

- 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:
 - I. 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 ($\mu\text{g/L}$) and total xylenes of 50 $\mu\text{g/L}$ 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 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 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 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 through 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 concentration 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 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. 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 ($\mu\text{g/L}$) and 86.4 $\mu\text{g/L}$, respectively, exceeding the GCTL of 28 $\mu\text{g/L}$ for these compounds.
- Acenaphthene was reported in MW-2 at a concentration of 35.3 $\mu\text{g/L}$ exceeding the GCTL of 20 $\mu\text{g/L}$.

- 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.
- Dibenz(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 direct-exposure 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

TABLE 1: SOIL SCREENING SUMMARY

Facility ID#: 50/8514018

Facility

See notes at end of table.

Name: Former Palm Tran Facility

SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
SB-1	10/12/2015	5.3	0-1	<1	
			1-2	3.0	
			2-3	60.3	
			3-4	9999+	Slight petroleum odor at 3 ft
			4-6	9999+	Strong petroleum odor at 4-8 ft
			6-8	9999+	
SB-2	10/12/2015	5.3	0-1	48.4	
			1-2	528	SB-2(1-2) - Lab ID 13883-05
			2-3	9999+	Petroleum odor at 1-8 ft
			3-4	9999+	SB-2(3-4) - Lab ID 13883-04
			4-6	9999+	1-inch layer of concrete observed at 5 ft
			6-8	9999+	
SB-3	10/12/2015	5.3	0-1	<1	
			1-2	252	Petroleum odor at 1-8 ft
			2-3	471	
			3-4	9999+	
			4-6	9999+	
			6-8	9999+	
SB-4	10/12/2015	5.3	0-1	3.5	
			1-2	5.6	
			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+	
SB-5	10/12/2015	5.3	0-1	3514	
			1-2	9999+	Petroleum odor at 0.5-8 ft
			2-3	9999+	
			3-4	9999+	
			4-6	9999+	
			6-8	9999+	
SB-6	10/12/2015	5.3	0-1	2.4	
			1-2	41.5	
			2-3	165	
			3-4	139	
			4-6	<1	
			6-8	<1	
SB-7	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	

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SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
SB-8	10/12/2015	5.3	0-1	411	Slight petroleum odor at 0-1 ft
			1-2	<1	
			2-3	1.2	
			3-4	<1	
			4-6	1.4	
			6-8	10.3	
SB-9	10/12/2015	5.3	0-1	<1	
			1-2	1.2	
			2-3	31.1	
			3-4	5437	SB-9(3-4) - Lab ID 13883-02
			4-6	9999+	Strong petroleum odor at 3-8 ft
			6-8	9999+	
SB-10	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	224	Petroleum odor at 3-8 ft
			4-6	1472	
			6-8	970	
SB-11	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	5.5	
			6-8	63.5	
SB-12	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	2.1	
SB-13	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	21.1	
			4-6	386	Slight petroleum odor from 4-8 ft
			6-8	311	
SB-14	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	8.5	
			6-8	9.1	

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SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
SB-15	10/12/2015	5.3	0-1	<1	
			1-2	209	
			2-3	1.2	
			3-4	<1	
			4-6	<1	
			6-8	<1	
SB-16	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	1.7	
SB-17	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	612	Petroleum odor at 4-8 ft
			6-8	1232	
SB-18	10/12/2015	5.3	0-1	21.2	
			1-2	180	
			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	
SB-19	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	1.2	
			4-6	368	Slight petroleum odor at 4-8 ft
			6-8	508	
SB-20	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	1.4	
			6-8	<1	
SB-21	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	

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SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
SB-22	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	20.2	
			3-4	0.4	
			4-6	9.1	
			6-8	9999+	
SB-23	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	3041	Petroleum odor at 4-8 ft
			6-8	9999+	
SB-24	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	2.1	
			3-4	2.2	
			4-6	2231	Petroleum odor at 4-8 ft
			6-8	1587	
SB-25	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
SB-26	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	9999+	Petroleum odor at 4-8 ft
			6-8	1820	
SB-27	10/12/2015	5.3	0-1	120	Slight petroleum odor at 0-1 ft
			1-2	38.8	
			2-3	1.1	
			3-4	8336	
			4-6	9999+	Strong petroleum odor at 4-8 ft
			6-8	9999+	
SB-28	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	6.2	
			3-4	<1	
			4-6	<1	
			6-8	<1	

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SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
SB-29	10/12/2015	5.3	0-1	131	Slight petroleum odor at 0-8 ft
			1-2	91.0	
			2-3	188	
			3-4	36.0	
			4-6	183	
			6-8	51.1	
SB-30	10/12/2015	5.3	0-1	5085	Petroleum odor at 0-8 ft
			1-2	3712	
			2-3	3562	
			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#: 50/8514018

Facility Name: Former Palm Tran Facility

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

Facility 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)	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

Sample				OVA	Laboratory Analyses						Comments
Boring/ Well No.	Date Collected	Depth to Water (ft)	Sample Interval (fbls)	Net OVA Reading (ppm)	Benzene (mg/kg)	Ethyl-benzene (mg/kg)	Toluene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TRPHs (mg/kg)	
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 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-Exposure 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.

Sample				OVA	Laboratory Analyses											Comments
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) perylene (mg/kg)	Fluoran- thene (mg/kg)	Fluor- ene (mg/kg)	Phenan- threne (mg/kg)	Pyrene (mg/kg)	
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 I	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 Groundwater Criteria (mg/kg)					1.2	3.1	8.5	2.1	27	2,500	32,000	1,200	160	250	880	
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 SCTL (mg/kg)					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.

Sample				OVA	Laboratory Analyses								Comments
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)	
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	
Leachability Based on Groundwater Criteria (mg/kg)					8	0.8	2.4	24	77	0.7	6.6	**	
Direct Exposure Residential (mg/kg)					0.1	#	#	#	#	#	#	0.1	
Commercial-Industrial Direct-Exposure SCTL (mg/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

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample 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	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	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

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample 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	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	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	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	MTBE	EDB	Total Lead
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1	10/15/2015	0.950 I	0.660 U	0.730 U	1.81	0.530 U	0.01120 U	3 I
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 I
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 I
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
GCTLs		1**	40**	30**	20**	20	0.02**	15**
NADCs		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.

Sample		TRPHs	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (g,h,i) perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo (a) pyrene	Benzo (a) anthracene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Chrysene	Dibenz (a,h) anthracene	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
GCTLs		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
NADCs		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.

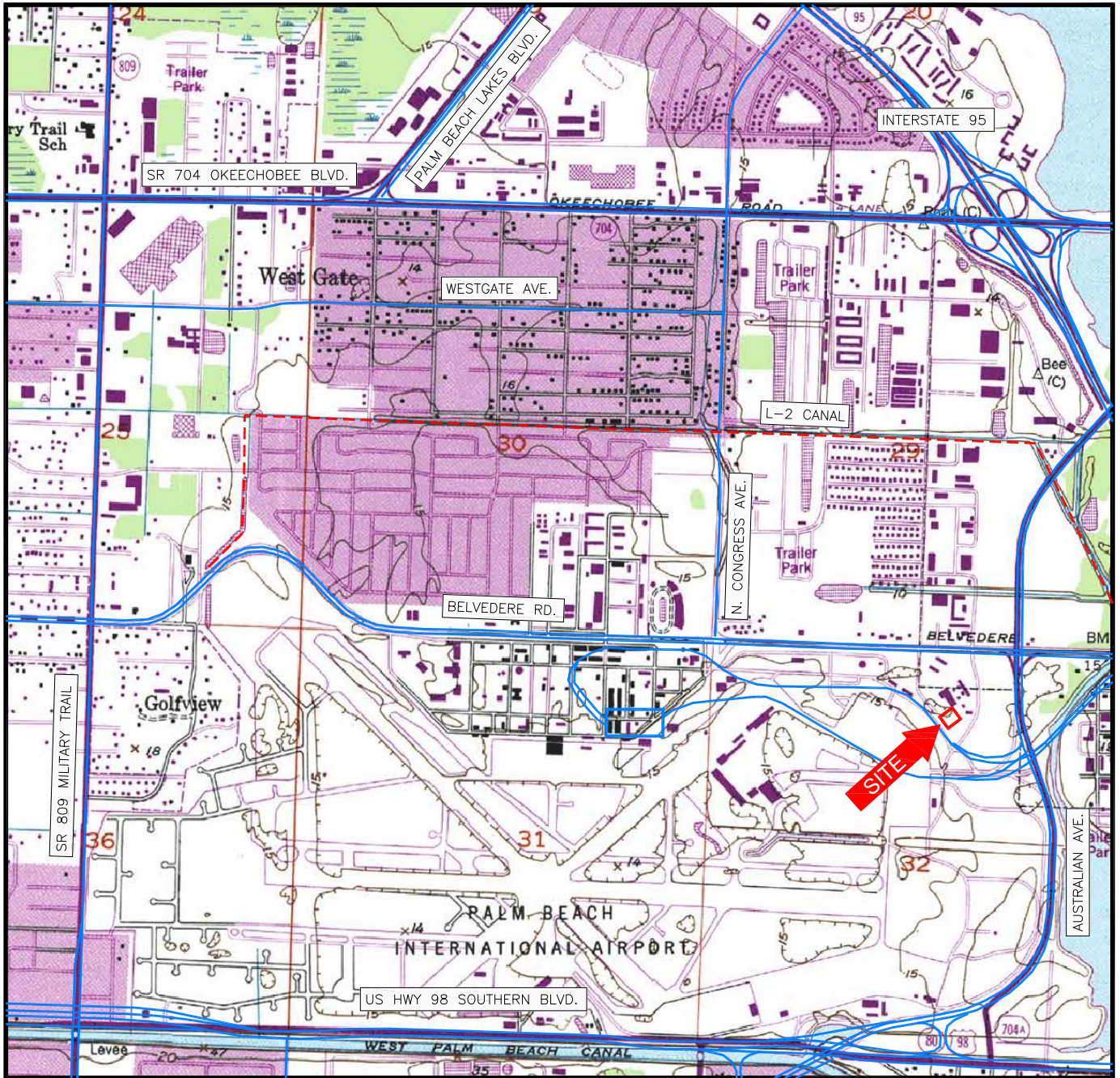
I = The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

µg/L = Microgram per liter

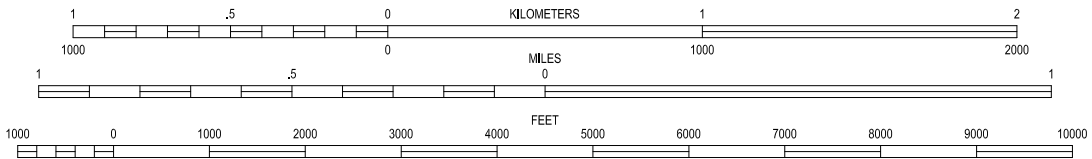
PAH = Polynuclear aromatic hydrocarbons

TRPH = Total recoverable petroleum hydrocarbons

Appendix B - Exhibits



SCALE 1:24 000



CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

SECTION: 32
TOWNSHIP: 43 SOUTH
RANGE: 43 EAST

PALM BEACH, FLORIDA
ISSUED: 1946 REVISED: 1983
7.5 MINUTE SERIES (QUADRANGLE)



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Nov09, 2015 - 2:30pm

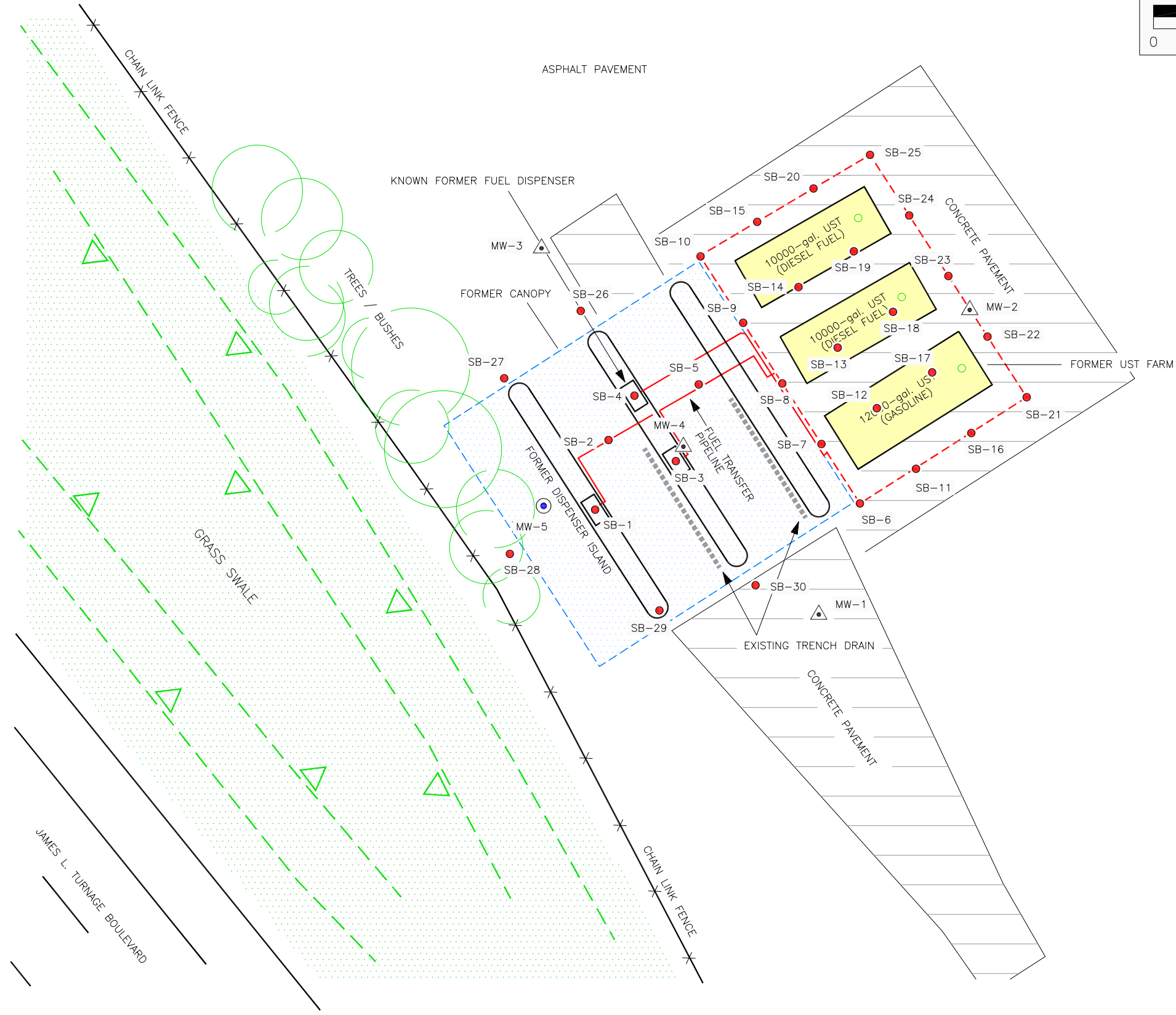
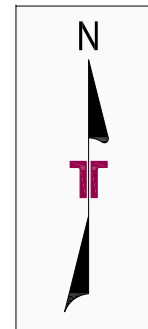
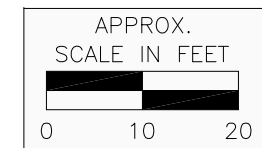
Project Mngr:	AP	Project No.	HD157021
Drawn By:	SW	Scale:	AS SHOWN
Checked By:	AP	File No.	HD157021-1
Approved By:	EK	Date:	11-9-15

Terracon
Consulting Engineers and Scientists
1225 OMAR ROAD WEST PALM BEACH, FLORIDA 33405
PH. (561) 689-4299 FAX. (561) 689-5955

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

EXHIBIT
1

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



LEGEND	
	EXISTING MONITORING WELL
	NEW TERRACON MONITORING WELL
	TERRACON SOIL BORING

Project Mngr:	AP	Project No.	HD157021
Drawn By:	SW	Scale:	AS SHOWN
Checked By:	AP	File No.	HD157021-2
Approved By:	EK	Date:	11-9-15

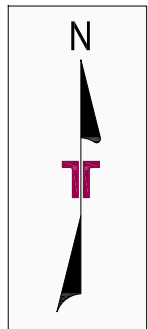
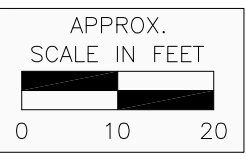
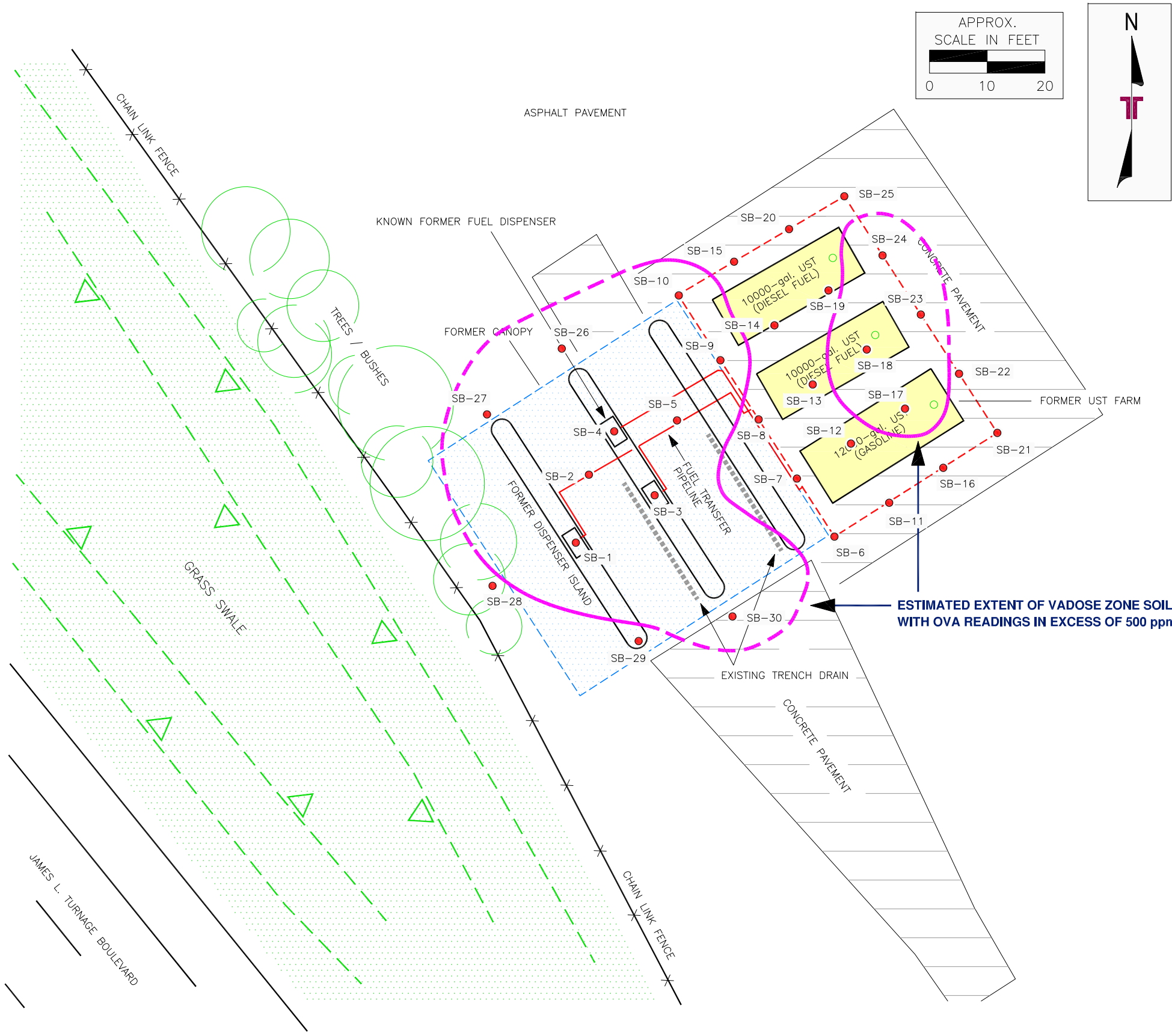
Terracon
Consulting Engineers and Scientists

1225 OMAR ROAD WEST PALM BEACH, FLORIDA 33406
PH. (561) 688-4299 FAX. (561) 688-5955

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

EXHIBIT
2

Nov09, 2015-2:47pm N:\Projects-Other Offices\West Palm Beach\2015\HD157021\cad\nov2015\7021-OVA 3.dwg



