Other_ sand toniteOther toniteOther
20.*Liner Casing Diamet Diain. From Diain. From Diain. From	ter and Depth: ft. Toft. No. ft. Toft. No. ft. Toft. No.	of Bags Seal of Bags Seal of Bags Seal	Material (Check One): Material (Check One): Material (Check One):	_Neat CementBer _Neat CementBer _Neat CementBer	ntoniteOther ntoniteOther ntoniteOther
21.*Telescope Casing D Diain. From Diain. From Diain. From	iameter and Depth: ft. Toft. No. ft. Toft. No. ft. Toft. No.	of Bags Seal of Bags Seal of Bags Seal	Material (Check One): Material (Check One): Material (Check One):	Neat CementBer Neat CementBer Neat CementBer	ntoniteOther ntoniteOther ntoniteOther
22. Pump Type (If Know Centrifugal Horsepower	n): JetSubmersible Pump Capacity (GPM)	Turbine	23. Chemical Analysis (W Ironppm S	/hen Required): ulfateppm	Chlorideppm
Pump Depthft.	Intake Depthft.		Laboratory Test	Field Test K	It
*Contractor Name Pau	Il A Poorbaugh	*License Number 11*	193 E-mail Ad	ddress wombatenv@)yahoo.com
*Contractor's Signature	Paul Pauly (I certify that the information provided in	this report is accurate and true	*Driller's Name (Print	or Type) <u>Paul Poor</u>	baugh

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

2379 BROAD STREET, BROOKSVILLE, FL 34604-6899 PHONE: (352) 796-7211 or (800) 423-1476 WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

4049 REID STREET, PALATKA, FL 32178-1429 PHONE: (386) 329-4500 WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT

152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712 (U.S. Highway 90, 10 miles west of Tallahassee) PHONE: (850) 539-5999 WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT P.O. BOX 24680 3301 GUN CLUB ROAD WEST PALM BEACH, FL 33416-4680 PHONE: (561) 686-8800 WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT 9225 CR 49

LIVE OAK, FL 32060 PHONE: (386) 362-1001 or (800) 226-1066 (Florida only) WWW.MYSUWANNEERIVER.COM

M-Medium and C-Coarse)			-	
		<u>.</u>		
Fromft. Io	ft.	Color	Grain Size (F, M, C)	Material
Fromft. 10	ft.	Color	Grain Size (F, M, C)	Material
Fromft. 10	ſŢ.	Color	Grain Size (F, M, C)	Material
Fromft. 10	ſſ.	Color	Grain Size (F, M, C)	Material
Fromft. To	ſſ.	Color	Grain Size (F, M, C)	Material
Fromft. To	ſſ.	Color	Grain Size (F, M, C)	Material
Fromft. To	ſſ.	Color	Grain Size (F, M, C)	Material
Fromft. To	π.	Color	Grain Size (F, M, C)	Material
Fromft. To	ſſ.	Color	Grain Size (F, M, C)	
Fromft. 10	ft.	Color	Grain Size (F, M, C)	Material
Fromft. Io	ſſ.	Color	Grain Size (F, M, C)	Iviaterial
Fromft. To	π.	Color	Grain Size (F, M, C)	Material
Fromft. Io	ft.	Color	Grain Size (F, M, C)	Material
Fromft. Io	ft.	Color	Grain Size (F, M, C)	Material
Fromft. To	ft.	Color	Grain Size (F, M, C)	Material
Fromft. To	ft.	Color	Grain Size (F, M, C)	Material
From ft. To	ft.	Color	Grain Size (F, M, C)	Material
From ft. To	ft.	Color	Grain Size (F, M, C)	Material
From ft. To	ft.	Color	Grain Size (F, M, C)	Material
Fromft. To	ft.	Color	Grain Size (F, M, C)	Material
From ft. To	ft.	Color	Grain Size (F, M, C)	Material
From ft. To	ft.	Color	Grain Size (F, M, C)	Material
From ft. To	ft.	Color	Grain Size (F, M, C)	Material
From ft. To	ft.	Color	Grain Size (F, M, C)	Material
Fromft. To	ft.	Color	Grain Size (F, M, C)	Material
From ft. To	ft.	Color	Grain Size (F, M, C)	Material
		*Det	ailed Site Map of Well Location	

		W	ELL (CONS	TRI	J CTION	DATA					
Well Number:	Site Na	me:					FDEP Facility I.D). Numb	er: W	/ell Insta	ll Date(s):
MW-1		Forme	er Palm T	Tran Fac	cility		50/8514	018		10/	13/2015	5
Well Location and Type (check	appropria	ate boxes):	Well Pu	rpose:	P	Perched Mor	nitoring		Well II	Install Method:		
On-Site	Right-o	of-Way			🔽 S	Shallow (Wa	ter-Table) Moni	toring	Diro	Direct-Push Tech		
Off-Site Private Proper	t y		Intermediate				or Deep Monito		Direct-Push Tech. (DP			
Above Grade (AG)	Flush-t	o-Grade	Remediation				or Other (describ		Surface	e Casing	Install N	lethod:
If AG, list feet of riser above land s	urface:									N	/A	
Borehole Depth Well I)epth	Borehole I	Diameter	meter	Well Pad Size:							
(feet): 13 (feet):	13	(inches):	3	(inches)):	8	2	feet	by	2 fee	et	
Riser Diameter and Material:	R	iser/Screen	🔽 Flush	1-Threa	ided		Riser Length:	3 1	feet			
1-inch PVC	onnections:	Other (describe			from	0	feet t	.o <u>3</u>	feet			
Screen Diameter and Material:		Screen Slot Size:			Screen Length:	10 j	feet					
1-inch PV	С		0.010-inch			from	3	feet t	o <u>1</u> :	feet		
1 st Surface Casing Material:			1 st Surface Casing I.D. (inches):			1 st Surface Casing	g Length	:	fee	t		
also check: 🔲 Permanent		Гemporary					from		feet t	.0	feet	
2 nd Surface Casing Material:			2 nd Surfa	ace Casi	ng I.D	D. (inches):	2 nd Surface Casing	g Length	n:	fee	t	
also check: 🔲 Permanent	t 🗖 7	Гemporary					from		feet t	.0	feet	
3 rd Surface Casing Material:			3 rd Surfa	ace Casiı	ng I.D	D. (inches):	3 rd Surface Casing	g Length	:	fee	t	
also check: 🔲 Permanen	t 🗌 T	emporary					from		feet t	.0	feet	
Filter Pack Material and Size:	Prepack	ked Filter Aro	und Scree	en (chec	k one)):	Filter Pack Lengtl	h:		11 fee	et	
Silica sand, 20/30 graded	Yes	V N	10			from	2	feet t	io <u>1</u> :	feet 3		
Filter Pack Seal Material and		0.05			Filter Pack Seal L	ength:		1 fee	et			
Size:	Silica	a sand, 30/65 graded			from	1	feet t	.0 2	feet			
Surface Seal Material:	Surface Seal Material:									1 fee	et	
	ſ				at cement grout			0	feet t	.o <u>1</u>	feet	

		WELL DEVELO	PMENT DATA					
Well Development Date:	Well	Development Method (chec	ck one): Surge/P	ump 🔽 Pump 🔲 Compressed Air				
10/13/15								
Development Pump Type (check): Centrifugal 🔽 Peristaltic Depth to Groundwater (before developing in feet):								
Submersible Other (describe)			Not Measured					
Pumping Rate (gallons per minute):		Maximum Drawdown of C	Groundwater During	Well Purged Dry (check one):				
0.20		Development (feet):	Not Measured	Yes Vo				
Pumping Condition (check one): To	tal Dev	elopment Water	Development Duration	Development Water Drummed				
🔽 Continuous 🔲 Intermittent Re	moved	(gallons): 6.4	(minutes): 32	(check one): Tyes Ves No				
Water Appearance (color and odor) At S	tart of I	Development:	Water Appearance (color and odor) At End of Development:					
Brown, cloudy with	petrole	um odor	Clear with petroleum odor					

		W	ELL (CONS'	TRI	JCTION	DATA					
Well Number:	Site Nan	ne:					FDEP Facility I.D). Numbe	er: W	Vell Insta	ll Date(s):
MW-2		Forme	r Palm T	ran Fac	cility		50/8514	018		10/	13/2015	5
Well Location and Type (check a	appropriat	e boxes):	Well Pu	rpose:	F	Perched Moi	nitoring		Well In	Well Install Method:		
✓ On-Site	Right-of	f-Way			🔽 S	Shallow (Wa	ter-Table) Moni	toring	Direct Buch Tech (DD			
Off-Site Private Propert	t y		Intermediate o				or Deep Monito	Dile	Direct-Push Tech. (D			
Above Grade (AG)	Flush-to	o-Grade	Remediation				or Other (describ	t	Surfac	e Casing	Install M	lethod:
If AG, list feet of riser above land su	urface:									Ν	/A	
Borehole Depth Well D	Pepth	Borehole I	Diameter	Manhol	le Dia	ameter	Well Pad Size:					
(feet): 13 (feet):	13	(inches):	3	(inches)):	8	2	feet	by	2 fe	et	
Riser Diameter and Material:	Ris	ser/Screen	🔽 Flusł	n-Threa	ıded		Riser Length:	3 t	feet			
1-inch PVC	nnections:	Other (describe			from	0	feet t	to 3	feet			
Screen Diameter and Material:		Screen Slot Size:			Screen Length:	10 t	feet					
1-inch PV0	2		0.010-inch			from	3	feet t	to 13	3 feet		
1 st Surface Casing Material:			1 st Surface Casing I.D. (inches):			1 st Surface Casing	g Length:	: _	fee	t		
also check: 🔲 Permanent	П Т	emporary					from		feet t	to	feet	
2 nd Surface Casing Material:			2 nd Surfa	ace Casiı	ng I.C	D. (inches):	2 nd Surface Casing Length:feet					
also check: 🔲 Permanent	t 🗌 T	emporary					from		feet t	to	feet	
3 rd Surface Casing Material:			3 rd Surfa	ace Casir	ng I.C	D. (inches):	3 rd Surface Casing	g Length	:	fee	t	
also check: 🔲 Permanen	t 🗌 Ta	emporary					from		feet t	to	feet	
Filter Pack Material and Size:	Prepacke	ed Filter Aro	und Scree	en (checl	k one):	Filter Pack Lengtl	h:		11 fe	et	
Silica sand, 20/30 graded	▼ Y	es	V N	10			from	2	feet t	to <u>1</u>	3 feet	
Filter Pack Seal Material and	0.11.					Filter Pack Seal L	ength:	_	1 fe	et		
Size:	Silica	i sand, 30/65 graded			from	1	feet t	to 2	feet			
Surface Seal Material:	urface Seal Material:								_	1 fe	et	
	h				at cement grout			0	feet t	to 1	feet	

		WELL DEV	VELO	PMENT DA	ATA				
Well Development Date:	Well	Development Meth	od (chec	k one):	Surge/	Pu 🔽 F	Pump 🔲 Com	pressed Air	
10/13/15	Other (describe)								
Development Pump Type (check):	Centr	ifugal 🔽 Perista	altic	Depth to Groundwater (before developing in feet):					
Submersible D Other (describe)				Not Measured					
Pumping Rate (gallons per minute):	own of G	roundwater During Well Purged Dry (Dry (check one):				
0.20		Development (feet	t):	Not Measu	ured	Yes	🔽 No		
Pumping Condition (check one): To	tal Dev	elopment Water		Development D	ouration	Development	Water Drummed		
Continuous 🔲 Intermittent Re	moved	(gallons):	7.0	(minutes):	35	(check one):	Yes	V No	
Water Appearance (color and odor) At S		Water Appearance (color and odor) At End of Development:							
Brown, cloudy with	um odor		(Clear, lig	ht amber with	n petroleum odor			

		W	ELL (CONS	TRI	JCTION	DATA					
Well Number:	Site Nan	ne:					FDEP Facility I.D). Numbe	er: W	Vell Insta	ll Date(s)):
MW-3	1	Forme	r Palm T	ran Fac	cility		50/8514	1018		10/	13/2015	5
Well Location and Type (check a	appropriat	e boxes):	Well Pu	rpose:	F	Perched Moi	nitoring		Well In	ell Install Method:		
On-Site	Right-of	f-Way			🔽 S	Shallow (Wa	ter-Table) Moni	toring	Diro	Direct Buch Tech (DD		
Off-Site Private Propert	ty		Intermediate or				or Deep Monito	Dile	Direct-Push Tech. (Di			
Above Grade (AG)	Flush-to	o-Grade	Remediation				or Other (describ	ł	Surfac	e Casing	Install M	lethod:
If AG, list feet of riser above land su	arface:								Ν	/A		
Borehole Depth Well D	Pepth	Borehole I	Diameter	Manhol	le Dia	ameter	Well Pad Size:					
(feet): 13 (feet):	13	(inches):	3	(inches)):	8	2	feet	by	2 fe	et	
Riser Diameter and Material:	Ris	ser/Screen	🔽 Flush	h-Threa	ıded		Riser Length:	3 t	feet			
1-inch PVC	nnections:	Other (describe			from	0	feet t	to <u>3</u>	feet			
Screen Diameter and Material:			Screen S	Slot Size	::		Screen Length:	101	feet			
1-inch PV0	0			0.01	0-inc	;h	from	3	feet t	to <u>1</u>	3 feet	
1 st Surface Casing Material:			1 st Surface Casing I.D. (inches):			1 st Surface Casing	g Length:	: _	fee	t		
also check: 🔲 Permanent	П Т	emporary					from		feet t	to	feet	
2 nd Surface Casing Material:			2 nd Surfa	ace Casii	ng I.C	D. (inches):	2 nd Surface Casing Length:feet					
also check: 🔲 Permanent	t 🗌 T	emporary					from		feet t	to	feet	
3 rd Surface Casing Material:			3 rd Surfa	ace Casir	ng I.C	D. (inches):	3 rd Surface Casing	g Length	ı:	fee	t	
also check: 🔲 Permanen	t 🔲 Te	emporary					from		feet t	to	feet	
Filter Pack Material and Size:	Prepacke	ed Filter Aro	und Scree	en (checl	k one):	Filter Pack Lengtl	h:		11 fe	et	
Silica sand, 20/30 graded	✓ Y	es	🔽 N	10			from	2	feet t	to <u>1</u>	3 feet	
Filter Pack Seal Material and	011.4			-11		Filter Pack Seal L	ength:		1 fe	et		
Size:	Silica	a sand, 30/65 graded			from	1	feet t	to 2	feet			
Surface Seal Material:		No				Surface Seal Leng	gth:	_	1 fe	et		
	1				at cement grout			0	feet t	to 1	feet	

		WELL DE	VELO	PMENT D	ATA				
Well Development Date:	Well	Development Met	hod (chec	k one):	Surge	/Pu 🔽	Pump 🔲 Con	npressed Air	
10/13/15	10/13/15								
Development Pump Type (check):	Centr	ifugal 🔽 Peris	taltic	Depth to Groundwater (before developing in feet):					
Submersible Other (describe)				Not Measured					
Pumping Rate (gallons per minute):	down of G	broundwater During Well Purged Dry (c			Dry (check one):				
0.20		Development (fe	et):	Not Measured Ves			🔽 No		
Pumping Condition (check one): To	tal Dev	elopment Water		Development I	Duration	Development	t Water Drummed		
🔽 Continuous 🔲 Intermittent Re	moved	(gallons):	7.0	(minutes):	35	(check one):	Yes	▼ No	
Water Appearance (color and odor) At S		Water Appearance (color and odor) At End of Development:							
Brown, cloudy/ no	oparent			Clear, li	ght amber/ n	o odor apparent			

WELL CONSTRUCTION DATA												
Well Number:					FDEP Facility I.D. Number:			Well Install Date(s):				
MW-4	r Palm T	Fran Fac	cility		50/8514		10/13/2015					
Well Location and Type (check a	Well Pu	Well Purpose: Perched Mor			nitoring		Well In	Well Install Method:				
✓ On-Site	Right-of	f-Way	Shallow (Wat				ter-Table) Moni	Diro	Direct-Push Tech (DPT)			
Off-Site Private Propert	Intermediate				or Deep Monito	Dile						
Above Grade (AG)	Flush-to	o-Grade	Remediation				or Other (describ	Surfac	Surface Casing Install Method:			
If AG, list feet of riser above land su	arface:								N/A			
Borehole Depth Well D	Borehole I	Diameter	Manhol	le Dia	ameter	Well Pad Size:						
(feet): 13 (feet):	13	(inches):	3	(inches)):	8	2	feet	by	2 fe	et	
Riser Diameter and Material:	Ris	ser/Screen	🔽 Flusi	h-Threa	aded		Riser Length: 3 feet					
1-inch PVC	Co	nnections:	C Othe	er (descr	ribe		from	0	feet t	to 3	feet	
Screen Diameter and Material:			Screen S	Slot Size	:		Screen Length: 10 feet					
1-inch PV0	0			0.01	0-inc	;h	from	3	feet t	to <u>1</u>	<u>3</u> feet	
1 st Surface Casing Material:			1 st Surfa	1 st Surface Casing I.D. (inches):			1 st Surface Casing Length:feet					
also check: 🔲 Permanent	П Т	emporary					from		feet t	to	feet	
2 nd Surface Casing Material:		2 nd Surface Casing I.D. (inches):			2 nd Surface Casing Length:feet							
also check: 🔲 Permanent	emporary					from		feet t	to	feet		
3 rd Surface Casing Material:		3 rd Surface Casing I.D. (inches):				3 rd Surface Casing Length:feet						
also check: 🔲 Permanen	emporary					from		feet t	to	feet		
Filter Pack Material and Size:	ed Filter Aro	und Screen (check one):			Filter Pack Lengtl	h:		11 fe	et			
Silica sand, 20/30 graded	▼ Y	es	V N	lo			from	2	feet t	to 1	<u>3</u> feet	
Filter Pack Seal Material and	0.11.		sand, 30/65 graded			Filter Pack Seal L	ength:		1 fe	et		
Size:	Silica	sand, 30				from	1	feet t	to <u>2</u>	feet		
Surface Seal Material:		Ne	at come	nt arout	+		Surface Seal Leng	gth:		1 fe	et	
	INC	ai vemeni yivui			from	0	feet t	to 1	feet			

WELL DEVELOPMENT DATA										
Well Development Date:	Well	Development Method (ch	eck one):	🔲 Surge	/Pu 🔽	Pu 🔽 Pump 🔲 Comp				
10/13/15										
Development Pump Type (check):	Centr	rifugal 🔽 Peristaltic	Depth to G	Depth to Groundwater (before developing in feet):						
Submersible D Other (describe)	Not Measured									
Pumping Rate (gallons per minute):	Groundwater	During	Well Purged Dry (check one):							
0.20	Development (feet):	Not Me	Not Measured			🔽 No				
Pumping Condition (check one):	elopment Water	Developme	Development Duration Development Water Drummed							
Continuous 🗌 Intermittent R	(minutes):	32	(check one)		Yes	Vo No				
Water Appearance (color and odor) At	Water Appearance (color and odor) At End of Development:									
Brown, cloudy with	petrole	um odor	Clear with petroleum odor							