LEGEND

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

SB-1	SB-2	SB-3	SB-4	SB-5	
DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)
0-1	<1	0-1	<1	0-1	3514
1-2	3.0	1-2	252	1-2	9999+
2-3	60.3	2-3	471	2-3	9999+
3-4	9999+	3-4	9999+	3-4	9999+
4-6	9999+	4-6	9999+	4-6	9999+
6-8	9999+	6-8	9999+	6-8	9999+

SB-6	SB-7	SB-8	SB-9	SB-10	
DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)
0-1	2.4	0-1	<1	0-1	<1
1-2	41.5	1-2	<1	1-2	<1
2-3	165	2-3	<1	2-3	<1
3-4	139	3-4	<1	3-4	224
4-6	<1	4-6	<1	4-6	1472
6-8	<1	6-8	10.3	6-8	970

SB-11	SB-12	SB-13	SB-14	SB-15	
DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)
0-1	<1	0-1	<1	0-1	<1
1-2	<1	1-2	<1	1-2	209
2-3	<1	2-3	<1	2-3	1.2
3-4	<1	3-4	21.1	3-4	<1
4-6	5.5	4-6	386	4-6	<1
6-8	63.5	6-8	311	6-8	<1

SB-16	SB-17	SB-18	SB-19	SB-20	
DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)
0-1	<1	0-1	21.2	0-1	<1
1-2	<1	1-2	180	1-2	<1
2-3	<1	2-3	1837	2-3	<1
3-4	<1	3-4	1039	3-4	<1
4-6	<1	4-6	21.4	4-6	1.4
6-8	1.7	6-8	18.5	6-8	<1

SB-21	SB-22	SB-23	SB-24	SB-25	
DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)
0-1	<1	0-1	<1	0-1	<1
1-2	<1	1-2	<1	1-2	<1
2-3	<1	2-3	20.2	2-3	<1
3-4	<1	3-4	0.4	3-4	<1
4-6	<1	4-6	9.1	4-6	<1
6-8	<1	6-8	9999+	6-8	1587

SB-26	SB-27	SB-28	SB-29	SB-30	
DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)
0-1	<1	0-1	120	0-1	5085
1-2	<1	1-2	38.8	1-2	3712
2-3	<1	2-3	1.1	2-3	3562
3-4	<1	3-4	8336	3-4	4732
4-6	9999+	4-6	9999+	4-6	772
6-8	1820	6-8	9999+	6-8	2442

ESTIMATED EXTENT OF VADOSE ZONE SOILS WITH OVA READINGS IN EXCESS OF 500 ppm

Project Mngr:	AP	Project No.	HD157021
Drawn By:	SW	Scale:	AS SHOWN
Checked By:	AP	File No.	HD157021-3
Approved By:	EK	Date:	11-9-15

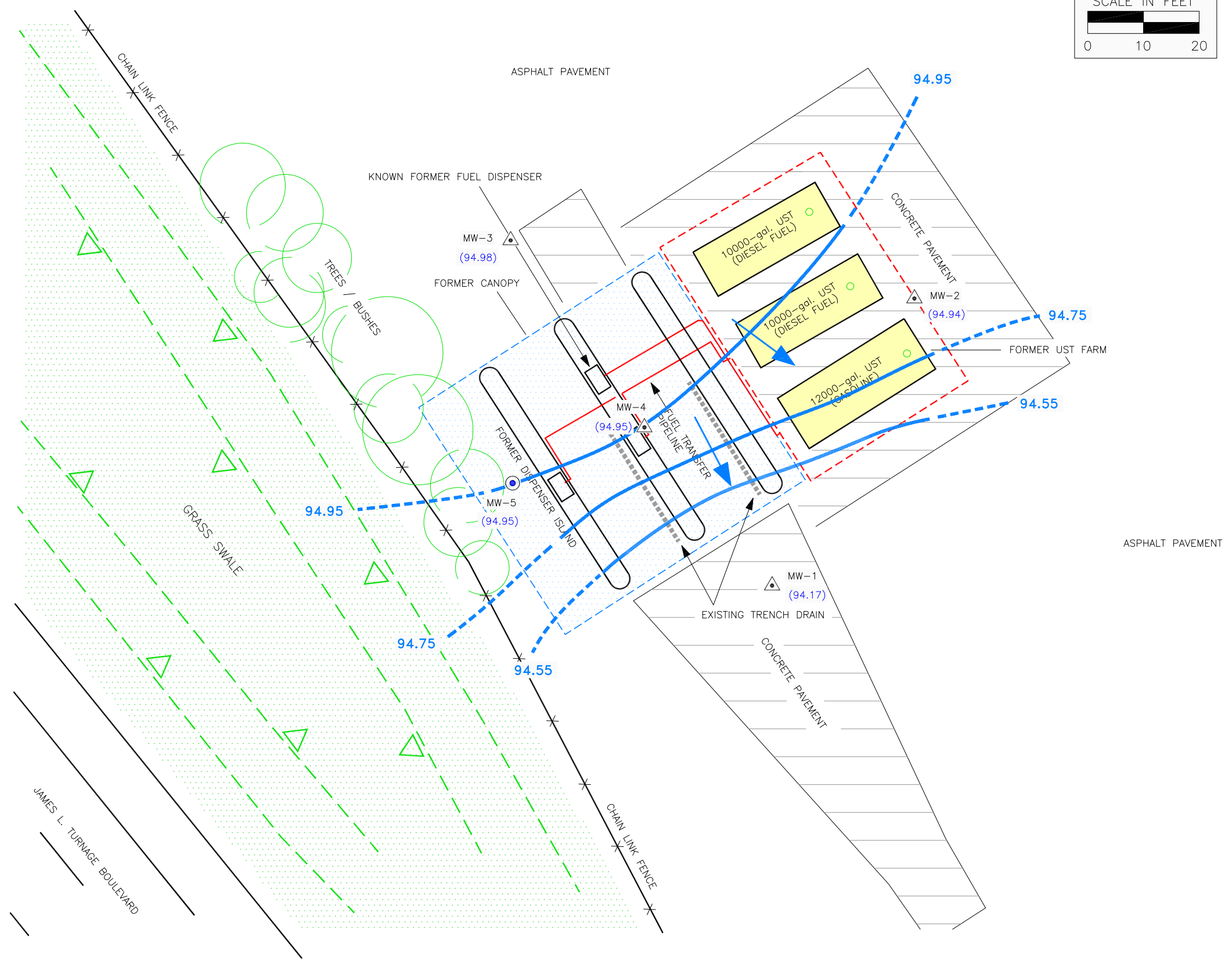
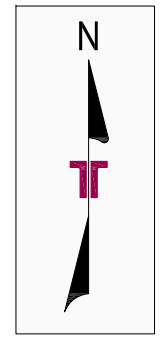
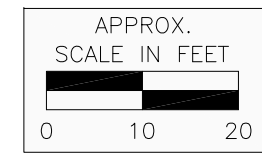
Terracon
Consulting Engineers and Scientists

1225 OMAR ROAD WEST PALM BEACH, FLORIDA 33406
PH. (561) 688-4299 FAX. (561) 688-5955

VADOSE SOIL SCREENING DIAGRAM (10-12-2015)

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

Nov09, 2015-2:52pm N:\Projects-Other Offices\West Palm Beach\2015\HD157021\cadd\nov2015\7021-groundwater 4.dwg



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

Project Mngr:	AP	Project No.	HD157021
Drawn By:	SW	Scale:	AS SHOWN
Checked By:	AP	File No.	HD157021-4
Approved By:	EK	Date:	11-9-15

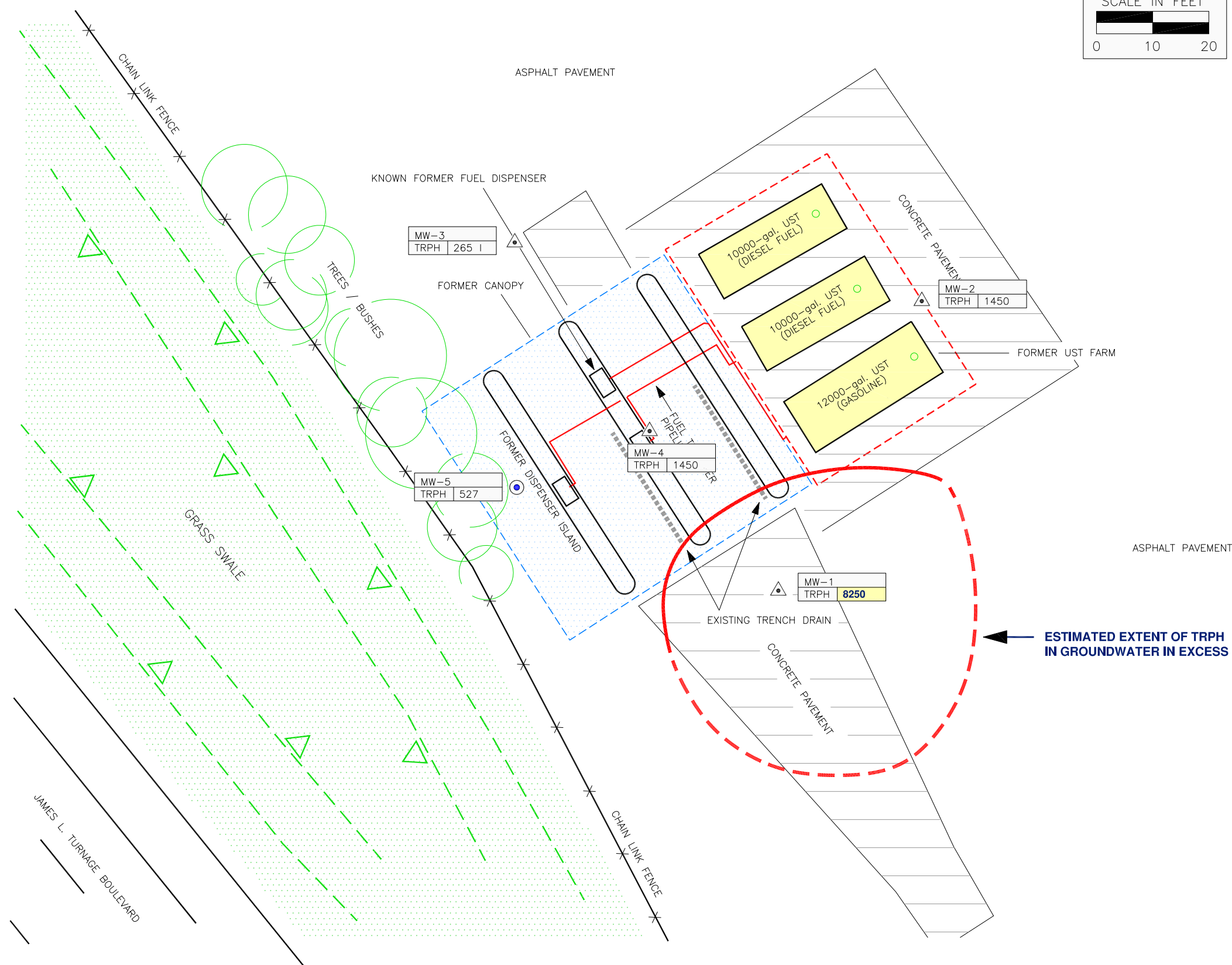
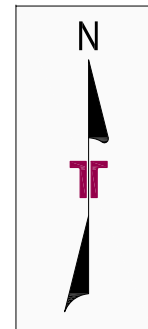
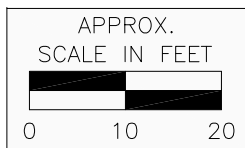
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Consulting Engineers and Scientists

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PH. (561) 688-4299 FAX. (561) 688-5955

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

Nov09, 2015-2:57pm N:\Projects-Other Offices\West Palm Beach\2015\HD157021\cadd\nov2015\7021-TRPH-5.dwg



MW-3
TRPH | 265 I

MW-2
TRPH | 1450

MW-5
TRPH | 527

MW-4
TRPH | 1450

MW-1
TRPH | **8250**

10000-gal. UST
(DIESEL FUEL)

10000-gal. UST
(DIESEL FUEL)

12000-gal. UST
(GASOLINE)

ESTIMATED EXTENT OF TRPH
IN GROUNDWATER IN EXCESS OF GCTL

LEGEND

- EXISTING MONITORING WELL
- NEW TERRACON MONITORING WELL

SCREENING CRITERIA (ug/L micrograms/LITER)		
PARAMETER	GCTL	NADC
TRPH	5000	50000

- NOTES:
- 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.)
 - 8250** CONCENTRATIONS GREATER THAN GCTL (BOLD TEXT/YELLOW)
 - 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)

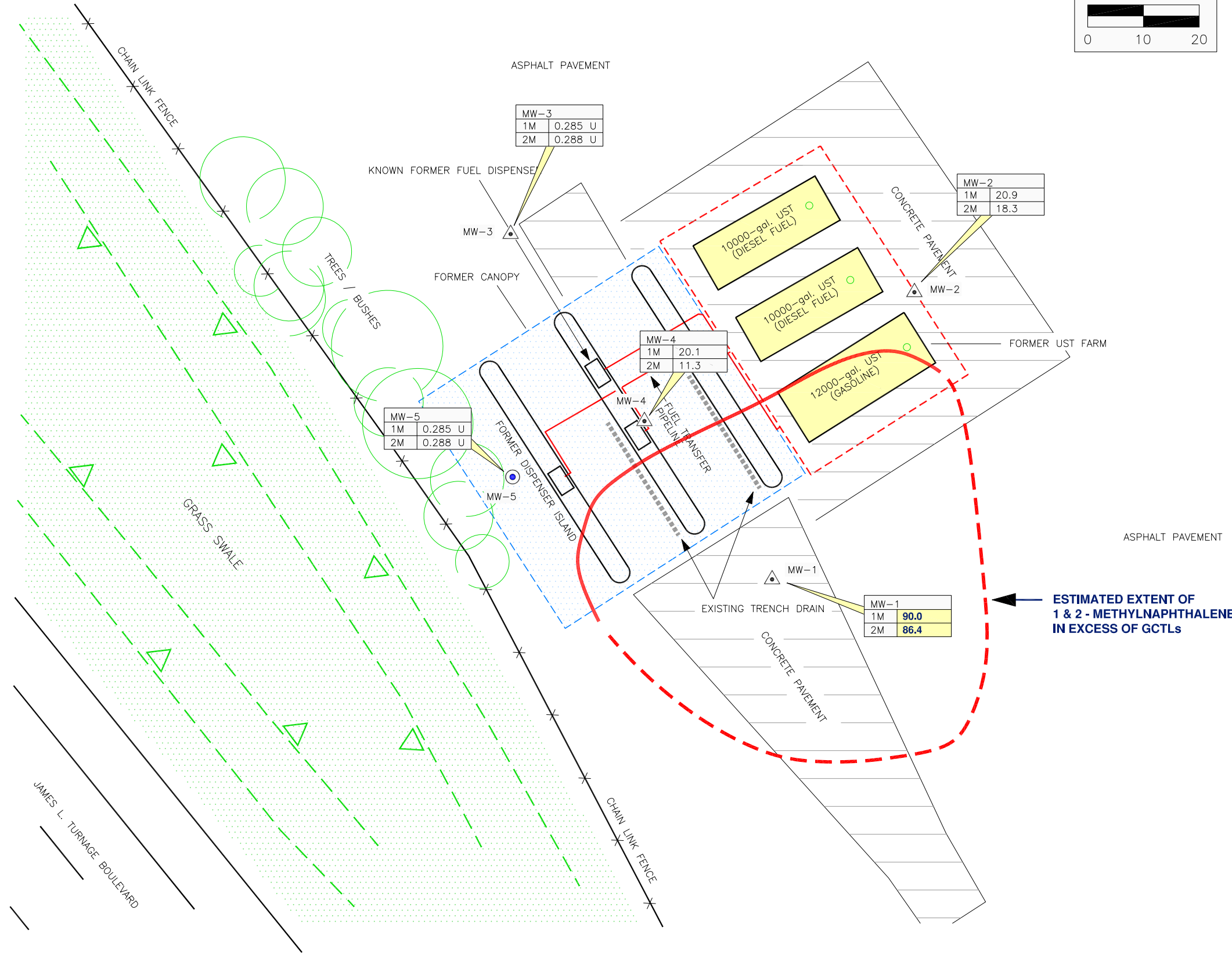
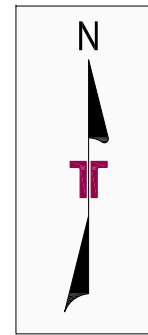
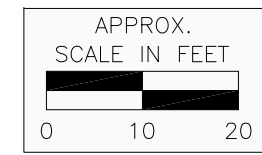
Project Mngr:	AP	Project No.	HD157021
Drawn By:	SW	Scale:	AS SHOWN
Checked By:	AP	File No.	HD157021-5
Approved By:	EK	Date:	11-9-15

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PH. (561) 688-4299 FAX. (561) 688-5955

TRPH 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

Nov09, 2015-3:14pm N:\Projects-Other Offices\West Palm Beach\2015\HD157021\cod\nov2015\7021-1-2 METHYL 6.dwg



MW-3		
1M	0.285	U
2M	0.288	U

MW-2		
1M	20.9	
2M	18.3	

MW-4		
1M	20.1	
2M	11.3	

MW-5		
1M	0.285	U
2M	0.288	U

MW-1		
1M	90.0	
2M	86.4	

LEGEND	
	EXISTING MONITORING WELL
	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:
- 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)
 - 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)

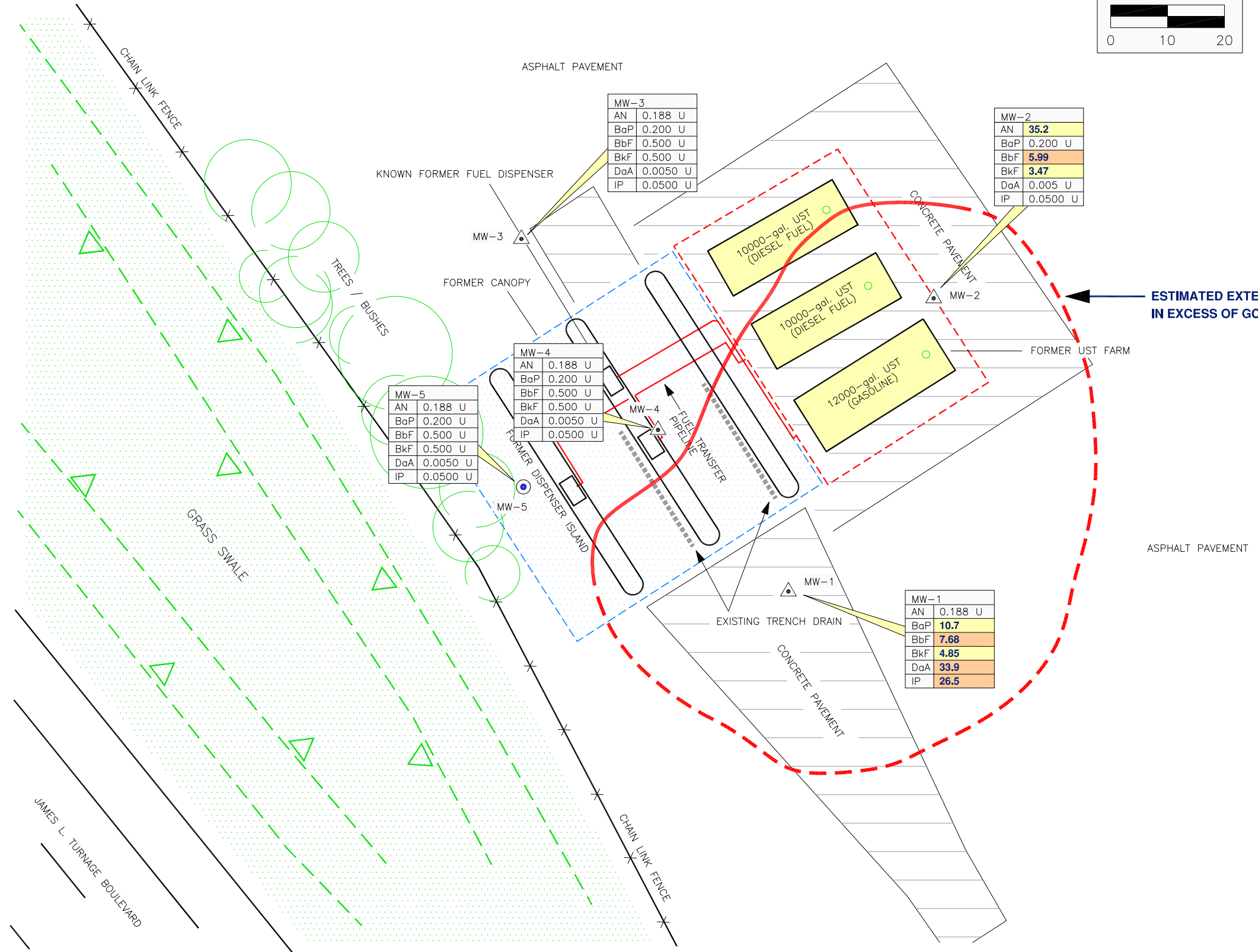
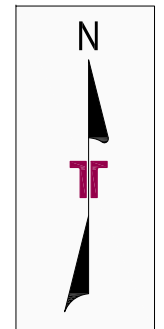
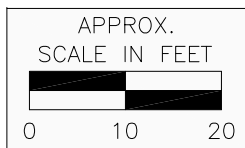
ESTIMATED EXTENT OF 1 & 2 - METHYLNAPHTHALENE IN EXCESS OF GCTLs