Form FD 9000-24 GROUNDWATER SAMPLING LOG

SITE -	SUNTRA	10 PB	1A.		SI	TE	BIA Bu	LAMA S	- 1446 M	NJST PA	Un Berlif
WELL NO:	1N.W - 1			SAMPLE ID:	1.A. (4)	i v 1			DATE: 101	NULL	l-
					PURC	ING DA	TA				
WELL DIAMETER	R (inches):	TUBIN DIAME	G TER (inches):	WELL S DEPTH	CREEN	INTERVAL et to \$ 3 fi	STATIC D eet TO WATE	DEPTH ER (feet): &. (a	PURG のR BA		<u>=</u> .
(only fill ou	t if applicable)		$\frac{100}{= (100)}$	AL WELL DEPTH	- STA		OWATER) X	WELL CAPACI	TY gallons/foot	= 0.29	gallons
(only fill out	if applicable)	UKUE: 1 EQ	UPMENT VOL.		±+(108	ING CAPACI	lY A IL na/feat¥	JBING LENG I H)	+ FLOW CELL	. VOLUME	
initial pu depth in	MP OR TUBIN WELL (feet):	IG √ .7. ù	FINAL PUM DEPTH IN V	P OR TUBING WELL (feet): V	(~ B		G ED AT: OPST	PURGING ENDED AT:	1620	TOTAL VOLU	AE ons): 670
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH andard units)	TEMP. ([°] C)	COND. (circle units) μmhos/cm or	DISSOLVED OXYGEN (circle units) mg/ or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
010	4.0	4.0	0.2	5.92 7	.67	30.40	1129	13.08	6	CLOVE	Rettro
1015	1.0	5.0	0.2	5.92 1	167	34.615	1127	0.07	6	CLOCK	Pono
1020	1.0	6.0	0.2	5.92 7	1.64	20.40	117.\$	0.07	4	close	Rendo
WELL CAP TUBING IN	ACITY (Gallon SIDE DIA. CAI	is Per Foot): P ACI TY (Gal./	0.75" = 0.02; (Ft.): 1/8" = 0.0	1" = 0.04; 1.2 0006; 3/16" = 0.	5" = 0.06 0014;	5; 2" = 0.16 1/4" = 0.0026	3; 3" = 0.37; <u>5;</u> 5/16" = 0.0	4 " = 0.65; 8 004; 3 /8" = 0.	5" = 1.02; 6" 006; 1/2" =	 ' = 1.47; 12 0.010; 5/8	
PURGING	EQUIPMENT	ODES: E	B = Bailer; E	P = Bladder Pump		SP = Electric	Submersible Pur	mp; PP = Pe	ristaltic Pump;	O = Othe	r (Specify)
SAMPLED	BY (PRINT) / A	FFILIATION:		SAMPLER(S) SIG							
RANDAL PLIMP OR	LL MUR	ply/Tex	vaces	Fundal	<u>I</u> fu	mpf_			1020	SAMPLING ENDED AT:	1031
DEPTH IN I	VELL (feet):	んす。	Q	MATERIAL CODE			Filtratio	n Equipment Typ	be:		: <u> </u>
FIELD DEC	ONTAMINATIO	DN: PUA	AP Y CR	S TU	BING	Y @(re	placed)	DUPLICATE:	Y ($\underline{\mathbb{O}}$	
SAMP	LE CONTAINE #	R SPECIFIC	ATION	SAN		ESERVATION	N EINAL	INTENDE ANALYSIS AN	D SAN	APLING S	AMPLE PUMP FLOW RATE
ID CODE	CONTAINERS	CODE	VOLUME	USED	ADDE	D IN FIELD (n	nL) pH	METHO		ODE (r	nL per minute)
AW-L	<u>لم</u> ا ۱	26	conc			~~	•	5215		ρ	/80
	<u> </u>	16 10	125 ml	HNO3			715	rks The second		<u>p</u>	250
	I	16	TAGE KM	104			1.67	FL FR	o Aft	<u>, , , , , , , , , , , , , , , , , , , </u>	025
~~~~		/1 6	C and				T16/:	864	) (AF)	<u>r</u>	25-0
REMARKS:											•
MATERIAL	CODES	AG = Amber	Glase: CG -	Clear Glasse D	E # Poly	othylono		no: <b>C</b> - Cilico	DOL T - Tollar	N 0-04-	c (Specify)
SAMPLING	EQUIPMENT	CODES: /	APP = After Peri	Istaltic Pump;	B = Bail	er; BP = I SM = Straw	Bladder Pump;	ESP = Electric Gravity Drain)	c Submersible f	n, 0 = 0(ne Pump; pecify)	
DTES: 1.	The above o	do not cons	titute all of th	ne information r	equire	d by Chapte	er 62-160. F.A.	.C.		poory	

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

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

Revision Date: February 12, 2009

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

SITE SITE LOCATION PRIA BULLAR S-1440 MART PALABER FL												
WELL NO: AA W - 7. SAMPLE ID: AA W- 2. DATE: 1010-1-												
PURGING DATA												
WELL TUBING WELL SCREEN INTERVAL STATIC DEPTH PURGE PUMP TYPE												
WELL VO	DIAMETER (inches): 1 DIAMETER (inches): 78 DEPTH: 6 feet to 78 feet TO WATER (ifeet): 79.44 OR BAILER: 20											
(only fill ou	it if applicable)		- ( <b>]</b> š	3	feet 🤤	99	feet)	хю.eu	gallor	astioot	= 0.32	nallons
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME												
= gallons + ( gallons/foot X feet) + gallons = gallons												
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 7 9 DEPTH IN WELL (feet): 6 9 INITIATED AT: 1/1/1/1 ENDED AT: 10.25 PURGED (railions): 6 20												
		CUMUL		DEPTH			COND.	DISSOLVE				10110). 7100
TIME	VOLUME PURGED	VOLUME	PURGE	TO WATER	pम (standard	TEMP.	(circle units)	(circle units			COLOR	ODOR (describe)
	(gallons)	(gallons)	(gpm)	(feet)	units)	( 0)	or nS/cm	Cmg/L' or % saturation	1	03)	(0030106)	(deachbe)
1106	5:0	5.0	0.20	5,42	4.33	32.51	1612	0.25	1	2.	1.1 Amse	1 ATTAD
1110	1.0	6.0	0.20	5.42	7.31	30.38	1610	0.14		8	Lland	UI PERZO
1115	1.0	4.00	0.70	5142	728	30.43	New	0.21	-	5	LIAMO	in ASTRO
Hes	2.0	2.00	0.10	5-142	9.75	30.5-5	1619	6.02	\$	?	LA Philli	n peno
WELL CA	PACITY (Gallon NSIDE DIA. CAI	is Per Foot): 0. PACITY (Gal./F	.75" = 0.02; t.):   1/8" = 0.1	1" = 0.04; 0006; 3/16"	<b>1.25"</b> = 0.08 = 0.0014;	6; 2" = 0.1 1/4" = 0.002	6; 3" = 0.3; 6; 5/16" =	7; 4" ≕ 0.65; 0.004; 3/8" =	5" = 1.0; • 0.006;	2; 6" 1/2" ∺ (	= 1.47;     1; 0.010; <b>5</b> /	2" = 5,88 8" = 0.016
PURGING	EQUIPMENT C	ODES: B	= Bailer; I	<b>BP</b> = Bladder P	ump; E	SP = Electric	Submersible F	Pump; PP =	Peristaltic	Pump;	O ≂ Othe	er (Specify)
							TA					
Partial	I MARAIL	Town		SAWIFULI(S)		2 P		SAMPLING	AT: /] 2	25	SAMPLING ENDED AT:	ALLY
PUMP OR	TUBING	1 10.00		TUBING		<del>y y</del>	FIEL	D-FILTERED:	Y Ø		FILTER SIZE	μm
	WELL (feet):	<u>רייץ</u> אוי פוואר		MATERIAL CO	TUBING	V Rite	Filtra	ation Equipment	Type:	,	<u>x</u> —	
SAM	PLE CONTAINF	ER SPECIFICA		/		ESERVATIO	 N			Sam		
SAMPLE	#	MATERIAL	VOLUME	PRESERVATI	VE 1	TOTAL VOL	FINAL		AND/OR	EQUI	PMENT	FLOW RATE
	CONTAINERS	CODE	VOLUME	USED	ADDE	D IN FIELD (r	nL) pH	0 ms	,	100		
AALAS 2	<u> </u>	C.6 1	VING	منتقتجهم		-~~~	~	<u> </u>	L,	1.00		<u>vo</u> wh
Mun 2	2	AG	JE.	NCL			3.2	C IZL PI	20	APP		250
MWZ	Z	A6 1				Para-	-7.7	PA 14		APP	>	525
MW2	1	PL 1	25 1	HNOZ				Pb		APP	•	52Ô
REMARKS: A. 1121 Extra Lab containers for QA/QC Purposes												
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; EEPP = Periorse Elever Padiafallia Pump; SM = Strait Mathed (Tubles Construction Padia); O = Other (Padia);												
NOTES: 1.	The above	do not consti	tute all of t	he informati	on require	d by Chapte	er 62-160, F	ig Gravity Drain);	U=0	viner (Sp	еску)	
2	2 STARM IZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSCIUTIVE READINGS (SEE FS 2212 SECTION 3)											

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

,

Revision Date: February 12, 2009
### Form FD 9000-24 GROUNDWATER SAMPLING LOG

SITE NAME:	PAIM TEA	N (D)F	BIA		SI		RIA Bu	White S.	- 1440	Mest Al	mBail pr				
WELL NO	D: MW-3			SAMPLE	ID: MW	1-3			DATE: )	enste	//				
					PURC	SING DA	TA	• "- •• I		<u>_</u>					
WELL DIAMETI	ER (inches):	TUBI DIAM	NG IETER (inches)	3/8 WEL	L SCREEN	INTERVAL et to 13 f	STATIC I	DEPTH ER (feet): 4,1	PL OF	RGE PUMP T	YPE A D				
WELL VO	DLUME PURGE out if applicable)	: 1 WELL V	OLUME = (TO	TAL WELL DEP	TH – STA	TIC DEPTH 1	OWATER) X	WELL CAPAC	ITY		<u> </u>				
EQUIPM	ENT VOLUME F	URGE: 1 E	= ( QUIPMENT VO	<u>73</u> L. = PUMP VOLI	feet 44.0 UME + (TUB	ING CAPACI	feet) X TY X T	<u> の. の ソ</u> UBING LENGTH)	gallons/fo + FLOW C	ot = Ø+3 à ELL VOLUME	3 gallons				
(only fill o	ut if applicable)			≃ ga	llons + (	gallo	ons/foot X	feet)	+	galions	⇔ gallons				
initial f Depth II	UMP OR TUBIN N WELL (feet):	NG G,U	FINAL PU DEPTH IN	MP OR TUBING	6.6	PURGIN	G DAT: 1155	<ul> <li>PURGING ENDED AT:</li> </ul>	1755	TOTAL VOI PURGED (	UME				
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGEI (gallons)	E PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. ( [°] C)	COND. (circle units) µmhos/cm or	DISSOLVED OXYGEN (circle units) (19/1:) or % seturation	TURBIDI (NTUs)	TY COLO (descrit	R ODOR be) (describe)				
12.15	4.0	4.0	0.20	4.20	1.41.	30-13	1105	6.08	32	Usar	Nome				
12.25	2.6	6.0	0.20	4,80	763	31.01	K	6.08	12	Lind	in About				
1235	20	8.0	D. 70	4.80	7.65	36.08	1159	0,15	1	iter	2 NONE				
1245	7.0	10.0	0.20	4.80	4.69	30.98	1164	10.08	8	Lim	Sin Nome				
1285	2.0	12.6	0.00	4.80	1.40	_ 30.88	intel	6.07	8	1100	har Nome				
	1657 LIV 16.0 U.W 49.50 FITU 50.85 (Nev OID+ S LANGLA NOME														
	+														
WELL CA	PACITY (Gallor	s Per Foot):	0.75" = 0.02;	1" = 0.04;	1.25" = 0.06	2'' = 0.16	3'' = 0.37;	4" = 0.65; 8	5" = 1.02;	<b>6</b> " = 1.47;	12" = 5.88				
PURGING	EQUIPMENT (	CODES:	B = Bailer;	BP ≃ Bladder Pu	- 0.0014, /mp; E\$	3P = Electric \$	5, 5/16 = 0. Submersible Pur	004; 3/8" = 0. mp: PP = Pe	ristaltic Pum	$\frac{1}{10} \approx 0.010;$	5/8" = 0.016 her (Specify)				
					SAMPI	ING DA	TA	······································		-p, <u>0</u> - 0,	iner (opeary)				
SAMPLED	BY (PRINT) / A	AFFILIATION	20100	SAMPLER(S) S	SIGNATURE	(S):		SAMPLING INITIATED AT	1255	SAMPLIN ENDED A	G Tilled				
PUMP OR	TUBING			TUBING	"Jung	-y	FIELD	FILTERED: Y	Ô	FILTER SI	·· <i>1&gt;0</i> .ω ΖΕ:μm				
	WELL (feet):			MATERIAL CO	DE:	V N/m	Filtratic	DI Equipment Typ	be:	63					
SAM				<u>y</u>				DUPLICATE:		<u>(N)</u>					
SAMPLE ID CODE	# CONTAINERS	MATERIAL	VOLUME	PRESERVATIV		OTAL VOL	FINAL	ANALYSIS AN METHOD	ID/OR E	QUIPMENT CODE	FLOW RATE (mL per minute)				
MW3	4	16	40mL			•	·	BYDA		NPP	100				
MW-3	1	AG	1 L	1402		·	7.70	FIPR	0 1	ife	250				
NW-2	1	<u> </u>	16	NONE			7.70	PAH	6	PP	250				
MWS	<u> </u>	PE	125 ml	2.041			.ح	Pb	4	fP 1	250				
REMARKS															
MATERIAL	CODES:	AG = Amber	Glass; CG =	Clear Glass;	PE = Polye	thylene; F	P = Polypropyle	ene; S = Silicor	ne; T = T≏	flon: <b>0</b> = 0	her (Specify)				
SAMPLING	EQUIPMENT	CODES:	APP = After Pe RFPP = Revers	ristaltic Pump; e Flow Peristaltic	B = Baile	er; BP = E SM = Straw M	Bladder Pump;	ESP = Electric Gravity Drain):	Submersib	le Pump;					
IOTES: 1.	The above o	lo not cons	titute all of t	he informatio	n required	by Chapte	r 62-160. F.A.	.C.		(opcony)					

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

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

Revision Date: February 12, 2009

### Form FD 9000-24 GROUNDWATER SAMPLING LOG

SITE .	~												
NAME:	TALIA TASH	@ PBI	A	F			OCATION: P	BIA BUIL	Dine S-10	140	Wes	st Raha k	214/121
WELL N	o: MW4	, 		SAM	APLE ID:	M	1041-			DATE:	10	11stic	_ /_
					F		GING DA	TA				<u></u>	
WELL DIAMETI	ER (inches):		BING METER (inches	3/8	WELL SO DEPTH:	CREEN	INTERVAL		DEPTH	1	PURG		E
WELL V	OLUME PURGE	: 1 WELL	VOLUME = (TO	OTAL WELL	DEPTH	- STA	TIC DEPTH T	OWATER) X	WELL CAPAC		UK BA	ILER: TT	
COLUDIA			= ( ,	13	feet	- 4,	6%	feet) X	0.04	gallon	s/foot	= 0.33	gallons
(only fill c	out if applicable)	ORGE: 11	QUIPMENT VO	DL. ≃ PUMP	VOLUME	E + (TUE	SING CAPACI	түхт	UBING LENGTH	) + FLOW	CELL	VOLUME	
					gallons	3 + (	gallo	ons/foot X	feetj	+		gailons =	gailons
DEPTH I	N WELL (feet):	<u> </u>	DEPTHI	N WELL (fee	et): <b>G</b> .	6	INITIATE	ED AT: <b>1358</b>	PURGING ENDED AT:	HS'	<b>λ</b>   Τ Ρ	OTAL VOLUN URGED (gal)	//E ons): <b>6.440</b>
TIME	VOLUME PURGED (gallons)	CUMU VOLUM PURGE (gallon:	L, IE PURGI ED RATE s) (gpm)	E DEPT TO WATE (feet	TH ER (sta ) u	pH andard nits)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle paits) (mg/L dr % saturation	TURB (NT	IDITY Us)	COLOR (describe)	ODOR (describe)
1422	4.40	4.41	0 0.20	4.7	21	<u>.91</u>	30.25	914	0.08	2	?	Llow	Arro
1423	- 1,0V	5.40	» 0.W	4.7	2 3	195	30.28	916	0,13	2	<i></i>	CUNAR	Arreo
1431	- 1.00	6.40	0.20	4.7	<u>r 7</u>	.98	30.32	912	(9.01	2	•	Clink	Rozes
									· · · · · · · · · · · · · · · · · · ·				
												· · · · · · · · ·	<u> </u>
	+										·		
		ļ											
WELL CA	PACITY (Gallor	S Per Foot):	$0.75^{*} = 0.02^{*}$		4. 4.95	<u> </u>							
TUBING I	NSIDE DIA. CA	PACITY (Ga	l./Ft.): 1/8" = (	).0006; 3	/16" = 0.0	01 <u>4;</u>	1/4" = 0.0028	5; 3  = 0.37; 5; 5/16'' = 0.0	4'' = 0.65; 5004; 3/8'' = 0.	6" = 1.02; 006;	6" = 1/2" = 0	= 1.47; <b>12</b> ' ).010; <b>5/8'</b>	' ≃ 5.88 ' = 0.016
PURGING	EQUIPMENT	ODES:	B = Bailer;	BP = Blado	ler Pump;	E: A MiDI		Submersible Pur	mp; <u>PP = Pe</u>	ristaltic P	ump;	O = Other	(Specify)
SAMPLED	BY (PRINT) / A	FFILIATION	I:	SAMPLER	R(S) SIGN	ATURE		<u>IA</u>	SAMPLING		—		
RANSO	<u>u Murp</u>	My/Te	vvacun	Ron	rdall	Au	ply		INITIATED AT	143	2	SAMPLING	1442
pump or <u>dep</u> th in	TUBING WELL (feet):	6.6		TUBING MATERIA	L CODE:		ð	FIELD- Fillratio	FILTERED: Y	ð		FILTER SIZE:	μm
FIELD DEC	CONTAMINATIO	DN: PL	IMP Y 🕻	D	TUE	BING	Y Or rep	placed)	DUPLICATE:	<u>v.</u> Y	- 7	N)'	
SAM	PLE CONTAINE	RSPECIFIC	CATION	. <u>.</u>	SAME	PLEPRI	ESERVATION	1	INTENDE	D	SAM	PLING SA	MPLE PUMP
ID CODE	# CONTAINERS	CODE	VOLUME	PRESERV USE	D I	T( ADDEE	OTAL VOL D IN FIELD (m	FINAL	ANALYSIS AN METHOD	D/OR	EQUIF	PMENT   F DE   (m	LOW RATE L per minute)
104	_4	CE	yoml		-		~	-	BTLA		Aft	0	jer
1124		AG	12	140	.i.			7.98	FL PRO	>	NP	P	250
IWH		<u>A6</u>					percer '	7.98	PAIN		Aff	>	250
<u>Awu</u>		<u>rs</u>	restore 1	NNO.	3		ef-200 -		<u>Pb</u>		spi	0	250
				• .									
REMARKS				<u> </u>								l	
	CODES:	AG = Amber	Glass; CG =	Clear Glas	s; PE	= Polye	thylene; P	P = Polypropyle	ne; S = Silicon	e; <b>T</b> ≂`	Teflon;	O = Other	(Specify)
			RFPP = Revers	e Flow Peri	ip, B staltic Pur	= Balle	r; BP ≃ B SM = Straw M	ladder Pump; lethod (Tubing C	ESP = Electric Fravity Drain);	Submers O = Oth	sible Pu ier (Spe	imp; ecify)	
TES: 1.	The above d	o not con	stitute all of t	the inform	ation re	quired	by Chapter	62-160, F.A.	C			<u> </u>	

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

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

Revision Date: February 12, 2009

### Form FD 9000-24 GROUNDWATER SAMPLING LOG

.: 1	Palm Tec	NN @ F	°61A		S	ITE OCATION: P	BIA BUI	WING S-	1440	WPB FL					
_L N	o: Mw-s			SAMPLE	ID: MW	15			DATE: /	olistic					
					PUR	GING DA	TA			<u>· //·</u>					
WELL DIAMETI	FR (inches):	DIAI	BING	WE DE		INTERVAL	STATIC I	DEPTH	PU	RGE PUMP TYP	'Е				
WELL V	OLUME PURG	E: 1 WELL	VOLUME ≈ (T	OTAL WELL DEF	PTH - STA	TIC DEPTH T	OWATER) X	ER (feet): 4 .	U OR	BAILER: 170	<u> </u>				
only fill o	out if applicable)		= (	13	feet - 42.	62	feet) X	0.11	collone/fe	a = 1 2 4					
EQUIPM only fill o	ENT VOLUME	PURGE: 1 E	QUIPMENT	OL. = PUMP VOL	UME + (TUE	BING CAPACI	TY X T	UBING LENGTH)	+ FLOW CE	LL VOLUME	galions				
				= g;	ellons + (	gallo	uns/foot X	feet)	+	gallons =	gallons				
NITIAL F Depth I	PUMP OR TUBI N WELL (feet):	NG G.V	FINAL P	UMP OR TUBING	36.6		G		12.00	TOTAL VOLU	ME				
		CUMU	-	DEPTH	<u>,</u> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		COND	DISSOLVED	1390	PURGED (gal	lons): 62,000				
TIME	VOLUME PURGED (gallons)	VOLUM PURGE (gallons	ie Purg D Rate s) (gpm)	E TO WATER (feet)	pH (standard units)	TEMP. (°C)	(circle units) µmhos/cm or uS/cm	OXYGEN (circle units) ng/L) or	TURBIDH (NTUs)	TY COLOR (describe)	ODOR (describe)				
330	4.02	4.02	0.26	) H.SO	1.23	25.20	681	0.09	3	L. Arestr	SULIT				
335	1.00	6.02	0.20	4.80	113	28:22	680	Ø.88	2	1.1 Andre	1 Nome				
340	1.00	6.02	<u> </u>	> 4.80	1.11	28.20	678	0.09	1	LADorfy	NONE				
			-												
	40 1.00 6.02 6.20 4.80 4.22 28.20 6.28 6.09 1 Charlen Nome														
	40 1.00 6.02 6.70 4.80 4.70 28.70 678 6.09 1 6.00 Nome 														
	- <u> </u>	<u> </u>	-					·······							
IELL CA	PACITY (Gallor VSIDE DIA, CA	is Per Foot): PACITY (Ga	0.75" = 0.02; I./Ft.): 1/8" = (	1" = 0.04; 0.0006; 3/16"	1.25" = 0.06 = 0.0014;	2" = 0.16 1/4" = 0.0026	3'' = 0.37; 5'' = 0.07;	4'' = 0.65; 5	" = 1.02;	6" = 1.47; 12	" = 5.88				
JRGING	EQUIPMENT	CODES:	B = Bailer;	BP = Bladder P	ump; E	SP = Electric S	Submersible Pun	np; <b>PP</b> = Per	ristaltic Pump	- 0.010; 5/8 p; 0 = Othe	= 0.016 r (Specify)				
	BY (DDINT) / /	CEILIATION		CANDI ED (O)	SAMP	LING DA	TA								
4 1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	i Mul	He Mas	icaton	SAMPLER(S)				SAMPLING	1240	SAMPLING	121-1				
JMP OR	TUBING	<u>/////////////////////////////////////</u>	100013	TUBING	the price	perg	FIELD-	FILTERED: Y	N)	ENDED AT:	1351				
ELD DEC	WELL (feet):	 N/- ⊡⊔		MATERIAL CO	DE:	V Ail	Filtratio	n Equipment Typ	e		· hun				
SAM	PLE CONTAINE	R SPECIFIC					naced)	DUPLICATE:	Y	$\mathcal{O}$					
AMPLE	#	MATERIAL	VOLUME	PRESERVATIN		OTAL VOL	FINAL	ANALYSIS AN	D/OR EG	ampling   S Nipment	AMPLE PUMP				
	CONTAINERS	CODE		USED	ADDED	<u>) IN FIELD (m</u>	L) pH	METHOD		CODE (r	nl. per minute)				
05	<u> </u>	<u> </u>	11	4.0		*******		<u> </u>		<u>12 11</u>					
105	1	<u>A6</u>	11				7.66	<u>PI File</u>		P 4	<u>50</u>				
1.15		Pu .	20 mil	N No 2			<u> </u>	Ph			4 <b>0</b> 0				
				<u>_</u>				<b>1</b> • • • •	- 11		esv				
MARKS	& xisting	MW						·		<b>_</b>					
TERIAL	CODES	AG = Ambor	Close: CO	- Class Class	<u> </u>										
MPLING	EQUIPMENT	CODES:	APP = After Pe	eristaltic Pump:	B = Baile	anyiene; P  an: BP≃B	P = Polypropyle	ne; S = Silicon	e; T = Tefl	on; 0 = Othe	(Specify)				
FS- 1	The above d	o not com	RFPP = Rever	se Flow Peristalti	c Pump;	SM = Straw M	lethod (Tubing C	Gravity Drain);	0 = Other (	Specify)					
2.	STABILIZATION	<u>I CRITERIA</u>	FOR RANGE C	F VARIATION OF	II required	Dy Chapter	r 62-160, F.A.( VE_READINGS (	C. (SEE FS 2212. s	SECTION 3)						

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

Revision Date: February 12, 2009

diy"X" this box tere is qualified a on this page.			Pass or Fail	a:+/-0.3mg// ( p\	. u. ı Q		և և և Ն. Ն. Ն	Pass or	Fail	егіа: +/, 5%	шц рад 	и. и. и о. о. о 	Pass or Fail	a: +/- 0.2 SU			ч ц. ц ч с. (	ר ת' ת ר ת' ת ו	ed: Yes No
Boli 1711 1417 1-10-05	Meter #		Saturation mg/L	otance Criteri				Reading	µmhos/cm	ceptance Crit i しょどこ			Reading SU	tance Criteria ゴームの	120				brane Change
FD 4000) 1	Ĭ		% DO	Acce	8			Cell	Constant	AC			Slope	Accep					Oxygen Mem
), FD 1000-	2/15	ook	Temp °c	-				Bottle #					Bottle #	1/02 2					Dissolved
000-FT 1500	Date: 101	in log b	mg/L	-				Lot #		3612 3612			Lot #	こってつよって	2403637				ed? Yes No
P SOP FT 1		0	Probe Gain					Exp. Date	alzer.	2613			Exp. Date	2/14	2416				e Probe Clean
og (fde		erification se	Probe Charge					Standard	hmnoscan	1413			Standard SU	20.4	1.00				Conductano
RATION L	6	nperature Ve	Time	s cori	r 13251			Time		1520			Time	1160	134				Specific
s CALIBI	2 to a cali	e of Last Ter	Date	istist	W W			Date		101.570			Date	12/15/21	Whee the				ρ
D9000-1	n Tha	For Date	Initials	Rea	ELAI			Initials		Rive			Initials	S. a.a.	Rw				10.
Form F	ner Bu	terly)	DEP SOP FT 1500					DEP SOP					DEP SOP FT 1100						iy pH Slope:
	ject/Site: Jora	nperature (Quai	solved Oxygen	R IO COL		AL ICV CCV		ecific Iductance	INUCIAILO	AL CO CCC	AL ICV CCV AL ICV CCV			ଲି. ବ୍ରି ସେ		AL ICV CCV	AL ICV CCV	AL ICV CCV	ntenance: Week <u>ss:</u>
	Pro	<u>اط</u>	Dis	ى	U U	O C	000	Spe Cor	3	ဨၓ	ರ <u>ರ</u> (	000	Ha	Q	00	វប់បំ	00	00	<u>Maii</u> Note

Turbidity: 20 NM

CAL - Calibrate -ICV - Initial Calibration Verification CCV - Continuing Calibration Verification

Perform only in Calibrate Mode: Perform only in Run Mode: Perform only in Run Mode:

Page

.

Date 10/12/15 31 Concrete lager at 17-51 ceudist 60000 927 75 Scale 5"-3" bewn F/5 N. (T. 2) 5.51 CCN6072 65" 5=1 10 201 500 52425 . . . . . . . Control Day A Day And Changer 5 11 5 2.46 CENDED DATA 51 Project / Client Puller 7107 50/8514018 6-8-29197 2 3 9299 4 4-6-9-1991 SP-16-1 46.4 7230 - 3- V -2994 Location - KG/A 53-1-0-1-05 Truck of DPT RIG Loisbuck Calibration yes Curtis 100 pm Let # MA - 248-10-2 heur Lit Freed and Cred culture ova 120 Mini RAEZOO CULTURY! av Pin Secial 4 REVUE Date 10/12/15 check water level in chistrand AP + RM en -5172 GOP 9:10 507-40 an by my 58-1 9:22 52 40 01 20105 56-2 9:35 complete bording 56-2 50/251401g Project / Client Nalw Trw 4150 _ocation__ S3° 050 0820 したシ 8

Date 10/12/15 33 Scale ISTING CENCH DRAIN 2 50 / BS-1 4019 Sam red and Pila Tas ASPHALT PAVEMENT Location POIA N FORMER FUEL DISPENSER Project / Client FORMER CANOPY ž. <u>л</u> Date 0/12/35 Astront 2" Palh Tran 501 85 14018 i. 2-3 3712 9-5-2-1 000 53-4-0-1 Project / Client 200 <u>ក្រៅអារាំមារអំណាំអារាំអាវ័យដែលដំណើរដំណើរដើមដែលដែលដែលដែលដែលដែលដែល</u>

33 Date 10/12/15 Scale . . 21-18 Bray PIS (-S+S-01:02 2 CS 221 21 5 - 24.24.20 J 10 4 3 - 14 - 593914 - 24400 6 W 1 8514016 W-U-199975 14151-7 Han work 7 500 1866 5-9 125 6-1 3519 1-1-1-1999-2-3-9921 Location PS 1A Pally 4-8-292 C-5 239+  $\frac{2}{5}$ 0 <u>n</u>) Project / Client 1:23 - 2nd 0 get (NIDE Be WOMENT (NU) Date 10/12/15 Jand Sprace D. W. S. LTdiel, 1135 Start SA-21 (chu) 1144 END SB-21 145 Sturt SA-9 (Jose) 551 WOND Star burn 59-4 ENO borry 55-4 END SAS L'as Sterr 55-6 1016 SHENT 56-5 106 Start Sh-> 450 20 Pels Project / Client Location _ 7.0% 2016 100 52 8 

S. Scale Date 10/ 5.00 Concrete / 4 5 1 50/ 3514016 PID Remain Project / Client 2010 6-8-10.3 0 3 Q 7-7 5-1-2-3-1-0-0 B Location P Q 1 A 4. 0 2 6-16-21 C-1 S S S S S het at strong Leyhu (2)) Shift Row abor-Date__ PID BRACKS Cela trun 50/351 Weis 0× • 59 Q B Ø ð Ô С 8 Location_0B/A 6 3.4 2-3 4-9 8-1-3 Sp-8-0-1-3 1-17 3-6 5.2 3- 4 Jerras Olerth 4 5 1 3 Project / Client 5.8.7 36 

တ္တ Scale 0 Retroval 3514018 7/24 Row PIN Ren 1666 8-9 Pala 6-8-970 4-6 3041 2-4 6 -u-2 1622  $\circ$ 0 2-10-3-4 5201 Project / Client Location__ Date 10/2/84 3-4 5427 \$ 15 5200 color febre N-6 9994 (3-8') Contrelle and the Control Sile base with the Control of the Contro basicourl 2-5 - s - yrat - 15 0.4 Wat stars Perel : Project / Client Relx Jrw. SO/5514018 ASP 7999+ ŝ 2-3 3in 1, 6-8-3 d H D Ð P.S.A. 5-2 2-1 210. Soza C-4 2-5 می ا ا 1 1 56-10 0-1. Location 5.3 

Date 10/12/15 Scale U-5 Pere 000 Wet at S.O NO000 205 ay Prosh, PID Nersoner Project / Client Pala 71an 50/8514018 2-3 2: Sis: 12-2-2-11-6t=1 1587 0 4-6-23 5-2-5-9 3-40 3-6 Ô Location P/S 1 A 10/2/5 157 Start Sh-10 (Jux) 1204 ENN Sh-10 (Jux) Date_ liners. 1201 Start Sh-23 (ibu), 1207 END Sh-23 (ibu) 1209 Star SA-24 (ched) 1220 Start 58-25 ((ha)) 1209 - FID Stapped howin to Culled Pine Reduil to 1206 5ter Sh-11 (Jose) 1223 END 59-11 (Jose) Project / Client Paln Tran 147 Sturt SA-22 1159 ENO SIS-22 5-2-7-Cap DPT -AND -ocation_



9 -8' - 6 Cour FIS/ Clean Star CR AM 2.5-8 - Down R Scale NO 00015 CESPEND - Grand 1/5 w. Shell Frags Date (0/に)/K order prove the 3-4- General 5 10-1-0-14+-6 mension 5 min deck the have Project / Client Pala Tra W=6-00 3-2 6 3=4-0 6-9 1232 5-2-0 51 A D 1000 56-17 ev-1 ..ocation 4"-3.5 UR FW/ Han - Ban As No odis append Slight Putro advi from U-s' hut at S-s' 0-4" - Concrete 1-2 24+00, W" -4' LA PNI Date VOIN-/15 wood si 0-4° CONNI 20/14 DEVA PID REMARK 50/851 WON Pala Tran 0-1-0-51-55 3-4 21.6 782 9-h 1-8-3-1 0 [-2 6-3 1.7 0 へいしょ 5-~ 3 S-16 0-1 4 - H Project / Client ocation

Scale L L L an man way ht Date W/2/1/C NU 82700 6300 S/y mag 8 8 8 4481 8-2 - - Concred - Word S.S. W-6-21.4 het at \$55 10-11-0-12-12-1-0-14-1-CONCR 50/132/05 1-2-2-Pala Tim -2-180-3-4 1039 315 5.818-7 5 6-2-0 400 -21 Project / Client Location ____ * Bonnys Sh-2, Sb-4, SB-8, SB-18 re-drilled Appres 4" Fron Onived 13-15 - MZC - EVALORE PZO CATE. Speak to WAS to Sclert Date 10/12/15 1320 END SPART SB-15 (5020) 1320 END SP-15 (5020) 322 SHUNT 56-20 (JOY) 1313 Shurd Shurd Shurd (Chul) 2. 2. 2. 2. 4. 2. 2. 2. 2. 4. 50/5514079 Pela True. 58-2 ( 58-2 ( 58-19 ( P 55 TP Project / Client ocation 1600 1545 1545 2



Scale Date WW AC 51324-620-121-6 1 when breach Net at the 1-2-1 ASALal 5 Wet sts is 0-1) 51254 Pitro Carl 5-1-2 Ching Dark Red Alonals 18514018 sy t <u>4-1-90903</u> 4-6 3303+ 3-4 8336 6-3 820 10000 021-1-022 5-35-2+3 アシノタ Pally -N-26 0-1 3 Project / Client _ -ocation_ Date 10/12/15 Start Stephert Don's 59-30 FND Stephert Don's 59-30 Start Streport Barlin S4729 Ewa Barling SB-19 Start Step-out North 59-27 END Stephent North, 59-27 Stew Stewart Borly SB-26 END SB-26 Star Streint Norma SA-24 END Maring SP28 1600 - DASIRES OFC-SIL 8-41 07 2-31, 9 Pala Ton SO/ESI 4018 Location_ POIA Project / Client 7251 1505 150i 1510 1513 1546

ജ 1-2 3/212 5¹¹ 2 611 120 Scale 2=7 3562 31 4 W BY BY F15 Date 16/12/Nr 14 m 13 , 8 T.M. 222H 1-2 J-1 SOSS 0-5" CORNEL -AN-devilin-Ret 4=1-72 wet 255 Deres prov 1 2472 29 Paln Trun Location PSZA Project / Client 3 WANK ) 0-2" Ashlur 2"-5" (Sonecours, tan 6"-2" tan FIS W/ 2"-5" brun FIS 2"-5" LR F(1) Par 5"-5" 1:52 Dems F15 3-4 520 nr 100 dorg observal 5/15/1 p. 0.00 - 000-0-8' Date LUNDIC 1 st st Sist 0-2" Aghalt Born Dupt, DID REMENT Project / Client - Pala, Trin 2-3 188 56-29 6-1 31 3-4 220 1-2-191,0 55 5 VIE J 0 - S - 3 - 1 2-3 \$-5 2 2 2 Location___ 58-25

HD 157221 O ONZAFAN 1435 CONDUTED OF TWO ADI 1257 MASSIGTE PO MW 4 & SECON PRUMME 1323 SET 7" Pres Aduer Werk to 13 Press Auroso 20130 Samo to Ribrar 40 11 FET Seales From 11-13 W Port Tand Here is my curlemment & will house he fump MA 2-2-0 5 P. R. W 343 Beers Development @ 1415 langienter a iligai Clean who 1239 Pourers Par 21121101 R SH M20 Massiliades to Rew 2 E Back Dullac Sept W/ Parthent Druchus to 13 Rest in Deverty SET WARNING Converte Var far 137 anoter a O 6.4 gouns Prest Brek Wigh aluro 20130 Samo 1257 Stor 1" Prix Poder a brond to 13 Pract 5 243 consider wy incompate & 1987 whoo zo/zo Sono as papai hunc 121 hun to 126 017 0 King Hotes to 11 Past - Decen Jo is Reat Saw at anenera Portear L Dervin Roas Deran EQUIPMENT NW - i Loidin OGED BEEIN DRIVING D MW-2 Sew Cut-1055 Steen Derlopint Wall & O.10 goin From W to 12' rous Pourun AN 10/13/15 14/10 15702 1321 Rupless Derelopment weil will 1105 Set well (" properus) DETON RODS Br Files Scal W 2216 Golord Portelop No 0825 Mussines to Stain Dry Unine Ceopla Ise Par eres for 0 0.2 QPM M Fest N+13 WY Parishuhe Pumo. Henries Aro 51-12 Cing RUFER 0000 20 19-0 5230 on and 1223 1 357 05.00 Cass.

												-						•			. <b>'</b>						
and the second sec	Crawe watch Supling	LSEI NHAN		Loral Deptri @ num to (2.1.) was			abrotes Sampline 2 Durancet	S S		· Collitertere Continue watter Sounder	1.1.43 L 1 4 4 3			GALE OFFICE TO TO CREPT												,	
1 - 1 - 2 E C	13:0 8:43	NA @ MWS		wy Cutreever	2) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1		1325 Rt-Cul	7 See Bail		1358 Becan	p mm re			the backs	0					·	vies		Nee				
14-12 S 3-0 3		We Saleens Richer, 11	Werk Educations	dothe to presim	way the fee ease true onsi			ultole Corrac S. 1	FS .0 +	- 0.35	- 6.38	- 0,43	- 0,07	- 0.23	whole concerter, = 0,1	white Edings month	-	6 0 6 7 3 ·	6 Energy Matra	1401/ 1031	cremes water Sup	autil a ys	o levering we have Sal	96	 		and the state of the
		USSO ONING N	COULDMANT & S	W S MW S	Buck Marle C.	Stama Nacift S		Bench Wack M	02.4 = 4-W/N	MW-3 = 5.52	Mie 4 11 5.55	WW S = S. 61	MW Z J S724	MW 1 - 54	N/A.	ogos Calibrite Sa	Ser BU Frons	Whith TREVE NW	0950 SECRA Collection	Sanders @ MWN	rotic Setas Collecture	RAMUZ CONCOL	1150 been to Warken	st Mill 3 cardai a			

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Appendix D – Laboratory Analytical Reports and Chain-of-Custody Records





October 19, 2015

Andrew Petric Terracon WPB West Palm Beach, FL 33405 (561) 689-4299 LOG #: 0013883

Enclosed is the laboratory report for your project. All results meet the requirements of the NELAC standards.

Please note the following:

- (1) The samples were received as stated on the chain of custody, correctly labeled and at the proper temperature unless otherwise noted. The results contained in this report relate only to the items tested or to the samples as received by the laboratory.
- (2) This report may not be reproduced except in full, without the written approval of the laboratory. Any anomalies are noted in the case narrative.
- (3) Results for all solid matrices are reported in dry weight unless otherwise noted.
- (4) Results for all liquid matrices are analyzed as received in the laboratory unless otherwise noted.
- (5) Samples are disposed of within 30 days of their receipt by the laboratory.
- (6) A statement of Qualifiers is available upon request.
- (7) Certain analyses are subcontracted to outside NELAC certified laboratories and are designated on your report.
- (8) Precision & Accuracy will be provided when clients require a measure of estimated uncertainty.
- (9) The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report Preliminary Data should not be used for regular purposes. Authorized signature(s) is provided on final report only

Please contact me if you have any questions or concerns regarding this report.

Sincerely,

Paren hann

Pamela Shore QA Officer



Terracon WPB	LOG #:	0013883
1225 Omar Road	COC#:	22122
West Palm Beach, FL 33405	REPORTED	10/19/2015 10:44:41AM
ATTN: Andrew Petric	PROJECT #	: 8514018
PHONE: (561) 689-4299 FAX: (561) 689-5955	PROJECT:	Palm Beach Cnty Transit Auth
Description: SB-18 (2-3)	Lab ID: 0013883-01	Sampled: 10/12/15 15:30
Matrix: Soil	Sampled By: Andrew Petric	<b>Received:</b> 10/13/15 09:05

#### EPA 8020 List

									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<b>Results</b>	Q	<u>Units</u>	Method	DF	<u>MDL</u>	<u>PQL</u>	<u>Date</u>	Date	<u>Analyst</u>
71-43-2	Benzene	0.0002	U	mg/kg	EPA 5035 / 8260C	1	0.0002	0.001	10/15/15	10/15/15	PLS
108-88-3	Toluene	0.002		mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
108-90-7	Chlorobenzene	0.0004	U	mg/kg	EPA 5035 / 8260C	1	0.0004	0.001	10/15/15	10/15/15	PLS
100-41-4	Ethylbenzene	0.0004	Ι	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
108-38-3/ 106-42-3	m,p-Xylene	0.0005	Ι	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
95-47-6	o-Xylene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
541-73-1	1,3-Dichlorobenzene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
106-46-7	1,4-Dichlorobenzene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
95-50-1	1,2-Dichlorobenzene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
1634-04-4	MTBE	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
		% Re	covery	Q	% Recovery Limits						
1868-53-7	Surrogate: Dibromofluoromethane	85.	3 %		Limit 55-200						
2037-26-5	Surrogate: Toluene-d8	11	1 %		Limit 66-144						
460-00-4	Surrogate: 4-Bromofluorobenzene	97.	4 %		Limit 50-131						

#### EPA 8100 PAH List

									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	Q	<u>Units</u>	<u>Method</u>	DF	<u>MDL</u>	PQL	<u>Date</u>	Date	<u>Analyst</u>
91-20-3	Naphthalene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
91-57-6	2-Methylnaphthalene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
90-12-0	1-Methylnaphthalene	0.01	U	mg/kg	EPA 3545 / 8270	1	0.01	0.3	10/16/15	10/16/15	PLS
208-96-8	Acenaphthylene	0.04	U	mg/kg	EPA 3545 / 8270	1	0.04	0.3	10/16/15	10/16/15	PLS
83-32-9	Acenaphthene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
86-73-7	Fluorene	0.03	U	mg/kg	EPA 3545 / 8270	1	0.03	0.3	10/16/15	10/16/15	PLS
85-01-8	Phenanthrene	0.01	U	mg/kg	EPA 3545 / 8270	1	0.01	0.3	10/16/15	10/16/15	PLS
120-12-7	Anthracene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
206-44-0	Fluoranthene	0.2	Ι	mg/kg	EPA 3545 / 8270	1	0.03	0.3	10/16/15	10/16/15	PLS
129-00-0	Pyrene	0.3		mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
56-55-3	Benzo[a]anthracene	0.2		mg/kg	EPA 3545 / 8270	1	0.04	0.04	10/16/15	10/16/15	PLS
218-01-9	Chrysene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.02	10/16/15	10/16/15	PLS
205-99-2	Benzo[b]fluoranthene	0.04	U	mg/kg	EPA 3545 / 8270	1	0.04	0.04	10/16/15	10/16/15	PLS
207-08-9	Benzo[k]fluoranthene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.02	10/16/15	10/16/15	PLS
50-32-8	Benzo[a]pyrene	0.6		mg/kg	EPA 3545 / 8270	1	0.05	0.05	10/16/15	10/16/15	PLS
53-70-3	Dibenz[a,h]anthracene	1.2		mg/kg	EPA 3545 / 8270	1	0.08	0.08	10/16/15	10/16/15	PLS
193-39-5	Indeno[1,2,3-cd]pyrene	1.7		mg/kg	EPA 3545 / 8270	1	0.04	0.04	10/16/15	10/16/15	PLS
191-24-2	Benzo[g,h,i]perylene	2.5		mg/kg	EPA 3545 / 8270	1	0.06	0.3	10/16/15	10/16/15	PLS



Terrac	on WPB				LOG #:	00	13883			
1225 (	Omar Road				COC#:	221	22			
West I	Palm Beach, FL 33405				REPORT	ED:	10/19/201	5 10:44:41AM		
ATTN	Andrew Petric				PROJEC	T #:	8514018			
PHON	IE: (561) 689-4299 FAX:	(561) 689-5955			PROJEC	T:	Palm Beach	Cnty Transit Auth		
Descri	iption: SB-18 (2-3)		Lab ID:	0013883-01				Sampled: 10/1	.2/15 15:30	
M	Matrix: Soil		Sampled	By: Andrew Petric				Received: 10/1	13/15 09:05	
EPA 810 <u>CAS #</u>	0 PAH List <u>Parameter</u>	<u>Results</u> Q	<u>Units</u>	<u>Method</u>	DF	MDL	PQL	Extraction <u>Date</u>	Analysis <u>Date</u>	<u>Analyst</u>
		% Recovery	Q	% Recovery Limits	6					
NA 321-60-8 NA	Surrogate: Nitrobenzene-d5 Surrogate: 2-Fluorobiphenyl Surrogate: p-Terphenyl-d14	93.1 % 109 % 98.7 %		Limit 47-131 Limit 51-134 Limit 59-145						
FLPRO								Extraction	Analysis	
<u>CAS #</u>	Parameter	<u>Results</u> Q	<u>Units</u>	Method	DF	MDL	PQL	Date	Date	<u>Analyst</u>
NA	FLPRO Total	10.9	mg/kg	EPA 3545 /RO	1	0.0800	0.240	10/16/15	10/16/15	PLS
		% Recovery	Q	% Recovery Limits	5					
84-15-1	Surrogate: o-Terphenyl	75.2 %		Limit 70-130						
7194-86-7	Surrogate: Nonatriacontane	85.6 %		Limit 42-193						

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



CAS	<u>#</u> Para	<u>imeter</u>		<u>Results</u>	Q	<u>Units</u>		Method	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	Extraction Date	Analysis Date	<u>Analyst</u>
EPA	A 8020 List											Extra ati a a	Analusia	
	Matrix:	Soil				Sampled	By:	Andrew Petric	:			Received: 10/1	3/15 09:05	
۵	Description:	SB-9 (3-4)				Lab ID:	0013	3883-02				Sampled: 10/1	2/15 15:45	
I	PHONE: (5	61) 689-4299	FAX:	(561) 689-595	55				PROJEC	T: Pa	lm Beach C	inty Transit Auth		