Project Mngr:	AP	Project No.	HD157021
Drawn By:	SW	Scale:	AS SHOWN
Checked By:	AP	File No.	HD157021-6
Approved By:	EK	Date:	11-9-15

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Consulting Engineers and Scientists
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1 & 2 - METHYLNAPHTHALENE 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

Nov09, 2015-3:15pm N:\Projects-Other Offices\West Palm Beach\2015\HD157021\cad\nov2015\7021-PAHs 7.dwg



MW-3	
AN	0.188 U
BaP	0.200 U
BbF	0.500 U
BkF	0.500 U
DaA	0.0050 U
IP	0.0500 U

MW-2	
AN	35.2
BaP	0.200 U
BbF	5.99
BkF	3.47
DaA	0.005 U
IP	0.0500 U

MW-5	
AN	0.188 U
BaP	0.200 U
BbF	0.500 U
BkF	0.500 U
DaA	0.0050 U
IP	0.0500 U

MW-4	
AN	0.188 U
BaP	0.200 U
BbF	0.500 U
BkF	0.500 U
DaA	0.0050 U
IP	0.0500 U

MW-1	
AN	0.188 U
BaP	10.7
BbF	7.68
BkF	4.85
DaA	33.9
IP	26.5

ESTIMATED EXTENT OF SELECT PAH's IN EXCESS OF GCTLs

LEGEND	
	EXISTING MONITORING WELL
	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:
- 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)
- 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) (INFERRED WHERE DASHED)

Project Mngr:	AP	Project No.	HD157021
Drawn By:	SW	Scale:	AS SHOWN
Checked By:	AP	File No.	HD157021-7
Approved By:	EK	Date:	11-9-15

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PH. (561) 688-4299 FAX. (561) 688-5955

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
7

Appendix C - Field Logs and Well Completion Report

BORING LOG

Boring/Well Number: SB-1		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 09:10 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM		
		End Date: 10/12/15	End Time: 09:20 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM		
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2		Borehole Depth (feet): 8
Drilling Method(s): Direct-Push (DP)		Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM		OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description <small>(include grain size based on USCS, odors, staining, and other remarks)</small>	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	0	1	Asphalt pavement (2-in thick), Tan lime rock base course (0.2-1 ft)	GP	D	
DP	1-2	--	--	--	--	3.0	2	Gray fine grained sand with some shell fragments from 2-3 ft (1-8 ft)	SP	D	
DP	2-3	--	--	--	--	60.3	3	Slight petroleum odor at 3 ft	SP	D	
DP	3-4	--	--	--	--	9999+	4	Strong petroleum odor at 4-8 ft	SP	D	
DP	4-6	--	--	--	--	9999+	5		SP	M/W	
DP		--	--	--	--		6		SP	S	
DP	6-8	--	--	--	--	9999+	7		SP	S	
DP		--	--	--	--		8		SP	S	
							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

BORING LOG

Boring/Well Number: SB-2		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 09:22 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM		
		End Date: 10/12/15	End Time: 09:35 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM		
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2		Borehole Depth (feet): 8
Drilling Method(s): Direct-Push (DP)		Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM		OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description <small>(include grain size based on USCS, odors, staining, and other remarks)</small>	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	48.4	1	Concrete pavement (5-in thick), brown fine grained sand (0.4-3 ft)	SP	D	
DP	1-2	--	--	--	--	528	2	Petroleum odor at 1-8 ft	SP	D	SB-2(1-2) - Lab ID 13883-05
DP	2-3	--	--	--	--	9999+	3		SP	D	
DP	3-4	--	--	--	--	9999+	4	Gray fine grained sand (3-4 ft)	SP	D	SB-2(3-4) - Lab ID 13883-04
DP	4-6	--	--	--	--	9999+	5	Reddish-brown fine grained sand (4-5 ft), 1-inch layer of concrete observed at 5 ft	SP	M/W	
DP		--	--	--	--		6		SP	S	
DP	6-8	--	--	--	--	9999+	7	Gray fine grained sand (5-8 ft)	SP	S	
DP		--	--	--	--		8		SP	S	
							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

BORING LOG

Boring/Well Number: SB-3		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 09:40 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	End Date: 10/12/15	End Time: 09:46 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8	
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID		
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	0	1	Asphalt pavement (2-in thick), gray fine grained sand with lime rock gravel (0.2-2 ft)	SP	D	
DP	1-2	--	--	--	--	252	2	Brown fine grained sand (2-3 ft)	SP	D	
DP	2-3	--	--	--	--	471	3				
DP	3-4	--	--	--	--	9999+	4	Gray fine grained sand (3-4.5 ft)	SP	D	
DP	4-6	--	--	--	--	9999+	5	Brown fine grained sand (4.5-5 ft)	SP	M/W	
DP	6-8	--	--	--	--	9999+	6	Gray fine grained sand (5-8 ft), petroleum odor at 1-8 ft	SP	S	
DP							7		SP	S	
DP							8		SP	S	
							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

BORING LOG

Boring/Well Number: SB-4		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 09:48 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	End Date: 10/12/15	
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8	
Drilling Method(s): Direct-Push (DP)		Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID	
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	3.5	1	Asphalt pavement (2-in thick), tan lime rock base course (0.2-0.7 ft)	GP/SP	D	SB-4(2-3) - Lab ID 13883-03
DP	1-2	--	--	--	--	5.6	2	Gray to red-brown fine grained sand (0.7-2 ft)	SP	D	
DP	2-3	--	--	--	--	3712	3	Very dark gray fine grained sand, petroleum staining (2-4 ft)	SP	D	
DP	3-4	--	--	--	--	9999+	4	Petroleum odor at 3-8 ft	SP	D	
DP	4-6	--	--	--	--	9999+	5	Brown fine grained sand (4-4.5 ft)	SP	M/W	
DP	6-8	--	--	--	--	9999+	6	Gray fine grained sand (4.5-8 ft)	SP	S	
DP							7		SP	S	
DP							8		SP	S	
							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

BORING LOG

Boring/Well Number: SB-5		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018							
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 10:16 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	End Date: 10/12/15	End Time: 10:38 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM						
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy							
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8							
Drilling Method(s): Direct-Push (DP)		Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID							
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>											
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)											
Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	3514	1	Concrete pavement (5-in thick), light brown fine grained sand (0.4-2 ft)	SP	D	
DP	1-2	--	--	--	--	9999+	2	Petroleum odor at 0.5-8 ft	SP	D	
DP	2-3	--	--	--	--	9999+	3	Gray fine grained sand (2-8 ft)	SP	D	
DP	3-4	--	--	--	--	9999+	4		SP	D	
DP	4-6	--	--	--	--	9999+	5		SP	M/W	
DP	6-8	--	--	--	--	9999+	7		SP	S	
DP							8		SP	S	
							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

BORING LOG

Boring/Well Number: SB-6		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 10:49 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM		
		End Date: 10/12/15	End Time: 11:01 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM		
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2		Borehole Depth (feet): 8
Drilling Method(s): Direct-Push (DP)		Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM		OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description <small>(include grain size based on USCS, odors, staining, and other remarks)</small>	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	2.4	1	Concrete pavement (4-in thick), light brown fine grained sand (0.3-8 ft)	SP	D	
DP	1-2	--	--	--	--	41.5	2		SP	D	
DP	2-3	--	--	--	--	165	3		SP	D	
DP	3-4	--	--	--	--	139	4		SP	D	
DP	4-6	--	--	--	--	0	5		SP	M/W	
DP		--	--	--	--	0	6		SP	S	
DP	6-8	--	--	--	--	0	7		SP	S	
DP		--	--	--	--	0	8		SP	S	
							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

BORING LOG

Boring/Well Number: SB-7		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 11:06 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	End Date: 10/12/15	End Time: 11:15 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8	
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID		
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	0	1	Asphlat pavement (2-in thick), tan lime rock base course (0.2-0.5 ft)	GP/SP	D	
DP	1-2	--	--	--	--	0	2	Light brown fine grained sand (0.5-8 ft)	SP	D	
DP	2-3	--	--	--	--	0	3		SP	D	
DP	3-4	--	--	--	--	0	4		SP	D	
DP	4-6	--	--	--	--	0	5		SP	M/W	
DP		--	--	--	--	0	6		SP	S	
DP	6-8	--	--	--	--	0	7		SP	S	
DP		--	--	--	--	0	8		SP	S	
		--	--	--	--	0	9				
		--	--	--	--	0	10				
		--	--	--	--	0	11				
		--	--	--	--	0	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

BORING LOG

Boring/Well Number: SB-8		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 11:35 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	End Date: 10/12/15	End Time: 11:42 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8	
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID		
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description <small>(include grain size based on USCS, odors, staining, and other remarks)</small>	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)	
DP	0-1	--	--	--	--	411	1	Asphalt pavement (2-in thick), tan lime rock base course (0.2-0.6 ft), slight petroleum odor at 0-1 ft	GP/SP	D		
DP	1-2	--	--	--	--	0	2	Brown fine grained sand (0.6-5 ft)	SP	D		
DP	2-3	--	--	--	--	1.2	3			SP	D	
DP	3-4	--	--	--	--	0	4	Light brown fine grained sand (5-8 ft)	SP	D		
DP	4-6	--	--	--	--	1.4	5			SP	M/W	
DP	6-8	--	--	--	--	10.3	6			SP	S	
DP							7					
							8					
							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

BORING LOG

Boring/Well Number: SB-9		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 11:45 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	End Date: 10/12/15	End Time: 11:54 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8	
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID		
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	0	1	Asphalt pavement (2-in thick), tan lime rock base course (0.2-0.6 ft)	GP/SP	D	
DP	1-2	--	--	--	--	1.2	2	Brown fine grained sand (0.6-2.5 ft)	SP	D	
DP	2-3	--	--	--	--	31.1	3	Gray fine grained sand (2.5-8 ft)	SP	D	
DP	3-4	--	--	--	--	5437	4	Strong petroleum odor at 3-8 ft	SP	D	SB-9(3-4) - Lab ID 13883-02
DP	4-6	--	--	--	--	9999+	5		SP	M/W	
DP	6-8	--	--	--	--	9999+	6		SP	S	
DP							7		SP	S	
DP							8		SP	S	
							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

BORING LOG

Boring/Well Number: SB-10		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 11:57 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	End Date: 10/12/15	End Time: 12:04 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8	
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID		
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	0	1	Asphlat pavement (2-in thick), tan lime rock base course (0.2-0.6 ft)	GP/SP	D	
DP	1-2	--	--	--	--	0	2	Light brown fine grained sand (0.6-8 ft)	SP	D	
DP	2-3	--	--	--	--	0	3				
DP	3-4	--	--	--	--	224	4	Petroleum odor at 3-8 ft	SP	D	
DP	4-6	--	--	--	--	1472	5				
DP	6-8	--	--	--	--	970	6	SP	M/W		
DP		7	SP	S							
DP							8	SP	S		
							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

BORING LOG

Boring/Well Number: SB-11		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018							
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 12:06 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 12:23 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM						
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy							
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8							
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID								
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>											
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)											
Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1		--	--	--	0	1	Concrete pavement (4-in thick), light brown fine grained sand (0.3-8 ft)	SP	D	
DP	1-2		--	--	--	0	2		SP	D	
DP	2-3		--	--	--	0	3		SP	D	
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	
DP			--	--	--		8		SP	S	
							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

BORING LOG

Boring/Well Number: SB-12		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018							
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 12:24 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 12:36 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM						
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy							
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8							
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID								
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>											
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)											
Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	0	1	Concrete pavement (4-in thick), light brown fine grained sand (0.3-8 ft), gravel in upper 1 ft	SP	D	
DP	1-2	--	--	--	--	0	2		SP	D	
DP	2-3	--	--	--	--	0	3		SP	D	
DP	3-4	--	--	--	--	0	4		SP	D	
DP	4-6	--	--	--	--	0	5		SP	M/W	
DP		--	--	--	--	0	6		SP	S	
DP	6-8	--	--	--	--	2.1	7		SP	S	
DP		--	--	--	--		8		SP	S	
							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

BORING LOG

Boring/Well Number: SB-13		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 12:39 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 12:49 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8	
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID		
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	0	1	Concrete pavement (4-in thick), tan limerock fill (0.3-4 ft)	GP	D	
DP	1-2	--	--	--	--	0	2		GP	D	
DP	2-3	--	--	--	--	0	3		GP	D	
DP	3-4	--	--	--	--	21.1	4		GP	D	
DP	4-6	--	--	--	--	386	5	Brown fine grained sand (4-8 ft), slight petroleum odor from 4-8 ft	SP	M/W	
DP		--	--	--	--		6		SP	S	
DP	6-8	--	--	--	--	311	7		SP	S	
DP		--	--	--	--		8		SP	S	
							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

BORING LOG

Boring/Well Number: SB-14		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018								
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 12:51 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 13:01 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM							
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy								
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8								
Drilling Method(s): Direct-Push (DP)		Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID								
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>												
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)												
Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)	
DP	0-1	--	--	--	--	0	1	Concrete pavement (4-in thick), tan limerock fill (0.3-1 ft)	GP	D		
DP	1-2	--	--	--	--	0	2	Brown fine grained sand with shell fragments (1-4 ft)	SP	D		
DP	2-3	--	--	--	--	0	3		SP	D		
DP	3-4	--	--	--	--	0	4		SP	D		
DP	4-6	--	--	--	--	8.5	5		Brown fine grained sand (4-8 ft)	SP	M/W	
DP		--	--	--	--		6			SP	S	
DP	6-8	--	--	--	--	9.1	7			SP	S	
DP		--	--	--	--		8			SP	S	
							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

BORING LOG

Boring/Well Number: SB-15		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 13:03 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 13:20 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8	
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID		
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	0	1	Concrete pavement (4-in thick), tan to brown limerock fill (0.3-2 ft)	GP	D	
DP	1-2	--	--	--	--	209	2	Brown fine grained sand (2-8 ft)	GP	D	
DP	2-3	--	--	--	--	1.2	3		SP	D	
DP	3-4	--	--	--	--	0	4		SP	D	
DP	4-6	--	--	--	--	0	5		SP	M/W	
DP		--	--	--	--	0	6		SP	S	
DP	6-8	--	--	--	--	0	7		SP	S	
DP		--	--	--	--	0	8	SP	S		
							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

BORING LOG

Boring/Well Number: SB-16		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018							
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 12:32 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 12:43 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM						
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy							
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8							
Drilling Method(s): Direct-Push (DP)		Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID							
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>											
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)											
Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1		--	--	--	0	1	Concrete pavement (4-in thick), tan limerock fill (0.3-3.5 ft)	GP	D	
DP	1-2		--	--	--	0	2	Brown fine grained sand (3.5-8 ft)	GP	D	
DP	2-3		--	--	--	0	3		GP	D	
DP	3-4		--	--	--	0	4		GP/SP	D	
DP	4-6		--	--	--	0	5		SP	M/W	
DP			--	--	--	0	6		SP	S	
DP	6-8		--	--	--	1.7	7		SP	S	
DP			--	--	--		8		SP	S	
			--	--	--		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

BORING LOG

Boring/Well Number: SB-17		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 12:45 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 12:56 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8	
Drilling Method(s): Direct-Push (DP)		Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID	
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	0	1	Concrete pavement (4-in thick), tan limerock fill (0.3-2.5 ft)	GP	D	
DP	1-2	--	--	--	--	0	2	Brown fine grained sand (2.5-8 ft)	GP	D	
DP	2-3	--	--	--	--	0	3		SP/SP	D	
DP	3-4	--	--	--	--	0	4		SP	D	
DP	4-6	--	--	--	--	612	5		Petroleum odor at 4-8 ft	SP	M/W
DP	6-8	--	--	--	--	1232	6		SP	S	
DP		7	SP	S							
DP		8	SP	S							
							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

BORING LOG

Boring/Well Number: SB-18		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 12:59 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 13:10 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8	
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID		
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description <small>(include grain size based on USCS, odors, staining, and other remarks)</small>	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples <small>(list sample number and depth or temporary screen interval)</small>
DP	0-1		--	--	--	21.2	1	Concrete pavement (4-in thick), tan limerock fill with shell fragments (0.3-3 ft)	GP	D	SB-18(2-3) - Lab ID 13883-01
DP	1-2		--	--	--	180	2	Petroleum odor at 2-4 ft	GP	D	
DP	2-3		--	--	--	1837	3		GP	D	
DP	3-4		--	--	--	1039	4	Brown fine grained sand (3-8 ft)	SP	D	
DP	4-6		--	--	--	21.4	5		SP	M/W	
DP			--	--	--		6		SP	S	
DP	6-8		--	--	--	18.5	7		SP	S	
DP			--	--	--		8		SP	S	
							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

BORING LOG

Boring/Well Number: SB-19		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018							
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 13:13 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 13:26 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM						
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy							
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8							
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID								
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>											
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)											
Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1		--	--	--	0	1	Concrete pavement (4-in thick), tan limerock fill (0.3-3 ft)	GP	D	
DP	1-2		--	--	--	0	2		GP	D	
DP	2-3		--	--	--	0	3		GP	D	
DP	3-4		--	--	--	1.2	4	Brown fine grained sand with some shell fragments (3-8 ft)	SP	D	
DP	4-6		--	--	--	368	5	Slight petroleum odor at 4-8 ft	SP	M/W	
DP							6		SP	S	
DP	6-8		--	--	--	508	7		SP	S	
DP							8		SP	S	
							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

BORING LOG

Boring/Well Number: SB-20		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018							
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 13:22 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 13:34 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM						
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy							
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8							
Drilling Method(s): Direct-Push (DP)		Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID							
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>											
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)											
Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1		--	--	--	0	1	Concrete pavement (4-in thick), tan to brown limerock fill (0.3-4 ft)	GP	D	
DP	1-2		--	--	--	0	2		GP	D	
DP	2-3		--	--	--	0	3		GP	D	
DP	3-4		--	--	--	0	4		GP	D	
DP	4-6		--	--	--	1.4	5	Gray fine grained sand (4-8 ft)	SP	M/W	
DP			--	--	--		6		SP	S	
DP	6-8		--	--	--	0	7		SP	S	
DP			--	--	--		8		SP	S	
							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

BORING LOG

Boring/Well Number: SB-21		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 11:35 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	End Date: 10/12/15	End Time: 11:44 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8	
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID		
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description <small>(include grain size based on USCS, odors, staining, and other remarks)</small>	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples <small>(list sample number and depth or temporary screen interval)</small>
DP	0-1	--	--	--	--	0	1	Concrete pavement (4-in thick), Light brown fine grained sand (0.3-8 ft)	SP	D	
DP	1-2	--	--	--	--	0	2		SP	D	
DP	2-3	--	--	--	--	0	3		SP	D	
DP	3-4	--	--	--	--	0	4		SP	D	
DP	4-6	--	--	--	--	0	5		SP	M/W	
DP		--	--	--	--	0	6		SP	S	
DP	6-8	--	--	--	--	0	7		SP	S	
DP		--	--	--	--	0	8		SP	S	
							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

BORING LOG

Boring/Well Number: SB-22		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 11:47 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	End Date: 10/12/15	End Time: 11:59 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8	
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID		
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description <small>(include grain size based on USCS, odors, staining, and other remarks)</small>	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	0	1	Concrete pavement (4-in thick), tan lime rock base course (0.3-1 ft)	GP	D	
DP	1-2	--	--	--	--	0	2	Light brown fine grained sand (1-6 ft)	SP	D	
DP	2-3	--	--	--	20.2	3			SP	D	
DP	3-4	--	--	--	0.4	4			SP	D	
DP	4-6	--	--	--	9.1	5			SP	M/W	
DP		--	--	--	--		6		SP	S	
DP	6-8	--	--	--	--	9999+	7	Brown fine grained sand (6-8 ft)	SP	S	
DP		--	--	--	--		8			SP	S
							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

BORING LOG

Boring/Well Number: SB-23		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 12:01 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 12:07 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8	
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID		
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	0	1	Concrete pavement (4-in thick), tan lime rock base course (0.3-1 ft)	GP	D	
DP	1-2	--	--	--	--	0	2	Light brown fine grained sand (1-8 ft) Petroleum odor at 4-8 ft	SP	D	
DP	2-3	--	--	--	--	0	3		SP	D	
DP	3-4	--	--	--	--	0	4		SP	D	
DP	4-6	--	--	--	--	3041	5		SP	M/W	
DP		--	--	--	--		6		SP	S	
DP	6-8	--	--	--	--	9999+	7		SP	S	
DP		--	--	--	--		8		SP	S	
		--	--	--	--		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

BORING LOG

Boring/Well Number: SB-24		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018							
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 12:09 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 12:17 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM						
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy							
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8							
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID								
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>											
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)											
Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1		--	--	--	0	1	Concrete pavement (4-in thick), tan limerock fill (0.3-4 ft)	GP	D	
DP	1-2		--	--	--	0	2		GP	D	
DP	2-3		--	--	--	2.1	3		GP	D	
DP	3-4		--	--	--	2.2	4		GP	D	
DP	4-6		--	--	--	2231	5	Brown fine grained sand (4-8 ft), petroleum odor at 4-8 ft	SP	M/W	
DP			--	--	--		6		SP	S	
DP	6-8		--	--	--	1587	7		SP	S	
DP			--	--	--		8		SP	S	
							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

BORING LOG

Boring/Well Number: SB-25		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 12:20 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 12:30 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8	
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID		
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)	
DP	0-1	--	--	--	--	0	1	Concrete pavement (4-in thick), tan limerock fill (0.3-1 ft)	GP	D		
DP	1-2	--	--	--	--	0	2	Brown fine grained sand (1-4 ft)	SP	D		
DP	2-3	--	--	--	--	0	3			SP	D	
DP	3-4	--	--	--	--	0	4	Gray fine grained sand (4-8 ft)	SP	D		
DP	4-6	--	--	--	--	0	5			SP	M/W	
DP		--	--	--	--	0	6			SP	S	
DP	6-8	--	--	--	--	0	7			SP	S	
DP		--	--	--	--	0	8		SP	S		
							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

BORING LOG

Boring/Well Number: SB-26		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 15:26 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 15:36 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8	
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID		
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	0	1	Asphalt pavement (2-in thick), tan lime rock base course (0.2-0.6 ft)	GP/SP	D	
DP	1-2	--	--	--	--	0	2	Light brown fine grained sand (0.6-4 ft)	SP	D	
DP	2-3	--	--	--	--	0	3		SP	D	
DP	3-4	--	--	--	--	0	4		SP	D	
DP	4-6	--	--	--	--	9999+	5		Gray fine grained sand (4-6 ft), petroleum odor at 4-8 ft	SP	M/W
DP	6-8	--	--	--	--	1820	6	Light brown grained sand (6-8 ft)	SP	S	
DP		7	SP	S							
DP		8	SP	S							
							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

BORING LOG

Boring/Well Number: SB-27		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 15:12 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 15:19 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8	
Drilling Method(s): Direct-Push (DP)	Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID		
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	120	1	Asphlat pavement (2-in thick), tan to light brown lime rock base course (0.2-0.6 ft)	GP/SP	D	
DP	1-2	--	--	--	--	38.8	2	Gray fine grained sand (0.6-8 ft), slight petroleum odor at 0-1 ft	SP	D	
DP	2-3	--	--	--	--	1.1	3				
DP	3-4	--	--	--	--	8336	4	Strong petroleum odor at 4-8 ft	SP	D	
DP	4-6	--	--	--	--	9999+	5				
DP		--	--	--	--		6		SP	M/W	
DP	6-8	--	--	--	--	9999+	7		SP	S	
DP		--	--	--	--		8		SP	S	
							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

BORING LOG

Boring/Well Number: SB-28		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018							
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 15:01 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 15:10 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM						
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy							
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8							
Drilling Method(s): Direct-Push (DP)		Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID							
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>											
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)											
Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	0	1	Asphalt pavement (2-in thick), tan lime rock base course (0.2-0.6 ft)	GP/SP	D	
DP	1-2	--	--	--	--	0	2	Tan fine grained sand with shell fragments (0.6-2 ft)	SP	D	
DP	2-3	--	--	--	--	6.2	3	Brown fine grained sand (2-8 ft)	SP	D	
DP	3-4	--	--	--	--	0	4		SP	D	
DP	4-6	--	--	--	--	0	5		SP	M/W	
DP		--	--	--	--	0	6		SP	S	
DP	6-8	--	--	--	--	0	7		SP	S	
DP		--	--	--	--	0	8				
		--	--	--	--	0	9				
		--	--	--	--	0	10				
		--	--	--	--	0	11				
		--	--	--	--	0	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

BORING LOG

Boring/Well Number: SB-29		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018							
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 15:38 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Date: 10/12/15	End Time: 15:46 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM						
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy							
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2	Borehole Depth (feet): 8							
Drilling Method(s): Direct-Push (DP)		Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM	OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID							
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>											
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)											
Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1	--	--	--	--	131	1	Asphalt pavement (2-in thick), tan lime rock base course (0.2-0.6 ft), slight petroleum odor at 0-8 ft	GP/SP	D	
DP	1-2	--	--	--	--	91.0	2	Light brown fine grained sand (0.6-8 ft)	SP	D	
DP	2-3	--	--	--	--	188	3		SP	D	
DP	3-4	--	--	--	--	36.0	4		SP	D	
DP	4-6	--	--	--	--	183	5		SP	M/W	
DP		--	--	--	--		6		SP	S	
DP	6-8	--	--	--	--	51.1	7		SP	S	
DP		--	--	--	--		8		SP	S	
		--	--	--	--		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

BORING LOG

Boring/Well Number: SB-30		Permit Number: N/A		FDEP Facility Identification Number: 50/8514018	
Site Name: Former Palm Tran Site		Borehole Start Date: 10/12/15	Borehole Start Time: 15:05 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM		
		End Date: 10/12/15	End Time: 15:25 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM		
Environmental Contractor: Terracon Consultants, Inc.		Geologist's Name: Andrew Petric, P.G.		Environmental Technician's Name: Randall Murphy	
Drilling Company: Wombat Environmental, LLC		Pavement Thickness (inches): 2	Borehole Diameter (inches): 2		Borehole Depth (feet): 8
Drilling Method(s): Direct-Push (DP)		Apparent Borehole DTW (in feet from soil moisture content): 5.3	Measured Well DTW (in feet after water recharges in well): NM		OVA (list model and check type): MiniRae 2000 <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID
Disposition of Drill Cuttings [check method(s)]: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other <i>(describe if other or multiple items are checked):</i>					
Borehole Completion (check one): <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other (describe)					

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
DP	0-1		--	--	--	5085	1	Concrete pavement (5-in thick), tan limerock fill (0.4-1 ft), petroleum odor at 0-8 ft	GP	D	
DP	1-2		--	--	--	3712	2	Gray fine grained sand (1-3 ft)	SP	D	
DP	2-3		--	--	--	3562	3		SP	D	
DP	3-4		--	--	--	4732	4	Light brown fine grained sand (3-4 ft)	SP	D	
DP	4-6		--	--	--	772	5	Gray fine grained sand (4-8 ft)	SP	M/W	
DP							6		SP	S	
DP	6-8		--	--	--	2442	7		SP	S	
DP							8		SP	S	
							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

PLEASE EMAIL PERMIT

STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- Southwest
- Northwest
- St. Johns River
- South Florida
- Suwannee River
- DEP
- Delegated Authority (if Applicable)

PLEASE FILL OUT ALL APPLICABLE FIELDS (Denotes Required Fields Where Applicable)

The water well contractor is responsible for completing this form and forwarding the permit application to the appropriate delegated authority where applicable.

Permit No. 5410-15
 Florida Unique ID _____
 Permit Stipulations Required (See Attached) _____
 62-524 Quad No. _____ Delineation No. _____
 CUP/WUP Application No. _____
 ABOVE THIS LINE FOR OFFICIAL USE ONLY

Petric



1. Palm Beach County 2633 Vista Parkway West Palm Beach, FL 33411 561-233-0252
 Owner, Legal Name if Corporation Address City State ZIP Telephone Number

2. ~~Former Palm Tran Facility~~ Palm Beach Int'l Airport Building S-1440 WPB
 Well Location - Address, Road Name or Number, City

3. 00-43-43-32-00-000-1090 1250 Perimeter Road 33413
 Parcel ID No. (PIN) or Alternate Key (Circle One) Lot Block Unit

4. 32 43 43 Palm Beach
 Section or Land Grant Township Range County Subdivision Check if 62-524: Yes No

5. Paul Poorbaugh 11193 772-215-3395 wombatenv@yahoo.com
 Water Well Contractor License Number Telephone Number E-mail Address

6. 1025 SE Salerno Road Stuart FL 34997
 Water Well Contractor's Address City State ZIP

7. Type of Work: XXX Construction Repair Modification Abandonment
 Reason for Repair, Modification, or Abandonment

8. Number of Proposed Wells 4

9. Specify Intended Use(s) of Well(s):
 Domestic XXXX Monitoring Site Investigation
 Bottled Water Supply Recreation Area Irrigation Livestock Test
 Public Water Supply (Limited Use/DOH) Commercial/Industrial Earth-Coupled Geothermal
 Public Water Supply (Community or Non-Community/DEP) Golf Course Irrigation HVAC Supply
 Class I Injection HVAC Return
 Class V Injection: Recharge Commercial/Industrial Disposal Aquifer Storage and Recovery Drainage
 Remediation: Recovery Air Sparge Other (Describe)
 Other (Describe) _____ (Note: Not all types of wells are permitted by a given permitting authority)

10. Distance from Septic System if > 200 ft. >200 11. Facility Description former Palm Tran 12. Estimated Start Date 10-12-15

13. Estimated Well Depth 13 ft. Estimated Casing Depth 10 ft. Primary Casing Diameter 1 in. Open Hole: From 0 To 1 ft.

14. Estimated Screen Interval: From 3 To 13 ft.

15. Primary Casing Material: Black Steel Galvanized XXX PVC Stainless Steel
Not Cased Other: _____

16. Secondary Casing: Telescope Casing Liner Surface Casing Diameter _____ in.

17. Secondary Casing Material: Black Steel Galvanized PVC Stainless Steel Other _____

18. Method of Construction, Repair, or Abandonment: Auger Cable Tool Jetted Rotary Sonic
Combination (Two or More Methods) Hand Driven (Well Point, Sand Point) XXXX Hydraulic Point (Direct Push)
Horizontal Drilling Plugged by Approved Method Other (Describe) _____

19. Proposed Grouting Interval for the Primary, Secondary, and Additional Casing:
 From 0 To 1 Seal Material (Bentonite Neat Cement XXX Other sand)
 From 1 To 13 Seal Material (Bentonite xxx Neat Cement Other)
 From _____ To _____ Seal Material (Bentonite Neat Cement Other)
 From _____ To _____ Seal Material (Bentonite Neat Cement Other)

20. Indicate total number of existing wells on site unknown List number of existing unused wells on site unknown

21. Is this well or any existing well or water withdrawal on the owner's contiguous property covered under a Consumptive/Water Use Permit (CUP/WUP) or CUP/WUP Application? Yes XXX No If yes, complete the following: CUP/WUP No. _____ District Well ID No. _____

22. Latitude 26° 41.303'N Longitude 80° 4.658'W

23. Data Obtained From: xxx GPS Map Survey Datum: NAD 27 XXX NAD 83 WGS 84

RECEIVED
 OCT 05 2015
 Florida Department of Health - Palm Beach County
 Plan Review
 Official Use Only

Raul Poorbaugh 11193 [Signature] 10-5-15
 Signature of Contractor License No. Signature of Owner or Agent Date

Approval Granted By [Signature] Issue Date 10/7/15 Expiration Date _____ Hydrologist Approval KB
 Fee Received \$ 50 Receipt No. 2460029-2460033 Check No. Wisa 9402

THIS PERMIT IS NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD OR DELEGATED AUTHORITY. THE PERMIT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL CONSTRUCTION, REPAIR, MODIFICATION, OR ABANDONMENT ACTIVITIES.

Mission:

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



Rick Scott
Governor

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

Vision: To be the Healthiest State in the Nation

PERMIT CONDITIONS

Permit Number:	5410	-15	Page	2 of 2
<u>Condition</u>				
1.	The Well Driller shall provide notice to the Department of the approximate start date and time that construction of the well at least 24 hours prior to the start of construction either by fax (561-837-5293) or e-mail (FDOHPB.Wells@flhealth.gov).			
2.	The well shall be drilled and grouted in accordance with the requirements of Chapter 40E-3, F.A.C. and the construction details and site plan submitted with the application.			
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 replacement well, the existing well shall be abandoned by filling it from the bottom to the top with neat cement grout. This shall be accomplished before the new well is released for service.			
5.	This permit does not indicate a waiver of or approval of any permits required by other federal/state/local agencies or of any permit required by the Department for other aspects of the total project.			
6.	Separate well completion reports are required for each monitoring well despite having a single permit.			
7.	<p><i>Upon completion of the well and prior to use, the following must be submitted to the Department before the well can be put into service:</i></p> <p>a. <i>Private Drinking Water Well.</i></p> <p style="padding-left: 20px;">(i). <i>A well completion Report (No Later than 30 days from completion of construction).</i></p> <p style="padding-left: 20px;">(ii). <i>One satisfactory bacteriological sample result, no older than 30 days. Sample to be taken by the well contractor.</i></p> <p>b. <i>Non-Potable Wells (Irrigation, Fire Protection, etc.).</i></p> <p style="padding-left: 20px;">(i). <i>A well completion Report (No Later than 30 days from completion of construction).</i></p> <p>c. <i>Limited Use Well.</i></p> <p style="padding-left: 20px;">(i). <i>A well completion Report (No Later then 30 days from completion of construction).</i></p> <p style="padding-left: 20px;">(ii). <i>Five (5) satisfactory bacteriological sample results taken for five (5) consecutive days. Sample shall be taken by a certified lab. The last sample shall be no older than 30 days.</i></p> <p style="padding-left: 20px;">(iii). <i>Chemical analysis for lead and nitrate.</i></p>			
8.	<p>Other Condition(s):</p> <p>Environmental Control Rule II, Section 8, A.5 - For private and multi-family water wells and irrigation wells the casing shall be surrounded at grade level by a two-inch thick concrete pad extending at least six inches in all directions and the upper terminus of the well casing shall project at least 12 inches above finished grade. [Ord. 2005 – 003]</p> <p>Environmental Control Rule II, Section 8, A.6 - Whenever the pump is not set at the vertical casing, the line between the vertical casing and pump shall be considered an extension of the casing and protected from sanitary hazards in a similar manner as the casing.</p>			



STATE OF FLORIDA WELL COMPLETION REPORT

Date Stamp

- Southwest, Northwest, St. Johns River, South Florida, Suwannee River, DEP, Delegated Authority

PLEASE, FILL OUT ALL APPLICABLE FIELDS (*Denotes Required Fields Where Applicable)

Official Use Only

A Petric

1.*Permit Number 5410-15 *CUP/WUP Number *DID Number 62-524 Delineation No.
2.*Number of permitted wells constructed, repaired, or abandoned 4 *Number of permitted wells not constructed, repaired, or abandoned 0
3.*Owner's Name Palm Beach County 4.*Completion Date 10-12-15 5. Florida Unique ID
6. 1250 Perimeter Road 33413
*Well Location - Address, Road Name or Number, City, ZIP
7.*County Pam Beach *Section 32 Land Grant *Township 43 *Range 43
8. Latitude 26° 41.303'N Longitude 80° 4.658'W
9. Data Obtained From: xxx GPS Map Survey Datum: NAD 27 xxx NAD 83 WGS 84

10.*Type of Work: xx Construction Repair Modification Abandonment
11.*Specify Intended Use(s) of Well(s):
Domestic Landscape Irrigation Agricultural Irrigation Site Investigation
Bottled Water Supply Recreation Area Irrigation Livestock xxx Monitoring
Public Water Supply (Limited Use/DOH) Nursery Irrigation Test
Public Water Supply (Community or Non-Community/DEP) Commercial/Industrial Earth-Coupled Geothermal
Class I Injection Golf Course Irrigation HVAC Supply
Class V Injection: Recharge Commercial/Industrial Disposal Aquifer Storage and Recovery Drainage
Remediation: Recovery Air Sparge Other (Describe)
Other (Describe)

12.*Drill Method: Auger Cable Tool Rotary Combination (Two or More Methods) Jetted Sonic
Horizontal Drilling xxx Hydraulic Point (Direct Push) Other
13.*Measured Static Water Level ft. Measured Pumping Water Level ft. After Hours at GPM
14.*Measuring Point (Describe) Which is ft. Above Below Land Surface *Flowing: Yes No
15.*Casing Material: Black Steel Galvanized xxx PVC Stainless Steel Not Cased Other
16.*Total Well Depth 13 ft. Cased Depth 10 ft. *Open Hole: From 0 To 1 ft. *Screen: From 3 To 12 ft. Slot Size 0.010

17.*Abandonment: Other (Explain)
From ft. To ft. No. of Bags Seal Material (Check One): Neat Cement Bentonite Other
From ft. To ft. No. of Bags Seal Material (Check One): Neat Cement Bentonite Other
From ft. To ft. No. of Bags Seal Material (Check One): Neat Cement Bentonite Other
From ft. To ft. No. of Bags Seal Material (Check One): Neat Cement Bentonite Other

18.*Surface Casing Diameter and Depth:
Dia in. From ft. To ft. No. of Bags Seal Material (Check One): Neat Cement Bentonite Other
Dia in. From ft. To ft. No. of Bags Seal Material (Check One): Neat Cement Bentonite Other

19.*Primary Casing Diameter and Depth:
Dia 1 in. From 0 ft. To 1 ft. No. of Bags .5 Seal Material (Check One): x Neat Cement Bentonite Other
Dia in. From ft. To ft. No. of Bags Seal Material (Check One): Neat Cement Bentonite Other
Dia 1 in. From 1 ft. To 13 ft. No. of Bags Seal Material (Check One): Neat Cement Bentonite xxx Other sand
Dia in. From ft. To ft. No. of Bags Seal Material (Check One): Neat Cement Bentonite Other
Dia in. From ft. To ft. No. of Bags Seal Material (Check One): Neat Cement Bentonite Other

20.*Liner Casing Diameter and Depth:
Dia in. From ft. To ft. No. of Bags Seal Material (Check One): Neat Cement Bentonite Other
Dia in. From ft. To ft. No. of Bags Seal Material (Check One): Neat Cement Bentonite Other
Dia in. From ft. To ft. No. of Bags Seal Material (Check One): Neat Cement Bentonite Other

21.*Telescope Casing Diameter and Depth:
Dia in. From ft. To ft. No. of Bags Seal Material (Check One): Neat Cement Bentonite Other
Dia in. From ft. To ft. No. of Bags Seal Material (Check One): Neat Cement Bentonite Other
Dia in. From ft. To ft. No. of Bags Seal Material (Check One): Neat Cement Bentonite Other

22. Pump Type (If Known): Centrifugal Jet Submersible Turbine
Horsepower Pump Capacity (GPM)
Pump Depth ft. Intake Depth ft.
23. Chemical Analysis (When Required):
Iron ppm Sulfate ppm Chloride ppm
Laboratory Test Field Test Kit

24. Water Well Contractor:
*Contractor Name Paul A Poorbaugh *License Number 11193 E-mail Address wombatenv@yahoo.com

*Contractor's Signature Paul Poorbaugh *Driller's Name (Print or Type) Paul Poorbaugh
(I certify that the information provided in this report is accurate and true.)