	ATTN: And	rew Petric							PROJEC	T #:	8514018			
۱	West Palm Be	ach, FL 33405							REPORT	TED:	10/19/2015	5 10:44:41AM		
1	1225 Omar Ro	bad							COC#:	22122	2			
٦	Terracon WPB	5							LOG #:	0013	883			

71-43-2	Benzene	0.0002	U	mg/kg	EPA 5035 / 8260C	1	0.0002	0.001	10/15/15	10/15/15	PLS
108-88-3	Toluene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
108-90-7	Chlorobenzene	0.0004	U	mg/kg	EPA 5035 / 8260C	1	0.0004	0.001	10/15/15	10/15/15	PLS
100-41-4	Ethylbenzene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
108-38-3/10 6-42-3	m,p-Xylene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
95-47-6	o-Xylene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
541-73-1	1,3-Dichlorobenzene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
106-46-7	1,4-Dichlorobenzene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
95-50-1	1,2-Dichlorobenzene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
1634-04-4	MTBE	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
		% Re	covery	Q	% Recovery Limits						
1868-53-7	Surrogate: Dibromofluoromethane	76.	6 %		Limit 55-200						
2037-26-5	Surrogate: Toluene-d8	87.	5 %		Limit 66-144						
460-00-4	Surrogate: 4-Bromofluorobenzene	94.	7 %		Limit 50-131						

#### EPA 8100 PAH List

									Extraction	Analysis	
<u>CAS #</u>	Parameter	<u>Results</u>	Q	<u>Units</u>	<u>Method</u>	DF	MDL	<u>PQL</u>	<u>Date</u>	Date	<u>Analyst</u>
91-20-3	Naphthalene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
91-57-6	2-Methylnaphthalene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
90-12-0	1-Methylnaphthalene	0.01	U	mg/kg	EPA 3545 / 8270	1	0.01	0.3	10/16/15	10/16/15	PLS
208-96-8	Acenaphthylene	0.04	U	mg/kg	EPA 3545 / 8270	1	0.04	0.3	10/16/15	10/16/15	PLS
83-32-9	Acenaphthene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
86-73-7	Fluorene	0.03	U	mg/kg	EPA 3545 / 8270	1	0.03	0.3	10/16/15	10/16/15	PLS
85-01-8	Phenanthrene	0.01	U	mg/kg	EPA 3545 / 8270	1	0.01	0.3	10/16/15	10/16/15	PLS
120-12-7	Anthracene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
206-44-0	Fluoranthene	0.03	U	mg/kg	EPA 3545 / 8270	1	0.03	0.3	10/16/15	10/16/15	PLS
129-00-0	Pyrene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
56-55-3	Benzo[a]anthracene	0.04	U	mg/kg	EPA 3545 / 8270	1	0.04	0.04	10/16/15	10/16/15	PLS
218-01-9	Chrysene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.02	10/16/15	10/16/15	PLS
205-99-2	Benzo[b]fluoranthene	0.04	U	mg/kg	EPA 3545 / 8270	1	0.04	0.04	10/16/15	10/16/15	PLS
207-08-9	Benzo[k]fluoranthene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.02	10/16/15	10/16/15	PLS
50-32-8	Benzo[a]pyrene	0.05	U	mg/kg	EPA 3545 / 8270	1	0.05	0.05	10/16/15	10/16/15	PLS
53-70-3	Dibenz[a,h]anthracene	0.08	U	mg/kg	EPA 3545 / 8270	1	0.08	0.08	10/16/15	10/16/15	PLS
193-39-5	Indeno[1,2,3-cd]pyrene	0.04	U	mg/kg	EPA 3545 / 8270	1	0.04	0.04	10/16/15	10/16/15	PLS

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083

7194-86-7

Surrogate: Nonatriacontane

92.9 %



Terrac	con WPB					LOG #:	001	3883			
1225 (	Omar Road					COC#:	2212	2			
West	Palm Beach, FL 33405					REPOR	TED:	10/19/201	.5 10:44:41AM		
ATTN	Andrew Petric					PROJEC	CT #:	8514018			
PHON	IE: (561) 689-4299 FAX:	(561) 689-595	55			PROJEC	CT: P	alm Beach	Cnty Transit Auth		
Descr	iption: SB-9 (3-4)			Lab ID:	0013883-02				Sampled: 10/1	2/15 15:45	
r	Matrix: Soil			Sampled B	By: Andrew Petric				Received: 10/1	13/15 09:05	
EPA 810	00 PAH List								Extraction	Analysis	
CAS #	Parameter	<u>Results</u>	Q	<u>Units</u>	Method	DF	MDL	POL	Date	Date	Analyst
191-24-2	Benzo[g,h,i]perylene	0.06	U	mg/kg	EPA 3545 / 8270	1	0.06	0.3	10/16/15	10/16/15	PLS
		% Re	covery	Q	% Recovery Limits	6					
NA	Surrogate: Nitrobenzene-d5	80.	1 %		Limit 47-131						
321-60-8	Surrogate: 2-Fluorobiphenyl	112	2 %		Limit 51-134						
NA	Surrogate: p-Terphenyl-d14	103	3 %		Limit 59-145						
FLPRO											
									Extraction	Analysis	
CAS #	<u>Parameter</u>	<b>Results</b>	<u>Q</u>	<u>Units</u>	Method	DF	MDL	PQL	Date	Date	<u>Analyst</u>
NA	FLPRO Total	18.0		mg/kg	EPA 3545 /RO	1	0.0800	0.240	10/16/15	10/16/15	PLS
		% Re	covery	Q	% Recovery Limits	;					
84-15-1	Surrogate: o-Terphenyl	81.4	4 %		Limit 70-130						

Limit 42-193

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



Terraco	n WPB						LOG #:	001	3883			
1225 Or	mar Road						COC#:	2212	22			
West Pa	alm Beach, FL 33405						REPOR	TED:	10/19/201	5 10:44:41AM		
ATTN:	Andrew Petric						PROJE	CT #:	8514018			
PHONE	: (561) 689-4299	FAX:	(561) 689-595	5			PROJE	ст: Р	alm Beach (	Cnty Transit Auth		
Descrip	otion: SB-4 (2-3)				Lab ID:	0013883-03				Sampled: 10/1	2/15 16:00	
Ма	atrix: Soil				Sampled I	By: Andre	w Petric			Received: 10/1	3/15 09:05	
EPA 8020	) List											
										Extraction	Analysis	
<u>CAS #</u>	Parameter		<b>Results</b>	Q	<u>Units</u>	Meth	od DF	<u>MDL</u>	PQL	Date	Date	<u>Analyst</u>
71-43-2	Benzene		0.0002	U	mg/kg	EPA 5035 /	8260C 1	0.0002	0.001	10/15/15	10/15/15	PLS
108-88-3	Toluene		0.0003	U	mg/kg	EPA 5035 /	8260C 1	0.0003	0.001	10/15/15	10/15/15	PLS
108-90-7	Chlorobenzene		0.0004	U	mg/kg	EPA 5035 /	8260C 1	0.0004	0.001	10/15/15	10/15/15	PLS
100-41-4	Ethylbenzene		0.0003	U	mg/kg	EPA 5035 /	8260C 1	0.0003	0.001	10/15/15	10/15/15	PLS
108-38-3/10 6-42-3	m,p-Xylene		0.0003	U	mg/kg	EPA 5035 /	8260C 1	0.0003	0.001	10/15/15	10/15/15	PLS
95-47-6	o-Xylene		0.0003	U	mg/kg	EPA 5035 /	8260C 1	0.0003	0.001	10/15/15	10/15/15	PLS
541-73-1	1,3-Dichlorobenzene		0.0003	U	mg/kg	EPA 5035 /	8260C 1	0.0003	0.001	10/15/15	10/15/15	PLS

541-73-1	1,3-Dichlorobenzene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
106-46-7	1,4-Dichlorobenzene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
95-50-1	1,2-Dichlorobenzene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
1634-04-4	MTBE	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
		% Re	% Recovery		% Recovery Limits						
1868-53-7	Surrogate: Dibromofluoromethane	88.	8 %		Limit 55-200						
2037-26-5	Surrogate: Toluene-d8	87.	6 %		Limit 66-144						
460-00-4	Surrogate: 4-Bromofluorobenzene	90.	5 %		Limit 50-131						

#### EPA 8100 PAH List

									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	Q	<u>Units</u>	Method	DF	<u>MDL</u>	PQL	<u>Date</u>	<u>Date</u>	<u>Analyst</u>
91-20-3	Naphthalene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
91-57-6	2-Methylnaphthalene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
90-12-0	1-Methylnaphthalene	0.01	U	mg/kg	EPA 3545 / 8270	1	0.01	0.3	10/16/15	10/16/15	PLS
208-96-8	Acenaphthylene	0.04	U	mg/kg	EPA 3545 / 8270	1	0.04	0.3	10/16/15	10/16/15	PLS
83-32-9	Acenaphthene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
86-73-7	Fluorene	0.03	U	mg/kg	EPA 3545 / 8270	1	0.03	0.3	10/16/15	10/16/15	PLS
85-01-8	Phenanthrene	0.01	U	mg/kg	EPA 3545 / 8270	1	0.01	0.3	10/16/15	10/16/15	PLS
120-12-7	Anthracene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
206-44-0	Fluoranthene	0.2	I	mg/kg	EPA 3545 / 8270	1	0.03	0.3	10/16/15	10/16/15	PLS
129-00-0	Pyrene	0.4		mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
56-55-3	Benzo[a]anthracene	0.3		mg/kg	EPA 3545 / 8270	1	0.04	0.04	10/16/15	10/16/15	PLS
218-01-9	Chrysene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.02	10/16/15	10/16/15	PLS
205-99-2	Benzo[b]fluoranthene	2.9		mg/kg	EPA 3545 / 8270	1	0.04	0.04	10/16/15	10/16/15	PLS
207-08-9	Benzo[k]fluoranthene	1.1		mg/kg	EPA 3545 / 8270	1	0.02	0.02	10/16/15	10/16/15	PLS
50-32-8	Benzo[a]pyrene	1.9		mg/kg	EPA 3545 / 8270	1	0.05	0.05	10/16/15	10/16/15	PLS
53-70-3	Dibenz[a,h]anthracene	0.8		mg/kg	EPA 3545 / 8270	1	0.08	0.08	10/16/15	10/16/15	PLS
193-39-5	Indeno[1,2,3-cd]pyrene	1.4		mg/kg	EPA 3545 / 8270	1	0.04	0.04	10/16/15	10/16/15	PLS
191-24-2	Benzo[g,h,i]perylene	1.6		mg/kg	EPA 3545 / 8270	1	0.06	0.3	10/16/15	10/16/15	PLS

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



Terrac	on WPB				LOG #:	001	3883			
1225 (	Omar Road				COC#:	221	22			
West F	Palm Beach, FL 33405				REPOR	TED:	10/19/201	.5 10:44:41AM		
ATTN	Andrew Petric				PROJEC	т#:	8514018			
PHON	IE: (561) 689-4299 FAX:	(561) 689-5955			PROJEC	т: 1	Palm Beach	Cnty Transit Auth		
Descri	iption: SB-4 (2-3)		Lab ID:	0013883-03				Sampled: 10/1	2/15 16:00	
Μ	Matrix: Soil		Sampled I	By: Andrew Petric				Received: 10/1	3/15 09:05	
EPA 810 <u>CAS #</u>	0 PAH List <u>Parameter</u>	<u>Results Q</u>	<u>Units</u>	Method	DF	MDL	PQL	Extraction <u>Date</u>	Analysis <u>Date</u>	<u>Analyst</u>
		% Recovery	Q	% Recovery Limits	;					
NA 321-60-8 NA	Surrogate: Nitrobenzene-d5 Surrogate: 2-Fluorobiphenyl Surrogate: p-Terphenyl-d14	77.5 % 106 % 92.7 %		Limit 47-131 Limit 51-134 Limit 59-145						
FLPRO								Extraction	Analysis	
<u>CAS #</u>	Parameter	<u>Results</u> Q	<u>Units</u>	Method	DF	MDL	PQL	Date	Date	<u>Analyst</u>
NA	FLPRO Total	141	mg/kg	EPA 3545 /RO	1	0.0800	0.240	10/16/15	10/16/15	PLS
		% Recovery	Q	% Recovery Limits	;					
84-15-1	Surrogate: o-Terphenyl	84.2 %		Limit 70-130						
7194-86-7	Surrogate: Nonatriacontane	106 %		Limit 42-193						

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



Terracon WPB		LOG #:	0013883
1225 Omar Road		<b>COC#:</b> 2	22122
West Palm Beach, FL 33405	5	REPORTED:	10/19/2015 10:44:41AM
ATTN: Andrew Petric		PROJECT #	8514018
<b>PHONE:</b> (561) 689-4299	<b>FAX:</b> (561) 689-5955	PROJECT:	Palm Beach Cnty Transit Auth
Description: SB-2 (3-4)		Lab ID: 0013883-04	Sampled: 10/12/15 16:15
Matrix: Soil		Sampled By: Andrew Petric	<b>Received:</b> 10/13/15 09:05
EPA 8020 List			Extraction Analysis

									Exclusion	Anaryoio	
<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	Q	<u>Units</u>	Method	DF	MDL	<u>PQL</u>	<u>Date</u>	<u>Date</u>	<u>Analyst</u>
71-43-2	Benzene	0.0002	U	mg/kg	EPA 5035 / 8260C	1	0.0002	0.001	10/15/15	10/15/15	PLS
108-88-3	Toluene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
108-90-7	Chlorobenzene	0.0004	U	mg/kg	EPA 5035 / 8260C	1	0.0004	0.001	10/15/15	10/15/15	PLS
100-41-4	Ethylbenzene	0.006		mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
108-38-3/ 106-42-3	m,p-Xylene	0.0004	Ι	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
95-47-6	o-Xylene	0.0008	I	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
541-73-1	1,3-Dichlorobenzene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
106-46-7	1,4-Dichlorobenzene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
95-50-1	1,2-Dichlorobenzene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
1634-04-4	MTBE	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
		% Re	covery	Q	% Recovery Limits						
1868-53-7	Surrogate: Dibromofluoromethane	69.	7 %		Limit 55-200						
2037-26-5	Surrogate: Toluene-d8	11-	4 %		Limit 66-144						
460-00-4	Surrogate: 4-Bromofluorobenzene	10	6 %		Limit 50-131						

### EPA 8100 PAH List

									Extraction	Analysis	
<u>CAS #</u>	Parameter	<u>Results</u>	Q	<u>Units</u>	<u>Method</u>	DF	<u>MDL</u>	<u>PQL</u>	<u>Date</u>	Date	<u>Analyst</u>
91-20-3	Naphthalene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
91-57-6	2-Methylnaphthalene	12.3		mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
90-12-0	1-Methylnaphthalene	10.7		mg/kg	EPA 3545 / 8270	1	0.01	0.3	10/16/15	10/16/15	PLS
208-96-8	Acenaphthylene	0.04	U	mg/kg	EPA 3545 / 8270	1	0.04	0.3	10/16/15	10/16/15	PLS
83-32-9	Acenaphthene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
86-73-7	Fluorene	0.8		mg/kg	EPA 3545 / 8270	1	0.03	0.3	10/16/15	10/16/15	PLS
85-01-8	Phenanthrene	0.2	I	mg/kg	EPA 3545 / 8270	1	0.01	0.3	10/16/15	10/16/15	PLS
120-12-7	Anthracene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
206-44-0	Fluoranthene	0.03	U	mg/kg	EPA 3545 / 8270	1	0.03	0.3	10/16/15	10/16/15	PLS
129-00-0	Pyrene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
56-55-3	Benzo[a]anthracene	0.04	U	mg/kg	EPA 3545 / 8270	1	0.04	0.04	10/16/15	10/16/15	PLS
218-01-9	Chrysene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.02	10/16/15	10/16/15	PLS
205-99-2	Benzo[b]fluoranthene	0.04	U	mg/kg	EPA 3545 / 8270	1	0.04	0.04	10/16/15	10/16/15	PLS
207-08-9	Benzo[k]fluoranthene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.02	10/16/15	10/16/15	PLS
50-32-8	Benzo[a]pyrene	0.05	U	mg/kg	EPA 3545 / 8270	1	0.05	0.05	10/16/15	10/16/15	PLS
53-70-3	Dibenz[a,h]anthracene	0.08	U	mg/kg	EPA 3545 / 8270	1	0.08	0.08	10/16/15	10/16/15	PLS
193-39-5	Indeno[1,2,3-cd]pyrene	0.04	U	mg/kg	EPA 3545 / 8270	1	0.04	0.04	10/16/15	10/16/15	PLS
191-24-2	Benzo[g,h,i]perylene	0.06	U	mg/kg	EPA 3545 / 8270	1	0.06	0.3	10/16/15	10/16/15	PLS

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



Terrac	on WPB				LOG #:	001	.3883			
1225 (	Omar Road				COC#:	2212	22			
West F	Palm Beach, FL 33405				REPOR	TED:	10/19/201	5 10:44:41AM		
ATTN	Andrew Petric				PROJEC	T#:	8514018			
PHON	IE: (561) 689-4299 FAX:	(561) 689-5955			PROJEC	<b>т</b> :	Palm Beach	Cnty Transit Auth		
Descri	iption: SB-2 (3-4)		Lab ID:	0013883-04				Sampled: 10/1	2/15 16:15	
Μ	Matrix: Soil		Sampled B	By: Andrew Petric				Received: 10/1	3/15 09:05	
EPA 810 <u>CAS #</u>	0 PAH List <u>Parameter</u>	<u>Results Q</u>	<u>Units</u>	Method	<u>DF</u>	<u>MDL</u>	PQL	Extraction <u>Date</u>	Analysis <u>Date</u>	<u>Analyst</u>
		% Recovery	Q	% Recovery Limits						
NA 321-60-8 NA	Surrogate: Nitrobenzene-d5 Surrogate: 2-Fluorobiphenyl Surrogate: p-Terphenyl-d14	85.0 % 90.6 % 73.2 %		Limit 47-131 Limit 51-134 Limit 59-145						
FLPRO								Extraction	Analysis	
<u>CAS #</u>	Parameter	<u>Results</u> <u>Q</u>	<u>Units</u>	Method	DF	MDL	PQL	Date	<u>Date</u>	<u>Analyst</u>
NA	FLPRO Total	1820	mg/kg	EPA 3545 /RO	1	0.0800	0.240	10/16/15	10/16/15	PLS
		% Recovery	Q	% Recovery Limits	;					
84-15-1	Surrogate: o-Terphenyl	90.3 %		Limit 70-130						
7194-86-7	Surrogate: Nonatriacontane	98.0 %		Limit 42-193						

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



EPA	8020 List	Bosulta O	Unite M	athed DE N	Extraction Analysis
	Matrix: Soil		Sampled By: An	drew Petric	<b>Received:</b> 10/13/15 09:05
D	escription: SB-2 (1-2)		Lab ID: 0013883-0	)5	Sampled: 10/12/15 16:30
P	PHONE: (561) 689-4299 FAX:	(561) 689-5955		PROJECT:	Palm Beach Cnty Transit Auth
A	Andrew Petric			PROJECT #	<b>#:</b> 8514018
۷	Vest Palm Beach, FL 33405			REPORTED	<b>10/19/2015 10:44:41AM</b>
1	225 Omar Road			COC#:	22122
Т	erracon WPB			LOG #:	0013883

<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	Q	<u>Units</u>	Method	DF	MDL	<u>PQL</u>	<u>Date</u>	<u>Date</u>	<u>Analyst</u>
71-43-2	Benzene	0.0002	U	mg/kg	EPA 5035 / 8260C	1	0.0002	0.001	10/15/15	10/15/15	PLS
108-88-3	Toluene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
108-90-7	Chlorobenzene	0.0004	U	mg/kg	EPA 5035 / 8260C	1	0.0004	0.001	10/15/15	10/15/15	PLS
100-41-4	Ethylbenzene	0.0003	Ι	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
108-38-3/ 106-42-3	m,p-Xylene	0.0003	Ι	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
95-47-6	o-Xylene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
541-73-1	1,3-Dichlorobenzene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
106-46-7	1,4-Dichlorobenzene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
95-50-1	1,2-Dichlorobenzene	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
1634-04-4	MTBE	0.0003	U	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
		% Re	covery	Q	% Recovery Limits						
1868-53-7	Surrogate: Dibromofluoromethane	67.	5 %		Limit 55-200						
2037-26-5	Surrogate: Toluene-d8	10	5 %		Limit 66-144						
460-00-4	Surrogate: 4-Bromofluorobenzene	96.	9 %		Limit 50-131						

#### EPA 8100 PAH List

									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	Q	<u>Units</u>	<u>Method</u>	DF	MDL	PQL	<u>Date</u>	Date	<u>Analyst</u>
91-20-3	Naphthalene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
91-57-6	2-Methylnaphthalene	0.08	Ι	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
90-12-0	1-Methylnaphthalene	0.05	Ι	mg/kg	EPA 3545 / 8270	1	0.01	0.3	10/16/15	10/16/15	PLS
208-96-8	Acenaphthylene	0.04	U	mg/kg	EPA 3545 / 8270	1	0.04	0.3	10/16/15	10/16/15	PLS
83-32-9	Acenaphthene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
86-73-7	Fluorene	0.03	U	mg/kg	EPA 3545 / 8270	1	0.03	0.3	10/16/15	10/16/15	PLS
85-01-8	Phenanthrene	0.01	U	mg/kg	EPA 3545 / 8270	1	0.01	0.3	10/16/15	10/16/15	PLS
120-12-7	Anthracene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
206-44-0	Fluoranthene	0.03	U	mg/kg	EPA 3545 / 8270	1	0.03	0.3	10/16/15	10/16/15	PLS
129-00-0	Pyrene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
56-55-3	Benzo[a]anthracene	0.04	U	mg/kg	EPA 3545 / 8270	1	0.04	0.04	10/16/15	10/16/15	PLS
218-01-9	Chrysene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.02	10/16/15	10/16/15	PLS
205-99-2	Benzo[b]fluoranthene	0.04	U	mg/kg	EPA 3545 / 8270	1	0.04	0.04	10/16/15	10/16/15	PLS
207-08-9	Benzo[k]fluoranthene	0.02	U	mg/kg	EPA 3545 / 8270	1	0.02	0.02	10/16/15	10/16/15	PLS
50-32-8	Benzo[a]pyrene	0.05	U	mg/kg	EPA 3545 / 8270	1	0.05	0.05	10/16/15	10/16/15	PLS
53-70-3	Dibenz[a,h]anthracene	0.08	U	mg/kg	EPA 3545 / 8270	1	0.08	0.08	10/16/15	10/16/15	PLS
193-39-5	Indeno[1,2,3-cd]pyrene	0.04	U	mg/kg	EPA 3545 / 8270	1	0.04	0.04	10/16/15	10/16/15	PLS



Terraco	on WPB				LOG #:	00	13883			
1225 C	Omar Road				COC#:	221	.22			
West P	alm Beach, FL 33405				REPOR	TED:	10/19/201	5 10:44:41AM		
ATTN:	Andrew Petric				PROJEC	T #:	8514018			
PHON	E: (561) 689-4299 FAX:	(561) 689-5955			PROJEC	<b>:</b>	Palm Beach	Cnty Transit Auth		
Descri	ption: SB-2 (1-2)		Lab ID:	0013883-05				Sampled: 10/1	2/15 16:30	
м	latrix: Soil		Sampled	By: Andrew Petric				Received: 10/1	3/15 09:05	
EPA 810	0 PAH List									
								Extraction	Analysis	
CAS #	<u>Parameter</u>	<u>Results</u> Q	<u>Units</u>	Method	DF	MDL	PQL	<u>Date</u>	<u>Date</u>	<u>Analyst</u>
191-24-2	Benzo[g,h,i]perylene	0.06 U	mg/kg	EPA 3545 / 8270	1	0.06	0.3	10/16/15	10/16/15	PLS
		% Recovery	, Q	% Recovery Limits	5					
NA	Surrogate: Nitrobenzene-d5	73.5 %		Limit 47-131						
321-60-8	Surrogate: 2-Fluorobiphenyl	93.3 %		Limit 51-134						
NA	Surrogate: p-Terphenyl-d14	100 %		Limit 59-145						
FLPRO										
								Extraction	Analysis	
CAS #	Parameter	<u>Results</u> Q	<u>Units</u>	Method	DF	MDL	PQL	Date	Date	Analyst
NA	FLPRO Total	11.7	mg/kg	EPA 3545 /RO	1	0.0800	0.240	10/16/15	10/16/15	PLS
		% Recovery	, Q	% Recovery Limits	5					

 84-15-1
 Surrogate: o-Terphenyl
 76.0 %
 Limit 70-130

 7194-86-7
 Surrogate: Nonatriacontane
 95.3 %
 Limit 42-193

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



# CERTIFICATE OF ANALYSIS

Terracon WPB	LOG #: 0013883			
1225 Omar Road	<b>COC#:</b> 22122			
West Palm Beach, FL 33405	<b>REPORTED:</b> 10/19/2015 10:44:41AM			
ATTN: Andrew Petric	<b>PROJECT #:</b> 8514018			
PHONE: (561) 689-4299 FAX: (561) 689-5955	PROJECT: Palm Beach Cnty Transit Auth			

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
EPA 8020 List - Quality Control										
Batch B510076 - EPA 5035										
Blank (B510076-BLK1)				Prepared 8	Analyzed:	10/15/15				
Benzene	U	0.001	mg/kg							U
Toluene	U	0.001	mg/kg							U
Chlorobenzene	U	0.001	mg/kg							U
Ethylbenzene	U	0.001	mg/kg							U
m,p-Xylene	U	0.001	mg/kg							U
o-Xylene	U	0.001	mg/kg							U
1,3-Dichlorobenzene	U	0.001	mg/kg							U
1,4-Dichlorobenzene	U	0.001	mg/kg							U
1,2-Dichlorobenzene	U	0.001	mg/kg							U
МТВЕ	U	0.001	mg/kg							U
Surrogate: Dibromofluoromethane	0.00991		mg/kg	0.01500		66.1	55-200			
Surrogate: Toluene-d8	0.0131		mg/kg	0.01500		87.1	66-144			
Surrogate: 4-Bromofluorobenzene	0.0127		mg/kg	0.01500		84.6	50-131			
LCS (B510076-BS1)	Prepared & Analyzed: 10/15/15									
Benzene	0.173	0.001	mg/kg	0.2000		86.4	60-135			
Toluene	0.181	0.001	mg/kg	0.2000		90.7	60-135			
Chlorobenzene	0.172	0.001	mg/kg	0.2000		86.1	60-135			
Trichloroethene	0.160	0.001	mg/kg	0.2000		79.9	60-135			
Surrogate: Dibromofluoromethane	0.0116		mg/kg	0.01500		77.4	55-200			
Surrogate: Toluene-d8	0.0177		mg/kg	0.01500		118	66-144			
Surrogate: 4-Bromofluorobenzene	0.0148		mg/kg	0.01500		98.7	50-131			
LCS Dup (B510076-BSD1)				Prepared 8	& Analyzed:	10/15/15				
Benzene	0.176	0.001	mg/kg	0.2000		88.2	60-135	2.05	20	
Toluene	0.174	0.001	mg/kg	0.2000		87.0	60-135	4.19	20	
Chlorobenzene	0.162	0.001	mg/kg	0.2000		81.2	60-135	5.85	20	
Trichloroethene	0.157	0.001	mg/kg	0.2000		78.5	60-135	1.75	20	
Surrogate: Dibromofluoromethane	0.0108		mg/kg	0.01500		71.8	55-200			
Surrogate: Toluene-d8	0.0165		mg/kg	0.01500		110	66-144			
Surrogate: 4-Bromofluorobenzene	0.0154		mg/kg	0.01500		103	50-131			
Calibration Check (B510076-CCV1)				Prepared 8	Analyzed:	10/15/15				
Benzene	0.182		mg/kg	0.2000		90.9	80-120			
Toluene	0.185		mg/kg	0.2000		92.5	80-120			
Chlorobenzene	0.174		mg/kg	0.2000		87.2	80-120			
Ethylbenzene	0.183		mg/kg	0.2000		91.5	80-120			
m,p-Xylene	0.205		mg/kg	0.2000		103	80-120			
o-Xylene	0.193		mg/kg	0.2000		96.5	80-120			

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



# CERTIFICATE OF ANALYSIS

Terracon WPB	LOG #: 0013883
1225 Omar Road	<b>COC#:</b> 22122
West Palm Beach, FL 33405	<b>REPORTED:</b> 10/19/2015 10:44:41AM
ATTN: Andrew Petric	<b>PROJECT #:</b> 8514018
PHONE: (561) 689-4299 FAX: (561) 689-5955	PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
EPA 8020 List - Quality Control										
Batch B510076 - EPA 5035										
Calibration Check (B510076-CCV1) Con	tinued			Prepared &	Analyzed:	10/15/15				
1,3-Dichlorobenzene	0.190		mg/kg	0.2000		94.8	80-120			
1,4-Dichlorobenzene	0.199		mg/kg	0.2000		99.5	80-120			
1,2-Dichlorobenzene	0.189		mg/kg	0.2000		94.4	80-120			
МТВЕ	0.225		mg/kg	0.2000		112	80-120			
Trichloroethene	0.166		mg/kg	0.2000		83.0	80-120			
Surrogate: Dibromofluoromethane	0.0103		mg/kg	0.01500		68.5	0-200			
Surrogate: Toluene-d8	0.0158		mg/kg	0.01500		105	0-200			
Surrogate: 4-Bromofluorobenzene	0.0159		mg/kg	0.01500		106	0-200			
Duplicate (B510076-DUP1)	So	ource: 0013	883-05	Prepared &	Analyzed:	10/15/15				
Benzene	U	0.001	mg/kg		U				20	U
Toluene	U	0.001	mg/kg		U				20	U
Chlorobenzene	U	0.001	mg/kg		U				20	U
Ethylbenzene	U	0.001	mg/kg		U				20	U
m,p-Xylene	U	0.001	mg/kg		U				20	U
o-Xylene	U	0.001	mg/kg		U				20	U
1,3-Dichlorobenzene	U	0.001	mg/kg		U				20	U
1,4-Dichlorobenzene	U	0.001	mg/kg		U				20	U
1,2-Dichlorobenzene	U	0.001	mg/kg		U				20	U
МТВЕ	U	0.001	mg/kg		U				20	U
Trichloroethene	U	0.001	mg/kg		U				20	U
Surrogate: Dibromofluoromethane	0.0117		mg/kg	0.01500		77.7	55-200			
Surrogate: Toluene-d8	0.0132		mg/kg	0.01500		87.9	66-144			
Surrogate: 4-Bromofluorobenzene	0.0140		mg/kg	0.01500		93.6	50-131			
Matrix Spike (B510076-MS1)	So	ource: 0013	883-05	Prepared &	Analyzed:	10/15/15				
Benzene	0.154	0.001	mg/kg	0.2000	U	76.9	60-135			
Toluene	0.125	0.001	mg/kg	0.2000	U	62.5	60-135			
Chlorobenzene	0.183	0.001	mg/kg	0.2000	U	91.6	60-135			
Trichloroethene	0.162	0.001	mg/kg	0.2000	U	81.2	60-135			
Surrogate: Dibromofluoromethane	0.00945		mg/kg	0.01500		63.0	55-200			
Surrogate: Toluene-d8	0.0154		mg/kg	0.01500		103	66-144			
Surrogate: 4-Bromofluorobenzene	0.0134		mg/kg	0.01500		89.3	50-131			
Matrix Spike Dup (B510076-MSD1)	So	urce: 0013	883-05	Prepared &	Analyzed:	10/15/15				
Benzene	0.160	0.001	mg/kg	0.2000	U	79.8	60-135	3.64	20	
Toluene	0.145	0.001	mg/kg	0.2000	U	72.7	60-135	15.2	20	
Chlorobenzene	0.164	0.001	mg/kg	0.2000	U	81.9	60-135	11.1	20	
Trichloroethene	0.136	0.001	mg/kg	0.2000	U	68.2	60-135	17.4	20	

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



# CERTIFICATE OF ANALYSIS

Terracon WPB	LOG #: 0013883
1225 Omar Road	<b>COC#:</b> 22122
West Palm Beach, FL 33405	<b>REPORTED:</b> 10/19/2015 10:44:41AM
ATTN: Andrew Petric	<b>PROJECT #:</b> 8514018
PHONE: (561) 689-4299 FAX: (561) 689-5955	PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
EPA 8020 List - Quality Control										
Batch B510076 - EPA 5035										
Matrix Spike Dup (B510076-MSD1) Conti	nued So	urce: 0013	883-05	Prepared &	Analyzed:	10/15/15				
Surrogate: Dibromofluoromethane	0.0123		mg/kg	0.01500		81.9	55-200			
Surrogate: Toluene-d8	0.0174		mg/kg	0.01500		116	66-144			
Surrogate: 4-Bromofluorobenzene	0.0156		mg/kg	0.01500		104	50-131			
EPA 8100 PAH List - Quality Control										
Batch B510080 - EPA 3545										
Blank (B510080-BLK1)				Prepared &	Analyzed:	10/16/15				
Naphthalene	U	0.3	mg/kg							U
2-Methylnaphthalene	U	0.3	mg/kg							U
1-Methylnaphthalene	U	0.3	mg/kg							U
Acenaphthylene	U	0.3	mg/kg							U
Acenaphthene	U	0.3	mg/kg							U
Fluorene	U	0.3	mg/kg							U
Phenanthrene	U	0.3	mg/kg							Ū
Anthracene	U	0.3	mg/kg							U
Fluoranthene	U	0.3	mg/kg							U
Pyrene	U	0.3	mg/kg							U
Benzo[a]anthracene	U	0.04	mg/kg							U
Chrysene	U	0.02	mg/kg							Ū
Benzo[b]fluoranthene	U	0.04	mg/kg							U
Benzo[k]fluoranthene	U	0.02	mg/kg							U
Benzo[a]pyrene	U	0.05	mg/kg							U
Dibenz[a,h]anthracene	U	0.08	mg/kg							U
Indeno[1,2,3-cd]pyrene	U	0.04	mg/kg							U
Benzo[g,h,i]perylene	U	0.3	mg/kg							U
Surrogate: Nitrobenzene-d5	0.702		mg/kg	1.000		70.2	47-131			
Surrogate: 2-Fluorobiphenyl	0.844		mg/kg	1.000		84.4	51-134			
Surrogate: p-Terphenyl-d14	0.801		mg/kg	1.000		80.1	<i>59-145</i>			
LCS (B510080-BS1)				Prepared &	Analyzed:	10/16/15				
Naphthalene	2.8	0.3	mg/kg	2.500		114	60-135			
Acenaphthylene	2.7	0.3	mg/kg	2.500		107	60-135			
Pyrene	2.6	0.3	mg/kg	2.500		105	60-135			
4-Chloro-3-methylphenol	2.7	0.3	mg/kg	2.500		108	60-135			
Di-n-octylphthalate	3.3	0.3	mg/kg	2.500		133	60-135			
Hexachlorobenzene	2.5	0.002	mg/kg	2.500		98.6	60-135			
2-Methylphenol	2.7	0.3	mg/kg	2.500		109	60-135			
Nitrobenzene	2.7	0.3	mg/kg	2.500		107	60-135			

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



# CERTIFICATE OF ANALYSIS

Terracon WPB	LOG #: 0013883
1225 Omar Road	<b>COC#:</b> 22122
West Palm Beach, FL 33405	<b>REPORTED:</b> 10/19/2015 10:44:41AM
ATTN: Andrew Petric	<b>PROJECT #:</b> 8514018
PHONE: (561) 689-4299 FAX: (561) 689-5955	PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
EPA 8100 PAH List - Quality Control										
Batch B510080 - EPA 3545										
LCS (B510080-BS1) Continued				Prepared 8	Analyzed:	10/16/15				
Surrogate: Nitrobenzene-d5	0.770		mg/kg	1.000		77.0	60-135			
Surrogate: 2-Fluorobiphenyl	0.839		mg/kg	1.000		83.9	60-135			
Surrogate: p-Terphenyl-d14	0.748		mg/kg	1.000		74.8	60-135			
LCS Dup (B510080-BSD1)				Prepared 8	Analyzed:	10/16/15				
Naphthalene	3.0	0.3	mg/kg	2.500		118	60-135	3.69	25	
Acenaphthylene	2.7	0.3	mg/kg	2.500		108	60-135	0.971	25	
Pyrene	3.0	0.3	mg/kg	2.500		119	60-135	12.7	25	
4-Chloro-3-methylphenol	2.8	0.3	mg/kg	2.500		112	60-135	3.44	25	
Di-n-octylphthalate	3.4	0.3	mg/kg	2.500		135	60-135	1.52	25	
Hexachlorobenzene	2.5	0.002	mg/kg	2.500		100	60-135	1.51	25	
2-Methylphenol	2.9	0.3	mg/kg	2.500		116	60-135	6.75	25	
Nitrobenzene	2.9	0.3	mg/kg	2.500		115	60-135	7.59	25	
Surrogate: Nitrobenzene-d5	0.858		mg/kg	1.000		85.8	60-135			
Surrogate: 2-Fluorobiphenyl	0.846		mg/kg	1.000		84.6	60-135			
Surrogate: p-Terphenyl-d14	0.924		mg/kg	1.000		92.4	60-135			
Calibration Check (B510080-CCV1)				Prepared 8	Analyzed:	10/16/15				
Naphthalene	2.7		mg/kg	2.500		108	85-115			I
Acenaphthylene	2.7		mg/kg	2.500		106	85-115			Ι
Pyrene	2.6		mg/kg	2.500		105	85-115			Ι
4-Chloro-3-methylphenol	2.7		mg/kg	2.500		110	85-115			Ι
Di-n-octylphthalate	2.2		mg/kg	2.500		88.7	85-115			Ι
Hexachlorobenzene	2.5		mg/kg	2.500		101	85-115			
2-Methylphenol	2.7		mg/kg	2.500		107	85-115			Ι
Nitrobenzene	2.5		mg/kg	2.500		102	85-115			I
Surrogate: Nitrobenzene-d5	0.776		mg/kg	1.000		77.6	0-200			
Surrogate: 2-Fluorobiphenyl	0.878		mg/kg	1.000		87.8	0-200			
Surrogate: p-Terphenyl-d14	0.932		mg/kg	1.000		93.2	0-200			
Duplicate (B510080-DUP1)	So	urce: 0013	883-01	Prepared 8	Analyzed:	10/16/15				
Naphthalene	U	0.3	mg/kg		U				200	U
Acenaphthylene	U	0.3	mg/kg		U				200	U
Pyrene	0.3	0.3	mg/kg		0.3			6.87	200	
4-Chloro-3-methylphenol	U	0.3	mg/kg		U				200	U
Di-n-octylphthalate	U	0.3	mg/kg		U				200	U
Hexachlorobenzene	U	0.002	mg/kg		U				200	U
2-Methylphenol	U	0.3	mg/kg		U				200	U
Nitrobenzene	U	0.3	mg/kg		U				200	U

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



# CERTIFICATE OF ANALYSIS

Terracon WPB	LOG #: 0013883
1225 Omar Road	<b>COC#:</b> 22122
West Palm Beach, FL 33405	<b>REPORTED:</b> 10/19/2015 10:44:41AM
ATTN: Andrew Petric	<b>PROJECT #:</b> 8514018
PHONE: (561) 689-4299 FAX: (561) 689-5955	PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
EPA 8100 PAH List - Quality Control										
Batch B510080 - EPA 3545										
Duplicate (B510080-DUP1) Continued	So	urce: 0013	8883-01	Prepared 8	Analyzed:	10/16/15				
Surrogate: Nitrobenzene-d5	0.613		mg/kg	1.000		61.3	47-131			
Surrogate: 2-Fluorobiphenyl	0.804		mg/kg	1.000		80.4	51-134			
Surrogate: p-Terphenyl-d14	0.943		mg/kg	1.000		94.3	59-145			
Matrix Spike (B510080-MS1)	So	urce: 0013	8883-01	Prepared 8	Analyzed:	10/16/15				
Naphthalene	3.2	0.3	mg/kg	2.500	U	128	60-135			
Acenaphthylene	2.8	0.3	mg/kg	2.500	U	113	60-135			
Pyrene	3.3	0.3	mg/kg	2.500	0.3	121	60-135			
4-Chloro-3-methylphenol	2.8	0.3	mg/kg	2.500	U	110	60-135			
Di-n-octylphthalate	2.5	0.3	mg/kg	2.500	U	99.9	60-135			
Hexachlorobenzene	2.8	0.002	mg/kg	2.500	U	113	60-135			
2-Methylphenol	2.2	0.3	mg/kg	2.500	U	88.4	60-135			
Nitrobenzene	2.1	0.3	mg/kg	2.500	U	85.1	60-135			
Surrogate: Nitrobenzene-d5	0.860		mg/kg	1.000		86.0	60-135			
Surrogate: 2-Fluorobiphenyl	1.04		mg/kg	1.000		104	60-135			
Surrogate: p-Terphenyl-d14	1.15		mg/kg	1.000		115	60-135			
Matrix Spike Dup (B510080-MSD1)	So	ource: 0013	8883-01	Prepared & Analyzed: 10/16/15						
Naphthalene	3.2	0.3	mg/kg	2.500	U	128	60-135	0.188	25	
Acenaphthylene	3.3	0.3	mg/kg	2.500	U	131	60-135	14.6	25	
Pyrene	3.6	0.3	mg/kg	2.500	0.3	131	60-135	7.68	25	
4-Chloro-3-methylphenol	2.9	0.3	mg/kg	2.500	U	117	60-135	5.53	25	
Di-n-octylphthalate	2.0	0.3	mg/kg	2.500	U	81.3	60-135	20.5	25	
Hexachlorobenzene	3.0	0.002	mg/kg	2.500	U	118	60-135	4.22	25	
2-Methylphenol	2.1	0.3	mg/kg	2.500	U	83.5	60-135	5.72	25	
Nitrobenzene	2.1	0.3	mg/kg	2.500	U	82.9	60-135	2.64	25	
Surrogate: Nitrobenzene-d5	0.922		mg/kg	1.000		92.2	60-135			
Surrogate: 2-Fluorobiphenyl	1.09		mg/kg	1.000		109	60-135			
Surrogate: p-Terphenyl-d14	1.24		mg/kg	1.000		124	60-135			

### FLPRO - Quality Control

Batch B510081 - EPA 3545

Blank (B510081-BLK1)				Prepared & Analyzed: 10/16/15					
FLPRO Total	U	0.240	mg/kg				U		
Surrogate: o-Terphenyl	2.90		mg/kg	2.500	116	70-130			
Surrogate: Nonatriacontane	13.8		mg/kg	15.00	92.1	42-193			
LCS (B510081-BS1)									
FLPRO Total	48.4	0.240	mg/kg	42.50	114	60-120			

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083


# CERTIFICATE OF ANALYSIS

Terracon WPB	LOG #: 0013883
1225 Omar Road	<b>COC#:</b> 22122
West Palm Beach, FL 33405	<b>REPORTED:</b> 10/19/2015 10:44:41AM
ATTN: Andrew Petric	<b>PROJECT #:</b> 8514018
PHONE: (561) 689-4299 FAX: (561) 689-5955	PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
FLPRO - Quality Control										
Batch B510081 - EPA 3545										
LCS (B510081-BS1) Continued				Prepared 8	Analyzed:	10/16/15				
Surrogate: o-Terphenyl	2.39		mg/kg	2.500		95.5	70-130			
Surrogate: Nonatriacontane	13.5		mg/kg	15.00		90.0	42-193			
LCS Dup (B510081-BSD1)				Prepared 8	Analyzed:	10/16/15				
FLPRO Total	50.1	0.240	mg/kg	42.50		118	60-120	3.40	30	
Surrogate: o-Terphenyl	2.39		mg/kg	2.500		<i>95.7</i>	70-130			
Surrogate: Nonatriacontane	14.8		mg/kg	15.00		<i>98.9</i>	42-193			
Calibration Check (B510081-CCV1)				Prepared 8	& Analyzed:	10/16/15				
FLPRO Total	39.7		mg/kg	42.50		93.4	80-120			
Surrogate: o-Terphenyl	2.24		mg/kg	2.500		89.7	0-200			
Surrogate: Nonatriacontane	13.0		mg/kg	15.00		86.6	0-200			
Duplicate (B510081-DUP1)	So	ource: 0013	883-02	Prepared 8	Analyzed:	10/16/15				
FLPRO Total	21.7	0.240	mg/kg		18.0			18.7	20	
Surrogate: o-Terphenyl	2.04		mg/kg	2.500		81.8	70-130			
Surrogate: Nonatriacontane	16.7		mg/kg	15.00		111	42-193			
Matrix Spike (B510081-MS1)	So	ource: 0013	883-01	Prepared 8	Analyzed:	10/16/15				
FLPRO Total	51.1	0.240	mg/kg	42.50	10.9	94.5	40-155			
Surrogate: o-Terphenyl	1.83		mg/kg	2.500		73.1	70-130			
Surrogate: Nonatriacontane	15.9		mg/kg	15.00		106	42-193			
Matrix Spike Dup (B510081-MSD1)	So	ource: 0013	883-01	Prepared 8	Analyzed:	10/16/15				
FLPRO Total	48.6	0.240	mg/kg	42.50	10.9	88.6	40-155	5.08	30	
Surrogate: o-Terphenyl	2.95		mg/kg	2.500		118	70-130			
Surrogate: Nonatriacontane	14.9		mg/kg	15.00		99.5	42-193			



#### **Notes and Definitions**

U Analyte included in the analysis, but not detected

I The reported value is between the laboratory Method Detection Limit & the laboratory Practical Quantitation Limit

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083

Palm Beach Environmental



Laboratories, Inc.

# **CHAIN OF CUSTODY RECORD**

PO #:____

Log #: 13883

Quote #:_____

FDEP :

Company Name: Terracon Consultants, Inc.					LAB	ANALYSIS			Matrix Codes
Address: 1225 Omar Ad	pH								SD Solid Waste OL Oil GW Ground Water SL Sludge
City: West Palm Bend State: FL Zip: 33405	PRES CODE	AII	A12	Als					EFF Effluent SO Soil Sediment AFW Analyle Free H2O AQ Aqueous
Attn: Andrew Petric Phone#: 561-689-4229		Ser.		(0)			,		WW         Waste Water         NA         Nonaqueous           DW         Drinking Water
email: andrew, petric Gterraw all Max#: Sol-689-5955	LS	A		P. P.					SW Surface Water O Other (Please Specify)
Project Former Palm Tran Fueility UNIFRED	leter	X	2	E	N				Press Codes
Name $FACID # SO 8514018 Proj#: FACID # S$	aran	131	82	H (	q				A. None E. HCL O. Other
Signature Name Min Adrew Farric	P	8	Ŧ	8 p	20				C. H2SO4 G. Na2S2O3
# (Client ID) Conect Conect Conect Matrix Dig Ling M (Chient ID)		22	PA	t	m				D. NaOH I. Ice
1 56-18 (2'-3') Wh2/K 1530 50 7 7		X	X	8	1				Hold For possille SPLP
25R-9(3-u') 1545		x	X	X	1				and speciation
_3 SB-4(2'-3) 1600		Y	×	X	1				
4 53-2 (3'-4') 1615		X	x	X	/				
5 SB-2 (1'-2') V 1630 V V J		X	×	X	/				
_6									
_7									
_8									
_9									
_0									
T.A.T. Request Standard RUSH	QA/0	QC Rep	ort Leve	el	F	COC OK	Initials		
Y         _24 Hour           _48 Hour         Date Due:   None	1	2 3	Oth	er		(Y) N	M		
Item Reinquisited by Affiliation Date		Time	INR	eceived	RY	Affiliation	Date	Time	Lab Use Only
All North Terrucca 10/13/15	90	25	QA	1997	X	PBEL	10/13/15	905	Sample INTACT upon arrival?
				- 1					Proper Preservatives Indicated?
									Custody seals intact?
						1			Proper Containers Used?

Page ____ of ____

1550 Latham Road, Suite 2 • West Palm Beach, FL 33409 • Tel: (561) 689-6701 • Fax: (561) 689-6702

COC# 22122





October 23, 2015

Andrew Petric Terracon WPB West Palm Beach, FL 33405 (561) 689-4299 LOG #: 0013888

Enclosed is the laboratory report for your project. All results meet the requirements of the NELAC standards.

Please note the following:

- (1) The samples were received as stated on the chain of custody, correctly labeled and at the proper temperature unless otherwise noted. The results contained in this report relate only to the items tested or to the samples as received by the laboratory.
- (2) This report may not be reproduced except in full, without the written approval of the laboratory. Any anomalies are noted in the case narrative.
- (3) Results for all solid matrices are reported in dry weight unless otherwise noted.
- (4) Results for all liquid matrices are analyzed as received in the laboratory unless otherwise noted.
- (5) Samples are disposed of within 30 days of their receipt by the laboratory.
- (6) A statement of Qualifiers is available upon request.
- (7) Certain analyses are subcontracted to outside NELAC certified laboratories and are designated on your report.
- (8) Precision & Accuracy will be provided when clients require a measure of estimated uncertainty.
- (9) The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report Preliminary Data should not be used for regular purposes. Authorized signature(s) is provided on final report only

Please contact me if you have any questions or concerns regarding this report.

Sincerely,

Der h

Pamela Shore QA Officer



# CERTIFICATE OF ANALYSIS

Terraco	on WPB					LOG #:	001	3888			
1225 O	mar Road					COC#:	2213	31			
West P	alm Beach, FL 33405					REPOR	TED:	10/23/201	5 2:28:49PM		
ATTN:	Andrew Petric					PROJEC	CT #:	8514018			
PHON	E: (561) 689-4299 FAX:	(561) 689-595	55			PROJEC	<b>ст:</b> Р	alm Beach	Cnty Transit Auth		
Descri	ption: MW-1			Lab ID:	0013888-01				Sampled: 10/1	5/15 10:31	
м	atrix: Water			Sampled B	By: Randall Murph	ıy			Received: 10/1	5/15 15:10	
EPA 802	0 List										
									Extraction	Analysis	
<u>CAS #</u>	Parameter .	<b>Results</b>	Q	<u>Units</u>	Method	DF	MDL	<u>PQL</u>	Date	<u>Date</u>	<u>Analyst</u>
71-43-2	Benzene	0.950	Ι	ug/L	EPA 8260C	1	0.640	1.00	10/17/15	10/20/15	PLS
108-88-3	Toluene	0.660	U	ug/L	EPA 8260C	1	0.660	1.00	10/17/15	10/20/15	PLS
108-90-7	Chlorobenzene	0.670	U	ug/L	EPA 8260C	1	0.670	1.00	10/17/15	10/20/15	PLS
100-41-4	Ethylbenzene	0.730	U	ug/L	EPA 8260C	1	0.730	1.00	10/17/15	10/20/15	PLS
108-38-3/10	m,p-Xylene	0.760	U	ug/L	EPA 8260C	1	0.760	1.00	10/17/15	10/20/15	PLS
6-42-3 <b>95-47-6</b>	o-Xylene	1.81		ug/L	EPA 8260C	1	0.870	1.00	10/17/15	10/20/15	PLS
541-73-1	1,3-Dichlorobenzene	0.310	U	ug/L	EPA 8260C	1	0.310	1.00	10/17/15	10/20/15	PLS
106-46-7	1,4-Dichlorobenzene	0.510	U	ug/L	EPA 8260C	1	0.510	1.00	10/17/15	10/20/15	PLS
95-50-1	1,2-Dichlorobenzene	0.510	U	ug/L	EPA 8260C	1	0.510	1.00	10/17/15	10/20/15	PLS
1634-04-4	MTBE	0.530	U	ug/L	EPA 8260C	1	0.530	1.00	10/17/15	10/20/15	PLS
		% Re	covery	Q	% Recovery Limits	5					
1868-53-7	Surrogate: Dibromofluoromethane	77.	1 %		Limit 62-200						
2037-26-5	Surrogate: Toluene-d8	102	2 %		Limit 63-144						
460-00-4	Surrogate: 4-Bromofluorobenzene	97.	1 %		Limit 50-155						

#### EPA 8100 PAH List

									Extraction	Analysis	
CAS #	<u>Parameter</u>	<b>Results</b>	<u>Q</u>	<u>Units</u>	Method	DF	MDL	PQL	Date	Date	<u>Analyst</u>
91-20-3	Naphthalene	0.147	U	ug/L	EPA 3510C / 8270	1	0.147	10.0	10/21/15	10/21/15	PLS
91-57-6	2-Methylnaphthalene	86.4		ug/L	EPA 3510C / 8270	1	0.288	10.0	10/21/15	10/21/15	PLS
90-12-0	1-Methylnaphthalene	90.0		ug/L	EPA 3510C / 8270	1	0.285	10.0	10/21/15	10/21/15	PLS
208-96-8	Acenaphthylene	0.393	U	ug/L	EPA 3510C / 8270	1	0.393	10.0	10/21/15	10/21/15	PLS
83-32-9	Acenaphthene	0.188	U	ug/L	EPA 3510C / 8270	1	0.188	10.0	10/21/15	10/21/15	PLS
86-73-7	Fluorene	0.217	U	ug/L	EPA 3510C / 8270	1	0.217	10.0	10/21/15	10/21/15	PLS
85-01-8	Phenanthrene	0.215	U	ug/L	EPA 3510C / 8270	1	0.215	10.0	10/21/15	10/21/15	PLS
120-12-7	Anthracene	0.0100	U	ug/L	EPA 3510C / 8270	1	0.0100	0.0300	10/21/15	10/21/15	PLS
206-44-0	Fluoranthene	0.0100	U	ug/L	EPA 3510C / 8270	1	0.0100	0.0300	10/21/15	10/21/15	PLS
129-00-0	Pyrene	0.409	U	ug/L	EPA 3510C / 8270	1	0.409	10.0	10/21/15	10/21/15	PLS
56-55-3	Benzo[a]anthracene	0.0500	U	ug/L	EPA 3510C / 8270	1	0.0500	0.0500	10/21/15	10/21/15	PLS
218-01-9	Chrysene	0.169	U	ug/L	EPA 3510C / 8270	1	0.169	0.200	10/21/15	10/21/15	PLS
205-99-2	Benzo[b]fluoranthene	7.68		ug/L	EPA 3510C / 8270	1	0.0500	0.0500	10/21/15	10/21/15	PLS
207-08-9	Benzo[k]fluoranthene	4.85		ug/L	EPA 3510C / 8270	1	0.500	0.500	10/21/15	10/21/15	PLS
50-32-8	Benzo[a]pyrene	10.7		ug/L	EPA 3510C / 8270	1	0.200	0.200	10/21/15	10/21/15	PLS
53-70-3	Dibenz[a,h]anthracene	33.9		ug/L	EPA 3510C / 8270	1	0.0050	0.0500	10/21/15	10/21/15	PLS
193-39-5	Indeno[1,2,3-cd]pyrene	26.5		ug/L	EPA 3510C / 8270	1	0.0500	0.0500	10/21/15	10/21/15	PLS
191-24-2	Benzo[g,h,i]perylene	55.5		ug/L	EPA 3510C / 8270	1	0.341	10.0	10/21/15	10/21/15	PLS



rendu	on WPB					LOG #:	001	3888			
1225 (	Dmar Road					COC#:	2213	1			
West F	Palm Beach, FL 33405					REPOR	TED:	10/23/2015	2:28:49PM		
ΔΤΤΝ	Andrew Petric					PROIF	`т #∙	8514018			
DHON	(561) 689-4299 <b>ελγ</b> .	(561) 689-59	55			PROJEC	יידי. P	alm Beach C	ntv Transit Auth		
		(001) 005 05			0012000 01	FROJE			10/1	F/1F 10-21	
Descri	ption: MWV-1			Lab ID:	0013888-01				Sampled: 10/1	.5/15 10:31	
M	latrix: Water			Sampled	By: Randall Murph	ıy			Received: 10/1	15/15 15:10	
EPA 810	0 PAH List										
									Extraction	Analysis	
<u>CAS #</u>	Parameter	<u>Results</u>	Q	<u>Units</u>	Method	DF	<u>MDL</u>	<u>PQL</u>	Date	<u>Date</u>	<u>Analyst</u>
		% Re	covery	Q	% Recovery Limits	;					
NA	Surrogate: Nitrobenzene-d5	10	1 %		Limit 40-142						
321-60-8	Surrogate: 2-Fluorobiphenyl	10	3 %		Limit 47-150						
NA	Surrogate: p-Terphenyl-d14	11	5 %		Limit 55-165						
EPA Met	hod 8011 List										
									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<b>Results</b>	<u>Q</u>	<u>Units</u>	Method	DF	MDL	<u>PQL</u>	<u>Date</u>	Date	<u>Analyst</u>
106-93-4	1,2-Dibromoethane (EDB)	0.01120	JEE, U	ug/L	EPA 8260B	1	0.01120	0.03400	10/19/15	10/19/15	SL
96-12-8	1,2-Dibromo-3-Chloropropane	0.01210	JEE, U	ug/L	EPA 8260B	1	0.01210	0.03600	10/19/15	10/19/15	SL
FLPRO											
									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	Q	<u>Units</u>	Method	DF	MDL	<u>PQL</u>	<u>Date</u>	<u>Date</u>	<u>Analyst</u>
NA	FLPRO Total	8.25		mg/L	EPA 3510C /RO	1	0.040	0.500	10/20/15	10/20/15	PLS
		% Re	covery	Q	% Recovery Limits	;					
84-15-1	Surrogate: o-Terphenyl	11	9 %		Limit 70-130						

									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<b>Results</b>	Q	<u>Units</u>	Method	DF	MDL	PQL	Date	Date	<u>Analyst</u>
7439-92-1	Lead	0.003	Ι	mg/L	EPA 6020B	1	0.00001	0.005	10/17/15	10/17/15	DD

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



Terraco	on WPB					LOG #:	001	3888			
1225 0	mar Road					coc#.	221 [°]	31			
1225 0						COC#:	~~ 1.	51			
West P	alm Beach, FL 33405					REPOR	TED:	10/23/201	5 2:28:49PM		
ATTN:	Andrew Petric					PROJEC	T #:	8514018			
PHON	E: (561) 689-4299 FAX:	(561) 689-595	55			PROJEC	: <b>т</b> :	Palm Beach	Cnty Transit Auth		
Descri	ption: MW-2			Lab ID:	0013888-02				Sampled: 10/1	5/15 11:48	
M	atrix: Water			Sampled B	By: Randall Murph	ıy			Received: 10/1	.5/15 15:10	
EPA 802	0 List										
									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	Q	<u>Units</u>	Method	DF	<u>MDL</u>	<u>PQL</u>	<u>Date</u>	Date	<u>Analyst</u>
71-43-2	Benzene	0.640	U	ug/L	EPA 8260C	1	0.640	1.00	10/17/15	10/20/15	PLS
108-88-3	Toluene	0.660	U	ug/L	EPA 8260C	1	0.660	1.00	10/17/15	10/20/15	PLS
108-90-7	Chlorobenzene	0.670	U	ug/L	EPA 8260C	1	0.670	1.00	10/17/15	10/20/15	PLS
100-41-4	Ethylbenzene	0.730	U	ug/L	EPA 8260C	1	0.730	1.00	10/17/15	10/20/15	PLS
108-38-3/10 6-42-3	m,p-Xylene	0.760	U	ug/L	EPA 8260C	1	0.760	1.00	10/17/15	10/20/15	PLS
95-47-6	o-Xylene	0.870	U	ug/L	EPA 8260C	1	0.870	1.00	10/17/15	10/20/15	PLS
541-73-1	1,3-Dichlorobenzene	0.310	U	ug/L	EPA 8260C	1	0.310	1.00	10/17/15	10/20/15	PLS
106-46-7	1,4-Dichlorobenzene	0.510	U	ug/L	EPA 8260C	1	0.510	1.00	10/17/15	10/20/15	PLS
95-50-1	1,2-Dichlorobenzene	0.510	U	ug/L	EPA 8260C	1	0.510	1.00	10/17/15	10/20/15	PLS
1634-04-4	МТВЕ	4.14		ug/L	EPA 8260C	1	0.530	1.00	10/17/15	10/20/15	PLS
		% Red	covery	Q	% Recovery Limits	5					
1868-53-7	Surrogate: Dibromofluoromethane	82.3	3 %		Limit 62-200						
2037-26-5	Surrogate: Toluene-d8	103	8 %		Limit 63-144						
460-00-4	Surrogate: 4-Bromofluorobenzene	77.9	9%		Limit 50-155						

#### EPA 8100 PAH List

									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	Q	<u>Units</u>	Method	DF	MDL	<u>PQL</u>	<u>Date</u>	Date	<u>Analyst</u>
91-20-3	Naphthalene	0.147	U	ug/L	EPA 3510C / 8270	1	0.147	10.0	10/21/15	10/21/15	PLS
91-57-6	2-Methylnaphthalene	19.3		ug/L	EPA 3510C / 8270	1	0.288	10.0	10/21/15	10/21/15	PLS
90-12-0	1-Methylnaphthalene	20.9		ug/L	EPA 3510C / 8270	1	0.285	10.0	10/21/15	10/21/15	PLS
208-96-8	Acenaphthylene	0.393	U	ug/L	EPA 3510C / 8270	1	0.393	10.0	10/21/15	10/21/15	PLS
83-32-9	Acenaphthene	35.2		ug/L	EPA 3510C / 8270	1	0.188	10.0	10/21/15	10/21/15	PLS
86-73-7	Fluorene	20.0		ug/L	EPA 3510C / 8270	1	0.217	10.0	10/21/15	10/21/15	PLS
85-01-8	Phenanthrene	9.22	Ι	ug/L	EPA 3510C / 8270	1	0.215	10.0	10/21/15	10/21/15	PLS
120-12-7	Anthracene	6.76		ug/L	EPA 3510C / 8270	1	0.0100	0.0300	10/21/15	10/21/15	PLS
206-44-0	Fluoranthene	0.0100	U	ug/L	EPA 3510C / 8270	1	0.0100	0.0300	10/21/15	10/21/15	PLS
129-00-0	Pyrene	4.38	Ι	ug/L	EPA 3510C / 8270	1	0.409	10.0	10/21/15	10/21/15	PLS
56-55-3	Benzo[a]anthracene	0.0500	U	ug/L	EPA 3510C / 8270	1	0.0500	0.0500	10/21/15	10/21/15	PLS
218-01-9	Chrysene	0.169	U	ug/L	EPA 3510C / 8270	1	0.169	0.200	10/21/15	10/21/15	PLS
205-99-2	Benzo[b]fluoranthene	5.99		ug/L	EPA 3510C / 8270	1	0.0500	0.0500	10/21/15	10/21/15	PLS
207-08-9	Benzo[k]fluoranthene	3.47		ug/L	EPA 3510C / 8270	1	0.500	0.500	10/21/15	10/21/15	PLS
50-32-8	Benzo[a]pyrene	0.200	U	ug/L	EPA 3510C / 8270	1	0.200	0.200	10/21/15	10/21/15	PLS
53-70-3	Dibenz[a,h]anthracene	0.0050	U	ug/L	EPA 3510C / 8270	1	0.0050	0.0500	10/21/15	10/21/15	PLS
193-39-5	Indeno[1,2,3-cd]pyrene	0.0500	U	ug/L	EPA 3510C / 8270	1	0.0500	0.0500	10/21/15	10/21/15	PLS
191-24-2	Benzo[g,h,i]perylene	0.341	U	ug/L	EPA 3510C / 8270	1	0.341	10.0	10/21/15	10/21/15	PLS

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



Terrac	on WPB					LOG #:	001	3888			
1225 (	Omar Road					COC#:	2213	81			
West I	Palm Beach, FL 33405					REPOR	ED:	10/23/2015	2:28:49PM		
ATTN	Andrew Petric						т #.	8514018			
	(561) 690-4200 <b>- • •</b>	(561) 680 50	55			PROJEC	- C	alm Boach (	nty Transit Auth		
PHON	IE: (501) 069-4299 FAX:	(201) 009-29	55			PROJEC	T: ^P				
Descr	iption: MW-2			Lab ID:	0013888-02				Sampled: 10/1	5/15 11:48	
	Matrix: Water			Sampled I	By: Randall Murph	y			Received: 10/1	5/15 15:10	
EPA 810	0 PAH List										
									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	Q	<u>Units</u>	Method	DF	<u>MDL</u>	<u>PQL</u>	<u>Date</u>	<u>Date</u>	<u>Analyst</u>
		% Re	covery	Q	% Recovery Limits	;					
NA	Surrogate: Nitrobenzene-d5	10	2 %		Limit 40-142						
321-60-8	Surrogate: 2-Fluorobiphenyl	96	.9 %		Limit 47-150						
NA	Surrogate: p-Terphenyl-d14	10	4 %		Limit 55-165						
EPA Met	hod 8011 List										
									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	<u>Q</u>	Units	Method	DF	MDL	<u>PQL</u>	Date	Date	<u>Analyst</u>
106-93-4	1,2-Dibromoethane (EDB)	0.01120	JEE, U	ug/L	EPA 8260B	1	0.01120	0.03400	10/19/15	10/19/15	SL
96-12-8	1,2-Dibromo-3-Chloropropane	0.01210	JEE, U	ug/L	EPA 8260B	1	0.01210	0.03600	10/19/15	10/19/15	SL
FLPRO											
									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	Q	<u>Units</u>	Method	DF	<u>MDL</u>	PQL	<u>Date</u>	Date	<u>Analyst</u>
NA	FLPRO Total	1.45		mg/L	EPA 3510C /RO	1	0.040	0.500	10/20/15	10/20/15	PLS
		% Re	covery	Q	% Recovery Limits	ł					
84-15-1	Surrogate: o-Terphenyl	11	2 %		Limit 70-130						

									Extraction	Analysis	
<u>CAS #</u>	Parameter	<u>Results</u>	Q	<u>Units</u>	Method	DF	MDL	PQL	Date	Date	<u>Analyst</u>
7439-92-1	Lead	0.0003	Ι	mg/L	EPA 6020B	1	0.00001	0.005	10/17/15	10/17/15	DD

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



Terraco	on WPB					LOG #:	0013	3888			
1225 C	Omar Road					COC#:	2213	1			
West P	alm Beach, FL 33405					REPOR	TED:	10/23/201	5 2:28:49PM		
ATTN:	Andrew Petric					PROJEC	CT #:	8514018			
PHON	E: (561) 689-4299 FAX:	(561) 689-595	55			PROJEC	CT: Pa	alm Beach	Cnty Transit Auth		
Descri	ption: MW-3			Lab ID:	0013888-03				Sampled: 10/1	5/15 13:06	
м	latrix: Water			Sampled E	By: Randall Murpl	ıy			Received: 10/1	5/15 15:10	
EPA 802	0 List										
									Extraction	Analysis	
CAS #	Parameter	<b>Results</b>	Q	Units	Method	DF	MDL	<u>PQL</u>	Date	Date	<u>Analyst</u>
71-43-2	Benzene	0.640	U	ug/L	EPA 8260C	1	0.640	1.00	10/17/15	10/20/15	PLS
108-88-3	Toluene	0.660	U	ug/L	EPA 8260C	1	0.660	1.00	10/17/15	10/20/15	PLS
108-90-7	Chlorobenzene	0.670	U	ug/L	EPA 8260C	1	0.670	1.00	10/17/15	10/20/15	PLS
100-41-4	Ethylbenzene	0.730	U	ug/L	EPA 8260C	1	0.730	1.00	10/17/15	10/20/15	PLS
108-38-3/10 6-42-3	m,p-Xylene	0.760	U	ug/L	EPA 8260C	1	0.760	1.00	10/17/15	10/20/15	PLS
95-47-6	o-Xylene	0.870	U	ug/L	EPA 8260C	1	0.870	1.00	10/17/15	10/20/15	PLS
541-73-1	1,3-Dichlorobenzene	0.310	U	ug/L	EPA 8260C	1	0.310	1.00	10/17/15	10/20/15	PLS
106-46-7	1,4-Dichlorobenzene	0.510	U	ug/L	EPA 8260C	1	0.510	1.00	10/17/15	10/20/15	PLS
95-50-1	1,2-Dichlorobenzene	0.510	U	ug/L	EPA 8260C	1	0.510	1.00	10/17/15	10/20/15	PLS
1634-04-4	MTBE	0.530	U	ug/L	EPA 8260C	1	0.530	1.00	10/17/15	10/20/15	PLS
		% Re	covery	Q	% Recovery Limits	5					
1868-53-7	Surrogate: Dibromofluoromethane	77.	5 %		Limit 62-200						
2037-26-5	Surrogate: Toluene-d8	103	3 %		Limit 63-144						
460-00-4	Surrogate: 4-Bromofluorobenzene	131	L %		Limit 50-155						

#### EPA 8100 PAH List

									Extraction	Analysis	
<u>CAS #</u>	Parameter	<u>Results</u>	Q	<u>Units</u>	<u>Method</u>	DF	MDL	<u>PQL</u>	<u>Date</u>	Date	<u>Analyst</u>
91-20-3	Naphthalene	0.147	U	ug/L	EPA 3510C / 8270	1	0.147	10.0	10/21/15	10/21/15	PLS
91-57-6	2-Methylnaphthalene	0.288	U	ug/L	EPA 3510C / 8270	1	0.288	10.0	10/21/15	10/21/15	PLS
90-12-0	1-Methylnaphthalene	0.285	U	ug/L	EPA 3510C / 8270	1	0.285	10.0	10/21/15	10/21/15	PLS
208-96-8	Acenaphthylene	0.393	U	ug/L	EPA 3510C / 8270	1	0.393	10.0	10/21/15	10/21/15	PLS
83-32-9	Acenaphthene	0.188	U	ug/L	EPA 3510C / 8270	1	0.188	10.0	10/21/15	10/21/15	PLS
86-73-7	Fluorene	0.217	U	ug/L	EPA 3510C / 8270	1	0.217	10.0	10/21/15	10/21/15	PLS
85-01-8	Phenanthrene	0.215	U	ug/L	EPA 3510C / 8270	1	0.215	10.0	10/21/15	10/21/15	PLS
120-12-7	Anthracene	0.0100	U	ug/L	EPA 3510C / 8270	1	0.0100	0.0300	10/21/15	10/21/15	PLS
206-44-0	Fluoranthene	0.0100	U	ug/L	EPA 3510C / 8270	1	0.0100	0.0300	10/21/15	10/21/15	PLS
129-00-0	Pyrene	0.409	U	ug/L	EPA 3510C / 8270	1	0.409	10.0	10/21/15	10/21/15	PLS
56-55-3	Benzo[a]anthracene	0.0500	U	ug/L	EPA 3510C / 8270	1	0.0500	0.0500	10/21/15	10/21/15	PLS
218-01-9	Chrysene	0.169	U	ug/L	EPA 3510C / 8270	1	0.169	0.200	10/21/15	10/21/15	PLS
205-99-2	Benzo[b]fluoranthene	0.0500	U	ug/L	EPA 3510C / 8270	1	0.0500	0.0500	10/21/15	10/21/15	PLS
207-08-9	Benzo[k]fluoranthene	0.500	U	ug/L	EPA 3510C / 8270	1	0.500	0.500	10/21/15	10/21/15	PLS
50-32-8	Benzo[a]pyrene	0.200	U	ug/L	EPA 3510C / 8270	1	0.200	0.200	10/21/15	10/21/15	PLS
53-70-3	Dibenz[a,h]anthracene	0.0050	U	ug/L	EPA 3510C / 8270	1	0.0050	0.0500	10/21/15	10/21/15	PLS
193-39-5	Indeno[1,2,3-cd]pyrene	0.0500	U	ug/L	EPA 3510C / 8270	1	0.0500	0.0500	10/21/15	10/21/15	PLS

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



84-15-1 7194-86-7	Surrogate: o-Terphenyl Surrogate: Nonatriacontane	11 10	2 % 2 %		Limit 70-130 Limit 42-193						
		% Re	covery	Q	% Recovery Limits	6					
<u>CAS #</u> NA	<u>Parameter</u> FLPRO Total	<u>Kesults</u> 0.265	I I	<u>Units</u> mg/L	<u>Method</u> EPA 3510C /RO	1 1	<u>MDL</u> 0.040	<u>PQL</u> 0.500	<u>Date</u> 10/20/15	<u>Date</u> 10/20/15	Analyst PLS
	<b>_</b> .		-						Extraction	Analysis	
96-12-8	1,2-Dibromo-3-Chloropropane	0.01210	JEE, U	ug/L	EPA 8260B	1	0.01210	0.03600	10/19/15	10/19/15	SL
106-93-4	1,2-Dibromoethane (EDB)	0.01120	JEE, U	ug/L	EPA 8260B	1	0.01120	0.03400	10/19/15	10/19/15	SL
EPA Met	hod 8011 List	Posulta	0	Unite	Method	DE	мы	POI	Extraction	Analysis	Analyst
NA	Surrogate: p-Terphenyl-d14	10	4 %		Limit 55-165						
321-60-8	Surrogate: 2-Fluorobiphenyl	97	.3 %		Limit 47-150						
NA	Surrogate: Nitrobenzene-d5	90.	covery	Q	Mecovery Limits	5					
191-24-2	Benzo[g,h,i]perylene	0.341	U	ug/L	EPA 3510C / 8270	1	0.341	10.0	10/21/15	10/21/15	PLS
<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	Q	<u>Units</u>	Method	DF	<u>MDL</u>	<u>PQL</u>	Date	Date	<u>Analyst</u>
EPA 810	0 PAH List								Extraction	Analysis	
M	latrix: Water			Sampled B	y: Randall Murph	ıy			Received: 10/1	.5/15 15:10	
Descri	ption: MW-3			Lab ID:	0013888-03				Sampled: 10/1	5/15 13:06	
PHON	E: (561) 689-4299 FAX:	(561) 689-59	55			PROJEC	CT: P	alm Beach C	Cnty Transit Auth		
ATTN:	Andrew Petric					PROJEC	CT #:	8514018			
West F	alm Beach, FL 33405					REPOR	TED:	10/23/2015	2:28:49PM		
1225 0	Dmar Road					COC#:	2213	1			
						LUG #.	001	5000			

-	-								Extraction	Analysis	
<u>CAS #</u>	Parameter	<b>Results</b>	Q	<u>Units</u>	Method	DF	MDL	<u>PQL</u>	Date	<b>Date</b>	<u>Analyst</u>
7439-92-1	Lead	0.0004	Ι	mg/L	EPA 6020B	1	0.00001	0.005	10/17/15	10/17/15	DD

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



Terraco	on WPB					LOG #:	001	3888			
1225 0	mar Road					COC#:	2213	1			
West P	alm Beach, FL 33405					REPOR	TED:	10/23/201	5 2:28:49PM		
ATTN:	Andrew Petric					PROJEC	T #:	8514018			
PHON	E: (561) 689-4299 FAX:	(561) 689-595	55			PROJEC	<b>т:</b> Р	alm Beach	Cnty Transit Auth		
Descri	ption: MW-4			Lab ID:	0013888-04				Sampled: 10/1	5/15 14:43	
м	atrix: Water			Sampled B	y: Randall Murph	ıy			Received: 10/1	.5/15 15:10	
EPA 802	0 List										
									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<b>Results</b>	<u>Q</u>	<u>Units</u>	Method	DF	<u>MDL</u>	<u>PQL</u>	<u>Date</u>	<u>Date</u>	<u>Analyst</u>
71-43-2	Benzene	0.640	U	ug/L	EPA 8260C	1	0.640	1.00	10/17/15	10/20/15	PLS
108-88-3	Toluene	0.660	U	ug/L	EPA 8260C	1	0.660	1.00	10/17/15	10/20/15	PLS
108-90-7	Chlorobenzene	0.670	U	ug/L	EPA 8260C	1	0.670	1.00	10/17/15	10/20/15	PLS
100-41-4	Ethylbenzene	0.730	U	ug/L	EPA 8260C	1	0.730	1.00	10/17/15	10/20/15	PLS
108-38-3/10 6-42-3	m,p-Xylene	0.760	U	ug/L	EPA 8260C	1	0.760	1.00	10/17/15	10/20/15	PLS
95-47-6	o-Xylene	0.870	U	ug/L	EPA 8260C	1	0.870	1.00	10/17/15	10/20/15	PLS
541-73-1	1,3-Dichlorobenzene	0.310	U	ug/L	EPA 8260C	1	0.310	1.00	10/17/15	10/20/15	PLS
106-46-7	1,4-Dichlorobenzene	0.510	U	ug/L	EPA 8260C	1	0.510	1.00	10/17/15	10/20/15	PLS
95-50-1	1,2-Dichlorobenzene	0.510	U	ug/L	EPA 8260C	1	0.510	1.00	10/17/15	10/20/15	PLS
1634-04-4	MTBE	0.530	U	ug/L	EPA 8260C	1	0.530	1.00	10/17/15	10/20/15	PLS
		% Re	covery	Q	% Recovery Limits	5					
1868-53-7	Surrogate: Dibromofluoromethane	81.	7 %		Limit 62-200						
2037-26-5	Surrogate: Toluene-d8	103	3 %		Limit 63-144						
460-00-4	Surrogate: 4-Bromofluorobenzene	124	1%		Limit 50-155						

#### EPA 8100 PAH List

									Extraction	Analysis	
<u>CAS #</u>	Parameter	<u>Results</u>	Q	<u>Units</u>	Method	DF	<u>MDL</u>	<u>PQL</u>	Date	<u>Date</u>	<u>Analyst</u>
91-20-3	Naphthalene	0.147	U	ug/L	EPA 3510C / 8270	1	0.147	10.0	10/21/15	10/21/15	PLS
91-57-6	2-Methylnaphthalene	11.3		ug/L	EPA 3510C / 8270	1	0.288	10.0	10/21/15	10/21/15	PLS
90-12-0	1-Methylnaphthalene	20.1		ug/L	EPA 3510C / 8270	1	0.285	10.0	10/21/15	10/21/15	PLS
208-96-8	Acenaphthylene	0.393	U	ug/L	EPA 3510C / 8270	1	0.393	10.0	10/21/15	10/21/15	PLS
83-32-9	Acenaphthene	0.188	U	ug/L	EPA 3510C / 8270	1	0.188	10.0	10/21/15	10/21/15	PLS
86-73-7	Fluorene	0.680	Ι	ug/L	EPA 3510C / 8270	1	0.217	10.0	10/21/15	10/21/15	PLS
85-01-8	Phenanthrene	0.215	U	ug/L	EPA 3510C / 8270	1	0.215	10.0	10/21/15	10/21/15	PLS
120-12-7	Anthracene	0.0100	U	ug/L	EPA 3510C / 8270	1	0.0100	0.0300	10/21/15	10/21/15	PLS
206-44-0	Fluoranthene	0.0100	U	ug/L	EPA 3510C / 8270	1	0.0100	0.0300	10/21/15	10/21/15	PLS
129-00-0	Pyrene	0.409	U	ug/L	EPA 3510C / 8270	1	0.409	10.0	10/21/15	10/21/15	PLS
56-55-3	Benzo[a]anthracene	0.0500	U	ug/L	EPA 3510C / 8270	1	0.0500	0.0500	10/21/15	10/21/15	PLS
218-01-9	Chrysene	0.169	U	ug/L	EPA 3510C / 8270	1	0.169	0.200	10/21/15	10/21/15	PLS
205-99-2	Benzo[b]fluoranthene	0.0500	U	ug/L	EPA 3510C / 8270	1	0.0500	0.0500	10/21/15	10/21/15	PLS
207-08-9	Benzo[k]fluoranthene	0.500	U	ug/L	EPA 3510C / 8270	1	0.500	0.500	10/21/15	10/21/15	PLS
50-32-8	Benzo[a]pyrene	0.200	U	ug/L	EPA 3510C / 8270	1	0.200	0.200	10/21/15	10/21/15	PLS
53-70-3	Dibenz[a,h]anthracene	0.0050	U	ug/L	EPA 3510C / 8270	1	0.0050	0.0500	10/21/15	10/21/15	PLS
193-39-5	Indeno[1,2,3-cd]pyrene	0.0500	U	ug/L	EPA 3510C / 8270	1	0.0500	0.0500	10/21/15	10/21/15	PLS

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



Terrac	on WPB					LOG #:	0013	888			
1225 (	Omar Road					COC#:	2213	L			
West I	Palm Beach, FL 33405					REPOR	TED:	10/23/2015	2:28:49PM		
A T T N	- Andrew Petric						· · ·	8514018			
ATTN	(E61) 680-4200 FAX	(561) 690-50	55			PROJEC	- Da	um Boach (	nty Trancit Auth		
PHON	IE: (301) 089-4299 FAX:	(301) 089-39	55			PROJEC					
Descr	iption: MW-4			Lab ID:	0013888-04				Sampled: 10/1	5/15 14:43	
	Matrix: Water			Sampled I	By: Randall Murph	iy			Received: 10/1	5/15 15:10	
EPA 810	0 PAH List										
									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	Q	<u>Units</u>	Method	DF	<u>MDL</u>	<u>PQL</u>	<u>Date</u>	<u>Date</u>	<u>Analyst</u>
191-24-2	Benzo[g,h,i]perylene	0.341	U	ug/L	EPA 3510C / 8270	1	0.341	10.0	10/21/15	10/21/15	PLS
		% Re	covery	Q	% Recovery Limits	;					
NA	Surrogate: Nitrobenzene-d5	90.	7 %		Limit 40-142						
321-60-8	Surrogate: 2-Fluorobiphenyl	93.	1 %		Limit 47-150						
NA	Surrogate: p-Terphenyl-d14	11	0 %		Limit 55-165						
EPA Met	hod 8011 List										
									Extraction	Analysis	
<u>CAS #</u>	Parameter Parameter	<u>Results</u>	Q	<u>Units</u>	Method	DF	MDL	PQL	<u>Date</u>	<u>Date</u>	<u>Analyst</u>
106-93-4	1,2-Dibromoethane (EDB)	0.01120	JEE, U	ug/L	EPA 8260B	1	0.01120	0.03400	10/19/15	10/19/15	SL
96-12-8	1,2-Dibromo-3-Chloropropane	0.01210	JEE, U	ug/L	EPA 8260B	1	0.01210	0.03600	10/19/15	10/19/15	SL
FLPRO											
									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	Q	<u>Units</u>	Method	DF	<u>MDL</u>	<u>PQL</u>	<u>Date</u>	<u>Date</u>	<u>Analyst</u>
NA	FLPRO Total	1.45		mg/L	EPA 3510C /RO	1	0.040	0.500	10/20/15	10/20/15	PLS
		% Re	covery	Q	% Recovery Limits	;					
	Surrogate: o-Terphenyl	10	6 %		Limit 70-130						
84-15-1											

									EXITACTION	Andrysis	
<u>CAS #</u>	<u>Parameter</u>	<b>Results</b>	Q	<u>Units</u>	<u>Method</u>	DF	<u>MDL</u>	<u>PQL</u>	<u>Date</u>	Date	<u>Analyst</u>
7439-92-1	Lead	0.0004	Ι	mg/L	EPA 6020B	1	0.00001	0.005	10/17/15	10/17/15	DD

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



Terraco	on WPB					LOG #:	0013	3888			
1225 O	mar Road					COC#:	2213	1			
West P	alm Beach, FL 33405					REPOR	TED:	10/23/201	5 2:28:49PM		
ΔΤΤΝ·	Andrew Petric					PROIFC	т #•	8514018			
PHON	E: (561) 689-4299 FAX:	(561) 689-595	55			PROJEC	с <b>т:</b> Ра	alm Beach	Cnty Transit Auth		
Descri	ption: MW-5			Lab ID:	0013888-05				Sampled: 10/1	5/15 13:51	
м	atrix: Water			Sampled B	By: Randall Murph	ıy			Received: 10/1	.5/15 15:10	
EPA 802	0 List										
									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<b>Results</b>	<u>Q</u>	<u>Units</u>	Method	DF	<u>MDL</u>	<u>PQL</u>	<u>Date</u>	<u>Date</u>	<u>Analyst</u>
71-43-2	Benzene	0.640	U	ug/L	EPA 8260C	1	0.640	1.00	10/17/15	10/20/15	PLS
108-88-3	Toluene	0.660	U	ug/L	EPA 8260C	1	0.660	1.00	10/17/15	10/20/15	PLS
108-90-7	Chlorobenzene	0.670	U	ug/L	EPA 8260C	1	0.670	1.00	10/17/15	10/20/15	PLS
100-41-4	Ethylbenzene	0.730	U	ug/L	EPA 8260C	1	0.730	1.00	10/17/15	10/20/15	PLS
108-38-3/10 6-42-3	m,p-Xylene	0.760	U	ug/L	EPA 8260C	1	0.760	1.00	10/17/15	10/20/15	PLS
95-47-6	o-Xylene	0.870	U	ug/L	EPA 8260C	1	0.870	1.00	10/17/15	10/20/15	PLS
541-73-1	1,3-Dichlorobenzene	0.310	U	ug/L	EPA 8260C	1	0.310	1.00	10/17/15	10/20/15	PLS
106-46-7	1,4-Dichlorobenzene	0.510	U	ug/L	EPA 8260C	1	0.510	1.00	10/17/15	10/20/15	PLS
95-50-1	1,2-Dichlorobenzene	0.510	U	ug/L	EPA 8260C	1	0.510	1.00	10/17/15	10/20/15	PLS
1634-04-4	MTBE	0.530	U	ug/L	EPA 8260C	1	0.530	1.00	10/17/15	10/20/15	PLS
		% Red	covery	Q	% Recovery Limits	5					
1868-53-7	Surrogate: Dibromofluoromethane	83.	1 %		Limit 62-200						
2037-26-5	Surrogate: Toluene-d8	97.9	9 %		Limit 63-144						
460-00-4	Surrogate: 4-Bromofluorobenzene	100	) %		Limit 50-155						

#### EPA 8100 PAH List

									Extraction	Analysis	
<u>CAS #</u>	Parameter	<u>Results</u>	Q	<u>Units</u>	<u>Method</u>	DF	MDL	<u>PQL</u>	<u>Date</u>	Date	<u>Analyst</u>
91-20-3	Naphthalene	0.147	U	ug/L	EPA 3510C / 8270	1	0.147	10.0	10/21/15	10/21/15	PLS
91-57-6	2-Methylnaphthalene	0.288	U	ug/L	EPA 3510C / 8270	1	0.288	10.0	10/21/15	10/21/15	PLS
90-12-0	1-Methylnaphthalene	0.285	U	ug/L	EPA 3510C / 8270	1	0.285	10.0	10/21/15	10/21/15	PLS
208-96-8	Acenaphthylene	0.393	U	ug/L	EPA 3510C / 8270	1	0.393	10.0	10/21/15	10/21/15	PLS
83-32-9	Acenaphthene	0.188	U	ug/L	EPA 3510C / 8270	1	0.188	10.0	10/21/15	10/21/15	PLS
86-73-7	Fluorene	0.217	U	ug/L	EPA 3510C / 8270	1	0.217	10.0	10/21/15	10/21/15	PLS
85-01-8	Phenanthrene	0.215	U	ug/L	EPA 3510C / 8270	1	0.215	10.0	10/21/15	10/21/15	PLS
120-12-7	Anthracene	0.0100	U	ug/L	EPA 3510C / 8270	1	0.0100	0.0300	10/21/15	10/21/15	PLS
206-44-0	Fluoranthene	0.0100	U	ug/L	EPA 3510C / 8270	1	0.0100	0.0300	10/21/15	10/21/15	PLS
129-00-0	Pyrene	0.409	U	ug/L	EPA 3510C / 8270	1	0.409	10.0	10/21/15	10/21/15	PLS
56-55-3	Benzo[a]anthracene	0.0500	U	ug/L	EPA 3510C / 8270	1	0.0500	0.0500	10/21/15	10/21/15	PLS
218-01-9	Chrysene	0.169	U	ug/L	EPA 3510C / 8270	1	0.169	0.200	10/21/15	10/21/15	PLS
205-99-2	Benzo[b]fluoranthene	0.0500	U	ug/L	EPA 3510C / 8270	1	0.0500	0.0500	10/21/15	10/21/15	PLS
207-08-9	Benzo[k]fluoranthene	0.500	U	ug/L	EPA 3510C / 8270	1	0.500	0.500	10/21/15	10/21/15	PLS
50-32-8	Benzo[a]pyrene	0.200	U	ug/L	EPA 3510C / 8270	1	0.200	0.200	10/21/15	10/21/15	PLS
53-70-3	Dibenz[a,h]anthracene	0.0050	U	ug/L	EPA 3510C / 8270	1	0.0050	0.0500	10/21/15	10/21/15	PLS
193-39-5	Indeno[1,2,3-cd]pyrene	0.0500	U	ug/L	EPA 3510C / 8270	1	0.0500	0.0500	10/21/15	10/21/15	PLS

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



Terrac	on WPB					LOG #:	0013	8888			
1225 (	Dmar Road					COC#:	2213	1			
West I	Palm Beach, FL 33405					REPORT	TFD:	10/23/2015	2:28:49PM		
	Andrew Petric							8514018			
ATTN						PROJEC	Л#: _	011-010			
PHON	E: (561) 689-4299 FAX:	(561) 689-59	55			PROJEC	<b>T:</b> Pa	aim Beach C	nty Transit Auth		
Descri	ption: MW-5			Lab ID:	0013888-05				Sampled: 10/1	5/15 13:51	
	latrix: Water			Sampled B	By: Randall Murph	ıy			Received: 10/1	5/15 15:10	
EPA 810	0 PAH List										
									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	Q	<u>Units</u>	Method	DF	<u>MDL</u>	<u>PQL</u>	<u>Date</u>	<u>Date</u>	<u>Analyst</u>
191-24-2	Benzo[g,h,i]perylene	0.341	U	ug/L	EPA 3510C / 8270	1	0.341	10.0	10/21/15	10/21/15	PLS
		% Re	covery	Q	% Recovery Limits	;					
NA	Surrogate: Nitrobenzene-d5	98.	.3 %		Limit 40-142						
321-60-8	Surrogate: 2-Fluorobiphenyl	10	3 %		Limit 47-150						
NA	Surrogate: p-Terphenyl-d14	11	1 %		Limit 55-165						
EPA Met	hod 8011 List										
									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	<u>Q</u>	<u>Units</u>	Method	DF	MDL	PQL	<u>Date</u>	<u>Date</u>	<u>Analyst</u>
106-93-4	1,2-Dibromoethane (EDB)	0.01120	JEE, U	ug/L	EPA 8260B	1	0.01120	0.03400	10/19/15	10/19/15	SL
96-12-8	1,2-Dibromo-3-Chloropropane	0.01210	JEE, U	ug/L	EPA 8260B	1	0.01210	0.03600	10/19/15	10/19/15	SL
FLPRO											
									Extraction	Analysis	
<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	<u>Q</u>	<u>Units</u>	Method	DF	MDL	<u>PQL</u>	<u>Date</u>	<u>Date</u>	<u>Analyst</u>
NA	FLPRO Total	0.527		mg/L	EPA 3510C /RO	1	0.040	0.500	10/20/15	10/20/15	PLS
		% Re	covery	Q	% Recovery Limits	;					
94 1E 1	Surrogate: o-Terphenyl	88.	.7 %		Limit 70-130						
04-13-1											

									EXILACIION	Andrysis	
<u>CAS #</u>	<u>Parameter</u>	<b>Results</b>	Q	<u>Units</u>	<u>Method</u>	DF	<u>MDL</u>	<u>PQL</u>	<u>Date</u>	Date	<u>Analyst</u>
7439-92-1	Lead	0.0001	Ι	mg/L	EPA 6020B	1	0.00001	0.005	10/17/15	10/17/15	DD

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



# CERTIFICATE OF ANALYSIS

Terracon WPB	LOG #: 0013888
1225 Omar Road	<b>COC#:</b> 22131
West Palm Beach, FL 33405	<b>REPORTED:</b> 10/23/2015 2:28:49PM
ATTN: Andrew Petric	<b>PROJECT #:</b> 8514018
PHONE: (561) 689-4299 FAX: (561) 689-5955	PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
EPA 8020 List - Quality Control										
Batch B510084 - P&T										
Blank (B510084-BLK1)				Prepared:	10/17/15 A	nalyzed: 1	0/20/15			
Benzene	U	1.00	ug/L			-				U
Toluene	U	1.00	ug/L							U
Chlorobenzene	U	1.00	ug/L							U
Ethylbenzene	U	1.00	ug/L							U
m,p-Xylene	U	1.00	ug/L							U
o-Xylene	U	1.00	ug/L							U
1,3-Dichlorobenzene	U	1.00	ug/L							U
1,4-Dichlorobenzene	U	1.00	ug/L							U
1,2-Dichlorobenzene	U	1.00	ug/L							U
МТВЕ	U	1.00	ug/L							U
Surrogate: Dibromofluoromethane	12.2		ug/L	15.00		81.2	62-200			
Surrogate: Toluene-d8	14.5		ug/L	15.00		96.8	63-144			
Surrogate: 4-Bromofluorobenzene	14.8		ug/L	15.00		98.8	50-155			
LCS (B510084-BS1)				Prepared:	10/17/15 A	nalyzed: 1	0/20/15			
Benzene	27.7	1.00	ug/L	27.78		99.8	60-135			
Toluene	28.0	1.00	ug/L	27.78		101	60-135			
Chlorobenzene	29.7	1.00	ug/L	27.78		107	60-135			
Trichloroethene	24.7	1.00	ug/L	27.78		88.8	60-135			
Surrogate: Dibromofluoromethane	12.6		ug/L	15.00		84.1	62-136			
Surrogate: Toluene-d8	16.6		ug/L	15.00		110	66-144			
Surrogate: 4-Bromofluorobenzene	14.9		ug/L	15.00		99.3	70-131			
LCS Dup (B510084-BSD1)				Prepared:	10/17/15 A	nalyzed: 1	0/20/15			
Benzene	27.0	1.00	ug/L	27.78		97.0	60-135	2.82	20	
Toluene	26.0	1.00	ug/L	27.78		93.7	60-135	7.22	20	
Chlorobenzene	27.6	1.00	ug/L	27.78		99.4	60-135	7.26	20	
Trichloroethene	23.7	1.00	ug/L	27.78		85.2	60-135	4.14	20	
Surrogate: Dibromofluoromethane	12.0		ug/L	15.00		80.0	62-136			
Surrogate: Toluene-d8	15.8		ug/L	15.00		105	66-144			
Surrogate: 4-Bromofluorobenzene	15.2		ug/L	15.00		102	70-131			
Calibration Check (B510084-CCV1)				Prepared:	10/17/15 A	nalyzed: 1	0/20/15			
Benzene	28.7		ug/L	27.78		103	80-120			
Toluene	27.7		ug/L	27.78		99.6	80-120			
Chlorobenzene	29.3		ug/L	27.78		106	80-120			
Trichloroethene	25.0		ug/L	27.78		89.9	80-120			
Surrogate: Dibromofluoromethane	12.0		ug/L	15.00		80.1	0-200			



# CERTIFICATE OF ANALYSIS

Terracon WPB	LOG #: 0013888
1225 Omar Road	<b>COC#:</b> 22131
West Palm Beach, FL 33405	<b>REPORTED:</b> 10/23/2015 2:28:49PM
ATTN: Andrew Petric	<b>PROJECT #:</b> 8514018
PHONE: (561) 689-4299 FAX: (561) 689-5955	PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
EPA 8020 List - Quality Control Batch B510084 - P&T										
Calibration Check (B510084-CCV1) Con	tinued			Prepared:	10/17/15	Analyzed: 1	.0/20/15			
Surrogate: Toluene-d8	16.1		ug/L	15.00		107	0-200			
Surrogate: 4-Bromofluorobenzene	15.3		ug/L	15.00		102	0-200			