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA				
Well Number: MW-1	Site Name: Former Palm Tran Facility	FDEP Facility I.D. Number: 50/8514018	Well Install Date(s): 10/13/2015	
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Perched Monitoring <input checked="" type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitori <input type="checkbox"/> Remediation or Other (descri		Well Install Method: Direct-Push Tech. (DPT)
If AG, list feet of riser above land surface:		Surface Casing Install Method: N/A		
Borehole Depth (feet): 13	Well Depth (feet): 13	Borehole Diameter (inches): 3	Manhole Diameter (inches): 8	Well Pad Size: 2 feet by 2 feet
Riser Diameter and Material: 1-inch PVC	Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-T threaded <input type="checkbox"/> Other (describe	Riser Length: 3 feet from 0 feet to 3 feet		
Screen Diameter and Material: 1-inch PVC	Screen Slot Size: 0.010-inch	Screen Length: 10 feet from 3 feet to 13 feet		
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: _____ feet from _____ feet to _____ feet		
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanen <input type="checkbox"/> Temporary	3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet		
Filter Pack Material and Size: Silica sand, 20/30 graded	Prepacked Filter Around Screen (check one): <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Filter Pack Length: 11 feet from 2 feet to 13 feet		
Filter Pack Seal Material and Size:	Silica sand, 30/65 graded	Filter Pack Seal Length: 1 feet from 1 feet to 2 feet		
Surface Seal Material:	Neat cement grout	Surface Seal Length: 1 feet from 0 feet to 1 feet		

WELL DEVELOPMENT DATA			
Well Development Date: 10/13/15	Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)		
Development Pump Type (check): <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)	<input type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic	Depth to Groundwater (before developing in feet): Not Measured	
Pumping Rate (gallons per minute): 0.20	Maximum Drawdown of Groundwater During Development (feet): Not Measured	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 6.4	Development Duration (minutes): 32	Development Water Drummed (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: Brown, cloudy with petroleum odor		Water Appearance (color and odor) At End of Development: Clear with petroleum odor	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA				
Well Number: MW-2	Site Name: Former Palm Tran Facility	FDEP Facility I.D. Number: 50/8514018	Well Install Date(s): 10/13/2015	
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade If AG, list feet of riser above land surface:		Well Purpose: <input type="checkbox"/> Perched Monitoring <input checked="" type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitori <input type="checkbox"/> Remediation or Other (descri		Well Install Method: Direct-Push Tech. (DPT) Surface Casing Install Method: N/A
Borehole Depth (feet): 13	Well Depth (feet): 13	Borehole Diameter (inches): 3	Manhole Diameter (inches): 8	Well Pad Size: 2 feet by 2 feet
Riser Diameter and Material: 1-inch PVC	Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-T threaded <input type="checkbox"/> Other (describe	Riser Length: 3 feet from 0 feet to 3 feet		
Screen Diameter and Material: 1-inch PVC		Screen Slot Size: 0.010-inch	Screen Length: 10 feet from 3 feet to 13 feet	
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: _____ feet from _____ feet to _____ feet	
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet	
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanen <input type="checkbox"/> Temporary		3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet	
Filter Pack Material and Size: Silica sand, 20/30 graded	Prepacked Filter Around Screen (check one): <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Filter Pack Length: 11 feet from 2 feet to 13 feet		
Filter Pack Seal Material and Size:	Silica sand, 30/65 graded	Filter Pack Seal Length: 1 feet from 1 feet to 2 feet		
Surface Seal Material:	Neat cement grout	Surface Seal Length: 1 feet from 0 feet to 1 feet		

WELL DEVELOPMENT DATA			
Well Development Date: 10/13/15	Well Development Method (check one): <input type="checkbox"/> Surge/Pu <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)		
Development Pump Type (check): <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)	<input type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic	Depth to Groundwater (before developing in feet): Not Measured	
Pumping Rate (gallons per minute): 0.20	Maximum Drawdown of Groundwater During Development (feet): Not Measured	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 7.0	Development Duration (minutes): 35	Development Water Drummed (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: Brown, cloudy with petroleum odor		Water Appearance (color and odor) At End of Development: Clear, light amber with petroleum odor	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA			
Well Number: MW-3	Site Name: Former Palm Tran Facility	FDEP Facility I.D. Number: 50/8514018	Well Install Date(s): 10/13/2015
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade If AG, list feet of riser above land surface:		Well Purpose: <input type="checkbox"/> Perched Monitoring <input checked="" type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitori <input type="checkbox"/> Remediation or Other (descri	Well Install Method: Direct-Push Tech. (DPT) Surface Casing Install Method: N/A
Borehole Depth (feet): 13	Well Depth (feet): 13	Borehole Diameter (inches): 3	Manhole Diameter (inches): 8
Well Pad Size: _____ feet by _____ feet		Well Pad Size: _____ feet by _____ feet	
Riser Diameter and Material: 1-inch PVC	Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-T threaded <input type="checkbox"/> Other (describe	Riser Length: _____ feet from _____ feet to _____ feet	
Screen Diameter and Material: 1-inch PVC	Screen Slot Size: 0.010-inch	Screen Length: _____ feet from _____ feet to _____ feet	
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: _____ feet from _____ feet to _____ feet	
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet	
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet	
Filter Pack Material and Size: Silica sand, 20/30 graded	Prepacked Filter Around Screen (check one): <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Filter Pack Length: _____ feet from _____ feet to _____ feet	
Filter Pack Seal Material and Size:	Silica sand, 30/65 graded	Filter Pack Seal Length: _____ feet from _____ feet to _____ feet	
Surface Seal Material:	Neat cement grout	Surface Seal Length: _____ feet from _____ feet to _____ feet	

WELL DEVELOPMENT DATA			
Well Development Date: 10/13/15	Well Development Method (check one): <input type="checkbox"/> Surge/Pu <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)		
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)	Depth to Groundwater (before developing in feet): Not Measured		
Pumping Rate (gallons per minute): 0.20	Maximum Drawdown of Groundwater During Development (feet): Not Measured	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 7.0	Development Duration (minutes): 35	Development Water Drummed (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: Brown, cloudy/ no odor apparent		Water Appearance (color and odor) At End of Development: Clear, light amber/ no odor apparent	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA			
Well Number: MW-4	Site Name: Former Palm Tran Facility	FDEP Facility I.D. Number: 50/8514018	Well Install Date(s): 10/13/2015
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Perched Monitoring <input checked="" type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)	Well Install Method: Direct-Push Tech. (DPT) Surface Casing Install Method: N/A
If AG, list feet of riser above land surface:			
Borehole Depth (feet): 13	Well Depth (feet): 13	Borehole Diameter (inches): 3	Manhole Diameter (inches): 8
Well Pad Size: 2 feet by 2 feet			
Riser Diameter and Material: 1-inch PVC	Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-T threaded <input type="checkbox"/> Other (describe)	Riser Length: 3 feet from 0 feet to 3 feet	
Screen Diameter and Material: 1-inch PVC	Screen Slot Size: 0.010-inch	Screen Length: 10 feet from 3 feet to 13 feet	
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: _____ feet from _____ feet to _____ feet	
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet	
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet	
Filter Pack Material and Size: Silica sand, 20/30 graded	Prepacked Filter Around Screen (check one): <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Filter Pack Length: 11 feet from 2 feet to 13 feet	
Filter Pack Seal Material and Size:	Silica sand, 30/65 graded	Filter Pack Seal Length: 1 feet from 1 feet to 2 feet	
Surface Seal Material:	Neat cement grout	Surface Seal Length: 1 feet from 0 feet to 1 feet	

WELL DEVELOPMENT DATA			
Well Development Date: 10/13/15	Well Development Method (check one): <input type="checkbox"/> Surge/Pu <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)		
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)	Depth to Groundwater (before developing in feet): Not Measured		
Pumping Rate (gallons per minute): 0.20	Maximum Drawdown of Groundwater During Development (feet): Not Measured	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 6.4	Development Duration (minutes): 32	Development Water Drummed (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: Brown, cloudy with petroleum odor		Water Appearance (color and odor) At End of Development: Clear with petroleum odor	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

Form FD 9000-24
GROUNDWATER SAMPLING LOG

SITE NAME: <u>Talmteneo PBA</u>	SITE LOCATION: <u>PBA BUILDING S-1440 West Palm Beach FL</u>
WELL NO: <u>MW-2</u>	SAMPLE ID: <u>MW-2</u>
DATE: <u>10/15/15</u>	

PURGING DATA

WELL DIAMETER (inches): <u>1</u>	TUBING DIAMETER (inches): <u>3/8</u>	WELL SCREEN INTERVAL DEPTH: <u>0</u> feet to <u>18</u> feet	STATIC DEPTH TO WATER (feet): <u>11.99</u>	PURGE PUMP TYPE OR BAILER: <u>PP</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (<u>18</u> feet - <u>11.99</u> feet) X <u>0.01</u> gallons/foot = <u>0.32</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = _____ gallons + (_____ gallons/foot X _____ feet) + _____ gallons = _____ gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>5.9</u>		FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>6.9</u>		PURGING INITIATED AT: <u>1010</u>		PURGING ENDED AT: <u>1125</u>		TOTAL VOLUME PURGED (gallons): <u>9.00</u>			
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
<u>1105</u>	<u>5.0</u>	<u>5.0</u>	<u>0.20</u>	<u>5.42</u>	<u>7.33</u>	<u>30.52</u>	<u>1612</u>	<u>0.25</u>	<u>12</u>	<u>Light Amber</u>	<u>ASTRO</u>
<u>1110</u>	<u>1.0</u>	<u>6.0</u>	<u>0.20</u>	<u>6.42</u>	<u>7.31</u>	<u>30.38</u>	<u>1610</u>	<u>0.14</u>	<u>8</u>	<u>Light Blue</u>	<u>PESTRO</u>
<u>1115</u>	<u>1.0</u>	<u>7.00</u>	<u>0.20</u>	<u>5.42</u>	<u>7.28</u>	<u>30.43</u>	<u>1620</u>	<u>0.21</u>	<u>8</u>	<u>Light Amber</u>	<u>ASTRO</u>
<u>1125</u>	<u>2.0</u>	<u>9.00</u>	<u>0.20</u>	<u>5.42</u>	<u>7.25</u>	<u>30.53</u>	<u>1619</u>	<u>0.08</u>	<u>8</u>	<u>Light Blue</u>	<u>PESTRO</u>

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>Ronald Murphy / Terrain</u>		SAMPLER(S) SIGNATURE(S): <u>Ronald Murphy</u>		SAMPLING INITIATED AT: <u>1125</u>		SAMPLING ENDED AT: <u>1145</u>	
PUMP OR TUBING DEPTH IN WELL (feet): <u>6.9</u>		TUBING MATERIAL CODE: _____		FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		FILTER SIZE: _____ μm	
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> TUBING Y <input checked="" type="checkbox"/> (replaced)		DUPLICATE: Y <input checked="" type="checkbox"/>					

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
<u>MW-2</u>	<u>4</u>	<u>CG</u>	<u>40 mL</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>BTEX</u>	<u>APP</u>	<u>100</u>
<u>MW-2</u>	<u>5</u>	<u>CG</u>	<u>40 mL</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>ESB</u>	<u>APP</u>	<u>100</u>
<u>MW-2</u>	<u>2</u>	<u>AG</u>	<u>1L</u>	<u>HCL</u>	<u>-</u>	<u>7.25</u>	<u>ICL P100</u>	<u>APP</u>	<u>250</u>
<u>MW-2</u>	<u>2</u>	<u>AG</u>	<u>1L</u>	<u>-</u>	<u>-</u>	<u>7.25</u>	<u>P114</u>	<u>APP</u>	<u>250</u>
<u>MW-2</u>	<u>1</u>	<u>PE</u>	<u>125 mL</u>	<u>HNO2</u>	<u>-</u>	<u>-</u>	<u>Pb</u>	<u>APP</u>	<u>250</u>

REMARKS: Added 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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

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

Form FD 9000-24
GROUNDWATER SAMPLING LOG

SITE NAME: <u>PALM TRAIL (O) PRIA</u>	SITE LOCATION: <u>PRIA BUILDING S-1440 West Palm Beach, FL</u>
WELL NO: <u>MW-3</u>	SAMPLE ID: <u>MW-3</u>
DATE: <u>10/15/15</u>	

PURGING DATA

WELL DIAMETER (inches): <u>1</u>	TUBING DIAMETER (inches): <u>3/8</u>	WELL SCREEN INTERVAL DEPTH: <u>0</u> feet to <u>13</u> feet	STATIC DEPTH TO WATER (feet): <u>4.67</u>	PURGE PUMP TYPE OR BAILER: <u>PP</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (<u>13</u> feet - <u>4.67</u> feet) X <u>0.04</u> gallons/foot = <u>0.33</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = _____ gallons + (_____ gallons/foot X _____ feet) + _____ gallons = _____ gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>5.6</u>		FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>5.6</u>		PURGING INITIATED AT: <u>1155</u>		PURGING ENDED AT: <u>1255</u>		TOTAL VOLUME PURGED (gallons): <u>12.0</u>			
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) $\mu\text{mhos/cm}$ or $\mu\text{S/cm}$	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
<u>1215</u>	<u>4.0</u>	<u>4.0</u>	<u>0.20</u>	<u>4.80</u>	<u>7.41</u>	<u>30.73</u>	<u>1105</u>	<u>0.08</u>	<u>32</u>	<u>Cloudy</u>	<u>NONE</u>
<u>1225</u>	<u>2.0</u>	<u>6.0</u>	<u>0.20</u>	<u>4.60</u>	<u>7.63</u>	<u>31.01</u>	<u>1148</u>	<u>0.08</u>	<u>12</u>	<u>Lighter</u>	<u>NONE</u>
<u>1235</u>	<u>2.0</u>	<u>8.0</u>	<u>0.20</u>	<u>4.80</u>	<u>7.65</u>	<u>31.02</u>	<u>1159</u>	<u>0.15</u>	<u>6</u>	<u>Lighter</u>	<u>NONE</u>
<u>1245</u>	<u>1.0</u>	<u>10.0</u>	<u>0.20</u>	<u>4.80</u>	<u>7.69</u>	<u>30.98</u>	<u>1164</u>	<u>0.08</u>	<u>8</u>	<u>Lighter</u>	<u>NONE</u>
<u>1255</u>	<u>2.0</u>	<u>12.0</u>	<u>0.20</u>	<u>4.80</u>	<u>7.70</u>	<u>30.88</u>	<u>1162</u>	<u>0.07</u>	<u>8</u>	<u>Lighter</u>	<u>NONE</u>

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>RANDALL MURPHY/STERRACON</u>		SAMPLER(S) SIGNATURE(S): <u>Randall Murphy</u>		SAMPLING INITIATED AT: <u>1255</u>		SAMPLING ENDED AT: <u>1306</u>	
PUMP OR TUBING DEPTH IN WELL (feet): <u>5.6</u>		TUBING MATERIAL CODE:		FIELD-FILTERED: <u>Y</u> <input checked="" type="checkbox"/>		FILTER SIZE: _____ μm	
FIELD DECONTAMINATION: PUMP <u>Y</u> <input checked="" type="checkbox"/> (N)		TUBING <u>Y</u> <input checked="" type="checkbox"/> (replaced)		DUPLICATE: <u>Y</u> <input checked="" type="checkbox"/> (N)			

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
<u>MW-3</u>	<u>4</u>	<u>CG</u>	<u>40 mL</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>BTRZ</u>	<u>APP</u>	<u>100</u>
<u>MW-3</u>	<u>1</u>	<u>AG</u>	<u>1L</u>	<u>HCL</u>	<u>-</u>	<u>7.70</u>	<u>FLPRO</u>	<u>APP</u>	<u>250</u>
<u>MW-3</u>	<u>1</u>	<u>AG</u>	<u>1L</u>	<u>NONE</u>	<u>-</u>	<u>7.70</u>	<u>PAH</u>	<u>APP</u>	<u>250</u>
<u>MW-3</u>	<u>1</u>	<u>PE</u>	<u>125 mL</u>	<u>NO₂</u>	<u>-</u>	<u>-</u>	<u>Pb</u>	<u>APP</u>	<u>250</u>

REMARKS:

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

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

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

Form FD 9000-24
GROUNDWATER SAMPLING LOG

SITE NAME: <u>Paint Shop @ P.B.M.</u>	SITE LOCATION: <u>P.B.M. Building S-1440 West Palm Beach, FL</u>
WELL NO: <u>MW4</u>	SAMPLE ID: <u>MW4</u> DATE: <u>10/15/15</u>

PURGING DATA

WELL DIAMETER (inches): <u>1</u>	TUBING DIAMETER (inches): <u>3/8</u>	WELL SCREEN INTERVAL DEPTH: <u>0</u> feet to <u>10</u> feet	STATIC DEPTH TO WATER (feet): <u>4.67</u>	PURGE PUMP TYPE OR BAILER: <u>PP</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (<u>13</u> feet - <u>4.67</u> feet) X <u>0.04</u> gallons/foot = <u>0.33</u> gallons				
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): <u>5.6</u>		FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>5.6</u>		PURGING INITIATED AT: <u>1358</u>		PURGING ENDED AT: <u>1432</u>		TOTAL VOLUME PURGED (gallons): <u>6.40</u>			
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
<u>1422</u>	<u>4.40</u>	<u>4.40</u>	<u>0.20</u>	<u>4.72</u>	<u>7.96</u>	<u>30.25</u>	<u>914</u>	<u>0.68</u>	<u>2</u>	<u>Clear</u>	<u>Petro</u>
<u>1423</u>	<u>1.00</u>	<u>5.40</u>	<u>0.20</u>	<u>4.72</u>	<u>7.95</u>	<u>30.28</u>	<u>916</u>	<u>0.13</u>	<u>2</u>	<u>Clear</u>	<u>Petro</u>
<u>1432</u>	<u>1.00</u>	<u>6.40</u>	<u>0.20</u>	<u>4.72</u>	<u>7.98</u>	<u>30.32</u>	<u>912</u>	<u>0.07</u>	<u>2</u>	<u>Clear</u>	<u>Petro</u>

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.66; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>Russell Murphy/Terracon</u>		SAMPLER(S) SIGNATURE(S): <u>Russell Murphy</u>		SAMPLING INITIATED AT: <u>1432</u>	SAMPLING ENDED AT: <u>1443</u>
PUMP OR TUBING DEPTH IN WELL (feet): <u>5.6</u>		TUBING MATERIAL CODE:	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTER SIZE: _____ μm	
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> TUBING Y <input checked="" type="checkbox"/> (replaced)		DUPLICATE: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>			

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml. per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH			
<u>MW4</u>	<u>4</u>	<u>CG</u>	<u>40ml</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>BTA</u>	<u>APP</u>	<u>100</u>
<u>MW4</u>	<u>1</u>	<u>AG</u>	<u>1L</u>	<u>NCL</u>	<u>-</u>	<u>7.98</u>	<u>PL PRO</u>	<u>APP</u>	<u>250</u>
<u>MW4</u>	<u>1</u>	<u>AG</u>	<u>1L</u>	<u>-</u>	<u>-</u>	<u>7.98</u>	<u>PAH</u>	<u>APP</u>	<u>250</u>
<u>MW4</u>	<u>1</u>	<u>PE</u>	<u>250ml</u>	<u>Nitro-3</u>	<u>-</u>	<u>-</u>	<u>Pb</u>	<u>APP</u>	<u>250</u>

REMARKS:

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

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

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

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

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

Form FD 9000-24
GROUNDWATER SAMPLING LOG

WELL ID: PALM TRON ① PB1A

SITE LOCATION: PB1A Building S-1400 WPB, FL

WELL NO: MW-6

SAMPLE ID: MWS

DATE: 10/15/15

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: 8 feet to 10 feet	STATIC DEPTH TO WATER (feet): 4.62	PURGE PUMP TYPE OR BAILER: PP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (13 feet - 4.62 feet) X 0.16 gallons/foot = 1.34 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 5.6	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 5.6	PURGING INITIATED AT: 1310	PURGING ENDED AT: 1340	TOTAL VOLUME PURGED (gallons): 6.02							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (S/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1330	4.02	4.02	0.20	4.80	7.23	25.20	681	0.09	3	Light Amber	Slight FETOR
1335	1.00	5.02	0.20	4.80	7.23	28.22	680	0.08	2	Light Amber	NONE
1340	1.00	6.02	0.20	4.80	7.22	28.20	678	0.09	1	Light Amber	NONE

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Arnold Murphy/Tetracon	SAMPLER(S) SIGNATURE(S): <i>Arnold Murphy</i>	SAMPLING INITIATED AT: 1340	SAMPLING ENDED AT: 1357
PUMP OR TUBING DEPTH IN WELL (feet): 5.6	TUBING MATERIAL CODE:	FIELD-FILTERED: Y (N)	FILTER SIZE: _____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MWS	4	CG	400ml	-	-	-	BPA	APP	100
MWS	1	AG	1L	HCl	-	7.22	PL Pw	APP	250
MWS	1	AG	1L	-	-	7.22	PH	APP	250
MWS	1	PE	200ml	HNO3	-	-	Pb	APP	250