Duplicate (B510084-DUP1)	So	urce: 0013	888-02	Prepared:	10/17/15	Analyzed: 1	.0/20/15			
Benzene	U	1.00	ug/L		U				200	U
Toluene	U	1.00	ug/L		U				200	U
Chlorobenzene	U	1.00	ug/L		U				200	U
Trichloroethene	U	1.00	ug/L		U				200	U
Surrogate: Dibromofluoromethane	13.2		ug/L	15.00		88.3	62-200			
Surrogate: Toluene-d8	15.1		ug/L	15.00		101	63-144			
Surrogate: 4-Bromofluorobenzene	14.7		ug/L	15.00		97.9	50-155			
Matrix Spike (B510084-MS1)	So	urce: 0013	888-02	Prepared:	10/17/15 /	Analyzed: 1	0/20/15			
Benzene	27.8	1.00	ug/L	27.78	U	100	60-135			
Toluene	24.8	1.00	ug/L	27.78	U	89.2	60-135			
Chlorobenzene	26.4	1.00	ug/L	27.78	U	95.1	60-135			
Trichloroethene	22.2	1.00	ug/L	27.78	U	79.8	60-135			
Surrogate: Dibromofluoromethane	12.0		ug/L	15.00		80.1	62-136			
Surrogate: Toluene-d8	15.6		ug/L	15.00		104	66-144			
Surrogate: 4-Bromofluorobenzene	15.0		ug/L	15.00		100	70-131			
Matrix Spike Dup (B510084-MSD1)	So	urce: 0013	888-02	Prepared:	10/17/15	Analyzed: 1	0/20/15			
Benzene	26.3	1.00	ug/L	27.78	U	94.6	60-135	5.73	20	
Toluene	25.0	1.00	ug/L	27.78	U	90.0	60-135	0.844	20	
Chlorobenzene	26.2	1.00	ug/L	27.78	U	94.4	60-135	0.684	20	
Trichloroethene	21.7	1.00	ug/L	27.78	U	78.3	60-135	2.00	20	
Surrogate: Dibromofluoromethane	11.0		ug/L	15.00		73.7	62-136			
Surrogate: Toluene-d8	16.7		ug/L	15.00		111	66-144			
Surrogate: 4-Bromofluorobenzene	15.2		ug/L	15.00		101	70-131			

#### EPA 8100 PAH List - Quality Control

## Batch B510099 - EPA 3510C

Blank (B510099-BLK1)	Prepared & Analyzed: 10/21/15	
Naphthalene U 10.0	ug/L	U
2-Methylnaphthalene U 10.0	ug/L	U
1-Methylnaphthalene U 10.0	ug/L	U
Acenaphthylene U 10.0	ug/L	U
Acenaphthene U 10.0	ug/L	U
Fluorene U 10.0	ug/L	U

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



# CERTIFICATE OF ANALYSIS

Terracon WPB	LOG #: 0013888
1225 Omar Road	<b>COC#:</b> 22131
West Palm Beach, FL 33405	<b>REPORTED:</b> 10/23/2015 2:28:49PM
ATTN: Andrew Petric	<b>PROJECT #:</b> 8514018
PHONE: (561) 689-4299 FAX: (561) 689-5955	PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
EPA 8100 PAH List - Quality Control										
Batch B510099 - EPA 3510C										
Blank (B510099-BLK1) Continued				Prepared 8	& Analyzed:	10/21/15				
Phenanthrene	U	10.0	ug/L							U
Anthracene	U	0.0300	ug/L							U
Fluoranthene	U	0.0300	ug/L							U
Pyrene	U	10.0	ug/L							U
Benzo[a]anthracene	U	0.0500	ug/L							U
Chrysene	U	0.200	ug/L							U
Benzo[b]fluoranthene	U	0.0500	ug/L							U
Benzo[k]fluoranthene	U	0.500	ug/L							U
Benzo[a]pyrene	U	0.200	ug/L							U
Dibenz[a,h]anthracene	U	0.0500	ug/L							U
Indeno[1,2,3-cd]pyrene	U	0.0500	ug/L							U
Benzo[g,h,i]perylene	U	10.0	ug/L							U
Surrogate: Nitrobenzene-d5	15		ug/L	15.00		103	40-142			
Surrogate: 2-Fluorobiphenyl	16		ug/L	15.00		109	47-150			
Surrogate: p-Terphenyl-d14	16		ug/L	15.00		109	55-165			
LCS (B510099-BS1)				Prepared 8	& Analyzed:	10/21/15				
Naphthalene	130	10.0	ug/L	125.0		104	60-135			
Acenaphthylene	128	10.0	ug/L	125.0		102	60-135			
Pyrene	134	10.0	ug/L	125.0		107	60-135			
4-Chloro-3-methylphenol	124	10.0	ug/L	125.0		99.1	60-135			
Di-n-octylphthalate	124	10.0	ug/L	125.0		99.4	60-135			
Hexachlorobenzene	134	10.0	ug/L	125.0		107	60-135			
2-Methylphenol	128	10.0	ug/L	125.0		102	60-135			
Nitrobenzene	146	10.0	ug/L	125.0		117	60-135			
Surrogate: Nitrobenzene-d5	27		ug/L	25.00		107	60-135			
Surrogate: 2-Fluorobiphenyl	26		ug/L	25.00		103	60-135			
Surrogate: p-Terphenyl-d14	28		ug/L	25.00		112	60-135			
LCS Dup (B510099-BSD1)				Prepared 8	& Analyzed:	10/21/15				
Naphthalene	130	10.0	ug/L	125.0		104	60-135	0.477	20	
Acenaphthylene	132	10.0	ug/L	125.0		105	60-135	2.92	20	
Pyrene	126	10.0	ug/L	125.0		101	60-135	5.77	20	
4-Chloro-3-methylphenol	123	10.0	ug/L	125.0		98.2	60-135	0.876	200	
Di-n-octylphthalate	130	10.0	ug/L	125.0		104	60-135	4.17	200	
Hexachlorobenzene	133	10.0	ug/L	125.0		107	60-135	0.307	200	
2-Methylphenol	124	10.0	ug/L	125.0		98.9	60-135	3.55	200	
Nitrobenzene	125	10.0	ug/L	125.0		100	60-135	15.7	200	

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



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West Palm Beach, FL 33405	<b>REPORTED:</b> 10/23/2015 2:28:49PM
ATTN: Andrew Petric	<b>PROJECT #:</b> 8514018
PHONE: (561) 689-4299 FAX: (561) 689-5955	PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
EPA 8100 PAH List - Quality Control										
Batch B510099 - EPA 3510C										
LCS Dup (B510099-BSD1) Continued				Prepared 8	Analyzed:	10/21/15				
Surrogate: Nitrobenzene-d5	26		ug/L	25.00		105	60-135			
Surrogate: 2-Fluorobiphenyl	26		ug/L	25.00		106	60-135			
Surrogate: p-Terphenyl-d14	27		ug/L	25.00		107	60-135			
Calibration Check (B510099-CCV1)				Prepared 8	Analyzed:	10/21/15				
Naphthalene	58.4		ug/L	60.00		97.4	85-115			
Acenaphthylene	54.1		ug/L	60.00		90.1	85-115			
Pyrene	58.6		ug/L	60.00		97.6	85-115			
4-Chloro-3-methylphenol	58.3		ug/L	60.00		97.2	85-115			
Di-n-octylphthalate	63.1		ug/L	60.00		105	85-115			
Hexachlorobenzene	52.8		ug/L	60.00		87.9	85-115			
2-Methylphenol	58.0		ug/L	60.00		96.6	85-115			
Nitrobenzene	59.0		ug/L	60.00		98.4	85-115			
Surrogate: Nitrobenzene-d5	19		ug/L	20.00		94.3	0-200			
Surrogate: 2-Fluorobiphenyl	18		ug/L	20.00		87.9	0-200			
Surrogate: p-Terphenyl-d14	19		ug/L	20.00		94.4	0-200			
Duplicate (B510099-DUP1)	So	urce: <b>001</b> 3	888-02	Prepared 8	Analyzed:	10/21/15				
Naphthalene	U	10.0	ug/L		U				200	U
Acenaphthylene	U	10.0	ug/L		U				200	U
Pyrene	4.35	10.0	ug/L		4.38			0.687	200	I
4-Chloro-3-methylphenol	U	10.0	ug/L		U				200	U
Di-n-octylphthalate	U	10.0	ug/L		U				200	U
Hexachlorobenzene	U	10.0	ug/L		U				200	U
2-Methylphenol	U	10.0	ug/L		U				200	U
Nitrobenzene	U	10.0	ug/L		U				200	U
Surrogate: Nitrobenzene-d5	13		ug/L	15.00		86.0	40-142			
Surrogate: 2-Fluorobiphenyl	14		ug/L	15.00		91.5	47-150			
Surrogate: p-Terphenyl-d14	16		ug/L	15.00		107	55-165			
Matrix Spike (B510099-MS1)	So	urce: <b>001</b> 3	888-02	Prepared 8	Analyzed:	10/21/15				
Naphthalene	53.2	10.0	ug/L	55.00	U	96.7	60-135			
Acenaphthylene	48.3	10.0	ug/L	55.00	U	87.7	60-135			
Pyrene	50.6	10.0	ug/L	55.00	4.38	84.0	60-135			
4-Chloro-3-methylphenol	53.5	10.0	ug/L	55.00	U	97.3	60-135			
Di-n-octylphthalate	48.2	10.0	ug/L	55.00	U	87.6	60-135			
Hexachlorobenzene	53.9	10.0	ug/L	55.00	U	98.1	60-135			
2-Methylphenol	51.4	10.0	ug/L	55.00	U	93.5	60-135			
Nitrobenzene	47.7	10.0	ug/L	55.00	U	86.7	60-135			

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083



Calibration Check (B510096-CCV2)

Palm Beach Environmental Laboratories Inc.

# CERTIFICATE OF ANALYSIS

Terracon WPB	LOG #: 0013888
1225 Omar Road	<b>COC#:</b> 22131
West Palm Beach, FL 33405	<b>REPORTED:</b> 10/23/2015 2:28:49PM
ATTN: Andrew Petric	<b>PROJECT #:</b> 8514018
PHONE: (561) 689-4299 FAX: (561) 689-5955	PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
EPA 8100 PAH List - Quality Control										
Batch B510099 - EPA 3510C										
Matrix Spike (B510099-MS1) Continued	So	ource: 0013	888-02	Prepared 8	& Analyzed:	10/21/15				
Surrogate: Nitrobenzene-d5	15		ug/L	15.00		99.5	60-135			
Surrogate: 2-Fluorobiphenyl	14		ug/L	15.00		95.1	60-135			
Surrogate: p-Terphenyl-d14	14		ug/L	15.00		90.7	60-135			
Matrix Spike Dup (B510099-MSD1)	So	ource: 0013	888-02	Prepared 8	& Analyzed:	10/21/15				
Naphthalene	51.8	10.0	ug/L	55.00	U	94.3	60-135	2.59	20	
Acenaphthylene	54.0	10.0	ug/L	55.00	U	98.1	60-135	11.2	20	
Pyrene	56.4	10.0	ug/L	55.00	4.38	94.6	60-135	10.9	20	
4-Chloro-3-methylphenol	53.1	10.0	ug/L	55.00	U	96.5	60-135	0.882	20	
Di-n-octylphthalate	52.7	10.0	ug/L	55.00	U	95.8	60-135	8.86	20	
Hexachlorobenzene	54.2	10.0	ug/L	55.00	U	98.5	60-135	0.444	20	
2-Methylphenol	52.6	10.0	ug/L	55.00	U	95.5	60-135	2.21	20	
Nitrobenzene	52.5	10.0	ug/L	55.00	U	95.4	60-135	9.63	20	
Surrogate: Nitrobenzene-d5	16		ug/L	15.00		105	60-135			
Surrogate: 2-Fluorobiphenyl	14		ug/L	15.00		92.0	60-135			
Surrogate: p-Terphenyl-d14	17		ug/L	15.00		112	60-135			
FLPRO - Quality Control										
Batch B510096 - EPA 3510C										
Blank (B510096-BLK1)				Prepared 8	& Analyzed:	10/20/15				
FLPRO Total	0.057	0.500	mg/L							I
Surrogate: o-Terphenyl	0.0558		mg/L	0.05000		112	70-130			
Surrogate: Nonatriacontane	0.296		mg/L	0.3000		98.8	42-193			
LCS (B510096-BS1)				Prepared 8	& Analyzed:	10/20/15				
FLPRO Total	1.01	0.500	mg/L	1.360		74.3	60-120			
Surrogate: o-Terphenyl	0.0561		mg/L	0.05000		112	70-130			
Surrogate: Nonatriacontane	0.290		mg/L	0.3000		96.7	42-193			
LCS Dup (B510096-BSD1)				Prepared 8	& Analyzed:	10/20/15				
FLPRO Total	1.01	0.500	mg/L	1.360		74.3	60-120	0.0885	30	
Surrogate: o-Terphenyl	0.0566		mg/L	0.05000		113	70-130			
Surrogate: Nonatriacontane	0.289		mg/L	0.3000		96.2	42-193			
Calibration Check (B510096-CCV1)			-	Prepared 8	& Analyzed:	10/20/15				
FLPRO Total	1.02		mg/L	1.360	•	75.1	70-130			U
Surrogate: o-Terphenyl	0.0538		mg/L	0.05000		108	0-200			U
Surrogate: Nonatriacontane	0.299		mg/L	0.3000		99.6	0-200			Ŭ

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083

Prepared & Analyzed: 10/20/15



Matrix Spike (B510089-MS1)

Matrix Spike Dup (B510089-MSD1)

Lead

Lead

Palm Beach Environmental Laboratories Inc.

## CERTIFICATE OF ANALYSIS

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West Palm Beach, FL 33405	<b>REPORTED:</b> 10/23/2015 2:28:49PM
ATTN: Andrew Petric	<b>PROJECT #:</b> 8514018
PHONE: (561) 689-4299 FAX: (561) 689-5955	PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
FLPRO - Quality Control										
Batch B510096 - EPA 3510C										
Calibration Check (B510096-CCV2) Cont	tinued			Prepared &	Analyzed:	10/20/15				
FLPRO Total	1.01		mg/L	1.360		74.3	70-130			U
Surrogate: o-Terphenyl	0.0546		mg/L	0.05000		109	0-200			U
Surrogate: Nonatriacontane	0.329		mg/L	0.3000		110	0-200			U
Duplicate (B510096-DUP1)	So	ource: 0013	888-02	Prepared &	Analyzed:	10/20/15				
FLPRO Total	1.55	0.500	mg/L		1.45			6.94	200	
Surrogate: o-Terphenyl	0.0563		mg/L	0.05000		113	70-130			
Surrogate: Nonatriacontane	0.335		mg/L	0.3000		112	42-193			
Matrix Spike (B510096-MS1)	So	ource: 0013	888-02	Prepared &	Analyzed:	10/20/15				
FLPRO Total	2.79	0.500	mg/L	1.360	1.45	98.3	40-155			
Surrogate: o-Terphenyl	0.0557		mg/L	0.05000		111	70-130			
Surrogate: Nonatriacontane	0.279		mg/L	0.3000		93.1	42-193			
Matrix Spike Dup (B510096-MSD1)	So	ource: 0013	888-02	Prepared &	Analyzed:	10/20/15				
FLPRO Total	2.64	0.500	mg/L	1.360	1.45	87.7	40-155	5.31	30	
Surrogate: o-Terphenyl	0.0536		mg/L	0.05000		107	70-130			
Surrogate: Nonatriacontane	0.327		mg/L	0.3000		109	42-193			
Metals by EPA 6000/7000 Series Meth	nods - Qualit	ty Control								
Batch B510089 - NO PREP										
Blank (B510089-BLK1)				Prepared &	Analyzed:	10/17/15				
Lead	U	0.005	mg/L							U
LCS (B510089-BS1)				Prepared &	Analyzed:	10/17/15				
Lead	0.014	0.005	mg/L	0.01500		96.0	80-120			
Calibration Check (B510089-CCV1)				Prepared &	Analyzed:	10/17/15				
Lead	0.098		mg/L	0.1000		98.2	90-110			
Duplicate (B510089-DUP1)	So	ource: 0013	888-05	Prepared &	Analyzed:	10/17/15				
Lead	0.0001	0.005	mg/L		0.0001			0.00	20	

mg/L

mg/L

Prepared & Analyzed: 10/17/15

0.0001

Prepared & Analyzed: 10/17/15

0.0001

88.0

88.0

70-130

70-130

0.00

25

0.01500

0.01500

Source: 0013888-05

Source: 0013888-05

0.005

0.005

0.013

0.013



#### **Notes and Definitions**

U Analyte included in the analysis, but not detected

I The reported value is between the laboratory Method Detection Limit & the laboratory Practical Quantitation Limit

JEE Analysis performed by Florida Environmental Cert#E86006

EPA # FL01227 DOH# E86957 SFWMD# 48141 PBC # VC0000018083

PBEL

Palm Beach Environmental



# **CHAIN OF CUSTODY RECORD**

PO #:____

Log #: 13888

Quote #:_

FDEP :

Company Name: Terracon							LAB ANALYSIS									Matrix Codes	
Address: 1225 OMAR READ						pН						4			SD Solid Waste OL Oil GW Ground Water SL Sludge		
City: WPB State PL Zip: 33.408				PRES CODE	I	I	EI	BI	I	1 May		12.	EFF Effluent SO Soil Sediment AFW Analyle Free H2O AQ Aqueous				
Attn: ANDREN Roman Phone# Jos 689-4299					79	neters	se by	Q		ha by	1.4	Pro Pro	101101		WW     Waste Water     NA     Nonaqueous       DW     Drinking Water         SW     Surface Water     O     Other		
email: ANDREW, PETRIC & Terrace, Confax#561 689-5955					5												
Project Ralan than @ PBIA															Press Codes		
Sampler	Pundall	Pl	7 Proj#:	had	HA	.1	1	arar	WT6 824	pd Pd	ie by	5 0	has	1 of	j		A. None E. HCL O. Other B. HNO3 F. MeOH
Signature Name Turning Forms (Multiply , Sample Label Collect Dilect Dilect				# of iners	P	PA I	Pas S	et to	240	AG AG	t	1 dt		C. H2SO4 G. Na2S2O3			
# (Client	ID)	Date	Time	Matrix	Fic	Integ	Total contai		E Do	G 13	F	K 2	51 20	(+			D. NaOH I. Ice
_1 MW-1		19.5/15	1031	EW	*		7		X	X	X	X	Y	22	42		
_2 MW-2		i	1148	)	-		14		X	X	X	X	X	22	22		× .
_3 MW-3			1306		-		7		×	X	K	X	1	<2	22		
_4 mm.4			1443		-		1		X	X	X	X	X	22	22		
_5 NW 5			1351		~		7		×	X	1	X	X	22	22		
_6									-								
_7																	
_8																	
_9	V										1						
0																	
T.A.T. Request Standard	RUSH			See.		3	(	QA/C	QC Rep	ort Lev	el		COO	COK,	Initials		
The second secon	Date Due:				1	None	1		2 1 3	Oth	ne ADa	pr)	Y	N	BH		
Item Reli	nquished by	0	Affiliat	tion		Date			Time	AP	leceived	By	Affil	iation	Date	Time	Lab Use Only
are lande	elhus	6 1	erizun	~	10	1.5	115	1	510	DY	lag	D	Po	EL	10/15/15	1510	Sample INTACT upon arrival?
	0 F	8									1	18					Received on Wet Ice? TempC
																	Received within holding time?
							1										Volatile rec'd without headspace?

Page 1 of 1

1550 Latham Road, Suite 2 • West Palm Beach, FL 33409 • Tel: (561) 689-6701 • Fax: (561) 689-6702

COC# 22131

# **Limited Contamination Assessment Report**

FORMER PALM TRAN FACILITY PALM BEACH INTERNATIONAL AIRPORT FORMER BUILDING S-1440 WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA FDEP FACILITY NO. 50/8514018 August 30, 2016 Terracon Project No. HD167057



Prepared for: Palm Beach County Facilities Development West Palm Beach, Florida

## Prepared by:

Terracon Consultants, Inc. West Palm Beach, Florida



August 30, 2016



Palm Beach County Facilities Development 2633 Vista Parkway West Palm Beach, Florida 33411

Attention: John Tierney P: (561) 233-0252 E: jtierney@pbcgov.org

Re: Limited Contamination Assessment Report Former Palm Tran Facility Palm Beach International Airport, Former Building S-1440 West Palm Beach, Palm Beach County, Florida FDEP Facility No. 50/8514018 Discharge Date: 11/05/1987 (EDI), Priority Score: 10 Terracon Project No: HD157057

Dear Mr. Tierney:

Terracon Consultants, Inc. (Terracon) has conducted petroleum contamination assessment activities at the referenced site and prepared a Limited Contamination Assessment Report (LCAR) following the Florida Department of Environmental Protection's (FDEP's) June 9, 2000 LCAR Preparation Guidance document. The objective of the assessment activities was to delineate the extent of soil and groundwater petroleum impacts identified during previous Low Score Site Initiative (LSSI) assessment completed by Terracon in November 2015 so that a proposed course of action for site rehabilitation can be developed in the submittal of an Advanced Cleanup (AC) Program application to the FDEP. Terracon conducted the assessment in accordance with Supplement No. 1 of Consultant Services Agreement No. 4 to the Contract dated 9/22/15 (R-2015-1254).

Terracon appreciates this opportunity to provide environmental engineering services to Palm Beach County Facilities Development. Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely, Terracon Consultants, Inc. No. PG2788 STATE OF Andrew Petric, P.G. ESSIONAL **Project Manager** Florida License No. PG2788 8/30/2016

/FOR

Eric Krebill, P.G. Senior Project Manager



Terracon Consultants Inc. 1225 Omar Rd. West Palm Beach, Florida 33405 P 561-689-4299 F 561-689-5955 terracon.com

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## LIMITED CONTAMINATION ASSESSMENT REPORT

## FORMER PALM TRAN FACILITY PALM BEACH INTERNAIONAL AIRPORT, FORMER BUILDING S-1440 WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA

## Terracon Project No. HD167057 FDEP Facility No. 50/8514018 August 30, 2016

## **1.0 INTRODUCTION**

#### 1.1 Site Description

Site Name	Former Palm Tran Facility				
Site Location/Address	Palm Beach International Airport (PBIA) Former Building S-1440 West Palm Beach, Palm Beach County, Florida Latitude: 26° 41.303'N Longitude: 80° 4.658'W				
Site Improvements	Commercial/industrial setting. Former bus fueling facility razed in the 2000s. Remnant asphalt and concrete pavement, stormwater and sewer underground utilities				

Current and previous assessment data are summarized in tables contained in Appendix A. The site location is indicated on Exhibit 1 in Appendix B. A site diagram is provided as Exhibit 2 in Appendix B.

## **1.2** File Review Information

Terracon reviewed site information posted on the Florida Department of Environmental Protection's (FDEP's) OCULUS and Palm Beach County's CINEMA electronic document management websites for the former Palm Tran facility. Provided hereafter is the significant information identified for site evaluation.

The former Palm Tran facility bus fueling area maintained three underground storage tanks (USTs) which were reportedly installed in 1977. Identified information regarding the size of the USTs was conflicting, but most of the file information suggests that the tanks were single-walled, constructed of steel, two 10,000-gallons in capacity for diesel fuel and one 12,000-gallons in capacity for gasoline. The file review information indicated that three fuel dispensers existed under a canopy adjacent west of the UST farm.

The Palm Tran facility reported a petroleum discharge in November 1987 as a result of elevated organic vapor analyzer (OVA) field readings during vapor screening of UST compliance wells. However, this data was not accepted by the FDEP for State-funded cleanup Early Detection Incentive (EDI) program eligibility. Consequently, a tank compliance well was



sampled in June 1988 and a groundwater sample was analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 602. The analysis documented concentrations of benzene of 5 micrograms per liter ( $\mu$ g/L) and total xylenes of 50  $\mu$ g/L, which exceeded groundwater cleanup target levels (GCTLs) per Chapter 62-777, Florida Administrative Code (FAC). The facility was subsequently determined eligible for State-funded cleanup under the EDI program in August 1988. The petroleum discharge was assigned a priority ranking cleanup score of 10. No evidence of assessment or remediation work was identified in the regulatory files for the November 1987 EDI eligible discharge.

The UST system was taken out-of-service in November 1995, rather than upgrading the USTs. As a result, a 4,000-gallon skid-mount diesel fuel aboveground storage tank (AST) was temporarily used at the facility. The AST was reported to be connected to the existing diesel fuel dispensers associated with the USTs. In mid-July 1997, the USTs were removed from the site by Petropac, Inc. Seyfried & Associates, Inc. (Seyfried) representatives were onsite during the removal activities to screen soils with an OVA with the intention of segregating "excessively contaminated" soil during the USTs excavation. A formal tank closure assessment was not required at that time since the site was eligible for State-funded cleanup under the EDI program. During the USTs removal. Sevfried collected 20 soil samples from the sidewalls and base of the UST excavation at depths of either 2 or 4 feet below the ground surface (bgs) for OVA screening. OVA readings ranged from 2 to greater than 962 parts per million (ppm) with four samples exceeding 50 ppm and one sample exceeding 500 ppm. It was determined by Seyfried that two isolated areas of apparent "excessively contaminated" soil were present within the USTs excavation. However, the impacted soils were not removed during tank removal since it was determined by Seyfried that the amount of impacted soil was minor and the cost for soil removal and treatment did not appear to justify the environmental benefit. Laboratory analysis of the collected soil samples was not reported by Seyfried.

It was noted during the USTs removal that the center tank (10,000-gallon diesel fuel) was missing its drain plug. The missing plug could not be located and it was not known if the plug corroded or had fallen off during removal. It was stated by the County tank inspector in its inspection report that the tanks were in good condition with limited corrosion and pitting. Information found in the County tank inspection report during the removal event indicated that the pipelines leading from the USTs to the dispensers were capped. It does not appear that the fuel transfer lines and dispensers were removed in July 1997 as they may have continued to have been used for bus fueling in connection with the temporary AST. No additional regulatory information was identified with regard to removal of the dispensers and associated fuel pipelines. Based upon a review of historical aerial photographs, it appears that the canopy and underlying fuel dispensers may have been removed in 2004.

Free product was reportedly encountered on the water table exposed within the excavation during the USTs removal in 1997. The free product was removed from the water surface by Cliff Berry, Inc. using a vacuum truck. The product and petroleum contact water from tank



cleaning was disposed offsite by Cliff Berry, Inc. Disposal information was not identified regarding the volume of free product recovered from the open excavation or petroleum contacted water generated during tank cleaning disposed.

In Seyfried's tank removal summary letter, it was concluded that petroleum contamination appeared limited to the water table surface. It was opined that the water table was high during the tank removal causing a "smear zone" of contaminated soil at and below the water table. The depth of the water table below the ground surface was not reported by Seyfried. No further pertinent information concerning the 1987 discharge or bus fueling USTs area was identified in the regulatory records.

#### 1.3 Recent Assessment

In November 2015, Terracon completed a Low Score Site Initiative (LSSI) Assessment on behalf of the FDEP per Work Order 2015-95-W8884A. A copy of the LSSI Assessment report is furnished as Appendix C. The LSSI Assessment included the following: regulatory file review; advancement of 30 soil borings; field screening of soil samples collected from the soil borings; analysis of select soil samples for petroleum constituents of concern (COC) including BTEX, methyl tert-butyl ether (MTBE), polynuclear aromatic hydrocarbons (PAH) and total recoverable petroleum hydrocarbons (TRPH); installation of four monitoring wells; sampling of groundwater from the four installed monitoring wells (MW-1, MW-2, MW-3 and MW-4) and one existing monitoring well (MW-5); analysis of the collected groundwater samples for petroleum COC including BTEX/MTBE, PAH, TRPH, ethylene dibromide (EDB) and total lead; groundwater flow determination; and preparation of a LSSI Assessment report which included summary tables and exhibits. The key findings and conclusions of the LSSI Assessment were as follows:

- n Elevated soil vadose zone OVA readings above 10 ppm were measured at 21 of 30 boings. Based on laboratory analytical results of five select soil samples, petroleum concentrations in excess of soil cleanup target levels (SCTLs) per Chapter 67-777, FAC were not identified in the top two feet of the soil profile. Concentrations of TRPH and select non-carcinogenic PAH identified between 2 and 4 feet below the ground surface (bgs) exceeded SCTLs established for residential direct-exposure and leachability based on groundwater quality in one soil sample (SB-2). Benzo(a)pyrene concentrations reported between 2 and 4 feet bgs in two soil samples (SB-4 and SB-18) exceeded the SCTL established for direct-exposure at commercial/industrial settings, but did not exceed the SCTL for leachability based on groundwater quality.
- n The water table was measured at a depth of approximately 4.6 to 5.6 feet bgs during the October 15, 2015 sampling event at the site. Shallow groundwater flow was measured with a slight gradient to the south-southeast. Petroleum free product was not observed in the site monitoring wells.



n TRPH and/or PAH compounds in excess of GCTLs were reported in two (MW-1 and MW-2) of five groundwater samples collected from five site monitoring wells. The concentrations of select PAH compounds exceeded Natural Attenuation Default Concentrations (NADCs). Concentrations of BTEX and MTBE, total lead and EDB did not exceed of GCTLs at the monitoring well locations.

The LSSI assessment data indicated that the Former Palm Tran facility did not qualify for LSSI No Further Action (NFA) or a Site Rehabilitation Completion Order (SRCO), due to petroleum concentrations exceeding SCTLs in the vadose zone. Based on the LSSI assessment results, it was recommended that the Former Palm Tran Facility await State-funded cleanup in priority score order.

## 1.3 Objective

The main objective of the current LCAR activities is to delineate the extent of soil and groundwater petroleum impacts identified during the LSSI assessment completed by Terracon in November 2015 so that a proposed course of action for site rehabilitation can be developed for submittal of an Advanced Cleanup (AC) Program application to the FDEP.

## 2.0 WATER WELL SURVEY

As required by the LCAR guidance document, a water well survey was conducted to locate private water supply wells (potable, irrigation and industrial, etc.) within ¼ mile radius of the site and public water supply wells within ½ mile of the site. The following tasks were performed as part of the water well survey:

- n Review of water-use permit information available on the South Florida Water Management District (SFWMD) Permitting Portal Internet website.
- n Physical ("windshield") reconnaissance of the surrounding site area by a Terracon representative.
- n Review of Palm Beach County Wellfield Maps available on Palm Beach County's My Geo Nav GIS database.
- n Review of the Florida Department of Health Well Surveillance Program database.

The above sources identified four private water supply wells within ¼ mile of the site. No public water supply wells were identified within ½ mile of the site and the site is not located within a public water supply wellfield. A summary of the private water supply wells located within ¼ mile of the site is presented in Table 1 in Appendix A. The locations of the water supply wells are shown on Exhibit 1.



## 3.0 FIELD ACTIVITIES

Terracon completed field activities in accordance with the FDEP's guidance document *Standard Operating Procedures for Field Activities*, DEP-SOP-001/01. Field activities were conducted under modified safety level D by environmental staff with Occupational Safety and Health Administration (OSHA) 1910.120 training. A *Site Safety and Health Plan* was been developed by Terracon for the safety of Terracon personnel engaged in field services at the site. Terracon provided notification of field activities to the FDEP and contacted Sunshine 811 for underground utility locating prior to conducting field activities.

## 3.1 Soil Screening, Sampling and Analysis

On August 11, 2016, Terracon's drilling subcontractor, Wombat Environmental, LLC, advanced 14 soil borings at the site, designated SB-31 to SB-44, around the periphery of previously completed borings SB-1 to SB-30 to delineate the lateral extent of petroleum impacts (i.e. the extent of vadose zone soils with organic vapor readings greater than 10 ppm). The approximate locations of the current and previous soil boring are shown on Exhibit 2 in Appendix B. Boring equipment was decontaminated using a wash of Liquinox detergent/water and rinsed with clean water. The borings were advanced using Geoprobe® direct-push technology (DPT) equipment to a depth of approximately 8 feet bgs.

Soil grab samples at boring locations were collected at 1-foot depth intervals to a depth of 4 feet bgs and at 2-foot depth intervals thereafter to a depth of approximately 8 feet bgs. Boring SB-39, the location of deeper monitoring well MW-1D, was extended to a depth of approximately 30 feet bgs to observe the deeper lithology of the site. Immediately prior to drilling, the groundwater table was measured at approximately 4.6 feet bgs in existing site monitoring well MW-4. Soil grab samples were screened for physical characteristics such as soil type, color, moisture and odor, and physical indications of petroleum impacts. Soil samples were placed into pint-sized glass jars, filled to half-capacity, and covered with a layer of aluminum foil for head space screening. The head space within each sample jar was screened for indications of volatile organic vapors using a handheld photo ionization detector (PID)-type OVA. The OVA is useful for detecting volatile organic vapors in the head space of a soil container to a lower limit of 1 ppm calibration gas equivalents. Current and previous field screening results are included on Table 2 in Appendix A. Soil OVA readings measured in the soil borings during the current and previous assessment are depicted on Exhibit 3 in Appendix B.

The work area was surfaced with either asphalt or concrete pavement with some areas along the west portion near the fence line bare ground. The pavement sections were typically underlain with a thin layer (less than 1 foot) of lime rock base course followed by sandy soils to the maximum depth of exploration of 30 feet bgs. Petroleum odors were noted in only the 4- to 6-foot bgs interval collected from soil boring SB-35 as noted in Table 2 in Appendix A and the soil boring logs in Appendix D. Soil OVA readings above 10 ppm in soil samples collected in the vadose zone from



the surface to the groundwater table a depth of approximately 4.5 feet bgs were identified in only boring SB-35 below a depth of 3 feet bgs.

Based on Terracon's field assessor's review of the OVA screening data, two soil samples were selected for laboratory analysis. These include a sample from 4 feet bgs from boring SB-35 (medium to high range OVA reading for the assessment event) and from 3 feet bgs from boring SB-39 (low range OVA reading for the assessment event). The sampling for soil analysis was accomplished by re-drilling a soil boring adjacent to (approximately 4-inches away) borings advanced earlier in the day to allow for collection of an undisturbed soil sample for laboratory analysis.

The soil samples were placed in laboratory prepared glassware, sealed with custody tape, and placed on ice in a cooler. The sample cooler and completed chain-of-custody record were delivered to a Florida Department of Health (FDOH)-certified and National Environmental Laboratory Accreditation Program (NELAP)-accredited laboratory, Palm Beach Environmental Laboratories, Inc., for analysis for the following parameters:

- n BTEX and MTBE by EPA Method 8260
- n PAH by EPA Method 8270
- n TRPH by the FL-PRO method

Laboratory analytical results for the soil samples were compared to Florida's SCTLs listed in Chapter 62-777 of the FAC. Tables 5, 6 and 7 in Appendix A contain a summary of soil analytical results. A copy of the laboratory analytical report and chain-of-custody record are provided in Appendix E.

As shown in the tables, concentrations of BTEX/MTBE, PAH and TRPH were not reported in excess of laboratory method detection limits (MDLs) except for a concentration of TRPH in SB-35 (4 feet bgs) at 87.8 milligrams per kilogram (mg/kg). However, this concentration is below the residential direct-exposure SCTL of 460 mg/kg and leachability-based SCTL of 340 mg/kg. Exhibit 3 in Appendix B displays the approximate extent of vadose zone soils at a depth of 4 feet bgs and smear zone soils at a depth of 4 to 7 feet bgs exhibiting OVA readings in excess of 500 ppm.

## 3.2 Temporary Groundwater Sampling Point Advancement

As requested by the client, two temporary groundwater sampling points (GP-1 and GP-2) were advanced for collection of groundwater samples along the northeast edge of the impacted area. The purpose of the additional groundwater sampling points was to provide sufficient data to estimate the northeastern extent of the groundwater petroleum plume so that the Palm Beach County Department of Airports could pre-determine the parcel limits of a long-term lease for a proposed adjacent hotel development. On August 11, 2016, the two DPT shallow-depth temporary groundwater sampling points were each advanced to a depth of approximately 9 feet bgs. Groundwater sampling locations GP-1 and GP-2 are shown on Exhibit 2 in Appendix B.



Groundwater samples were collected using a DPT Screen Point 15 (SP15) sampler, in which a decontaminated 4-foot long sampling unit is threaded onto the leading end of a probe rod and driven to the desired sampling interval. While the sampler is driven to the proposed sampling depth, O-ring seals at the drive head and expendable drive point provide a watertight system. Once at the desired sampling interval, the drive rod is retracted to expose the 4-foot long screened interval to allow access for groundwater sampling. Drilling rods and sampling screens were decontaminated using a wash of Liquinox detergent / water and rinsed with clean water prior to advancing each sampling point. The SP15 screen was set at a depth of 5 to 9 feet bgs to bracket the groundwater table. Sampling of the points is further discussed in Section 3.4 of this report.

## 3.3 Monitor Well Installation

On August 11, 2016, Terracon's drilling subcontractor, Wombat Environmental, LLC, installed monitoring wells MW-6, MW-7, MW-8, and MW-1D, under the supervision of Terracon. Monitoring wells MW-6, MW-7, MW-8 were installed to delineate the lateral extent of groundwater petroleum impacts to the east and south. Deeper monitoring well MW-1D was installed adjacent to monitoring well MW-1 down-gradient of the previous fuel dispensers where TRPH and select PAH exceeded GCTLs during the LSSI assessment to evaluate the vertical extent of petroleum impacted groundwater. Monitoring well locations are indicated on Exhibit 2 in Appendix B.

Monitoring wells MW-6, MW-7 and MW-8 were installed using DPT and constructed with 1-inch diameter polyvinyl chloride (PVC) well pipe with 10 feet of 0.010-inch slotted PVC screen set at approximately 3 to 13 feet bgs in order to bracket the water table. Vertical definition monitoring well MW-1D was also installed using DPT and constructed with 1-inch diameter PVC well pipe but with 5 feet of 0.010-inch slotted PVC screen set at approximately 25 to 30 feet bgs.

A filter pack of 20/30-graded silica sand was placed around the annular space between the borehole and monitoring well screens to approximately 1 foot above the well screen followed by an approximately 1 foot layer of 30/65-graded fine sand seal. The fine sand seal was topped with cement grout to the land surface. Each well head was fitted with a water-tight locking cap and a steel covered manhole with a 2-foot by 2-foot by 4-inch thick concrete pad for surface protection. The wells were developed by over-pumping at low flow rates and purge water was discharged onto the surrounding pavements to evaporate. A summary of monitoring well construction details is provided on Table 3 in Appendix A. A monitoring well permit (#6673-16) obtained from the Palm Beach Health Department, and well completion reports for MW-6, MW-7, MW-8, and MW-1D submitted to the Palm Beach Health Department by Wombat Environmental, LLC are provided in Appendix D, along with monitoring well construction and development logs.

#### 3.4 Shallow Groundwater Flow

On August 15, 2016, the relative elevation at the top of each newly installed monitoring well (MW-6, MW-7, MW-8, and MW-1D) was measured relative to an existing site monitoring well which already



had an arbitrary elevation established onsite during prior LSSI assessment activities. Groundwater level data are summarized on Table 4 in Appendix A.

Groundwater levels were measured in all site monitoring wells using an electronic water level indicator on August 15, 2016. The water table was measured approximately 4.5 to 5.4 feet bgs. Petroleum free product was not observed in the site monitoring wells. Relative groundwater elevations are plotted on Exhibit 4 in Appendix B, which display that the shallow groundwater flow was measured toward the southeast and is consistent with shallow groundwater flow measured during the 2015 LSSI assessment.

## 3.5 Groundwater Sampling and Analysis

Terracon collected groundwater samples from all site monitoring wells (MW-1, MW-1D, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7 and MW-8) on August 15, 2016. Temporary groundwater sampling points GP-1 and GP-2 were sampled on August 11, 2016. Field groundwater sampling and equipment calibration logs are contained in Appendix D. Groundwater samples were collected after equilibration of field parameter measurements in accordance with FDEP SOP 001/01, FS 2200. A weathered petroleum/ organic odor was observed in several monitoring wells namely, MW-1, MW-1D, MW-2, MW-3, MW-4, MW-5 and MW-7.

The groundwater samples were placed in laboratory supplied containers and stored on ice in a cooler. The sample cooler and completed chain-of-custody record were transported to Palm Beach Environmental Laboratories, Inc. for analysis for the following parameters:

- n BTEX and MTBE by EPA Method 8260
- n PAH by EPA Method 8270
- n TRPH by the FL-PRO method

Copies of the laboratory analytical report and chain-of-custody record are provided in Appendix E. Laboratory analytical results for the groundwater samples were compared to Florida's GCTLs and NADCs listed in Chapter 62-777, FAC. Tables 8 and 9 in Appendix A contain a summary of groundwater analytical results. A summary of the analytical results which exceed applicable GCTLs is provided hereafter:

- n Benzene was reported in sample MW-4 at a concentration of 2.48 microgram per liter ( $\mu$ g/L) which exceeds the GCTL of 1  $\mu$ g/L.
- n 1-methylnaphthalene and 2-methylnaphthalene were reported in sample MW-4 at concentrations of 95.8  $\mu$ g/L and 48.6  $\mu$ g/L, respectively, exceeding the GCTL of 28  $\mu$ g/L for these compounds.

The estimated extent of BTEX and the PAH compounds 1-methylnaphthalene and 2methylnaphthalene in groundwater exceeding the GCTLs for the August 11 and 15, 2016 sampling events are plotted on Exhibits 5 and 6 in Appendix B.



## 5.0 FINDINGS AND CONCLUSIONS

The findings and conclusions of this assessment are as follows:

- n Four private water supply wells were identified within ¼ mile of the site. No public water supply wells were identified within ½ mile of the site and the site is not located within a public water supply wellfield.
- n Elevated vadose zone (i.e. to 4 feet bgs) and smear zone (i.e. estimated 4 to 7 feet bgs) OVA readings above 10 ppm were measured at in only one of 14 supplemental borings advanced in August 2016 around the periphery of the site around borings SB-1 to SB-30 completed during the 2015 LSSI assessment. Laboratory analysis of two soil samples collected from two of the new borings did not report petroleum concentrations in excess of SCTLs. Based on the cumulative assessment data, the extent of petroleum contaminated soil has been delineated. Petroleum impacted soil appears to extend from less than 2 feet bgs down to the water table (average of approximately 5 feet bgs) within an area with maximum plan dimensions of approximately 95 feet (southwest-northeast) by 75 feet (northwest-southeast). The volume of vadose zone impacted soil, assuming these dimensions and a thickness of three feet, would be approximately 792 cubic yards.
- The water table was measured at a depth of approximately 4.5 to 5.4 feet bgs during the August 15, 2016 sampling event at the site. Shallow groundwater flow was measured to the southeast which is consistent with groundwater flow measured during 2015 LSSI assessment. Free product was not observed in the site monitoring wells.
- n Benzene and the PAH compounds 1-methylnaphthalene and 2-methylnaphthalene were reported in excess of GCTLs but below NADCs in one (MW-4) of eleven groundwater samples collected from nine site monitoring wells (eight shallow and one deep) and two temporary groundwater sampling points. The groundwater data from the current sampling event indicates concentrations of PAH compounds and/or TRPH decreased below GCTLs. The extent of petroleum contaminated groundwater appears to correlate with the area of petroleum soil contamination (i.e. roughly 8,000 square feet and less than 25 feet bgs).

## 6.0 PROPOSED COURSE OF ACTION TO ACHIEVE REHABILITATION

Based on the 2015 and 2016 assessment data, we believe the best course of action for site rehabilitation would be to conduct source removal of petroleum impacted soils in the vadose zone



as well as over-excavation of affected soils below the water table to a maximum depth of approximately 10 feet bgs.

Short-term (<30 days) open excavation air sparging to reduce petroleum concentrations in exposed groundwater is recommended immediately after source removal, prior to backfilling.

A more detailed description of the proposed course of remedial action including a cost estimate for rehabilitation, using the Agency Term Contractor (ATC) Schedule of Pay Items (SPI) spreadsheet, will be provided within the AC Program application package.
Appendix A - Tables

## TABLE 1: WATER WELL SURVEY SUMMARY

Facility ID#: 50/8514	018 Facility Name:	Former Palm Tran Facility	See notes	See notes at end of table.				
Well ID.	Well Owner	Well Use	Well Depth (feet bgs)	Well Screen Section Depth (feet bgs)	Well Diamater (inches)	Well Pump Capacity (gpm)	Distance of Well from Site, feet (direction)	
50-06985-W (F)	PBC Department of Airports	Landscape Irrigation	110	100 - 110	4	40	850 (north-northeast)	
50-11059-W	PBC Department of Airports	Landscape Irrigation	234	208 - 234	4	Unknown	1,050 (northeast)	
50-05606-W	Enterprise Leasing	Landscape Irrigation	100	90 - 100	2	30	1,250 (north)	
50-06985-W (E) PBC Department of Airports		Landscape Irrigation	110	100 - 110	4	40	1,300 (northwest)	
Notoo: bao indiaatoo k	alow around ourfood, and indiactor	o gollono nor minuto						

Notes: bgs indicates below ground surface. gpm indicates gallons per minute.

Facility ID#:	50/8514018		Facility	by See notes at end of tab				
Name	e: Former Pa	alm Tran Fa	cility	<u> </u>				
	SAM	PLE						
		DEPTH	SAMPLE	PID Reading	COMMENTS			
BORING No.	DATE	TO WATER	INTERVAL	(PPM)	COMMENTS			
		(feet)	(feet)					
			0-1	<1				
			1-2	3				
	10/12/2015	F 2	2-3	60				
30-1	10/12/2015	5.5	3-4	9999+	Slight petroleum odor at 3 ft			
			4-6	9999+	Strong petroleum odor at 4-8 ft			
			6-8	9999+				
			0-1	48				
			1-2	528	SB-2(1-2) - Lab ID 13883-05			
	10/10/2015	5.2	2-3	9999+	Petroleum odor at 1-8 ft			
3D-2	10/12/2015	5.3	3-4	9999+	SB-2(3-4) - Lab ID 13883-04			
			4-6	9999+	1-inch laver of concrete observed			
			6-8	9999+	at 5 ft			
			0-1	<1				
SB-3			1-2	252	Petroleum odor at 1-8 ft			
	10/12/2015	5.0	2-3	471				
	10/12/2015	5.3	3-4	9999+				
			4-6	9999+				
			6-8	9999+				
			0-1	4				
			1-2	5				
	10/10/2015	5.2	2-3	3712	SB-4(2-3) - Lab ID 13883-03			
3D-4	10/12/2015	5.5	3-4	9999+	Petroleum odor at 3-8 ft			
			4-6	9999+				
			6-8	9999+				
			0-1	3514				
			1-2	9999+	Petroleum odor at 0.5-8 ft			
SP 5	10/12/2015	5.2	2-3	9999+				
30-5	10/12/2015	5.5	3-4	9999+				
			4-6	9999+				
			6-8	9999+				
			0-1	2				
			1-2	41				
SB 6	10/12/2015	5.2	2-3	165				
36-0	10/12/2013	5.5	3-4	139				
			4-6	<1				
			6-8	<1				
			0-1	<1				
			1-2	<1				
SB-7	10/12/2015	5.2	2-3	<1				
	10/12/2015	0.0	3-4	<1				
			4-6	<1				
			6-8	<1				

Facility ID#:	50/8514018		Facility	See notes at end of table.					
Namo	e: Former Pa	alm Tran Fa	cility						
	SAM	PLE							
		DEPTH	SAMPLE	PID Reading	COMMENTS				
BORING No.	DATE	TO WATER	INTERVAL	(PPM)	COMMENT O				
		(feet)	(feet)						
			0-1	411	Slight petroleum odor at 0-1 ft				
			1-2	<1					
SB-8	10/12/2015	53	2-3	1					
02 0	10, 12,2010	0.0	3-4	<1					
			4-6	1					
			6-8	10					
			0-1	<1					
			1-2	1					
SB-9	10/12/2015	5.3	2-3	31					
			3-4	5437	SB-9(3-4) - Lab ID 13883-02				
			4-6	9999+	Strong petroleum odor at 3-8 ft				
			6-8	9999+					
			0-1	<1					
SB-10	10/12/2015		1-2	<1					
		5.3	2-3	<1					
			3-4	224	Petroleum odor at 3-8 ft				
			4-6	1472					
			6-8	970					
			0-1	<1					
			1-2	<1					
SB-11	10/12/2015	5.3	2-3	<1					
			3-4	<1					
			4-6	6					
			6-8	63					
			0-1	<1					
			1-2	<1					
SB-12	10/12/2015	5.3	2-3	<1					
			3-4	<1					
			4-6	<1					
			0-0	2					
			0-1	<1					
			1-2	<1					
SB-13	10/12/2015	5.3	2-3	<1					
			3-4	21	Slight potroloum odor from 4.8 ft				
			6.9	211	Slight petroleum odor from 4-8 ft				
			0.1	-1					
			1.2	<1					
			1-∠ 2_2	<1					
SB-14	10/12/2015	5.3	3-4	<1					
	10,12,2010		<u> </u>	Q					
			6-8	9					
			0-0	5					

Facility ID#:	50/8514018		See notes at end of table.					
Name	e: Former Pa	alm Tran Fa	cility					
	SAN							
		DEPTH	SAMPLE	PID Reading	COMMENTS			
BORING No.	DATE	TO WATER	INTERVAL	(PPM)				
		(feet)	(feet)					
			0-1	<1				
			1-2	209				
SB-15	10/12/2015	53	2-3	1				
0010	10, 12,2010	0.0	3-4	<1				
			4-6	<1				
			6-8	<1				
			0-1	<1				
			1-2	<1				
SB-16	10/12/2015	5.3	2-3	<1				
			3-4	<1				
			4-6	<1				
			6-8	1				
			0-1	<1				
SB-17			1-2	<1				
	10/12/2015	5.3	2-3	<1				
			3-4	<1				
			4-6	612	Petroleum odor at 4-8 ft			
			6-8	1232				
			0-1	21				
	10/12/2015		1-2	180				
SB-18		5.3	2-3	1837	SB-18(2-3) - Lab ID 13883-01			
			3-4	1039	Petroleum odor at 2-4 ft			
			4-6	21				
			6-8	19				
			0-1	<1				
			1-2	<1				
SB-19	10/12/2015	5.3	2-3	<1				
			3-4	1	Clight potroloum odor at 4.9 ft			
			4-0	300	Slight petroleum odor at 4-8 ft			
			0-8	508				
			U-1 1 0	<1				
			1-2	<1 _1				
SB-20	10/12/2015	5.3	2-3 3_1	<1 _1				
			<u> </u>	1				
			6-8	، ح1				
			0-1	~1				
			1-2	<1				
			2-3	<1				
SB-21	10/12/2015	5.3	3-4	<1				
			4-6	<1				
			6-8	<1				
			0-1	<1				
			1-2	<1				

Facility ID#:	50/8514018		See notes at end of table.						
Name	e: Former Pa	alm Tran Fa	cility						
	SAM	PLE							
		DEPTH	SAMPLE	PID Reading	COMMENTS				
BORING No.	DATE	TO WATER	INTERVAL	(PPM)	COMMENTS				
		(feet)	(feet)						
05.00	40/40/0045	5.0	2-3	20					
SB-22	10/12/2015	5.3	3-4	<1					
			4-6	9					
			6-8	9999+					
			0-1	<1					
			1-2	<1					
SB-23	10/12/2015	53	2-3	<1					
50-25	10/12/2013	5.5	3-4	<1					
			4-6	3041	Petroleum odor at 4-8 ft				
			6-8	9999+					
			0-1	<1					
			1-2	<1					
SB-24	10/12/2015	53	2-3	2					
00 24	10/12/2010	0.0	3-4	2					
			4-6	2231	Petroleum odor at 4-8 ft				
			6-8	1587					
			0-1	<1					
			1-2	<1					
SB-25	10/12/2015	5.3	2-3	<1					
			3-4	<1					
			4-6	<1					
			6-8	<1					
			0-1	<1					
			1-2	<1					
SB-26	10/12/2015	5.3	2-3	<1					
			3-4	<1					
			4-6	9999+	Petroleum odor at 4-8 ft				
			6-8	1820					
			0-1	120	Slight petroleum odor at 0-1 ft				
			1-2	39					
SB-27	10/12/2015	5.3	2-3	1					
			3-4	8336					
			4-6	9999+	Strong petroleum odor at 4-8 ft				
			6-8	9999+					
			0-1	<1					
			1-2	<1					
SB-28	10/12/2015	5.3	2-3	6					
			3-4	<1					
			4-0	<1					
			0-0	<1	Oliahé poérsisure selemet 0.0 %				
			0-1	131	Slight petroleum odor at 0-8 ft				
			1-2	91 100					
SB-29	10/12/2015	5.3	2-3 2_1	26 100					
			5-4	50					

Facility ID#:	50/8514018		Facility	Se	e notes at end of table
Name	e: Former Pa	alm Tran Fa	cility	0.	
	SAM	PLE			
		DEPTH	SAMPLE	PID Reading	COMMENTS
BORING No.	DATE	TO WATER	INTERVAL	(PPM)	COMMENTS
		(feet)	(feet)		
			4-6	183	
			6-8	51	
			0-1	5085	Petroleum odor at 0-8 ft
			1-2	3712	
CD 20	10/10/0015	5.2	2-3	3562	
SB-30	10/12/2015	5.3	3-4	4732	
			4-6	772	
			6-8	2442	
			0-1	<1	
			1-2	<1	
<b>67</b> 6 <i>1</i>			2-3	<1	
SB-31	8/11/2016	4.5	3-4	<1	
				4-6	<1
			6-8	<1	
			0-1	<1	
			1-2	<1	
	8/11/2016	4.5	2-3	<1	
SB-32		4.5	3-4	<1	
			4-6	<1	
			6-8	<1	
			0-1	<1	
			1-2	<1	
05.00	0/44/0040	4.5	2-3	<1	
SB-33	8/11/2016	4.5	3-4	<1	
			4-6	<1	
			6-8	<1	
			0-1	1	
			1-2	<1	
00.04	0/44/0040	4.5	2-3	<1	
SB-34	8/11/2016	4.5	3-4	<1	
			4-6	<1	
			6-8	<1	
			0-1	<1	
			1-2	<1	
	0/11/0010	4.5	2-3	1	
SB-35	8/11/2016	4.5	3-4	25	SB-35(4') - Lab ID 14692-04
			4-6	454	Petroleum odor at 4-6 ft
			6-8	82	

Facility ID#:	50/8514018		Facility	Se	e notes at end of table.
Name	e: Former Pa	alm Tran Fa	cility		
	SAM	PLE			
		DEPTH	SAMPLE	PID Reading	COMMENTS
BORING No.	DATE	TO WATER	INTERVAL	(PPM)	COMMENTO
		(feet)	(feet)		
			0-1	<1	
			1-2	<1	
SB-36	8/11/2016	4.5	2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
			0-1	<1	
			1-2	<1	
SB-37	8/11/2016	4.5	2-3	<1	
			3-4	<1	
			4-6	2	
			6-8	<1	
			0-1	<1	
	8/11/2016		1-2	<1	
SB-38		4.5	2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
			0-1	<1	
			1-2	<1	
SB-39	8/11/2016	4.5	2-3	<1	
			3-4	<1	SB-39(3') - Lab ID 14692-03
			4-6	<1	
			6-8	<1	
			0-1	<1	
			1-2	<1	
SB-40	8/11/2016	4.5	2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
			0-1	<1	
			1-2	<1	
SB-41	8/11/2016	4.5	2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
			0-1	<1	
SB-42			1-2	<1	
	8/11/2016	4.5	2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	

Facility ID#:	50/8514018		Facility	6	a notae at and of table
Name	e: Former Pa	alm Tran Fa	cility	36	e notes at end of table.
	SAM	PLE			
		DEPTH	SAMPLE	PID Reading	
BORING No.	DATE	TO WATER	INTERVAL	(PPM)	COMMENTS
		(feet)	(feet)		
			0-1	3	
	8/11/2016	4.5	1-2	<1	
SP 42			2-3	<1	
3D-43			3-4	<1	
			4-6	<1	
			6-8	<1	
			0-1	<1	
			1-2	<1	
SB 44	9/11/2016	15	2-3	<1	
3B-44	0/11/2010	4.5	3-4	<1	
		1 t	4-6	<1	
			6-8	<1	

Notes:

ppm = parts per million. feet = feet below ground surface

## TABLE 3: MONITORING WELL CONSTRUCTION DETAILS

Facility ID#: 50/8514018 A/G Riser Top of Total well Screened Well Well Date Installation Lithology of Casing Length, if Depth Interval Diameter No. Installed Method Screened Interval Elevation (feet) Applicable (feet) (feet) (Inches) (bgs) 10/13/15 SP MW-1 Direct Push 99.77 13 3-13 n/a, at grade 1 SP MW-1D 08/11/16 Direct Push 99.75 30 25-30 1 MW-2 99.93 13 SP 10/13/15 Direct Push n/a, at grade 3-13 1 SP MW-3 10/13/15 Direct Push 99.65 13 3-13 1 n/a, at grade MW-4 10/13/15 Direct Push 99.62 13 3-13 1 SP n/a, at grade MW-5 Unknown Unknown 99.54 13 3-13 2 Unknown n/a, at grade MW-6 08/11/16 Direct Push 100.48 13 SP n/a, at grade 3-13 1 13 MW-7 08/11/16 Direct Push 100.40 3-13 SP n/a, at grade 1 SP MW-8 08/11/16 Direct Push 99.76 n/a, at grade 13 3-13 1

Notes: Monitoring wells MW-1, MW-2, MW-3 & MW-4 installed by Wombat Environmental, LLC. Monitoring wells MW-5 existing. Bgs indicates below ground surface. A/G indicates above ground. SP indicates poorly graded sand.

Facility Name: Former Palm Tran Facility

See notes at end of table.

## TABLE 4 : GROUNDWATER ELEVATION SUMMARY

Facility ID#: 50/8514	4018		Fa	acility N	lame:	Forme	er Palm	Tran F	acility	,	See notes at end of table.							
Well No.		MW-1			MW-1D			MW-2			MW-3			MW-4		MW-5		
Diameter (inches)		1		1				1			1		1			2		
Well Depth (feet)		13		30				13			13		13			13		
Screen Interval (feet)	3-13			25-30				3-13			3-13			3-13		3-13		
TOC Elevation (feet)		99.77			99.75			99.93			99.65			99.62			99.54	
DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	ELEV DTW FP		ELEV	DTW	FP	ELEV	DTW	FP
10/15/15	94.17	5.60					94.94	4.99		94.98	4.67		94.95	4.67		94.92	4.62	
08/15/16	95.03	4.74		94.95	4.80		95.07	4.86		95.08	4.57		95.07	4.55		95.09	4.45	
Well No.		MW-6			MW-7		MW-8											
Diameter (inches)		1			1		1											
Well Depth (feet)		13			13			13										
Screen Interval (feet)		3-13			3-13			3-13							1			
TOC Elevation (feet)		100.48			100.40			99.76										
DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP									
10/15/15																		
08/15/16	95.06	5.42		95.00	5.40		94.99	4.77										

## NOTES

MW - Monitoring Well

TOC - Top of Casing

ELEV - Elevation

DTW - Depth to groundwater, below TOC

FP - Free Product

## TABLE 5: SOIL ANALYTICAL SUMMARY - VOAs and TRPHs

Facility ID#: 50/8514018

Facility Name: Former Palm Tran Facility

	Sam	ple		OVA			Laboratory	Analyses			
Boring/ Well No.	Date Collected	Depth to Water	Sample Interval	Net OVA Reading	Benzene	Ethyl- benzene	Toluene	Total Xylenes	МТВЕ	TRPHs	
		(ft)	(fbls)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	Comments
SB-2	10/12/2015	5.3	1 - 2	528	0.0002 U	0.0003 I	0.0003 U	0.0003 I	0.0003 U	11.7	
SB-2	10/12/2015	5.3	3 - 4	9,999+	0.0002 U	0.006	0.0003 U	0.0012 I	0.0003 U	1,820	
SB-4	10/12/2015	5.3	3 - 4	3,712	0.0002 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	141	
SB-9	10/12/2015	5.3	3 - 4	5,437	0.0002 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	18.0	
SB-18	10/12/2015	5.3	2 - 3	1,837	0.0002 U	0.0004 l	0.002	0.0005 l	0.0003 U	10.9	
SB-35	8/11/2016	4.5	3.5 - 4.5	454	0.0002 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	87.8	
SB-39	8/11/2016	4.5	2.5 - 3.5	<1	0.0002 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0800 U	
Leachability Based on Groundwater Criteria (mg/kg)					0.007	0.6	0.5	0.2	0.09	340	
Residential Direct-Exposure SCTL (mg/kg)					1.2	1,500	7,500	130	4,400	460	
Commercial-	Industrial Direct-E	Exposure SCT	L (mg/kg)		1.7	9	60,000	700	24,000	2,700	

Notes: U=Indicates the compound was analyzed for, but not detected.

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

VOAs = Volatile organic aromatics

MTBE = Methyl tert-butyl ether

TRPHs = Total recoverable petroleum hydrocarbons

OVA = Organic vapor analyzer

ft = foot

fbls = Feet below ground surface

ppm = Parts per million

mg/kg = Milligram per kilogram

SCTL = Soil Cleanup Target Levels specified in Table II of Chapter 62-777, Florida Administrative Code (FAC)

## TABLE 6: SOIL ANALYTICAL SUMMARY - Non-Carcinogenic PAHs

#: 50/85	14018				Facility Name: Former Palm Tran Facility Se									e notes at end of table.	
Sampl	е		OVA					Labo	ratory Ana	lyses					
Date Collected	Depth to Water	Sample Interval	Net OVA Reading	Naph- thalene	1-Methyl- naph- thalene	2-Methyl- naph- thalene	Acen- aph- thene	Acen- aph- thylene	Anthra- cene	Benzo (g,h,i) pery- lene	Fluoran- thene	Fluor- ene	Phenan- threne	Pyrene	
	(ft)	(fbls)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	Comments
0/12/2015	5.3	1 - 2	528	0.02 U	0.05 1	0.08	0.02 U	0.04 U	0.02 U	0.06 U	0.03 U	0.03 U	0.01 U	0.02 U	
0/12/2015	5.3	3 - 4	9,999+	0.02 U	10.7	12.3	0.02 U	0.04 U	0.02 U	0.06 U	0.03 U	0.8	0.2	0.02 U	
0/12/2015	5.3	3 - 4	3712	0.02 U	0.01 U	0.02 U	0.02 U	0.04 U	0.02 U	1.6	0.2	0.03 U	0.01 U	0.4	
0/12/2015	5.3	3 - 4	5437	0.02 U	0.01 U	0.02 U	0.02 U	0.04 U	0.02 U	0.06 U	0.03 U	0.03 U	0.01 U	0.02 U	
0/12/2015	5.3	2 - 3	1,837	0.02 U	0.01 U	0.02 U	0.02 U	0.04 U	0.02 U	2.5	0.2	0.03 U	0.01 U	0.3	
8/11/2016	4.5	3.5 - 4.5	454	0.02 U	0.01 U	0.02 U	0.02 U	0.04 U	0.02 U	0.06 U	0.03 U	0.03 U	0.01 U	0.02 U	
8/11/2016	4.5	2.5 - 3.5	<1	0.02 U	0.01 U	0.02 U	0.02 U	0.04 U	0.02 U	0.06 U	0.03 U	0.03 U	0.01 U	0.02 U	
			````	1.0		0.5		07	0.500		4 000	100	050		
sed on Grou	l (mg/kg)	nteria (mg/l	(g)	1.2	3.1	8.5 210	2.1	1 2/	2,500	32,000	1,200	2 600	250	2 400	
dustrial Direc	t-Exposure	SCTL (m	ı/ka)	) 300 1.800 2.100 20.000 20.000 300.000 52.000 59.000 33.000 36.000 45.000											
	Sampl     Sampl     Date     Date     Dilected     /12/2015     /12/2015     /12/2015     /12/2015     /12/2015     /12/2015     /12/2016     11/2016     it/2016     ed on Grou     Residentia     ustrial Direct	Sample           Date ollected         Depth to Water           /12/2015         5.3           /12/2015         5.3           /12/2015         5.3           /12/2015         5.3           /12/2015         5.3           /12/2015         5.3           /12/2015         5.3           /12/2015         5.3           /12/2015         5.3           /12/2015         5.3           /12/2016         4.5           11/2016         4.5           ed on Groundwater Cl Residential (mg/kg)         Istrial Direct-Exposure	Sample           Date ollected         Depth to Water         Sample Interval           /12/2015         5.3         1 - 2           /12/2015         5.3         3 - 4           /12/2015         5.3         3 - 4           /12/2015         5.3         3 - 4           /12/2015         5.3         3 - 4           /12/2015         5.3         3 - 4           /12/2015         5.3         3 - 4           /12/2015         5.3         2 - 3           11/2016         4.5         3.5 - 4.5           11/2016         4.5         2.5 - 3.5           ed on Groundwater Criteria (mg/kg)         ustrial Direct-Exposure SCTL (mg/g)	Sample         OVA           Date ollected         Depth to Water         Sample Interval         Net OVA Reading           /12/2015         5.3         1 - 2         528           /12/2015         5.3         3 - 4         9,999+           /12/2015         5.3         3 - 4         9,999+           /12/2015         5.3         3 - 4         5437           /12/2015         5.3         3 - 4         5437           /12/2015         5.3         2 - 3         1,837           /12/2016         4.5         3.5 - 4.5         454           /11/2016         4.5         2.5 - 3.5         <1	Sample         OVA           Date ollected         Depth to Water         Sample Interval         Net OVA Reading         Naph- thalene           /12/2015         5.3         1 - 2         528         0.02 U           /12/2015         5.3         3 - 4         9,999+         0.02 U           /12/2015         5.3         3 - 4         3712         0.02 U           /12/2015         5.3         3 - 4         5437         0.02 U           /12/2015         5.3         2 - 3         1.837         0.02 U           /12/2016         4.5         2.5 - 3.5         <1	Sample         OVA           Date ollected         Depth to Water         Sample Interval         Net OVA Reading         Naph- thalene         1-Methyl- naph- thalene           /12/2015         5.3         1 - 2         528         0.02 U         0.05 I           /12/2015         5.3         1 - 2         528         0.02 U         0.05 I           /12/2015         5.3         3 - 4         9,999+         0.02 U         10.7           /12/2015         5.3         3 - 4         3712         0.02 U         0.01 U           /12/2015         5.3         3 - 4         3712         0.02 U         0.01 U           /12/2015         5.3         3 - 4         5437         0.02 U         0.01 U           /12/2015         5.3         2 - 3         1,837         0.02 U         0.01 U           /12/2015         5.3         2 - 3         1,837         0.02 U         0.01 U           /12/2016         4.5         3.5 - 4.5         454         0.02 U         0.01 U           I1/2016         4.5         2.5 - 3.5         <1	Sample         OVA           Date ollected         Depth to (ft)         Sample (fbls)         Net OVA Reading         Naph- thalene         1-Methyl- naph- thalene         2-Methyl- naph- thalene           /12/2015         5.3         1 - 2         528         0.02 U         0.05 I         0.08 I           /12/2015         5.3         1 - 2         528         0.02 U         0.05 I         0.08 I           /12/2015         5.3         3 - 4         9,999+         0.02 U         10.7         12.3           /12/2015         5.3         3 - 4         3712         0.02 U         0.01 U         0.02 U           /12/2015         5.3         3 - 4         5437         0.02 U         0.01 U         0.02 U           /12/2015         5.3         2 - 3         1.837         0.02 U         0.01 U         0.02 U           /12/2015         5.3         2 - 3.5         <	Sample         OVA         Pacinity         Sample         OVA           Date Ollected         Depth to Water         Sample         Net OVA         Naph-thalene         1-Methyl-thalene         2-Methyl-thalene         Acen-aph-thalene           (ft)         (fbls)         (ppm)         (mg/kg)         (mg/kg)         (mg/kg)         (mg/kg)         (mg/kg)           /12/2015         5.3         1 - 2         528         0.02 U         0.05 I         0.08 I         0.02 U           /12/2015         5.3         3 - 4         9,999+         0.02 U         10.7         12.3         0.02 U           /12/2015         5.3         3 - 4         3712         0.02 U         0.01 U         0.02 U         0.02 U           /12/2015         5.3         3 - 4         3712         0.02 U         0.01 U         0.02 U         0.02 U           /12/2015         5.3         2 - 3         1,837         0.02 U         0.01 U         0.02 U         0.02 U           /12/2015         5.3         2 - 3         1,837         0.02 U         0.01 U         0.02 U         0.02 U           /11/2016         4.5         2.5 - 3.5         454         0.02 U         0.01 U         0.02 U         0.02	Facility Name:           Sample         OVA         Labo           Date pllected         Depth to (ft)         Sample Interval         Net OVA (ppm)         Naph- thalene         1-Methyl- naph- thalene         2-Methyl- naph- thalene         Acen- aph- thalene         Acen- aph- thylene           /12/2015         5.3         1 - 2         528         0.02 U         0.05 I         0.08 I         0.02 U         0.04 U           /12/2015         5.3         3 - 4         9,999+         0.02 U         10.7         12.3         0.02 U         0.04 U           /12/2015         5.3         3 - 4         3712         0.02 U         0.01 U         0.02 U         0.04 U           /12/2015         5.3         3 - 4         3712         0.02 U         0.01 U         0.02 U         0.04 U           /12/2015         5.3         3 - 4         3712         0.02 U         0.01 U         0.02 U         0.04 U           /12/2015         5.3         2 - 3         1.837         0.02 U         0.01 U         0.02 U         0.04 U           /12/2015         5.3         2 - 3         1.837         0.02 U         0.01 U         0.02 U         0.04 U           /11/2016         4.5         2	Facility Name: Forme           Sample         OVA         Laboratory Ana           Date pollected         Depth to Water         Sample (ft)         Net OVA (fbls)         Naph- thalene (fbls)         1-Methyl- (mg/kg)         2-Methyl- naph- thalene (mg/kg)         Acen- aph- thalene (mg/kg)         Acen- aph- thylene (mg/kg)         Acen- aph- thylene         Acen- aph- thylene         Anthra- cene           /12/2015         5.3         1 - 2         528         0.02 U         0.051         0.081         0.02 U         0.04 U         0.02 U           /12/2015         5.3         3 - 4         9,999+         0.02 U         10.7         12.3         0.02 U         0.04 U         0.02 U           /12/2015         5.3         3 - 4         3712         0.02 U         0.01 U         0.02 U	Facility Name: Former Paim           Sample         OVA         Laboratory Analyses           Date ollected         Depth to Water         Sample interval         Net OVA Reading         Naph- thalene         1-Methyl- naph- thalene         Acen- aph- thalene         Acen- aph-thalene         Acen- aph-thale	Facility Name: Former Paim Iran Paint Iran	Facility Name: Former Fail Tran Facility           Sample         OVA         Laboratory Analyses           Date Dilected         Depth to Water         Sample Interval         Net OVA (fbls)         Naph- thalene         1-Methyl- thalene         Acen- aph- thalene         Acen- aph- thalene         Anthra- aph- thalene         Benzo (mg/kg)         Fluora- tene         Fluora- tene <td>Pacinity Name: Promer Pamily name: Former Pamily na</td> <td>Facility Name: Former Pain Tran Pacinty         Facility Name: Former Pain Tran Pacinty           Date Depth to Water         Sample (new Pain Tran Pacinty         Naph- Inaph- haph- haph- haph- haph- haph- haph- haph- haph- haph- haph         Acen- aph- hyper         Acen- aph (mg/kg)         Acen (mg/kg)         Mark (mg/kg)         Pyrene         Pyrene           /12/2015         5.3         1 - 2         528         0.02 U         0.08 U         0.04 U         0.02 U         0.06 U         0.03 U         0.01 U         0.02 U           /12/2015         5.3         3 - 4         3742         0.02 U         0.02 U         0.04 U         0.02 U         0.06 U         0.03 U         0.01 U         0.02 U</td>	Pacinity Name: Promer Pamily name: Former Pamily na	Facility Name: Former Pain Tran Pacinty           Date Depth to Water         Sample (new Pain Tran Pacinty         Naph- Inaph- haph- haph- haph- haph- haph- haph- haph- haph- haph- haph         Acen- aph- hyper         Acen- aph (mg/kg)         Acen (mg/kg)         Mark (mg/kg)         Pyrene         Pyrene           /12/2015         5.3         1 - 2         528         0.02 U         0.08 U         0.04 U         0.02 U         0.06 U         0.03 U         0.01 U         0.02 U           /12/2015         5.3         3 - 4         3742         0.02 U         0.02 U         0.04 U         0.02 U         0.06 U         0.03 U         0.01 U         0.02 U