REMARKS: Existing MW

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; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

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

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

Form FD9000-8 CALIBRATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000) 11-10-05

Project/Site: Seaside Palm Tran Facility Date: 10/15/15 Meter # _____
 Temperature (Quarterly) For Date of Last Temperature Verification see _____ in log book

DEP SOP FT 1500	Initials	Date	Time	Probe Charge	Probe Gain	mg/L	Temp °C	% DO	Saturation mg/L (from chart)	Pass or Fail
CAL ICV CCV	<u>RW</u>	<u>10/15/15</u>	<u>0915</u>					<u>100</u>		P
CAL ICV CCV	<u>RW</u>	<u>10/15/15</u>	<u>1325</u>					<u>100</u>		P
CAL ICV CCV										P
CAL ICV CCV										P
CAL ICV CCV										P
CAL ICV CCV										P

Acceptance Criteria: +/- 0.3 mg/L

DEP SOP FT 1200	Initials	Date	Time	Standard $\mu\text{mhos/cm}$	Exp. Date	Lot #	Bottle #	Cell Constant	Reading $\mu\text{mhos/cm}$	Pass or Fail
CAL ICV CCV	<u>RW</u>	<u>10/15/15</u>	<u>0920</u>	<u>1413</u>	<u>7/20</u>	<u>3612</u>			<u>1412</u>	P
CAL ICV CCV	<u>RW</u>	<u>10/15/15</u>	<u>1320</u>	<u>1413</u>	<u>9/20</u>	<u>3612</u>			<u>1412</u>	P
CAL ICV CCV										P
CAL ICV CCV										P
CAL ICV CCV										P
CAL ICV CCV										P

Acceptance Criteria: +/- 5%

DEP SOP FT 1100	Initials	Date	Time	Standard SU	Exp. Date	Lot #	Bottle #	Slope	Reading SU	Pass or Fail
CAL ICV CCV	<u>RW</u>	<u>10/15/15</u>	<u>0911</u>	<u>4.00</u>	<u>2/16</u>	<u>2403637</u>	<u>BD17</u>		<u>4.00</u>	P
CAL ICV CCV	<u>RW</u>	<u>10/15/15</u>	<u>1316</u>	<u>4.00</u>	<u>2/16</u>	<u>2403637</u>	<u>BD17</u>		<u>4.00</u>	P
CAL ICV CCV										P
CAL ICV CCV										P
CAL ICV CCV										P
CAL ICV CCV										P

Acceptance Criteria: +/- 0.2 SU

Maintenance: Weekly pH Slope: 10.0 Specific Conductance Probe Cleaned? Yes No Dissolved Oxygen Membrane Changed: Yes No

Notes:

Turbidity: 2.0 NTU

Perform only in Calibrate Mode: CAL - Calibrate -
 Perform only in Run Mode: ICV - Initial Calibration Verification
 Perform only in Run Mode: CCV - Continuing Calibration Verification

Location PG1A Date 10/12/15
 Project / Client Palm Tran
50/8514018

0830 AP + RM on-site 80°F
 mostly sunny / west wind
 0840 check water level in existing
 site monitoring well = 5.3'

0850 calibrate OVA - P20
 mini RAE200 calibrated at fine
 serial # R8048
 calibration gas canisters
 100ppm, lot # DAG-248-10-2
 head 113 ppm Cal. 100 ppm cells
 calibrate - fresh air
 O₂ gas

0855 humbait arrives, Jose Cristales
 Truck at DPT Rig 190
 Over H+S plan

9:10 set-up on boring SB-1
 9:20 complete boring SB-1
 9:22 set-up on boring SB-2
 9:35 complete boring SB-2

Location PG1A Date 10/12/15
 Project / Client Palm Tran
50/8514018 Scale

Boring Depth	Remarks (G-tho)
9:40 Set-up on borings SB-3	
9:46 complete boring SB-3	
SB-1 0-1	Asphalt (2") Base-course (6-1)
1-2 3.0	gray PCs with some shells at 1-3 (1-8')
2-3 6.03	slight odor, ferns odor, petrus 4'-8'
3-4 9.9994	soil wet at 5.5'
4-6 9.9994	
6-8 9.9994	
SB-2 0-1 4.84	concrete (5") 5"-3' brown f/s
1-2 5.28	3'-4' gray f/s ferrous odor (11-9')
2-3 9.9994	4-5' reddish brown sand f/s
3-4 9.9994	1" concrete layer at 5'

Location PG1A Date 10/12/15

Project / Client Palm Tran

50 / 8514018

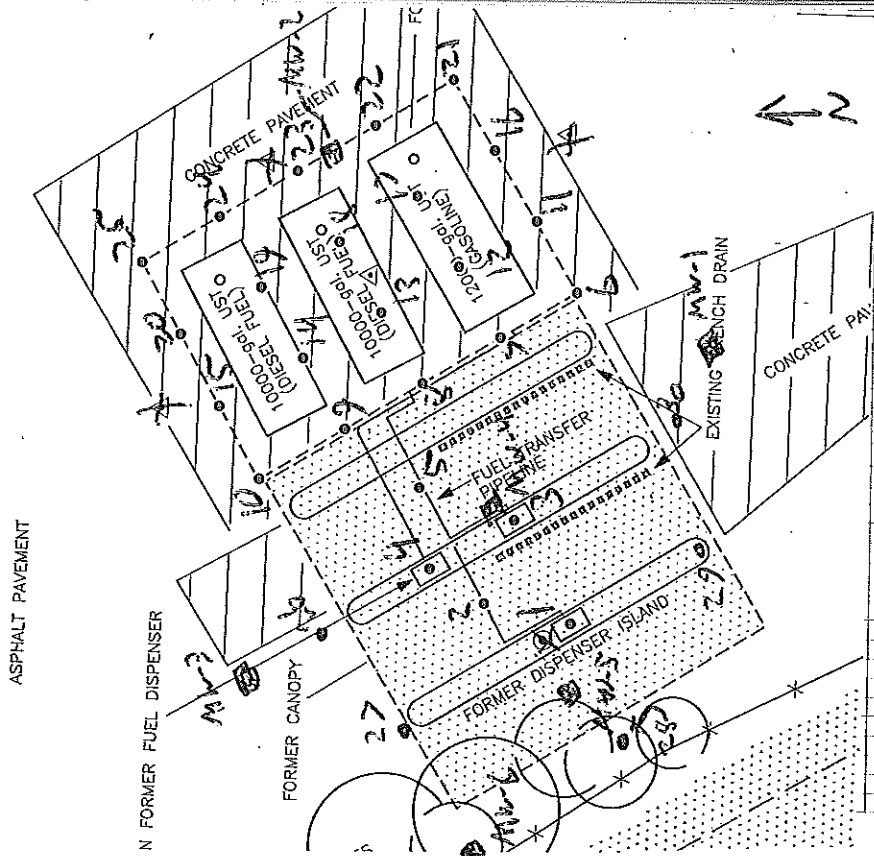
Copyings	depths	PID	Remarks
SB-2	4-6	9999+	f/s sand, gray 5'-8'
	6-8	9999+	wet up 5:5
SB-3	0-1		asphalt 2"
	1-2	252	0-2' - gray f/s with LR (gravel)
	2-3	471	2-3' - brown f/s
	3-4	9999+	3-4.5' - gray f/s
	4-6	9999+	petro odor (1-8')
	4-6	9999+	4.5' - 5' - brown f/s
	6-8	9999+	5-8' - gray f/s
	6-8	9999+	met at 5.5'
SB-4	0-1	3-5	Asphalt 2"
	1-2	5-6	2'-8" - base course
			0"-2' gray to red brown f/s
			2'-4' very dark gray f/s, petro stained
	2-3	3712	

Location PG1A Date 10/12/15

Project / Client Palm Tran

50 / 8514018

Soil Sample Locations



Location PSIA Date 10/12/15

Project / Client Palm Tran
50 / 8514016

9:08 Start boring SB-4 (Drill Rig)
10:13 END boring SB-4 (malfunction)

10:16 Start SB-5
10:38 END SB-5

10:49 Start SB-6
11:01 END SB-6

11:06 Start SB-7
11:15 END SB-7

11:23 - 2nd Dept. Driller for work. (had)
arrives, false start break

11:35 Start SB-8 (Close)
11:42 END SB-8

11:35 Start SB-21 (Close)
11:44 END SB-21

11:45 Start SB-9 (Close)
11:54 END

Location PSIA Date 10/12/15

Project / Client Palm Tran
50 / 8514016 Scale

Boring logs RED Remarks
SB-4 3-4 9999+ Petro odor (S-8)

W-6 9999+ 4-4.5 brown F/S
4.5' - 8' - gray F/S

6-5 9999+ wet at 5.5'

SB-5 0-1 3514 concrete (5")
5" - 2' light brown F/S

1-2 9999+ 2' - 8' gray F/S

2-3 9999+ wet at 5.5'

3-4 9999+ Petro odor (0.5'-8')

4-8 9999+

6-8 9999+

SB-6 0-1 2-4 concrete (4")

1-2 41.5 4' - 8' light brown F/S

Location PS/A Date 10/2/15

Project / Client Palm Tran
50/8514018

Core No	Depth	PID	Remarks
SB-6	2-3	165	met at 5.5'
	3-4	139	NO Petro colors observed
	4-6	0	
	6-8	0	
SB-7	0-1	0	0-2" - Asphalt
	1-2	0	2"-6" - base course
	2-3	0	6"-8" light brown f/s, lean
	3-4	0	NO Petro colors
	4-6	0	met at 5.5'
	6-8	0	
SB-8	0-1	411	Asphalt (2")
	1-2	0	base course 2"-8"
	2-3	1.2	8"-5" Brown f/s, slight Petro color 0-1'

Location PS/A Date 10/2/15

Project / Client Palm Tran
50/8514018

Core No	Depth	PID	Remarks
SB-8	3-4	0	met at 5.5'
	4-6	1.4	5"-8" light brk f/s
	6-8	10.3	
SB-21	0-1	0	concrete (4")
	1-2	0	4"-8" light brown f/s
	2-3	0	no odor
	3-4	0	met at 5.5'
	4-6	0	
	6-8	0	
SB-9	0-1	0	Asphalt (2")
	1-2	11.2	base course (2"-8") 8" ~ 2.5 brown f/s

Location PA1A Date 10/12/14

Project / Client Palmyra Train
SO/8514018

Booring	Depth	PID	Remarks
SB-22	0-1	0	Concrete 0-4" Sub base 4'-1'
	1-2	0	Light Brown fls (1'-6") Brown fls (6'-6") - no odors observed
	2-3	20.2	
	3-4	0.4	wet w.s.s
	4-6	8.1	
	6-8	9999+	
SB-9	2-3	31.1	2.5' - 8' gray fls
	3-4	5437	Strong odor, petro (3-8')
	4-6	9999+	wet w.s.s
	6-8	9999+	
SB-10	0-1	0	Asphalt (2")
	1-2	0	2" - 8" base course
	2-3	0	

Location PA1A Date 10/12/15

Project / Client Palmyra Train
SO/8514018

Scale _____

Booring	Depth	PID	Remarks
SB-10	3-4	22.4	8" - 8' Light brown fls 3-8' extra odor
	4-6	14.2	
	6-8	97.0	
SB-23	0-1	0	Concrete (2") 3" - 1' base course
	1-2	0	1" - 8' Light brown fls
	2-3	0	Retractor 4-6' bays
	3-4	0	
	4-6	30.1	
	6-8	9999+	
SB-11	0-1	0	0-4' concrete
	1-2	0	4" - 8' brown fls

40 Location PSIA Date 10/21/15

Project / Client Palm Tran
50/8514018

1147 Start SB-22 (chad)

1159 END SB-22

1157 Start SB-10 (Jose)

1204 END SB-10

1201 Start SB-23 (chad)

1207 END SB-23

1206 Start SB-11 (Jose)

1223 END SB-11

1209 Start SA-24 (chad)

1217 END SA-24

1220 Start SB-25 (chad)

1230 END SB-25

1209 - PID Stopped working

Called Pine Rental to deliver

new PID. continue drilling.

cap PET liners.

1225 DVA-PID New functioning (chad)
 - Hand Re-102 (missed)

Location PSIA Date 10/12/18

Project / Client Palm Tran
50/8514018 Scale _____

Boring Depth	PID	Remarks
SB11 2-3	0	NO address
3-4	0	wet at 5.5'
4-6	555	
6-8	635	
SB2510-1	0	0-4' concrete
1-2	0	4"-4' tan LAFill
2-3	211	4"-6' brown F9 sand
3-4	222	4"-8' Petro odor
4-6	2231	met at 5.0'
6-8	1587	

Location PBIA Date 10/12/14

Project / Client Palm Tran
SO/8514018

1224 Start SB-12 (Dose)
1236 End SB-12

1232 Start SB-16 (Dose)
1243 End SB-16

1239 Start SB-13 (Dose)
1249 End SB-13

1245 Start SB-17 (Dose)
1256 End SB-17

1251 Start SB-14 (Dose)
1301 End SB-14

1254 OVA cal check
- readings 194 ppm, not
calibrated

1258 Start SB-18 (Dose)
1310 End SB-18

Location PBIA Date 10/12/14

Project / Client Palm Tran
SO/8514018

Scale

Station	Notes
SB12 0-1	concrete (0.2")
1-2	4" - 8" brown fls, brand at 1-1
2-3	No odors observed
3-4	wet at S.O.F.
4-6	
6-8	
SB25 0-1	concrete (4")
1-2	4" - 1" LR fill
2-3	1" - 4" brown fls
3-4	4" - 8" gray fls
4-6	No odors
6-8	wet at S.S.

44 Location PBIA Date 10/12/15

Project / Client Palm Tran
SO/SS STUDIOS

Soiling Depth PTD Remarks

SB-13	0-1	0	0-4" concrete
1-2	2-4	0	4"-4" LA FILL
2-3	0	0	4"-8" Brown f/s
3-4	2-1	1	Slight Petro odor from 4-8"
4-6	3-8	6	wet at 5-5"
6-8	3-11	11	
SB-16	0-1	0	0-4" concrete
1-2	0	0	4"-3.5" LA FILL
2-3	0	0	3.5"-8" - Brown f/s
3-4	0	0	NO odors apparent
4-6	0	0	wet at 5-5"
6-8	1-7	7	

Location PBIA Date 10/12/15 45

Project / Client Palm Tran
SO/SS STUDIOS

Soiling Depth PTD Remarks

SB-14	0-1	0	0-4" concrete
1-2	0	0	4"-11" - tan LA FILL
2-3	0	0	1"-4" - brown f/s w/ shell frags
3-4	0	0	4"-8" - brown f/s, (lean)
4-6	8-5	5	NO odors observed
6-8	8-11	11	wet at 5-5"
SB-17	0-1	0	0-4" concrete
1-2	0	0	4"-2.5" tan LA FILL
2-3	0	0	2.5"-8" - brown f/s
3-4	0	0	odor, Petro 4"-8"
4-6	6-12	12	wet at 5-5"
6-8	12-32	32	

Location PBIA Date 10/22/15
 Project / Client Palm Tran
50/8514018

1303
~~Start SB-15~~ (Jose)
 END SB-15

1313 Start SB-19 (Chad)
 1326 END SB-19

1322 Start SB-20 (Jose)
 1334 END SB-20

1345 - 1420 - Evaluate PZO data
 Speak to WRS to select
 boring locations for Lab Analysis:

- Soils
 1830
 1815
 1600
 1545
 1530
- SB-2 (1'-2')
 SB-2 (3'-4')
 SB-4 (2'-3')
 SB-8 (3'-4')
 SB-18 (2'-3')

* Borings SB-2, SB-4, SB-8, SB-18
 re-drilled approx 4" from original
 bore hole

Location PBIA Date 10/22/15
 Project / Client Palm Tran
50/8514018 Scale _____

SB-15 0-1 0	0-4" concrete
1-2 209	4" - 2' tan to brown LH AID
2-3 112	2' - 8' brown f/s
3-4 0	NO Petro colors
4-6 0	met at 5.5'
6-8 0	
SB-14 0-1 212	0-4" concrete
1-2 180	4" - 3' tan to brown LA AID w/ shells
2-3 1837	3' - 8' brown f/s
3-4 1039	2-4' Petro color noted
4-6 214	met at 5.5'
6-8 185	

Location PB1A Date 10/12/15

Project / Client Pala Tom
50/8514018

SB-19 0-1 0 0-4" concrete
 1-2 0 4"-3" tan LA fill
 2-3 0 3'-8" brown f/s w/ some shell
 3-4 1.2 5.5' wet frags
 4-6 368 4'-8" - slightly retro
 6-8 508 odor

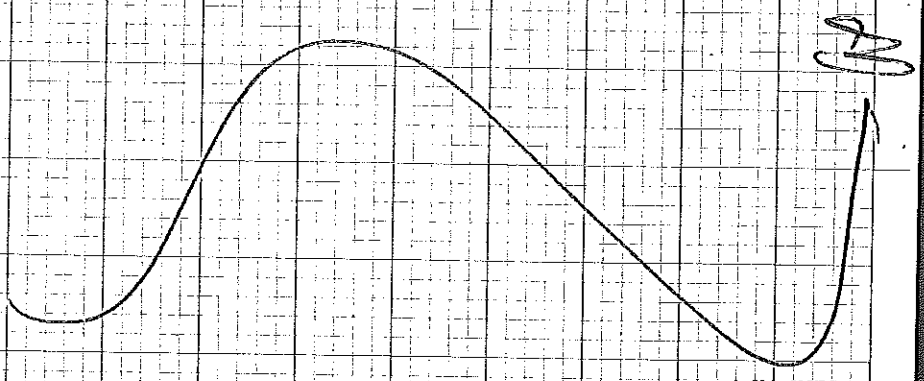
SB-20 0-1 0 0-4" concrete
 1-2 0 4"-4' brown for tan
 2-3 0 4'-8" gray f/s LA fill
 3-4 0 No retro odor
 4-6 1.4 wet at 5.5'
 6-8 0

Location PB1A Date 10/12/15

Project / Client Pala Tom
50/8514018

Scale

- Page Not Used -
PP



PP

Location POA

Project / Client Palm Tran
50 / 8514018

Date 10/12/15

1526 Start Step-out Boring SB-26
1536 END SB-26

1512 Start Step-out Boring SB-27
1519 END Step-out Boring SB-27

1501 Start Step-out Boring SB-28
1510 END Boring SB-28

1538 Start Step-out Boring SB-29
1546 END Boring SB-29

1505 Start Step-out Boring SB-30
1525 END Step-out Boring SB-30

1600 - Drillers off-site

1645 - All of P-site

END
AD

Location POA

Project / Client Palm Tran
50 / 8514018

Date 10/12/15

Scale

Boring Depth POD Remarks

SB-26 0-1 0 0-2" Asphalt
2"-8" Fine gravel
8'-4" light brown f/s

2-3 0 4'-6" gray f/s
6'-8" light brown f/s

3-4 0 Petro odor (4'-8')
4-6 9999+ Wet at 5.5'

6-8 1820

SB-27 0-1 120 0-2" Asphalt
1-2 3813 2"-8" L.R. fill, tan to Lt brown

2-3 121 8"-9" gray f/s
3-4 4336 0-1' Slight petro odor

4-6 9999+ 4-6' Stone odor w/ 8'
6-8 9999+ Wet at 5.5'

Location PBIA Date 10/2/85

Project / Client Palm Tran
SO / 8514018

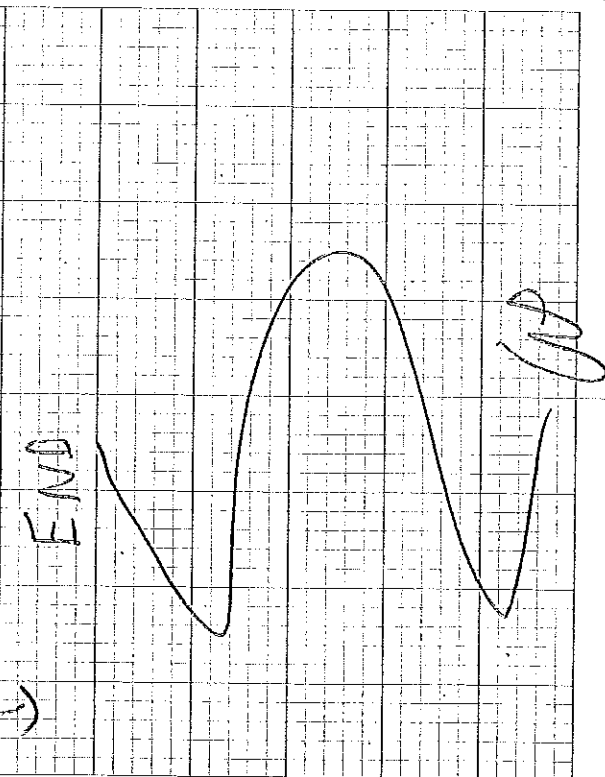
Boring	Depth	PID	Remarks
SB-25	0-1	0	0-2" Asphalt
	0-2	0	2"-8" Base course, tan
	2-3	0.2	8"-2' tan f/s w/ shell
	3-4	20.0	2'-8' brown f/s
	4-6	0	No odors observed
	6-8	0	wet at 5.5'