Notes: U=Indicates the compound was analyzed for, but not detected.

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

PAHs = Poly nuclear Aromatic Hydrocarbons

OVA = Organic v apor analy zer

ft = foot

fbls = Feet below ground surface

ppm = Parts per million

mg/kg = Milligram per kilogram

SCTL = Soil Cleanup Target Levels specified in Table II of Chapter 62-777, Florida Administrative Code (FAC)

## TABLE 7: SOIL ANALYTICAL SUMMARY - Carcinogenic PAHs

Facility ID#: 50/8514018

Facility Name: Former Palm Tran Facility

See notes at end of table.

	Sam	ple		OVA									
Boring/ Well No.	Date Collected	Depth to Water	Sample Interval	Net OVA Reading	Benzo (a) pyrene	Benzo (a) anthra- cene	Benzo (b) fluoran- thene	Benzo (k) fluoran- thene	Chry- sene	Dibenz (a,h) anthra- cene	Indeno (1,2,3-cd) pyrene	Benzo (a) pyrene equiv alent	
		(ft)	(fbls)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	Comments
SB-2	10/12/2015	5.3	1 - 2	528	0.05 U	0.04 U	0.04 U	0.02 U	0.02 U	0.08 U	0.04 U	-	
SB-2	10/12/2015	5.3	3 - 4	9,999+	0.05 U	0.04 U	0.04 U	0.02 U	0.02 U	0.08 U	0.04 U		
SB-4	10/12/2015	5.3	3 - 4	3712	1.9	0.3	2.9	1.1	0.02 U	0.8	1.4	3.2	
SB-9	10/12/2015	5.3	3 - 4	5437	0.05 U	0.04 U	0.04 U	0.02 U	0.02 U	0.08 U	0.04 U		
SB-18	10/12/2015	5.3	2 - 3	1,837	0.6	0.2	0.04 U	0.02 U	0.02 U	1.2	1.7	2.0	
SB-35	8/11/2016	4.5	3.5 - 4.5	454	0.05 U	0.04 U	0.04 U	0.02 U	0.02 U	0.08 U	0.04 U		
SB-39	8/11/2016	4.5	2.5 - 3.5	<1	0.05 U	0.04 U	0.04 U	0.02 U	0.02 U	0.08 U	0.04 U		
Leachability Based on Groundwater Criteria (mg/kg)				8	0.8	2.4	24	77	0.7	6.6	**		
Direct Exp	oosure Residen	itial (mg/kg)			0.1	#	#	#	#	#	#	0.1	
Commerc	ial-Industrial D	Industrial Direct-Exposure SCTL (ma/ka) 0.7 # # # # # # 0.7						0.7					

Notes: U=Indicates the compound was analyzed for, but not detected.

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

PAHs = Polynuclear Aromatic Hydrocarbons

OVA = Organic vapor analyzer

ft = foot

fbls = Feet below ground surface

ppm = Parts per million

mg/kg = Milligram per kilogram

SCTL = Soil Cleanup Target Levels specified in Table II of Chapter 62-777, Florida Administrative Code (FAC)

** = Leachability value not applicable.

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

## TABLE 8: GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY - VOCs and Lead

Facility ID#: 50/8514018

Facility Name: Former Palm Tran Facility

Sample		Benzene	Toluene	Ethyl- benzene	Total Xylenes	МТВЕ	EDB	Total Lead
Location	Date	(µg/L)	(µ <b>g/L)</b>	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1	10/15/2015	0.950 l	0.660 U	0.730 U	1.81	0.530 U	0.01120 U	31
	8/15/2016	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	NA	
MW-1D	8/15/2016	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	NA	NA
MW-2	10/15/2015	0.640 U	0.660 U	0.730 U	1.63 U	4.14	0.01120 U	0.31
	8/15/2016	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	NA	NA
	10/15/2015	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	0.01120 U	0.4
MW-3	8/15/2016	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	NA	NA
	10/15/2015	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	0.01120 U	0.4 I
10100-4	8/15/2016	2.48	5.29	1.00	9.59	0.530 U	NA	NA
MW-5	10/15/2015	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	0.01120 U	0.1 I
	8/15/2016	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	NA	NA
MW-6	8/15/2016	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	NA	NA
	8/15/2016	0.640.11	0.660.11	0 720 11	1.6211	0.520.11	NA	NIA
10100-7	6/15/2016	0.640 0	0.000 0	0.730 0	1.63 U	0.550 0	NA	INA
MW-8	8/15/2016	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	NA	NA
GP-1	8/11/2016	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	NA	NA
GP-2	8/11/2016	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	NA	NA
G	GUILS	1**	40**	30**	20**	20	0.02**	15**
N	ADCs	100	400	300	200	200	2	150

: GCTLs = Groundwater Cleanup Target Levels specified in Table I of Chapter 62-777, Florida Administrative Code (FAC) NADCs = Natural Attenuation Default Source Concentrations specified in Table V of Chapter 62-777, FAC

VOC = Volatile organic compounds

GP-1 and GP-2 are temporary groundwater sampling points

** = As provided in Chapter 62-550, FAC

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

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

NA = Not Analyzed for that parameter

MTBE = Methyl tert-butyl ether

EDB = 1,2-dibromoethane

µg/L = Microgram per liter

## TABLE 9: GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY - PAHs and TRPHs

## Facility ID#: 50/8514018

Facility Name: Former Palm Tran Facility

See notes at end of table.

Sa	imple	TRPHs	Naph- thalene	1-Methyl- naph- thalene	2-Methyl- naph- thalene	Acen- aph- thene	Acen- aph- thylene	Anthra- cene	Benzo (g,h,i) pery- lene	Fluoran- thene	Fluor- ene	Phenan- threne	Pyrene	Benzo (a) pyrene	Benzo (a) anthra- cene	Benzo (b) fluoran- thene	Benzo (k) fluoran- thene	Chry- sene	Dibenz (a,h) anthra- cene	Indeno (1,2,3-cd) pyrene
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1	10/15/2015	8,250	0.147 U	90.0	86.4	0.188 U	0.393 U	0.0100 U	55.5	0.0100 U	0.217 U	0.215 U	0.409 U	10.7	0.0500 U	7.68	4.85	0.169 U	33.9	26.5
	8/15/2016	1,390	0.147 U	5.98 I	4.40 I	0.188 U	0.970 I	0.810	0.341 U	0.0100 U	0.217 U	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
MW-1D	8/15/2016	254 I	0.147 U	0.285 U	0.288 U	0.188 U	0.393 U	0.0100 U	0.341 U	0.0100 U	0.217 U	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
MW-2	10/15/2015	1,450	0.147 U	20.9	19.3	35.2	0.393 U	6.76	0.341 U	0.0100 U	20.0	9.22 I	4.38 I	0.200 U	0.0500 U	5.99	3.47	0.169 U	0.0050 U	0.0500 U
10100-2	8/15/2016	911	0.147 U	4.52 l	2.46 I	0.188 U	0.393 U	0.0100 U	0.341 U	0.0100 U	0.217 U	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
MW-3	10/15/2015	265 1	0.147 U	0.285 U	0.288 U	0.188 U	0.393 U	0.0100 U	0.341 U	0.0100 U	0.217 U	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
	8/15/2016	1 CO	0.147 0	0.285 0	0.288 0	0.188 0	0.393 0	0.0100 0	0.341 0	0.0100 0	0.217 0	0.215 0	0.409 0	0.200 0	0.0500 0	0.0500 0	0.500 0	0.169.0	0.0050 0	0.0500 0
NA107 A	10/15/2015	1,450	0.147 U	20.1	11.3	0.188 U	0.393 U	0.0100 U	0.341 U	0.0100 U	0.680 I	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
10100-4	8/15/2016	1,770	0.147 U	95.8	48.6	0.188 U	0.393 U	0.0100 U	0.341 U	0.0100 U	0.217 U	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
MW-5	10/15/2015	527	0.147 U	0.285 U	0.288 U	0.188 U	0.393 U	0.0100 U	0.341 U	0.0100 U	0.217 U	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
	8/15/2016	577	0.147 U	3.15 I	0.750 I	0.188 U	0.393 U	0.0100 U	0.341 U	0.0100 U	0.217 U	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
MW-6	8/15/2016	40 U	0 147 U	0 285 U	0 288 U	0 188 U	0.393 U	0.0100 U	0 341 U	0 0100 U	0 217 U	0 215 U	0 409 U	0 200 U	0.0500 U	0.0500 U	0.500 U	0 169 U	0 0050 U	0.0500 U
MW-7	8/15/2016	341 I	0.147 U	0.285 U	0.288 U	0.188 U	0.393 U	0.0100 U	0.341 U	0.0100 U	0.217 U	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
MW-8	8/15/2016	40 U	0.147 U	0.285 U	0.288 U	0.188 U	0.393 U	0.0100 U	0.341 U	0.0100 U	0.217 U	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
0.0.4	0/44/0040	40.11	0.447.11	0.005.11	0.000.11	0.400.11	0.000.11	0.0400.11	0.044.11	0.0400.11	0.047.11	0.045.11	0.400.11	0.000.11	0.0500.11	0.0500.11	0.500.11	0.400.11	0.0050.11	0.0500.11
GP-1	8/11/2016	40 U	0.147 0	0.285 0	0.288 U	0.188 0	0.393 0	0.0100 0	0.341 0	0.0100 0	0.217 0	0.215 0	0.409 U	0.200 0	0.0500 0	0.0500 0	0.500 0	0.169 0	0.0050 0	0.0500 0
GP-2	8/11/2016	40 U	0.147 U	0.285 U	0.288 U	0.188 U	0.393 U	0.0100 U	0.341 U	0.0100 U	0.217 U	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
G	CTLs	5,000	14	28	28	20	210	2,100	210	280	280	210	210	0.2**	0.05 ^a	0.05 ^a	0.5	4.8	0.005 ^a	0.05 ^a
N/	ADCs	50,000	140	280	280	200	2,100	21,000	2,100	2,800	2,800	2,100	2,100	20	5	5	50	480	0.5	5

Notes: GCTLs = Groundwater Cleanup Target Levels specified in Table I of Chapter 62-777, Florida Administrative Code (FAC)

NADCs = Natural Attenuation Default Source Concentrations specified in Table V of Chapter 62-777, FAC

GP-1 and GP-2 are temporary groundwater sampling points

** = As provided in Chapter 62-550, F.A.C.

^a = See the October 12, 2004 "Guidance for the Selection of Analytical Methods and for the Evaluation of Practical Quantitation Limits" to determine how to evaluate data when the CTL is lower than the PQL.

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

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

µg/L = Microgram per liter

PAH = Polynuclear aromatic hydrocarbons

TRPH = Total recoverable petroleum hydrocarbons

Appendix B - Exhibits









SB-2	
DEPTH (feet)	OVA (ppm)
0-1	48
1-2	528
2-3	9999+
3-4	9999+
4-6	9999+
6-8	9999+

-
-
-

SB-7	
DEPTH	OVA
(feet)	(ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	<1
4-6	<1
6-8	<1

SB-12	
DEPTH (feet)	OVA (ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	<1
4-6	<1
6-8	2

SB-17	
DEPTH (feet)	OVA (ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	<1
4-6	612
6-8	1232

<1	0-1
<1	1-2
<1	2-3
<1	3-4
612	4-6
1232	6-8
	SB-

OVA
(ppm)
<1
<1
20
<1
9
9999+

SB-27	
DEPTH (feet)	OVA (ppm)
0-1	120
1-2	38.8
2-3	1
3-4	8336
4-6	9999+
6-8	9999+

0 0	10
SB-23	
DEPTH (feet)	OVA (ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	<1
4-6	3041
6-8	9999+

SB-28						
DEPTH (feet)	OVA (ppm)					
0-1	<1					
1-2	<1					
2-3	6					
3-4	<1					
4-6	<1					
6-8	<1					

# FOR SOIL BORING LOCATIONS

SB-4	
DEPTH (feet)	OVA (ppm)
0-1	4
1-2	6
2-3	3712
3-4	9999+
4-6	9999+
6-8	9999+

SB-5	
DEPTH	OVA
(feet)	(ppm)
0-1	3514
1-2	9999+
2-3	9999+
3-4	9999+
4-6	9999+
6-8	9999+

SB-9	
DEPTH (feet)	OVA (ppm)
0-1	<1
1-2	1
2-3	31
3-4	5437
4-6	9999+
6-8	9999+

SB-14	
DEPTH	OVA
(feet)	(ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	<1
4-6	9
6-8	9

SB-19	
DEPTH (feet)	OVA (ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	1
4-6	368
6-8	508

SB-20	
DEPTH	OVA
(feet)	(ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	<1
4-6	1

SB-25	
DEPTH	OVA
(feet)	(ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	<1
4-6	<1
6-8	<1

-29		] [
PTH	QVA 🔪	
et)	(ppm)	
·1	131	
2	91	
3	188	
4	36	
6	183	
8	51	

SB-30	
DEPTH	OVA
(feet)	(ppm)
0-1	5085
1-2	3712
2-3	3562
3-4	4732
4-6	772
6-8	2442

## **EXHIBI**





## LEGEND EXISTING MONITORING WELL ▲ TERRACON INSTALLED MONITORING WELL (95.03) RELATIVE GROUNDWATER ELEVATION AT WELL (feet) 95.00 RELATIVE GROUNDWATER ELEVATION CONTOUR (feet) - INFERRED DIRECTION OF SHALLOW GROUNDWATER FLOW



GROUNDWATER ELEVATION DIAGRAM (8-15-2016)	
LIMITED CONTAMINATION ASSESSMENT REPORT FORMER PALM TRAN FACILITY PALM BEACH INTERNATIONAL AIRPORT (PBIA) - BLDG. S-1440 WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA	
FDEP FACILITY ID No. 50 / 8514018	

EXHIBIT



Ν	J	
-		

|--|

SCREENING CRITERIA (ug/L micrograms/LITER)		
PARAMETER	GCTL	NADC
B – BENZENE (ug/L)	1	100
T – TOLUENE (ug/L)	40	400
E – ETHYLBENZENE (ug/L)	30	300
X – XYLENES (TOTAL)(ug/L)	20	200





TERRACON TEMPORARY GROUNDWATER SAMPLE POINT

SCREENING CRITERIA (ug/L micrograms/LITER)		
PARAMETER GCTL N/		NADC
1M – 1-METHYLNAPHTHALENE (ug/L)	28	280
2M – 2-METHYLNAPHTHALENE (ug/L)	28	280

- 1. GCTL = GROUNDWATER CLEANUP TARGET LEVEL, CHAPTER 62-777, FLORIDA ADMINISTRATIVE CODE (F.A.C.)

95.8 CONCENTRATIONS GREATER THAN GCTL (BOLD TEXT/YELLOW)

- 3. I = REPORTED VALUES ARE BETWEEN METHOD DETECTION LIMIT (MDL) AND PRACTICAL QUANTITATION LIMIT.

Appendix C - November 10, 2015 LSSI Assessment Report

## Low Score Site Initiative Assessment Report

FORMER PALM TRAN FACILITY

## PBIA, FORMER BUILDING S-1440

## WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA

DEP FACILITY NO. 50/8514018

November 10, 2015

Terracon Project No. HD157021



Prepared for: Florida Department of Environmental Protection Tallahassee, Florida

> Prepared by: Terracon Consultants, Inc. West Palm Beach, Florida



November 10, 2015

# lerracon

Attention: Mr. J. Michael Wilson NorthStar Contracting Group, Inc. 508-A Capital Circle S.E. Tallahassee, FL 32301

- P: (850) 222-6446, ext. 237
- E: mwilson@NorthStar.com
- Re: Low Score Site Initiative Assessment Report Former Palm Tran Facility PBIA, Former Building S-1440 West Palm Beach, Palm Beach County, Florida DEP Facility No. 50/8514018 Discharge Date: 11/05/1987 (EDI) Priority Score: 10 Work Order: 2015-95-W8884A Terracon Project No: HD157021

Dear Mr. Wilson:

Environmental

Terracon Consultants, Inc. (Terracon) has conducted assessment activities at the referenced site as approved by the Florida Department of Environmental Protection (DEP) in the Low Scored Site Initiative (LSSI) Work Order No. 2015-95-W8884A executed on September 11, 2015. The work was performed in accordance with the Work Order based on Terracon's revised proposal dated September 10, 2015.

We appreciate the opportunity to perform these services. Please contact the undersigned at (561) 494-7016 if you have questions regarding the information provided in the report.



FOR

Geotechnical

Eric Krebill, P.G. Senior Project Manager

Materials

cc: Mr. John Tierney, Palm Beach County Facilities Development (jtierney@pbcgov.org)

Facilities

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- Appendix D: Laboratory Analytical Reports and Chain-of-Custody Records

## LOW SCORE SITE INITIATIVE ASSESSMENT REPORT

## FORMER PALM TRAN FACILITY PBIA, FORMER BUILDING S-1440 WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA

## Terracon Project No. HD157021 DEP Facility No. 50/8514018 November 10, 2015

## **1.0 INTRODUCTION**

## 1.1 Site Description

Site Name	Former Palm Tran Facility
Site Location/Address	Palm Beach International Airport (PBIA) Former Building S-1440 West Palm Beach, Palm Beach County, Florida Latitude: 26° 41.303'N Longitude: 80° 4.658'W
Site Improvements	Commercial/industrial setting. Former bus fueling facility razed in the 2000s. Remnant asphalt and concrete pavement, apparent stormwater and sewer underground utilities

Current assessment data are summarized in tables contained in Appendix A. The site location is indicated on Exhibit 1 in Appendix B. A site diagram is provided as Exhibit 2 in Appendix B.

## 1.2 Background

Terracon has conducted low scored site initiative (LSSI) assessment activities at the referenced site as authorized by the Florida Department of Environmental Protection (DEP) in the LSSI Work Order 2015-95-W8884A executed on September 10, 2015. The purpose of this assessment is to determine the appropriate Screening Endpoint Category for the former Palm Tran Facility site.

## 1.3 Screening Endpoint Categories

- a. Imminent Threat (IT)
  - Based on a Bureau of Petroleum Storage Systems (BPSS) evaluation of information submitted in the report and other available information
  - Start funding cleanup with IT funding priority
  - Continue funding IT until threat is gone
- b. Long-Term Natural Attenuation Monitoring (LtNAM)
  - Qualifies pursuant to current LtNAM guidelines
  - Funding for LtNAM activities will occur after the site becomes eligible based on the priority ranking score.



- c. Await Cleanup in Priority Score Order
  - Data indicates that the conditions do not warrant funding cleanup out of priority order and the site does not qualify for LtNAM or a Site Rehabilitation Completion Order (SRCO). Additional cleanup activities will continue after the site becomes eligible for funding based on priority ranking score.
- d. Closure Order
  - Qualifies for one of the following closure options:
    - If it is demonstrated that no petroleum contamination exists at a result of the applicable discharge, the DEP may issue a SRCO pursuant to Rule 62-780.680(1), Florida Administrative Code (FAC). (Risk Management Options Level I), or
    - II. If it is demonstrated that minimal contamination exists as a result of the applicable discharge and soil in the top two feet do not exceed appropriate soil cleanup target levels, a LSSI No Further Action (NFA) Order acknowledging such conditions shall be issued pursuant to Section 376.3071(11)(b), Florida Statutes (FS), or
    - III. If soil in the top two feet exceed appropriate soil cleanup target levels and the requirements of Section 376.3071(11) are met for the applicable discharge, a SRCO acknowledging such conditions shall be issued by DEP pursuant to Section 376.3071(11)(b), FS.

## 1.4 Regulatory Records Summary

Terracon reviewed site information posted on the DEP's OCULUS and Palm Beach County's CINEMA electronic document management websites for the former Palm Tran facility. Provided hereafter is the significant information identified for LSSI evaluation.

The former Palm Tran facility bus fueling area maintained three underground storage tanks (USTs) which were reportedly installed in 1977. Identified information regarding the size of the USTs was conflicting, but most of the file information suggests that the tanks were single-walled, constructed of steel, two 10,000-gallons in capacity for diesel fuel and one 12,000-gallons in capacity for gasoline. The file review information indicated that three fuel dispensers existed under a canopy adjacent west of the UST farm.

The Palm Tran facility reported a petroleum discharge in November 1987 as a result of elevated organic vapor readings during vapor screening of UST compliance wells. However, this data was not accepted by the DEP for State-funded cleanup Early Detection Incentive (EDI) program eligibility. Consequently, a tank compliance well was sampled in June 1988 and a groundwater sample was analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 602. The analysis documented concentrations of benzene of 5 micrograms per liter ( $\mu$ g/L) and total xylenes of 50  $\mu$ g/L which exceeded groundwater cleanup target levels (GCTLs). The facility was subsequently determined eligible for State-funded cleanup under the EDI program by August 1988. The discharge was assigned a priority ranking cleanup score of



10. No evidence of assessment or remediation work was identified in the regulatory files for the 1987 EDI eligible discharge.

The UST system was taken out-of-service in November 1995 as the USTs were required to be upgraded. As a result, a 4,000-gallon skid-mount diesel fuel AST was temporarily used at the facility. The AST was reported to be connected to the existing diesel fuel dispensers associated with the USTs. In mid-July 1997, the USTs were removed from the site by Petropac, Inc. Seyfried & Associates, Inc. (Seyfried) was onsite during the removal activities to screen soils with an organic vapor analyzer (OVA) with the intention of segregating "excessively contaminated" soil during the USTs excavation. A formal tank closure assessment was not required at that time since the site was eligible for State-funded cleanup under the EDI program. During UST removal, Seyfried collected 20 soil samples from the sidewalls and base of the UST excavation at depths of either 2 or 4 feet below the ground surface (bgs) for OVA screening. OVA readings ranged from 2 to greater than 962 parts per million (ppm) with four samples exceeding 50 ppm and one sample exceeding 500 ppm. It was determined by Seyfried that two isolated areas of apparent "excessively contaminated" soil were present within the UST excavation. However, the impacted soils were not removed during tank removal since it was determined by Sevfried that the amount of impacted soil was minor and the cost for soil removal and treatment did not appear to justify the environmental benefit. Laboratory analysis of the collected soil samples was not reported by Seyfried.

It was noted during UST removal that the center tank (10,000-gallon diesel fuel) was missing its drain plug. The missing plug could not be located and it was not known if the plug corroded or had fallen off during removal. It was stated by the County tank inspector in its inspection report that the tanks were in good condition with limited corrosion and pitting.

Information found in the County tank inspection report during the removal event indicated that the pipelines leading from the USTs to the dispensers were capped. It does not appear that the fuel transfer lines and dispensers were removed in July 1997 as they may have continued to have been used for bus fueling in connection with the temporary AST. No additional regulatory information was identified with regard to removal of the dispensers and associated fuel pipelines. Based upon a review of historical aerial photographs, it appears that the canopy and underlying fuel dispensers may have been removed in 2004.

Free product was reportedly encountered on the water table exposed within the excavation during UST removal in 1997. The free product was removed from the water surface by Cliff Berry, Inc. using a vacuum truck. The product and petroleum contact water from tank cleaning was disposed offsite by Cliff Berry, Inc. No information could be found regarding the volume of free product recovered, residual product in the tanks or petroleum contacted water generated during tank cleaning disposed.



In Seyfried's tank removal summary letter, it was concluded that petroleum contamination appeared limited to the water table surface. It was opined that the water table was high during the tank removal causing a "smear zone" of contaminated soil at and below the water table. The depth of the water table below the ground surface was not reported by Seyfried. No further pertinent information concerning the 1987 discharge or bus fueling UST area was identified in the regulatory records.

## 2.0 SCOPE OF WORK

This report documents sampling activities conducted in accordance with the DEP LSSI Work Order No. 2015-95-W8884A.

Terracon completed field activities in accordance with the DEP's guidance document *Standard Operating Procedures for Field Activities*, DEP-SOP-001/01, dated February 1, 2004. Field activities were conducted under modified safety level D by environmental staff with Occupational Safety and Health Administration (OSHA) 1910.120 training. A *Site Safety and Health Plan* was been developed by Terracon for the safety of Terracon personnel engaged in field services at the site. Terracon provided notification of field activities to the DEP and contacted Sunshine 811 for underground utility locating prior to conducting field activities.

## 3.0 LSSI FIELD ACTIVITIES

## 3.1 Soil Screening, Sampling and Analysis

On October 12, 2015, Terracon's drilling subcontractor, Wombat Environmental, LLC, advanced 30 soil borings at the site which included planned borings SB-1 through SB-25 and "step-out" borings SB-26 through SB-30. Borings SB-1 through SB-5 were situated in the area of the former fuel dispensers and fuel transfer lines while borings SB-6 though SB-25 were positioned in a grid-like pattern at the former UST basin. The step-out borings were situated around the periphery of fuel dispenser area which had the highest indication of soil impacts based on field screening data. Approximate soil boring locations are shown on Exhibit 2 in Appendix B. Boring equipment was decontaminated using a wash of Liquinox detergent/water and rinsed with clean water. The borings were advanced using Geoprobe® direct-push technology (DPT) equipment to a depth of approximately 8 feet bgs.

Soil grab samples at boring locations were collected at 1-foot depth intervals to a depth of 4 feet bgs and at 2-foot depth intervals thereafter to a depth of approximately 8 feet bgs. Immediately prior to drilling, the groundwater table was measured at 5.3 feet bgs in an existing site monitoring well (arbitrarily designated MW-5) located within the work area. Soil grab samples were screened for physical characteristics such as soil type, color, moisture and odor, and physical indications of petroleum impacts. Soil samples were placed into pint-sized glass jars, filled to half-capacity, and covered with a layer of aluminum foil for head space screening. The head space within each



sample jar was screened for indications of volatile organic vapors using a hand-held photo ionization detector (PID)-type OVA. The OVA is useful for detecting volatile organic vapors in the head space of a soil container to a lower limit of 1 part per million (ppm) calibration gas equivalents. Field screening results are included on Table 1 in Appendix A. Soil OVA readings measured in the soil borings during the LSSI are depicted on Exhibit 3 in Appendix B.

The LSSI work area was surfaced with either asphalt or concrete pavement. The pavement sections were typically underlain with a thin layer (less than 0.5 foot) of lime rock base course followed by sandy soils to the terminal depth of exploration of approximately 8 feet bgs. Petroleum odors were noted in several soil samples collected from the soil borings as noted in Table 1 in Appendix A and the soil boring logs in Appendix C. OVA readings above 10 ppm in soil samples collected above the groundwater table were identified in all borings except SB-7, SB-11, SB-12, SB-14, SB-16, SB-20, SB-21, SB-25 and SB-28.

The soil screening data for borings SB-1 to SB-25 was provided to the DEP project manager to determine what boring and depths to collect grab samples for laboratory analysis. On October 12, 2015, Terracon collected DEP prescribed soil samples for laboratory analysis by re-drilling a soil boring adjacent to (approximately 4-inches away) previously advanced borings including: SB-2 at a depth of 1-2 feet bgs and 3-4 feet bgs, SB-4 at a depth of 3-4 feet bgs, SB-9 at a depth of 3-4 feet bgs, and SB-18 at a depth of 2-3 feet bgs

The soil samples were placed in laboratory prepared glassware, sealed with custody tape, and placed on ice in a cooler. The sample cooler and completed chain-of-custody record were delivered to a Florida Department of Health (FDOH)-certified and National Environmental Laboratory Accreditation Conference (NELAC)-accredited laboratory, Palm Beach Environmental Laboratories, Inc., for analysis for the following parameters:

- Benzene, toluene, ethylbenzene and total xylenes (BTEX) and methyl tert-butyl ether (MTBE) by EPA Method 8260
- Polynuclear aromatic hydrocarbons (PAH) by EPA Method 8270
- Total recoverable petroleum hydrocarbons (TRPH) by the FL-PRO method

Laboratory analytical results for the soil samples were compared to Florida's Soil Cleanup Target Levels (SCTLs) listed in Chapter 62-777 of the Florida Administrative Code (FAC). Tables 4, 5, 6, 6A and 6B in Appendix A contain a summary of soil analytical results. A copy of the laboratory analytical report and chain-of-custody record are provided in Appendix D. A summary of the analytical results which exceeded applicable SCTLs is provided hereafter:

 1-methylnaphthalene and 2-methylnaphthalene were reported in sample SB-2 (3-4 ft bgs) at concentrations of 10.7 and 12.3 milligrams per kilogram (mg/kg), respectively, exceeding their leachability-based SCTLs of 3.1 and 8.5 mg/kg.



- Benzo(a)pyrene was detected in sample SB-4 (3-4 ft bgs) at a concentration of 1.9 mg/kg and SB-18 (2-3 ft bgs) at a concentration of 0.6 mg/kg exceeding the residential direct-exposure SCTL of 0.1 mg/kg. The concentration for SB-4 (3-4 ft bgs) exceeds the commercial/industrial direct-exposure SCTL of 0.7 mg/kg.
- Benzo(b)fluoranthene was detected in sample SB-4 (3-4 ft bgs) at a concentration of 2.9 mg/kg exceeding its leachability-based SCTL of 2.4 mg/kg.
- Dibenz(a,h)anthracene was detected in sample SB-4 (3-4 ft bgs) at a concentration of 0.8 mg/kg and SB-18 (2-3 ft bgs) at a concertation of 1.2 mg/kg exceeding its leachability-based SCTL of 0.7 mg/kg.
- The calculated benzo(a)pyrene equivalents for SB-4 (3-4 ft bgs) and SB-18 (2-3 ft bgs) were reported at 3.2 and 2.0 mg/kg, respectively, exceeding the both the residential direct-exposure SCTL of 0.1 mg/kg and commercial/industrial direct-exposure SCTL of 0.7 mg/kg.
- TRPH was detected in sample SB-2 (3-4 ft bgs) at a concentration of 1,820 mg/kg exceeding the residential direct-exposure SCTL of 460 mg/kg and leachability-based SCTL of 340 mg/kg.

Performance of additional soil analysis such TRPH speciation and synthetic precipitation leaching procedure (SPLP) analysis included as contingencies in the work scope was not required by the DEP site manager based on the initial laboratory analysis results. At the end of the work day on October 12, 2015, soil borings were backfilled with soils removed for screening and the surface was capped with asphalt or concrete patch.

## 3.2 Monitor Well Installation

On October 13, 2015, Terracon's drilling subcontractor, Wombat Environmental, LLC, installed monitoring wells MW-1, MW-2, MW-3, and MW-4, under the supervision of Terracon. The locations of the monitoring wells were discussed with DEP site manager prior to installation, based on the soil screening results. Monitoring well locations are indicated on Exhibit 2 in Appendix B.

Monitoring wells MW-1, MW-2, MW-3, and MW-4 were installed using DPT and constructed with 1inch diameter polyvinyl chloride (PVC) well pipe with 10 feet of 0.010-inch slotted PVC screen set at approximately 3 to 13 feet bgs in order to bracket the water table. A filter pack of 20/30-graded silica sand was secured (i.e. pre-packed) around the well screen using a stainless steel mesh and clips. Additional filter sand was paced in the annular space between the borehole and monitoring well prepack to approximately 1 foot above the well screen followed by an approximately 1 foot layer of 30/65-graded fine sand seal. The fine sand seal was topped with cement grout to the land surface. Each well head was fitted with a water-tight locking cap and a steel covered manhole with a 2-foot by 2-foot by 4-inch thick concrete pad for surface protection. The wells were developed by over-pumping and purge water was discharged onto the surrounding pavements to evaporate. A summary of monitoring well construction details is provided on Table 2 in Appendix A. A monitoring well permit (#5410-15) obtained from the Palm Beach Health Department, well construction and development logs, and well completion reports for MW-1, MW-2, MW-3, and MW-4 submitted to



the Palm Beach Health Department by Wombat Environmental, LLC are provided in Appendix C, along with monitoring well construction and development logs.

## 3.3 Shallow Groundwater Flow

On October 15, 2015, the relative elevation at the top of each newly installed monitoring well (MW-1 through MW-4) and an existing monitoring well (arbitrarily designated MW-5) was measured using an arbitrary benchmark elevation established onsite. Groundwater level data are summarized on Table 3 in Appendix A. The water table was measured approximately 4.6 to 5.6 feet bgs. Free product was not observed in the site monitoring wells. Relative groundwater elevations were plotted on Exhibit 4 in Appendix B, which display that the shallow groundwater flow was measured toward the south-southeast. Field data are contained in Appendix C.

## 3.4 Groundwater Sampling and Analysis

Terracon collected groundwater samples from newly installed monitoring wells MW-1, MW-2, MW-3 and MW-4 and existing monitoring well MW-5 on October 15, 2015. Field sampling and equipment calibration logs are contained in Appendix C. Groundwater samples were collected after equilibration of field parameter measurements in accordance with DEP SOP 001/01, FS 2200 and PCS-5.

The groundwater samples were placed in laboratory supplied containers and stored on ice in a cooler. The sample cooler and completed chain-of-custody record were transported to Palm Beach Environmental Laboratories, Inc. for the following parameters:

- BTEX and MTBE by EPA Method 8260
- PAH by EPA Method 8270
- TRPH by the FL-PRO method
- 1,2-dibromoethane (EDB) by EPA Method 8260B
- Total lead by EPA Method 6020B

Copies of the laboratory analytical report and chain-of-custody record are provided in Appendix D. Laboratory analytical results for the groundwater samples were compared to Florida's GCTLs and Natural Attenuation Default Concentrations (NADCs) listed in Chapter 62-777, FAC. Tables 7 and 8 in Appendix A contain a summary of groundwater analytical results. A summary of the analytical results which exceeded applicable GCTLs is provided hereafter:

- 1-methylnaphthalene and 2-methylnaphthalene were reported in sample MW-1 at concentrations of 90.0 microgram per liter (µg/L) and 86.4 µg/L, respectively, exceeding the GCTL of 28 µg/L for these compounds.
- Acenaphthene was reported in MW-2 at a concentration of 35.3 μg/L exceeding the GCTL of 20 μg/L.



- Benzo(a)pyrene was detected in MW-1 at a concentration of 10.7 µg/L exceeding its GCTL of 0.2 µg/L.
- Benzo(b)fluoranthene was reported in MW-1 at a concentration of 7.68 µg/L and MW-2 at a concentration of 5.99 µg/L exceeding the GCTL of 0.05 µg/L and NADC of 5 µg/L.
- Benzo(k)fluoranthene was detected in MW-1 at a concentration of 4.85 µg/L and MW-2 at a concentration of 3.47 µg/L exceeding the GCTL of 0.5 µg/L.
- Dibenzo(a,h)anthracene was measured at a concentration of 33.9 μg/L exceeding the GCTL of 0.005 μg/L and NADC of 0.5 μg/L.
- Indeno(1,2,3-cd)pyrene was reported in MW-1 a concentration of 26.5 μg/L exceeding the GCTL of 0.05 μg/L and NADC of 5 μg/L.
- TRPH was reported in MW-1 at a concentration of 8,250 µg/L exceeding the GCTL of 5,000 µg/L.

The estimated extent of TRPH and select PAH compounds in groundwater exceeding the GCTL for the October 15, 2015 sampling event are plotted on Exhibits 5, 6 and 7 in Appendix B. A site map showing BTEX/MTBE in groundwater was not provided since GCTL exceedances for BTEX/MTBE were not identified.

## 4.0 FINDINGS AND CONCLUSIONS

The findings and conclusions of this assessment are as follows:

- Elevated vadose zone OVA readings above 10 ppm were measured at 21 of 30 boings. Based on laboratory analytical results, petroleum concentrations in excess of SCTLs were not identified in the top two feet. Concentrations of TRPH and select PAH measured between 2 and 4 feet bgs were exceed default SCTLs established for residential directexposure and leachability based on groundwater quality. Benzo(a)pyrene concentrations reported between 2 and 4 feet bgs in two soil samples exceed the SCTLs established for direct-exposure at commercial/industrial settings, but do not exceed the SCTL for leachability based on groundwater quality.
- The water table was measured at a depth of approximately 4.6 to 5.6 feet bgs during the October 15, 2015 sampling event at the site. Shallow groundwater flow was measured to the south-southeast. Free product was not observed in the site monitoring wells.
- TRPH and/or PAH compounds in excess of GCTLs but below NADCs were reported in two
  of five groundwater samples collected from five site monitoring wells. Concentrations of
  BTEX and MTBE did not exceed of GCTLs at the monitoring well locations.


# 5.0 **RECOMMENDATIONS**

The LSSI assessment data indicates the site does not qualify for LSSI NFA or SRCO, due to petroleum concentrations exceeding SCTLs in the vadose zone. Based on the LSSI assessment results, it appears that the appropriate Screening Endpoint Category for the former Palm Tran Facility is to await State-funded cleanup in priority score order.

Appendix A - Tables

Facility ID#:	50/8514018		Facility	lity See notes at end of table.				
Name	e: Former Pa	alm Tran Fa	cility	-				
	SAM	PLE						
		DEPTH	SAMPLE	PID Reading	COMMENTS			
BORING No.	DATE	TO WATER	INTERVAL	(PPM)				
		(feet)	(feet)					
			0-1	<1				
			1-2	3.0				
SB-1	10/12/2015	53	2-3	60.3				
	10,12/2010	0.0	3-4	9999+	Slight petroleum odor at 3 ft			
			4-6	9999+	Strong petroleum odor at 4-8 ft			
			6-8	9999+				
			0-1	48.4				
			1-2	528	SB-2(1-2) - Lab ID 13883-05			
SB-2	10/12/2015	53	2-3	9999+	Petroleum odor at 1-8 ft			
00 2	10,12/2010	0.0	3-4	9999+	SB-2(3-4) - Lab ID 13883-04			
			4-6	9999+	1-inch layer of concrete observed			
			6-8	9999+	at 5 ft			
			0-1	<1				
			1-2	252	Petroleum odor at 1-8 ft			
SB-3	10/12/2015	53	2-3	471				
02 0	10,12,2010	0.0	3-4	9999+				
			4-6	9999+				
		6-8	9999+					
			0-1	3.5				
			1-2	5.6				
SB-4	10/12/2015	5.3	2-3	3712	SB-4(2-3) - Lab ID 13883-03			
			3-4	9999+	Petroleum odor at 3-8 ft			
			4-6	9999+				
			6-8	9999+				
			0-1	3514				
			1-2	9999+	Petroleum odor at 0.5-8 ft			
SB-5	10/12/2015	5.3	2-3	9999+				
			3-4	9999+				
			4-6	9999+				
			6-8	9999+				
			0-1	2.4				
			1-2	41.5				
SB-6	10/12/2015	5.3	2-3	165				
			3-4	139				
			4-6	<1				
			6-8	<1				
			0-1	<1				
			1-2	<1				
SB-7	10/12/2015	5.3	2-3	<1				
			3-4	<1				
			4-6	<1				
			6-8	<1				

Facility ID#:	50/8514018		Facility	acility See notes at end of table.					
Name	e: Former Pa	alm Tran Fa	cility						
	SAM	PLE							
		DEPTH	SAMPLE	PID Reading	COMMENTS				
BORING No.	DATE	TO WATER	INTERVAL	(PPM)	COMMENTO				
		(feet)	(feet)						
			0-1	411	Slight petroleum odor at 0-1 ft				
			1-2	<1					
SB-8	10/12/2015	53	2-3	1.2					
00-0	10/12/2013	0.0	3-4	<1					
			4-6	1.4					
			6-8	10.3					
			0-1	<1					
			1-2	1.2					
SB-9	10/12/2015	5.3	2-3	31.1					
02 0	10, 12,2010	0.0	3-4	5437	SB-9(3-4) - Lab ID 13883-02				
			4-6	9999+	Strong petroleum odor at 3-8 ft				
			6-8	9999+					
			0-1	<1					
			1-2	<1					
SB-10	10/12/2015	53	2-3	<1					
02 10	10,12,2010	0.0	3-4	224	Petroleum odor at 3-8 ft				
			4-6	1472					
			6-8	970					
			0-1	<1					
			1-2	<1					
SB-11	10/12/2015	5.3	2-3	<1					
			3-4	<1					
			4-6	5.5					
			6-8	63.5					
			0-1	<1					
			1-2	<1					
SB-12	10/12/2015	5.3	2-3	<1					
			3-4	<1					
			4-6	<1					
			6-8	2.1					
			0-1	<1					
			1-2	<1					
SB-13	10/12/2015	5.3	2-3	<1					
			3-4	21.1	<b>O</b> N 11 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1				
			4-6	386	Slight petroleum odor from 4-8 ft				
			6-8	311					
			0-1	<1					
			1-2	<1					
SB-14	10/12/2015	5.3	2-3	<1					
			3-4	<1					
			4-6	8.5					
			6-8	9.1					

Facility ID#:	50/8514018		Facility	ility See notes at end of table							
Name	e: Former Pa	alm Tran Fa	cility								
	SAM	PLE									
		DEPTH	SAMPLE	PID Reading	COMMENTS						
BORING No.	DATE	TO WATER	INTERVAL	(PPM)							
		(feet)	(feet)								
			0-1	<1							
			1-2	209							
SB-15	10/12/2015	5.3	2-3	1.2							
			3-4	<1							
			4-6	<1							
			6-8	<1							
			0-1	<1							
			1-2	<1							
SB-16	10/12/2015	5.3	2-3	<1							
			3-4	<1							
			4-6	<1							
			6-8	1.7							
			0-1	<1							
			1-2	<1							
SB-17	10/12/2015	5.3	2-3	<1							
			3-4	<1							
			4-6	612	Petroleum odor at 4-8 ft						
		6-8	1232								
			0-1	21.2							
			1-2	180							
SB-18	10/12/2015	5.3	2-3	1837	SB-18(2-3) - Lab ID 13883-01						
			3-4	1039	Petroleum odor at 2-4 ft						
			4-6	21.4							
			6-8	18.5							
			0-1	<1							
			1-2	<1							
SB-19	10/12/2015	5.3	2-3	<1							
			3-4	1.2							
			4-6	368	Slight petroleum odor at 4-8 ft						
			6-8	508							
			0-1	<1							
			1-2	<1							
SB-20	10/12/2015	5.3	2-3	<1							
			3-4	<1							
			4-6	1.4							
			6-8	<1							
			0-1	<1							
			1-2	<1							
SB-21	10/12/2015	5.3	2-3	<1							
			3-4	<1							
			4-6	<1							
			6-8	<1							

Facility ID#:	50/8514018		Facility	See notes at end of table.				
Namo	e: Former Pa	alm Tran Fa	cility	-				
	SAM	PLE						
		DEPTH	SAMPLE	PID Reading	COMMENTS			
BORING No.	DATE	TO WATER	INTERVAL	(PPM)				
		(feet)	(feet)					
			0-1	<1				
			1-2	<1				
SB-22	10/12/2015	53	2-3	20.2				
00 22	10,12,2010	0.0	3-4	0.4				
			4-6	9.1				
			6-8	9999+				
			0-1	<1				
			1-2	<1				
SB-23	10/12/2015	5.3	2-3	<1				
			3-4	<1				
			4-6	3041	Petroleum odor at 4-8 ft			
			6-8	9999+				
			0-1	<1				
			1-2	<1				
SB-24	10/12/2015	5.3	2-3	2.1				
			3-4	2.2				
			4-6	2231	Petroleum odor at 4-8 ft			
			6-8	1587				
			0-1	<1				
			1-2	<1				
SB-25	10/12/2015	5.3	2-3	<1				
			3-4	<1				
			4-6	<1				
			6-8	<1				
			0-1	<1				
			1-2	<1				
SB-26	10/12/2015	5.3	2-3	<1				
			3-4	<1				
			4-6	9999+	Petroleum odor at 4-8 ft			
			6-8	1820				
			0-1	120	Slight petroleum odor at 0-1 ft			
			1-2	38.8				
SB-27	10/12/2015	5.3	2-3	1.1				
			3-4	8336				
			4-6	9999+	Strong petroleum odor at 4-8 ft			
			6-8	9999+				
			0-1	<1				
			1-2	<1				
SB-28	10/12/2015	5.3	2-3	6.2				
			3-4	<1				
			4-6	<1				
			6-8	<1				

Facility ID#:	50/8514018		Facility	y See notes at end of table.				
Name	e: Former Pa	alm Tran Fa	cility	36	e notes at end of table.			
	SAM	PLE						
		DEPTH	SAMPLE	PID Reading	000005070			
BORING No.	DATE	TO WATER	INTERVAL	(PPM)	COMMENTS			
		(feet)	(feet)					
			0-1	131	Slight petroleum odor at 0-8 ft			
SP 20 10/42/2015		1-2	91.0					
	10/12/2015	F 2	2-3	188				
3D-29		5.5	3-4	36.0				
			4-6	183				
			6-8	51.1				
			0-1	5085	Petroleum odor at 0-8 ft			
			1-2	3712				
SB-30	10/12/2015	F 2	2-3	3562				
	10/12/2015	0.5	3-4	4732				
			4-6	772				
			6-8	2442				

Notes:

ppm = parts per million. feet = feet below ground surface

### TABLE 2: MONITORING WELL CONSTRUCTION DETAILS

Facility ID#: 50/8514	4018	Facility Name: Form		See notes at end of table.				
Well No.	Date Installed	Installation Method	Top of Casing Elevation (feet)	A/G Riser Length, if Applicable (feet)	Total well Depth (feet)	Screened Interval (bgs)	Well Diameter (Inches)	Lithology of Screened Interval
MW-1	10/13/15	Direct Push	99.77	n/a, at grade	13	3-13	1	SP
MW-2	10/13/15	Direct Push	99.93	n/a, at grade	13	3-13	1	SP
MW-3	10/13/15	Direct Push	99.65	n/a, at grade	13	3-13	1	SP
MW-4	10/13/15	Direct Push	99.62	n/a, at grade	13	3-13	1	SP
MW-5	Unknown	Unknown	99.57	n/a, at grade	13	3-13	2	Unknown

Notes: Monitoring wells MW-1, MW-2, MW-3 & MW-4 installed by Wombat Environmental, LLC. Monitoring wells MW-5 existing. Bgs indicates below ground surface. SP indicates poorly graded sand.

### TABLE 3 : GROUNDWATER ELEVATION SUMMARY

Facility ID#: 50/8514018 Fa				ility Name: Former Palm Tran Facility							See notes at end of table.				
Well No.		MW-1		MW-2			MW-3		MW-4			MW-5			
Diameter (inches)	1		1		1		1			2					
Well Depth (feet)	Depth (feet) 13		13			13		13			13				
Screen Interval (feet)	3-13		3-13			3-13		3-13			3-13				
TOC Elevation (feet)		99.77		99.93		99.65		99.62			99.57				
DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP
10/15/15	94.17	5.60		94.94	4.99		94.98	4.67		94.95	4.67	-	94.95	4.62	

### NOTES

MW - Monitoring Well

TOC - Top of Casing

**ELEV** - Elevation

DTW - Depth to groundwater, below TOC

FP - Free Product

# TABLE 4: SOIL ANALYTICAL SUMMARY - VOAs and TRPHs

Facility ID#: 50/8514018

Facility Name: Former Palm Tran Facility

	Sam	ple		OVA			Laboratory	Analyses			
Boring/ Well No.	Date Collected	Depth to Water	Sample Interval	Net OVA Reading	Benzene	Ethyl- benzene	Toluene	Total Xylenes	МТВЕ	TRPHs	
		(ft)	(fbls)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	Comments
SB-2	10/12/2015	5.3	1 - 2	528	0.0002 U	0.0003 I	0.0003 U	0.0003 I	0.0003 U	11.7	
SB-2	10/12/2015	5.3	3 - 4	9,999+	0.0002 U	0.006	0.0003 U	0.0012 I	0.0003 U	1,820	
SB-4	10/12/2015	5.3	3 - 4	3,712	0.0002 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	141	
SB-9	10/12/2015	5.3	3 - 4	5,437	0.0002 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	18.0	
SB-18	10/12/2015	5.3	2 - 3	1,837	0.0002 U	0.0004 I	0.002	0.0005 I	0.0003 U	10.9	
Leachability Ba	ased on Groundwa	ater Criteria (m	g/kg)		0.007	0.6	0.5	0.2	0.09	340	
Residential Dir	Residential Direct-Exposure SCTL (mg/kg)				1.2	1,500	7,500	130	4,400	460	
Commercial-Ir	ndustrial Direct-Exp	posure SCTL (	mg/kg)		1.7	9	60,000	700	24,000	2,700	

Notes: U=Indicates the compound was analyzed for, but not detected.

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

VOAs = Volatile organic aromatics

MTBE = Methyl tert-butyl ether

TRPHs = Total recoverable petroleum hydrocarbons

OVA = Organic vapor analyzer

ft = foot

fbls = Feet below ground surface

ppm = Parts per million

mg/kg = Milligram per kilogram

SCTL = Soil Cleanup Target Levels specified in Table II of Chapter 62-777, Florida Administrative Code (FAC)

## TABLE 5: SOIL ANALYTICAL SUMMARY - Non-Carcinogenic PAHs

Facility ID#: 50/8514018

### Facility Name: Former Palm Tran Facility

See notes at end of table.

	Sampl	е		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-2	10/12/2015	5.3	1 - 2	528	0.02 U	0.05 I	0.08 I	0.02 U	0.04 U	0.02 U	0.06 U	0.03 U	0.03 U	0.01 U	0.02 U	
SB-2	10/12/2015	5.3	3 - 4	9,999+	0.02 U	10.7	12.3	0.02 U	0.04 U	0.02 U	0.06 U	0.03 U	0.8	0.2	0.02 U	
SB-4	10/12/2015	5.3	3 - 4	3712	0.02 U	0.01 U	0.02 U	0.02 U	0.04 U	0.02 U	1.6	0.2 I	0.03 U	0.01 U	0.4	
SB-9	10/12/2015	5.3	3 - 4	5437	0.02 U	0.01 U	0.02 U	0.02 U	0.04 U	0.02 U	0.06 U	0.03 U	0.03 U	0.01 U	0.02 U	
SB-18	10/12/2015	5.3	2 - 3	1,837	0.02 U	0.01 U	0.02 U	0.02 U	0.04 U	0.02 U	2.5	0.2 I	0.03 U	0.01 U	0.3	
Leachability	Based on Groun	dwater Crite	eria (mg/kg)		1.2	3.1	8.5	2.1	27	2,500	32,000	1,200	160	250	880	
Direct Expos	Direct Exposure Residential (mg/kg)				55	200	210	2,400	1,800	21,000	2,500	3,200	2,600	2,200	2,400	
Commercial	Industrial Direct	Exposure S	CTL (mg/kg	1)	300	1,800	2,100	20,000	20,000	300,000	52,000	59,000	33,000	36,000	45,000	

Notes: U=Indicates the compound was analyzed for, but not detected.

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

PAHs = Polynuclear Aromatic Hydrocarbons

OVA = Organic vapor analyzer

ft = foot

fbls = Feet below ground surface

ppm = Parts per million

mg/kg = Milligram per kilogram

SCTL = Soil Cleanup Target Levels specified in Table II of Chapter 62-777, Florida Administrative Code (FAC)

# TABLE 6: SOIL ANALYTICAL SUMMARY - Carcinogenic PAHs

Facility ID#: 50/8514018

### Facility Name: Former Palm Tran Facility

See notes at end of table.

	Sam	ple		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-2	10/12/2015	5.3	1 - 2	528	0.05 U	0.04 U	0.04 U	0.02 U	0.02 U	0.08 U	0.04 U		
SB-2	10/12/2015	5.3	3 - 4	9,999+	0.05 U	0.04 U	0.04 U	0.02 U	0.02 U	0.08 U	0.04 U		
SB-4	10/12/2015	5.3	3 - 4	3712	1.9	0.3	2.9	1.1	0.02 U	0.8	1.4	3.2	
SB-9	10/12/2015	5.3	3 - 4	5437	0.05 U	0.04 U	0.04 U	0.02 U	0.02 U	0.08 U	0.04 U		
SB-18	10/12/2015	5.3	2 - 3	1,837	0.6	0.2	0.04 U	0.02 U	0.02 U	1.2	1.7	2.0	
Leachabil	ity Based on G	roundwater C	Criteria (mg/	/kg)	8	0.8	2.4	24	77	0.7	6.6	**	
Direct Exp	Direct Exposure Residential (mg/kg)			0.1	#	#	#	#	#	#	0.1		
Commerc	nmercial-Industrial Direct-Exposure SCTL (mg/kg)			g/kg)	0.7	#	#	#	#	#	#	0.7	

Notes: U=Indicates the compound was analyzed for, but not detected.

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

PAHs = Polynuclear Aromatic Hydrocarbons

OVA = Organic vapor analyzer

ft = foot

fbls = Feet below ground surface

ppm = Parts per million

mg/kg = Milligram per kilogram

SCTL = Soil Cleanup Target Levels specified in Table II of Chapter 62-777, Florida Administrative Code (FAC)

** = Leachability value not applicable.

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

# Table 6A - Benzo(a)pyrene Conversion Table For Direct Exposure Soil Cleanup Target Levels Facility/Site Name: Former Palm Tran Facility Location: PBIA Facility/Site ID No.: 50/8514018

Soil Sample No.	SB-4
Sample Date	10/19/2015
Location:	Former Dispenser
Depth (ft):	2 - 3

<u>INSTRUCTIONS</u>: Calculate Total Benzo(a)pyrene Equivalents <u>if at least one of the carcinogenic PAHs is</u> <u>detected in the sample</u> at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

- 1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
- 2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
- 3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
- 4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
- 5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	<b>Toxic Equivalency Factor</b>	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	1.900	1.0	1.9000
Benzo(a)anthracene	0.300	0.1	0.0300
Benzo(b)fluoranthene	2.900	0.1	0.2900
Benzo(k)fluoranthene	1.100	0.01	0.0110
Chrysene	0.010	0.001	0.0000
Dibenz(a,h)anthracene	0.800	1.0	0.8000
Indeno(1,2,3-cd)pyrene	1.400	0.1	0.1400

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents =

3.2

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries								
Detection Concentration Reported Data Qualifier Enter								
Various	Quantified with certainty	None	reported value					
Various	Estimated	J	reported (estimated) value					
ND at MDL	MDL	U	1/2 reported value					
< MDL	Estimated	Т	reported (estimated) value					
≥ MDL but < PQL	Estimated	1	reported (estimated) value					
≥ MDL but < PQL	PQL	M	1/2 reported value					

## Table 6B - Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name:	Former Palm Tran Facility
Location:	PBIA
Facility/Site ID No .:	50/8514018
Soil Sample No.	SB-18
Sample Date	10/19/2015
Location:	Former UST area
Depth (ft):	2 - 3

<u>INSTRUCTIONS</u>: Calculate Total Benzo(a)pyrene Equivalents <u>if at least one of the carcinogenic PAHs is</u> <u>detected in the sample</u> at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

- 1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
- 2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
- If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
- 4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
- 5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	<b>Toxic Equivalency Factor</b>	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.600	1.0	0.6000
Benzo(a)anthracene	0.200	0.1	0.0200
Benzo(b)fluoranthene	0.020	0.1	0.0020
Benzo(k)fluoranthene	0.010	0.01	0.0001
Chrysene	0.010	0.001	0.0000
Dibenz(a,h)anthracene	1.200	1.0	1.2000
Indeno(1,2,3-cd)pyrene	1.700	0.1	0.1700

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents =

2.0

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown EXCEEDS the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries								
Detection Concentration Reported Data Qualifier Enter								
Various	Quantified with certainty	None	reported value					
Various	Estimated	J	reported (estimated) value					
ND at MDL	MDL	U	1/2 reported value					
< MDL	Estimated	Т	reported (estimated) value					
≥ MDL but < PQL	Estimated	1	reported (estimated) value					
≥ MDL but < PQL	PQL	Μ	1/2 reported value					

### TABLE 7: GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY - VOCs and Lead

Facility ID#: 50/8514018

Facility Name: Former Palm Tran Facility

Sample		Benzene	Toluene	Ethyl- benzene	Total Xylenes	МТВЕ	EDB	Total Lead
Location	Date	(µg/L)	(µ <b>g/L)</b>	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1	10/15/2015	0.950 l	0.660 U	0.730 U	1.81	0.530 U	0.01120 U	31
MW-2	10/15/2015	0.640 U	0.660 U	0.730 U	1.63 U	4.14	0.01120 U	0.3 I
MW-3	10/15/2015	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	0.01120 U	0.4 l
MW-4	10/15/2015	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	0.01120 U	0.4 l
MW-5	10/15/2015	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	0.01120 U	0.1 I
G	CTLs	1**	40**	30**	20**	20	0.02**	15**
N	ADCs	100	400	300	200	200	2	150

Notes:

GCTLs = Groundwater Cleanup Target Levels specified in Table I of Chapter 62-777, Florida Administrative Code (FAC)

NADCs = Natural Attenuation Default Source Concentrations specified in Table V of Chapter 62-777, FAC

VOC = Volatile organic compounds

** = As provided in Chapter 62-550, FAC

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

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

MTBE = Methyl tert-butyl ether

EDB = 1,2-dibromoethane

µg/L = Microgram per liter

### TABLE 8: GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY - PAHs and TRPHs

### Facility ID#: 50/8514018

### Facility Name: Former Palm Tran Facility

See notes at end of table.

Si	imple	TRPHs	Naph- thalene	1-Methyl- naph- thalene	2-Methyl- naph- thalene	Acen- aph- thene	Acen- aph- thylene	Anthra- cene	Benzo (g,h,i) pery- lene	Fluoran- thene	Fluor- ene	Phenan- threne	Pyrene	Benzo (a) pyrene	Benzo (a) anthra- cene	Benzo (b) fluoran- thene	Benzo (k) fluoran- thene	Chry- sene	Dibenz (a,h) anthra- cene	Indeno (1,2,3-cd) pyrene
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1	10/15/2015	8,250	0.147 U	90.0	86.4	0.188 U	0.393 U	0.0100 U	55.5	0.0100 U	0.217 U	0.215 U	0.409 U	10.7	0.0500 U	7.68	4.85	0.169 U	33.9	26.5
MW-2	10/15/2015	1,450	0.147 U	20.9	19.3	35.2	0.393 U	6.76	0.341 U	0.0100 U	20.0	9.22 I	4.38 I	0.200 U	0.0500 U	5.99	3.47	0.169 U	0.0050 U	0.0500 U
MW-3	10/15/2015	265 I	0.147 U	0.285 U	0.288 U	0.188 U	0.393 U	0.0100 U	0.341 U	0.0100 U	0.217 U	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
MW-4	10/15/2015	1,450	0.147 U	20.1	11.3	0.188 U	0.393 U	0.0100 U	0.341 U	0.0100 U	0.680 I	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
MW-5	10/15/2015	527	0.147 U	0.285 U	0.288 U	0.188 U	0.393 U	0.0100 U	0.341 U	0.0100 U	0.217 U	0.215 U	0.409 U	0.200 U	0.0500 U	0.0500 U	0.500 U	0.169 U	0.0050 U	0.0500 U
G	CTLs	5,000	14	28	28	20	210	2,100	210	280	280	210	210	0.2**	0.05 ^a	0.05 ^a	0.5	4.8	0.005 ^a	0.05 ^a
N	ADCs	50,000	140	280	280	200	2,100	21,000	2,100	2,800	2,800	2,100	2,100	20	5	5	50	480	0.5	5

Notes: GCTLs = Groundwater Cleanup Target Levels specified in Table I of Chapter 62-777, Florida Administrative Code (FAC)

NADCs = Natural Attenuation Default Source Concentrations specified in Table V of Chapter 62-777, FAC

** = As provided in Chapter 62-550, F.A.C.

^a = See the October 12, 2004 "Guidance for the Selection of Analytical Methods and for the Evaluation of Practical Quantitation Limits" to determine how to evaluate data when the CTL is lower than the PQL.

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

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

µg/L = Microgram per liter

PAH = Polynuclear aromatic hydrocarbons

TRPH = Total recoverable petroleum hydrocarbons

Appendix B - Exhibits



Nov09, 2015-2:30pm N:\Projects-Other Offices\West Palm Beach\2015\HD157021\cad\nov2015\7021-usgs-1.dwg



EXISTING MONITORING WELL

▲ NEW TERRACON MONITORING WELL

TERRACON SOIL BORING

# SITE DIAGRAM

LOW-SCORED SITE INITIATIVE ASSESSMENT REPORT FORMER PALM TRAN FACILITY PALM BEACH INTERNATIONAL AIRPORT (PBIA) - BLDG. S-1440 WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA FDEP FACILITY ID No. 50 / 8514018

# EXHIBIT

2



### TERRACON SOIL BORING

### SOIL OVA READING (ppm) **OVA - ORGANIC VAPOR ANALYZER** ppm - PARTS PER MILLION

SB-2	
DEPTH	OVA
(feet)	(ppm)
0-1	48.4
1-2	528
2-3	9999+
3-4	9999+
4-6	9999+
6-8	9999+

SB-3	
DEPTH (feet)	OVA (ppm)
0-1	<1
1-2	252
2-3	471
3-4	9999+
4-6	9999+
6-8	9999+

SB-8

DEPTH OVA

0-1 411

1-2 <1

2-3 1.2 3-4 <1

4-6 1.4

DEPTH OVA

0-1 <1

1-2 <1 2-3 <1

3-4 21.1

4-6 <u>386</u> 6-8 <u>311</u>

(feet) (ppm)

SB-13

6-8 10.3

(feet) (ppm)

SB-4	
DEPTH	OVA
(feet)	(ppm)
0-1	3.5
1-2	5.6
2-3	3712
3-4	9999+
4-6	9999+
6-8	9999+

SB-9

DEPTH OVA

0-1 <1

1-2 1.2

2-3 31.1 3-4 5437

4-6 9999+

6-8 9999+

DEPTH OVA (feet) (ppm)

0-1 <1

1-2 < 12-3 <1

3-4 <1

SB-14

(feet) (ppm)

SB-5	
DEPTH	OVA
(feet)	(ppm)
0-1	3514
1-2	9999+
2-3	9999+
3-4	9999+
4-6	9999+
6-8	9999+

SB-10

DEPTH OVA

0-1 <1

1-2 <1

2-3 < 13-4 224

4-6 1472

6-8 970

(feet) (ppm)

SB-7	
DEPTH (feet)	OVA (ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	<1
4-6	<1
6-8	<1

SB-12	
DEPTH (feet)	OVA (ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	<1
4-6	<1
6-8	2.1

SB-17	
DEPTH (feet)	OVA (ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	<1
4-6	612
6-8	1232

SB-22

(feet)

1-2

SB-27

(feet)

4-6

DEPTH OVA

0-1 <1

2-3 20.2

6-8 9999+

DEPTH OVA

0-1 120

1-2 38.8 2-3 1.1

3-4 8336

6-8 9999+

(ppm)

9999+

3-4 0.4 4-6 9.1

(ppm)

<1

SB-18	
DEPTH (feet)	OVA (ppm)
0-1	21.2
1-2	180
2-3	1837
3-4	1039
4-6	21.4
6-8	18.5

SB-23

DEPTH OVA

0-1 <1  $\begin{array}{c|cccc} 1 - 2 & < 1 \\ 2 - 3 & < 1 \\ 3 - 4 & < 1 \end{array}$ 

(feet) (ppm)

4-6 3041

6-8 9999+

DEPTH OVA

0-1 <1

1-2 < 12-3 6.2

3-4 <1

4-6 <1

6-8 <1

(feet) (ppm)

SB-28

	~ .
4-6	8.5
6-8	9.1
SB-19	
DEPTH	OVA
(feet)	(ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	1.2
4-6	368

6-8 508

DEPTH OVA

0-1 <1

 $\begin{array}{c|cccc} 1 - 2 & < 1 \\ 2 - 3 & 2.1 \\ 3 - 4 & 2.2 \end{array}$ 

4-6 2231

6-8 1587

DEPTH OVA

0-1 131

1-2 91.0 2-3 188

3-4 36.0

4-6 183

6-8 51.1

(feet) (ppm)

SB-29

(feet) (ppm)

SB-24

SB-15	
DEPTH (feet)	OVA (ppm)
0-1	<1
1-2	209
2-3	1.2
3-4	<1
4-6	<1
6-8	<1

SB-20	
DEPTH	OVA
(feet)	(ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	<1
4-6	1.4
6-8	<1

SB-25	
DEPTH	OVA 🔪
(feet)	(ppm)
0-1	<1
1-2	<1
2-3	<1
3-4	<1
4-6	<1
6-8	<1

SB-30	
DEPTH	OVA
(feet)	(ppm)
0-1	5085
1-2	3712
2-3	3562
3-4	4732
4-6	772
6-8	2442



VADOSE SOIL SCREENING DIAGRAM (10-12-2015)
LOW-SCORED SITE INITIATIVE ASSESSMENT REPORT
PALM BEACH INTERNATIONAL AIRPORT (PBIA) - BLDG. S-1440 WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA
FDEP FACILITY ID No. 50 / 8514018

### EXHIBIT

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