SB-29	0-1	131	0-2" Asphalt
	1-2	91.0	2"-8" LR fill, tan
	2-3	188	8"-8' light brown f/s
	3-4	36.0	Slight petro odor
	4-6	183	0-8' wet at 5.5'
	6-8	51.6	

Location PBIA Date 10/12/85

Project / Client Palm Tran
SO / 8514018

Boring	Depth	PID	Remarks
SB-20	0-1	5085	0-5" concrete
	1-2	3712	5"-1' LR fill, tan
	2-9	3562	1'-3' gray f/s
	3-9	4732	3'-4' light dk f/s
	4-6	772	4'-8' gray f/s
	6-8	2442	All depths - Petro odor
			wet at 5.5'



10/13/15 MW 157021

0800 consist w/ Wombat @ 1957
5910 Geo Probe Draw Equipment

0825 Mobilized to MW-1 Location
& Begin Drilling Saw Cut Concrete

Drilling to 13 feet in depth, SET WELL (1")

0940 River Pack well also 20130 Same
Filter DECON ROOS Seal w/ Portland

Flow 11' to 13' 1045 PORTLAND FLOW

1055 Screen Develop well @ 0.20 gpm
w/ Peristaltic Pump.

0950 Begin Drilling @ MW-2 Saw Cut

Concrete for 11' 7' completion @ 6.4 gallons

1105 SET WELL (1" PROTECTIVE) to 13 FEET

1200 20130 Same as Appraisal Return to

11 FEET 11-13 PORTLAND DECON ROOS

1228 PORTLAND FLOW

1246 Screen Developing well w/ Peristaltic
Pump @ 0.2 gpm

1321 Completion Development @ 7.0 gpm

1120 Mobilized to MW-3 & Begin Drilling

1257 SET 1" PROTECTIVE WELL to 13 FEET & ADD

20130 SAND FOR FILTER to 11 FEET - DECON

ROOS 11-13 Seal w/ PORTLAND

1357 PORTLAND FLOW

MW 157021

1400 BEGIN Development w/ Peristaltic Pump

0129 gpm 1435 Completion @ 7.0 gpm

1257 Mobilized to MW 4 & Begin Drilling

1323 SET 1" PROTECTIVE WELL to 13 FEET

1400 20130 Same to Return up to 11 FEET

Seal from 11-13 w/ PORTLAND

1330 PORTLAND FLOW

1343 Screen Development @ 0.2 gpm

1415 Completion @ 6.4 gpm

1455 Clean up & OFFSITE

PROJECT: Former Palm Trm Page 1 of 1
 JOB NO. H0157021 Date 10/29/15 Comp. By AP CHECKED BY: _____

Surveying (TOP-OF-casing Elevation Calc)

$$BM = 5.17' = 100.00'$$

			TOC (relative AT)
MW-1	= 5.40	$5.17 - 5.40 + 100.00 =$	99.77
MW-2	= 5.24	$5.17 - 5.24 + 100.00 =$	99.93
MW-3	= 5.52	$5.17 - 5.52 + 100.00 =$	99.65
MW-4	= 5.55	$5.17 - 5.55 + 100.00 =$	99.62
MW-5	= 5.60	$5.17 - 5.60 + 100.00 =$	99.57

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



Palm Beach Environmental
Laboratories Inc.



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

October 19, 2015

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,

Pamela Shore
QA Officer



Palm Beach Environmental
Laboratories Inc.

CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 FAX: (561) 689-5955

LOG #: 0013883
COC#: 22122
REPORTED: 10/19/2015 10:44:41AM
PROJECT #: 8514018
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 Received: 10/13/15 09:05

EPA 8020 List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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	I	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	I	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
		% Recovery	Q	% Recovery Limits							
1868-53-7	Surrogate: Dibromofluoromethane	85.3 %		Limit 55-200							
2037-26-5	Surrogate: Toluene-d8	111 %		Limit 66-144							
460-00-4	Surrogate: 4-Bromofluorobenzene	97.4 %		Limit 50-131							

EPA 8100 PAH List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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	0.3		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

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

1550 Latham Road, Suite 2, West Palm Beach, FL 33409, phone: (561)689-6701, fax: (561)689-6702



Palm Beach Environmental
Laboratories Inc.

CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013883
COC#: 22122
REPORTED: 10/19/2015 10:44:41AM
PROJECT #: 8514018
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	Received: 10/13/15 09:05

EPA 8100 PAH List

<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	<u>Q</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Extraction Date</u>	<u>Analysis Date</u>	<u>Analyst</u>
		% Recovery	Q	% Recovery Limits							
NA	Surrogate: Nitrobenzene-d5	93.1 %			Limit 47-131						
321-60-8	Surrogate: 2-Fluorobiphenyl	109 %			Limit 51-134						
NA	Surrogate: p-Terphenyl-d14	98.7 %			Limit 59-145						

FLPRO

<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	<u>Q</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Extraction Date</u>	<u>Analysis Date</u>	<u>Analyst</u>
		% Recovery	Q	% Recovery Limits							
NA	FLPRO Total	10.9		mg/kg	EPA 3545 /RO	1	0.0800	0.240	10/16/15	10/16/15	PLS
84-15-1	Surrogate: o-Terphenyl	75.2 %			Limit 70-130						
7194-86-7	Surrogate: Nonatriacontane	85.6 %			Limit 42-193						



CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013883
COC#: 22122
REPORTED: 10/19/2015 10:44:41AM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Description: SB-9 (3-4) **Lab ID:** 0013883-02 **Sampled:** 10/12/15 15:45
Matrix: Soil **Sampled By:** Andrew Petric **Received:** 10/13/15 09:05

EPA 8020 List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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
		% Recovery	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

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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



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CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013883
COC#: 22122
REPORTED: 10/19/2015 10:44:41AM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Description: SB-9 (3-4)	Lab ID: 0013883-02	Sampled: 10/12/15 15:45
Matrix: Soil	Sampled By: Andrew Petric	Received: 10/13/15 09:05

EPA 8100 PAH List

<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	<u>Q</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Extraction</u>	<u>Analysis</u>	<u>Analyst</u>
									<u>Date</u>	<u>Date</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							
NA	Surrogate: Nitrobenzene-d5	80.1 %		Limit 47-131							
321-60-8	Surrogate: 2-Fluorobiphenyl	112 %		Limit 51-134							
NA	Surrogate: p-Terphenyl-d14	103 %		Limit 59-145							

FLPRO

<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	<u>Q</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Extraction</u>	<u>Analysis</u>	<u>Analyst</u>
									<u>Date</u>	<u>Date</u>	
NA	FLPRO Total	18.0		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	81.4 %		Limit 70-130							
7194-86-7	Surrogate: Nonatriacontane	92.9 %		Limit 42-193							



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1225 Omar Road
West Palm Beach, FL 33405

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PHONE: (561) 689-4299 FAX: (561) 689-5955

LOG #: 0013883
COC#: 22122
REPORTED: 10/19/2015 10:44:41AM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Description: SB-4 (2-3) Lab ID: 0013883-03 Sampled: 10/12/15 16:00
Matrix: Soil Sampled By: Andrew Petric Received: 10/13/15 09:05

EPA 8020 List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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
108-38-3/106-42-3	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
		% Recovery	Q	% 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

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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



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Laboratories Inc.

CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013883
COC#: 22122
REPORTED: 10/19/2015 10:44:41AM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Description: SB-4 (2-3)	Lab ID: 0013883-03	Sampled: 10/12/15 16:00
Matrix: Soil	Sampled By: Andrew Petric	Received: 10/13/15 09:05

EPA 8100 PAH List

<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	<u>Q</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Extraction Date</u>	<u>Analysis Date</u>	<u>Analyst</u>
		% Recovery		Q	% Recovery Limits						
NA	Surrogate: Nitrobenzene-d5	77.5 %			Limit 47-131						
321-60-8	Surrogate: 2-Fluorobiphenyl	106 %			Limit 51-134						
NA	Surrogate: p-Terphenyl-d14	92.7 %			Limit 59-145						

FLPRO

<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	<u>Q</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Extraction Date</u>	<u>Analysis Date</u>	<u>Analyst</u>
		% Recovery		Q	% Recovery Limits						
NA	FLPRO Total	141		mg/kg	EPA 3545 /RO	1	0.0800	0.240	10/16/15	10/16/15	PLS
84-15-1	Surrogate: o-Terphenyl	84.2 %			Limit 70-130						
7194-86-7	Surrogate: Nonatriacontane	106 %			Limit 42-193						



CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013883
COC#: 22122
REPORTED: 10/19/2015 10:44:41AM
PROJECT #: 8514018
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 **Received:** 10/13/15 09:05

EPA 8020 List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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 95-47-6	m,p-Xylene	0.0004	I	mg/kg	EPA 5035 / 8260C	1	0.0003	0.001	10/15/15	10/15/15	PLS
	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
		% Recovery	Q	% Recovery Limits							
1868-53-7	Surrogate: Dibromofluoromethane	69.7 %		Limit 55-200							
2037-26-5	Surrogate: Toluene-d8	114 %		Limit 66-144							
460-00-4	Surrogate: 4-Bromofluorobenzene	106 %		Limit 50-131							

EPA 8100 PAH List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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



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1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric

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LOG #: 0013883

COC#: 22122

REPORTED: 10/19/2015 10:44:41AM

PROJECT #: 8514018

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

Received: 10/13/15 09:05

EPA 8100 PAH List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
		% Recovery	Q	% Recovery Limits							
NA	Surrogate: Nitrobenzene-d5	85.0 %			Limit 47-131						
321-60-8	Surrogate: 2-Fluorobiphenyl	90.6 %			Limit 51-134						
NA	Surrogate: p-Terphenyl-d14	73.2 %			Limit 59-145						

FLPRO

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
		% Recovery	Q	% Recovery Limits							
NA	FLPRO Total	1820		mg/kg	EPA 3545 /RO	1	0.0800	0.240	10/16/15	10/16/15	PLS
84-15-1	Surrogate: o-Terphenyl	90.3 %			Limit 70-130						
7194-86-7	Surrogate: Nonatriacontane	98.0 %			Limit 42-193						



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1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 FAX: (561) 689-5955

LOG #: 0013883
COC#: 22122
REPORTED: 10/19/2015 10:44:41AM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Description: SB-2 (1-2) Lab ID: 0013883-05 Sampled: 10/12/15 16:30
Matrix: Soil Sampled By: Andrew Petric Received: 10/13/15 09:05

EPA 8020 List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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	I	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	I	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
		% Recovery	Q	% Recovery Limits							
1868-53-7	Surrogate: Dibromofluoromethane	67.5 %		Limit 55-200							
2037-26-5	Surrogate: Toluene-d8	105 %		Limit 66-144							
460-00-4	Surrogate: 4-Bromofluorobenzene	96.9 %		Limit 50-131							

EPA 8100 PAH List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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	I	mg/kg	EPA 3545 / 8270	1	0.02	0.3	10/16/15	10/16/15	PLS
90-12-0	1-Methylnaphthalene	0.05	I	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

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Palm Beach Environmental
Laboratories Inc.

CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013883
COC#: 22122
REPORTED: 10/19/2015 10:44:41AM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Description: SB-2 (1-2)	Lab ID: 0013883-05	Sampled: 10/12/15 16:30
Matrix: Soil	Sampled By: Andrew Petric	Received: 10/13/15 09:05

EPA 8100 PAH List

<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	<u>Q</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Extraction</u>	<u>Analysis</u>	<u>Analyst</u>
									<u>Date</u>	<u>Date</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							
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

<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	<u>Q</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Extraction</u>	<u>Analysis</u>	<u>Analyst</u>
									<u>Date</u>	<u>Date</u>	
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							
84-15-1	Surrogate: o-Terphenyl	76.0 %		Limit 70-130							
7194-86-7	Surrogate: Nonatriacontane	95.3 %		Limit 42-193							



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LOG #: 0013883
COC#: 22122
REPORTED: 10/19/2015 10:44:41AM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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EPA 8020 List - Quality Control

Batch B510076 - EPA 5035

Blank (B510076-BLK1)

Prepared & 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
MTBE	U	0.001	mg/kg							U

<i>Surrogate: Dibromofluoromethane</i>	<i>0.00991</i>		<i>mg/kg</i>	<i>0.01500</i>	<i>66.1</i>	<i>55-200</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0131</i>		<i>mg/kg</i>	<i>0.01500</i>	<i>87.1</i>	<i>66-144</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0127</i>		<i>mg/kg</i>	<i>0.01500</i>	<i>84.6</i>	<i>50-131</i>			

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			

<i>Surrogate: Dibromofluoromethane</i>	<i>0.0116</i>		<i>mg/kg</i>	<i>0.01500</i>	<i>77.4</i>	<i>55-200</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0177</i>		<i>mg/kg</i>	<i>0.01500</i>	<i>118</i>	<i>66-144</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0148</i>		<i>mg/kg</i>	<i>0.01500</i>	<i>98.7</i>	<i>50-131</i>			

LCS Dup (B510076-BSD1)

Prepared & 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

<i>Surrogate: Dibromofluoromethane</i>	<i>0.0108</i>		<i>mg/kg</i>	<i>0.01500</i>	<i>71.8</i>	<i>55-200</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0165</i>		<i>mg/kg</i>	<i>0.01500</i>	<i>110</i>	<i>66-144</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0154</i>		<i>mg/kg</i>	<i>0.01500</i>	<i>103</i>	<i>50-131</i>		

Calibration Check (B510076-CCV1)

Prepared & 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

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LOG #: 0013883
COC#: 22122
REPORTED: 10/19/2015 10:44:41AM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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EPA 8020 List - Quality Control

Batch B510076 - EPA 5035

Calibration Check (B510076-CCV1) Continued

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			
MTBE	0.225		mg/kg	0.2000		112	80-120			
Trichloroethene	0.166		mg/kg	0.2000		83.0	80-120			
<i>Surrogate: Dibromofluoromethane</i>	<i>0.0103</i>		<i>mg/kg</i>	<i>0.01500</i>		<i>68.5</i>	<i>0-200</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0158</i>		<i>mg/kg</i>	<i>0.01500</i>		<i>105</i>	<i>0-200</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0159</i>		<i>mg/kg</i>	<i>0.01500</i>		<i>106</i>	<i>0-200</i>			

Duplicate (B510076-DUP1)

Source: 0013883-05

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
MTBE	U	0.001	mg/kg		U			20		U
Trichloroethene	U	0.001	mg/kg		U			20		U
<i>Surrogate: Dibromofluoromethane</i>	<i>0.0117</i>		<i>mg/kg</i>	<i>0.01500</i>		<i>77.7</i>	<i>55-200</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0132</i>		<i>mg/kg</i>	<i>0.01500</i>		<i>87.9</i>	<i>66-144</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0140</i>		<i>mg/kg</i>	<i>0.01500</i>		<i>93.6</i>	<i>50-131</i>			

Matrix Spike (B510076-MS1)

Source: 0013883-05

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			
<i>Surrogate: Dibromofluoromethane</i>	<i>0.00945</i>		<i>mg/kg</i>	<i>0.01500</i>		<i>63.0</i>	<i>55-200</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0154</i>		<i>mg/kg</i>	<i>0.01500</i>		<i>103</i>	<i>66-144</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0134</i>		<i>mg/kg</i>	<i>0.01500</i>		<i>89.3</i>	<i>50-131</i>			

Matrix Spike Dup (B510076-MSD1)

Source: 0013883-05

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

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LOG #: 0013883
COC#: 22122
REPORTED: 10/19/2015 10:44:41AM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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EPA 8020 List - Quality Control

Batch B510076 - EPA 5035

Matrix Spike Dup (B510076-MSD1) Continued **Source: 0013883-05** Prepared & Analyzed: 10/15/15

<i>Surrogate: Dibromofluoromethane</i>	0.0123		mg/kg	0.01500		81.9	55-200			
<i>Surrogate: Toluene-d8</i>	0.0174		mg/kg	0.01500		116	66-144			
<i>Surrogate: 4-Bromofluorobenzene</i>	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							U
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							U
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

<i>Surrogate: Nitrobenzene-d5</i>	0.702		mg/kg	1.000		70.2	47-131		
<i>Surrogate: 2-Fluorobiphenyl</i>	0.844		mg/kg	1.000		84.4	51-134		
<i>Surrogate: p-Terphenyl-d14</i>	0.801		mg/kg	1.000		80.1	59-145		

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		



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COC#: 22122
REPORTED: 10/19/2015 10:44:41AM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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EPA 8100 PAH List - Quality Control

Batch B510080 - EPA 3545

LCS (B510080-BS1) Continued

Prepared & Analyzed: 10/16/15

<i>Surrogate: Nitrobenzene-d5</i>	0.770		mg/kg	1.000		77.0	60-135			
<i>Surrogate: 2-Fluorobiphenyl</i>	0.839		mg/kg	1.000		83.9	60-135			
<i>Surrogate: p-Terphenyl-d14</i>	0.748		mg/kg	1.000		74.8	60-135			

LCS Dup (B510080-BSD1)

Prepared & 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	

<i>Surrogate: Nitrobenzene-d5</i>	0.858		mg/kg	1.000		85.8	60-135			
<i>Surrogate: 2-Fluorobiphenyl</i>	0.846		mg/kg	1.000		84.6	60-135			
<i>Surrogate: p-Terphenyl-d14</i>	0.924		mg/kg	1.000		92.4	60-135			

Calibration Check (B510080-CCV1)

Prepared & Analyzed: 10/16/15

Naphthalene	2.7		mg/kg	2.500		108	85-115			
Acenaphthylene	2.7		mg/kg	2.500		106	85-115			
Pyrene	2.6		mg/kg	2.500		105	85-115			
4-Chloro-3-methylphenol	2.7		mg/kg	2.500		110	85-115			
Di-n-octylphthalate	2.2		mg/kg	2.500		88.7	85-115			
Hexachlorobenzene	2.5		mg/kg	2.500		101	85-115			
2-Methylphenol	2.7		mg/kg	2.500		107	85-115			
Nitrobenzene	2.5		mg/kg	2.500		102	85-115			

<i>Surrogate: Nitrobenzene-d5</i>	0.776		mg/kg	1.000		77.6	0-200			
<i>Surrogate: 2-Fluorobiphenyl</i>	0.878		mg/kg	1.000		87.8	0-200			
<i>Surrogate: p-Terphenyl-d14</i>	0.932		mg/kg	1.000		93.2	0-200			

Duplicate (B510080-DUP1)

Source: 0013883-01

Prepared & 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



Palm Beach Environmental
Laboratories Inc.

CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405
ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013883
COC#: 22122
REPORTED: 10/19/2015 10:44:41AM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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EPA 8100 PAH List - Quality Control

Batch B510080 - EPA 3545

Duplicate (B510080-DUP1) Continued

Source: 0013883-01

Prepared & Analyzed: 10/16/15

<i>Surrogate: Nitrobenzene-d5</i>	0.613		mg/kg	1.000		61.3	47-131		
<i>Surrogate: 2-Fluorobiphenyl</i>	0.804		mg/kg	1.000		80.4	51-134		
<i>Surrogate: p-Terphenyl-d14</i>	0.943		mg/kg	1.000		94.3	59-145		

Matrix Spike (B510080-MS1)

Source: 0013883-01

Prepared & 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		

<i>Surrogate: Nitrobenzene-d5</i>	0.860		mg/kg	1.000		86.0	60-135		
<i>Surrogate: 2-Fluorobiphenyl</i>	1.04		mg/kg	1.000		104	60-135		
<i>Surrogate: p-Terphenyl-d14</i>	1.15		mg/kg	1.000		115	60-135		

Matrix Spike Dup (B510080-MSD1)

Source: 0013883-01

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

<i>Surrogate: Nitrobenzene-d5</i>	0.922		mg/kg	1.000		92.2	60-135		
<i>Surrogate: 2-Fluorobiphenyl</i>	1.09		mg/kg	1.000		109	60-135		
<i>Surrogate: p-Terphenyl-d14</i>	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
<i>Surrogate: o-Terphenyl</i>	2.90		mg/kg	2.500		116	70-130		
<i>Surrogate: Nonatriacontane</i>	13.8		mg/kg	15.00		92.1	42-193		

LCS (B510081-BS1)

Prepared & Analyzed: 10/16/15

FLPRO Total	48.4	0.240	mg/kg	42.50		114	60-120		
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Palm Beach Environmental
Laboratories Inc.

CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013883
COC#: 22122
REPORTED: 10/19/2015 10:44:41AM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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FLPRO - Quality Control

Batch B510081 - EPA 3545

LCS (B510081-BS1) Continued

Prepared & Analyzed: 10/16/15

<i>Surrogate: o-Terphenyl</i>	2.39		mg/kg	2.500		95.5	70-130			
<i>Surrogate: Nonatriacontane</i>	13.5		mg/kg	15.00		90.0	42-193			

LCS Dup (B510081-BSD1)

Prepared & Analyzed: 10/16/15

FLPRO Total	50.1	0.240	mg/kg	42.50		118	60-120	3.40	30	
<i>Surrogate: o-Terphenyl</i>	2.39		mg/kg	2.500		95.7	70-130			
<i>Surrogate: Nonatriacontane</i>	14.8		mg/kg	15.00		98.9	42-193			

Calibration Check (B510081-CCV1)

Prepared & Analyzed: 10/16/15

FLPRO Total	39.7		mg/kg	42.50		93.4	80-120			
<i>Surrogate: o-Terphenyl</i>	2.24		mg/kg	2.500		89.7	0-200			
<i>Surrogate: Nonatriacontane</i>	13.0		mg/kg	15.00		86.6	0-200			

Duplicate (B510081-DUP1)

Source: 0013883-02

Prepared & Analyzed: 10/16/15

FLPRO Total	21.7	0.240	mg/kg		18.0			18.7	20	
<i>Surrogate: o-Terphenyl</i>	2.04		mg/kg	2.500		81.8	70-130			
<i>Surrogate: Nonatriacontane</i>	16.7		mg/kg	15.00		111	42-193			

Matrix Spike (B510081-MS1)

Source: 0013883-01

Prepared & Analyzed: 10/16/15

FLPRO Total	51.1	0.240	mg/kg	42.50	10.9	94.5	40-155			
<i>Surrogate: o-Terphenyl</i>	1.83		mg/kg	2.500		73.1	70-130			
<i>Surrogate: Nonatriacontane</i>	15.9		mg/kg	15.00		106	42-193			

Matrix Spike Dup (B510081-MSD1)

Source: 0013883-01

Prepared & Analyzed: 10/16/15

FLPRO Total	48.6	0.240	mg/kg	42.50	10.9	88.6	40-155	5.08	30	
<i>Surrogate: o-Terphenyl</i>	2.95		mg/kg	2.500		118	70-130			
<i>Surrogate: Nonatriacontane</i>	14.9		mg/kg	15.00		99.5	42-193			



Palm Beach Environmental
Laboratories Inc.

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



Palm Beach Environmental
Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Log #: 13883

PO #: _____

Quote #: _____

FDEP: _____

Company Name: <u>Terracon Consultants, Inc.</u>								LAB ANALYSIS								Matrix Codes						
Address: <u>1225 Omar Rd</u>								pH								SD Solid Waste OL Oil						
City: <u>West Palm Beach</u> State: <u>FL</u> Zip: <u>33405</u>								PRES CODE <u>A/2 A/2 A/2</u>								GW Ground Water SL Sludge						
Attn: <u>Andrew Petric</u> Phone#: <u>561-689-4229</u>								Parameters <u>4260 BTEX/MTBE</u> <u>PAH 6270</u> <u>TRPH (PL-PRO)</u> <u>Encore</u>								EFF Effluent SO Soil Sediment						
email: <u>andrew.petric@terracon.com</u> Fax#: <u>561-689-5255</u>																AFW Analyte Free H2O AQ Aqueous						
Project Name <u>Former Palm Tran Facility</u>																WW Waste Water NA Nonaqueous						
Name <u>Andrew Petric</u>																DW Drinking Water						
Project Name <u>PAC ID# 50/8514018 Proj#: HD157021</u>																SW Surface Water O Other (Please Specify)						
Sampler Signature <u>[Signature]</u> Name <u>Andrew Petric</u>																Press Codes						
#	Sample Label (Client ID)	Collect Date	Collect Time	Matrix	Field Filtered	Integrity OK	Total # of containers									A. None E. HCL O. Other						
1	SB-18 (2'-3')	10/12/15	1530	SO	-		7	X	X	X	✓									Hold for possible SPLP and speciation		
2	SB-9 (3'-4')		1545					X	X	X	✓											
3	SB-4 (2'-3')		1600					✓	X	X	✓											
4	SB-2 (3'-4')		1615					X	X	X	✓											
5	SB-2 (1'-2')		1630					X	X	X	✓											
6																						
7																						
8																						
9																						
0																						
T.A.T. Request								QA/QC Report Level								COC OK			Initials			
Standard <u>RUSH</u>								None <u>1</u> <u>2 X</u> <u>3</u> Other <u>Adapt</u>								<u>(Y)</u> N			<u>BM</u>			
24 Hour 48 Hour Date Due:																						
Item	Relinquished by	Affiliation	Date	Time	Received By	Affiliation	Date	Time	Lab Use Only													
<u>All</u>	<u>[Signature]</u>	<u>Terracon</u>	<u>10/13/15</u>	<u>905</u>	<u>[Signature]</u>	<u>PBEL</u>	<u>10/13/15</u>	<u>905</u>	Sample INTACT upon arrival?	Yes	No	N/A										
									Received on Wet Ice? Temp. BC	✓	—	—										
									Proper Preservatives Indicated?	✓	—	—										
									Received within holding time?	✓	—	—										
									Custody seals intact?	✓	—	—										
									Volatile rec'd without headspace?	—	—	✓										
									Proper Containers Used?	✓	—	—										



Palm Beach Environmental
Laboratories Inc.



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

October 23, 2015

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,

Pamela Shore
QA Officer



CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 FAX: (561) 689-5955

LOG #: 0013888
COC#: 22131
REPORTED: 10/23/2015 2:28:49PM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Description: MW-1 Lab ID: 0013888-01 Sampled: 10/15/15 10:31
Matrix: Water Sampled By: Randall Murphy Received: 10/15/15 15:10

EPA 8020 List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
71-43-2	Benzene	0.950	I	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	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
		% Recovery	Q	% Recovery Limits							
1868-53-7	Surrogate: Dibromofluoromethane	77.1 %		Limit 62-200							
2037-26-5	Surrogate: Toluene-d8	102 %		Limit 63-144							
460-00-4	Surrogate: 4-Bromofluorobenzene	97.1 %		Limit 50-155							

EPA 8100 PAH List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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



Palm Beach Environmental
Laboratories Inc.

CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 FAX: (561) 689-5955

LOG #: 0013888
COC#: 22131
REPORTED: 10/23/2015 2:28:49PM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Description: MW-1 Lab ID: 0013888-01 Sampled: 10/15/15 10:31
Matrix: Water Sampled By: Randall Murphy Received: 10/15/15 15:10

EPA 8100 PAH List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
		% Recovery	Q	% Recovery Limits							
NA	Surrogate: Nitrobenzene-d5	101 %			Limit 40-142						
321-60-8	Surrogate: 2-Fluorobiphenyl	103 %			Limit 47-150						
NA	Surrogate: p-Terphenyl-d14	115 %			Limit 55-165						

EPA Method 8011 List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
		% Recovery	Q	% Recovery Limits							
NA	FLPRO Total	8.25		mg/L	EPA 3510C /RO	1	0.040	0.500	10/20/15	10/20/15	PLS
84-15-1	Surrogate: o-Terphenyl	119 %			Limit 70-130						
7194-86-7	Surrogate: Nonatriacontane	101 %			Limit 42-193						

Metals by EPA 6000/7000 Series Methods

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



CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013888
COC#: 22131
REPORTED: 10/23/2015 2:28:49PM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Description: MW-2	Lab ID: 0013888-02	Sampled: 10/15/15 11:48
Matrix: Water	Sampled By: Randall Murphy	Received: 10/15/15 15:10

EPA 8020 List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction		Analysis	
									Date	Date	Analyst	
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	4.14		ug/L	EPA 8260C	1	0.530	1.00	10/17/15	10/20/15	PLS	

	% Recovery	Q	% Recovery Limits
1868-53-7	Surrogate: Dibromofluoromethane	82.3 %	Limit 62-200
2037-26-5	Surrogate: Toluene-d8	103 %	Limit 63-144
460-00-4	Surrogate: 4-Bromofluorobenzene	77.9 %	Limit 50-155

EPA 8100 PAH List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction		Analysis	
									Date	Date	Analyst	
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	I	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	I	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	



Palm Beach Environmental
Laboratories Inc.

CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013888
COC#: 22131
REPORTED: 10/23/2015 2:28:49PM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Description: MW-2	Lab ID: 0013888-02	Sampled: 10/15/15 11:48
Matrix: Water	Sampled By: Randall Murphy	Received: 10/15/15 15:10

EPA 8100 PAH List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
		% Recovery	Q	% Recovery Limits							
NA	Surrogate: Nitrobenzene-d5	102 %			Limit 40-142						
321-60-8	Surrogate: 2-Fluorobiphenyl	96.9 %			Limit 47-150						
NA	Surrogate: p-Terphenyl-d14	104 %			Limit 55-165						

EPA Method 8011 List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
		% Recovery	Q	% Recovery Limits							
NA	FLPRO Total	1.45		mg/L	EPA 3510C /RO	1	0.040	0.500	10/20/15	10/20/15	PLS
84-15-1	Surrogate: o-Terphenyl	112 %			Limit 70-130						
7194-86-7	Surrogate: Nonatriacontane	102 %			Limit 42-193						

Metals by EPA 6000/7000 Series Methods

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



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1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013888
COC#: 22131
REPORTED: 10/23/2015 2:28:49PM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Description: MW-3 **Lab ID:** 0013888-03 **Sampled:** 10/15/15 13:06
Matrix: Water **Sampled By:** Randall Murphy **Received:** 10/15/15 15:10

EPA 8020 List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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
		% Recovery	Q	% Recovery Limits							
1868-53-7	Surrogate: Dibromofluoromethane	77.5 %		Limit 62-200							
2037-26-5	Surrogate: Toluene-d8	103 %		Limit 63-144							
460-00-4	Surrogate: 4-Bromofluorobenzene	131 %		Limit 50-155							

EPA 8100 PAH List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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



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Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013888
COC#: 22131
REPORTED: 10/23/2015 2:28:49PM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Description: MW-3	Lab ID: 0013888-03	Sampled: 10/15/15 13:06
Matrix: Water	Sampled By: Randall Murphy	Received: 10/15/15 15:10

EPA 8100 PAH List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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
		% Recovery	Q	% Recovery Limits							
NA	Surrogate: Nitrobenzene-d5	90.7 %		Limit 40-142							
321-60-8	Surrogate: 2-Fluorobiphenyl	97.3 %		Limit 47-150							
NA	Surrogate: p-Terphenyl-d14	104 %		Limit 55-165							

EPA Method 8011 List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
NA	FLPRO Total	0.265	I	mg/L	EPA 3510C / RO	1	0.040	0.500	10/20/15	10/20/15	PLS
		% Recovery	Q	% Recovery Limits							
84-15-1	Surrogate: o-Terphenyl	112 %		Limit 70-130							
7194-86-7	Surrogate: Nonatriacontane	102 %		Limit 42-193							

Metals by EPA 6000/7000 Series Methods

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



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West Palm Beach, FL 33405

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PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013888
COC#: 22131
REPORTED: 10/23/2015 2:28:49PM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Description: MW-4 **Lab ID:** 0013888-04 **Sampled:** 10/15/15 14:43
Matrix: Water **Sampled By:** Randall Murphy **Received:** 10/15/15 15:10

EPA 8020 List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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
		% Recovery	Q	% Recovery Limits							
1868-53-7	Surrogate: Dibromofluoromethane	81.7 %		Limit 62-200							
2037-26-5	Surrogate: Toluene-d8	103 %		Limit 63-144							
460-00-4	Surrogate: 4-Bromofluorobenzene	124 %		Limit 50-155							

EPA 8100 PAH List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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	I	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



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Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013888
COC#: 22131
REPORTED: 10/23/2015 2:28:49PM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Description: MW-4	Lab ID: 0013888-04	Sampled: 10/15/15 14:43
Matrix: Water	Sampled By: Randall Murphy	Received: 10/15/15 15:10

EPA 8100 PAH List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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
		% Recovery		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	110 %			Limit 55-165						

EPA Method 8011 List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
NA	FLPRO Total	1.45		mg/L	EPA 3510C / RO	1	0.040	0.500	10/20/15	10/20/15	PLS
		% Recovery		Q	% Recovery Limits						
84-15-1	Surrogate: o-Terphenyl	106 %			Limit 70-130						
7194-86-7	Surrogate: Nonatriacontane	106 %			Limit 42-193						

Metals by EPA 6000/7000 Series Methods

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



CERTIFICATE OF ANALYSIS

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1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013888
COC#: 22131
REPORTED: 10/23/2015 2:28:49PM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Description: MW-5 **Lab ID:** 0013888-05 **Sampled:** 10/15/15 13:51
Matrix: Water **Sampled By:** Randall Murphy **Received:** 10/15/15 15:10

EPA 8020 List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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
		% Recovery	Q	% Recovery Limits							
1868-53-7	Surrogate: Dibromofluoromethane	83.1 %		Limit 62-200							
2037-26-5	Surrogate: Toluene-d8	97.9 %		Limit 63-144							
460-00-4	Surrogate: 4-Bromofluorobenzene	100 %		Limit 50-155							

EPA 8100 PAH List

CAS #	Parameter	Results	Q	Units	Method	DF	MDL	PQL	Extraction	Analysis	Analyst
									Date	Date	
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



Palm Beach Environmental
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CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013888
COC#: 22131
REPORTED: 10/23/2015 2:28:49PM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Description: MW-5	Lab ID: 0013888-05	Sampled: 10/15/15 13:51
Matrix: Water	Sampled By: Randall Murphy	Received: 10/15/15 15:10

EPA 8100 PAH List

<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	<u>Q</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Extraction</u>	<u>Analysis</u>	<u>Analyst</u>
									<u>Date</u>	<u>Date</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
		% Recovery	Q	% Recovery Limits							
NA	Surrogate: Nitrobenzene-d5	98.3 %		Limit 40-142							
321-60-8	Surrogate: 2-Fluorobiphenyl	103 %		Limit 47-150							
NA	Surrogate: p-Terphenyl-d14	111 %		Limit 55-165							

EPA Method 8011 List

<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	<u>Q</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Extraction</u>	<u>Analysis</u>	<u>Analyst</u>
									<u>Date</u>	<u>Date</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

<u>CAS #</u>	<u>Parameter</u>	<u>Results</u>	<u>Q</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Extraction</u>	<u>Analysis</u>	<u>Analyst</u>
									<u>Date</u>	<u>Date</u>	
NA	FLPRO Total	0.527		mg/L	EPA 3510C / RO	1	0.040	0.500	10/20/15	10/20/15	PLS
		% Recovery	Q	% Recovery Limits							
84-15-1	Surrogate: o-Terphenyl	88.7 %		Limit 70-130							
7194-86-7	Surrogate: Nonatriacontane	105 %		Limit 42-193							

Metals by EPA 6000/7000 Series Methods

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



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LOG #: 0013888
COC#: 22131
REPORTED: 10/23/2015 2:28:49PM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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EPA 8020 List - Quality Control

Batch B510084 - P&T

Blank (B510084-BLK1)

Prepared: 10/17/15 Analyzed: 10/20/15

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
MTBE	U	1.00	ug/L							U

<i>Surrogate: Dibromofluoromethane</i>	12.2		ug/L	15.00		81.2	62-200			
<i>Surrogate: Toluene-d8</i>	14.5		ug/L	15.00		96.8	63-144			
<i>Surrogate: 4-Bromofluorobenzene</i>	14.8		ug/L	15.00		98.8	50-155			

LCS (B510084-BS1)

Prepared: 10/17/15 Analyzed: 10/20/15

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			

<i>Surrogate: Dibromofluoromethane</i>	12.6		ug/L	15.00		84.1	62-136			
<i>Surrogate: Toluene-d8</i>	16.6		ug/L	15.00		110	66-144			
<i>Surrogate: 4-Bromofluorobenzene</i>	14.9		ug/L	15.00		99.3	70-131			

LCS Dup (B510084-BSD1)

Prepared: 10/17/15 Analyzed: 10/20/15

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	

<i>Surrogate: Dibromofluoromethane</i>	12.0		ug/L	15.00		80.0	62-136			
<i>Surrogate: Toluene-d8</i>	15.8		ug/L	15.00		105	66-144			
<i>Surrogate: 4-Bromofluorobenzene</i>	15.2		ug/L	15.00		102	70-131			

Calibration Check (B510084-CCV1)

Prepared: 10/17/15 Analyzed: 10/20/15

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			

<i>Surrogate: Dibromofluoromethane</i>	12.0		ug/L	15.00		80.1	0-200			
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LOG #: 0013888
COC#: 22131
REPORTED: 10/23/2015 2:28:49PM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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EPA 8020 List - Quality Control

Batch B510084 - P&T

Calibration Check (B510084-CCV1) Continued

Prepared: 10/17/15 Analyzed: 10/20/15

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)

Source: 0013888-02

Prepared: 10/17/15 Analyzed: 10/20/15

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)

Source: 0013888-02

Prepared: 10/17/15 Analyzed: 10/20/15

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)

Source: 0013888-02

Prepared: 10/17/15 Analyzed: 10/20/15

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

1550 Latham Road, Suite 2, West Palm Beach, FL 33409, phone: (561)689-6701, fax: (561)689-6702



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LOG #: 0013888
COC#: 22131
REPORTED: 10/23/2015 2:28:49PM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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EPA 8100 PAH List - Quality Control

Batch B510099 - EPA 3510C

Blank (B510099-BLK1) Continued

Prepared & 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

<i>Surrogate: Nitrobenzene-d5</i>	<i>15</i>		<i>ug/L</i>	<i>15.00</i>		<i>103</i>	<i>40-142</i>			
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>16</i>		<i>ug/L</i>	<i>15.00</i>		<i>109</i>	<i>47-150</i>			
<i>Surrogate: p-Terphenyl-d14</i>	<i>16</i>		<i>ug/L</i>	<i>15.00</i>		<i>109</i>	<i>55-165</i>			

LCS (B510099-BS1)

Prepared & 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			

<i>Surrogate: Nitrobenzene-d5</i>	<i>27</i>		<i>ug/L</i>	<i>25.00</i>		<i>107</i>	<i>60-135</i>			
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>26</i>		<i>ug/L</i>	<i>25.00</i>		<i>103</i>	<i>60-135</i>			
<i>Surrogate: p-Terphenyl-d14</i>	<i>28</i>		<i>ug/L</i>	<i>25.00</i>		<i>112</i>	<i>60-135</i>			

LCS Dup (B510099-BSD1)

Prepared & 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	



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REPORTED: 10/23/2015 2:28:49PM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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EPA 8100 PAH List - Quality Control

Batch B510099 - EPA 3510C

LCS Dup (B510099-BSD1) Continued

Prepared & 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 & 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)

Source: 0013888-02

Prepared & 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		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)

Source: 0013888-02

Prepared & 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			



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LOG #: 0013888
COC#: 22131
REPORTED: 10/23/2015 2:28:49PM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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EPA 8100 PAH List - Quality Control

Batch B510099 - EPA 3510C

Matrix Spike (B510099-MS1) Continued

Source: 0013888-02

Prepared & Analyzed: 10/21/15

<i>Surrogate: Nitrobenzene-d5</i>	15		ug/L	15.00		99.5	60-135			
<i>Surrogate: 2-Fluorobiphenyl</i>	14		ug/L	15.00		95.1	60-135			
<i>Surrogate: p-Terphenyl-d14</i>	14		ug/L	15.00		90.7	60-135			

Matrix Spike Dup (B510099-MSD1)

Source: 0013888-02

Prepared & 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	
<i>Surrogate: Nitrobenzene-d5</i>	16		ug/L	15.00		105	60-135			
<i>Surrogate: 2-Fluorobiphenyl</i>	14		ug/L	15.00		92.0	60-135			
<i>Surrogate: p-Terphenyl-d14</i>	17		ug/L	15.00		112	60-135			

FLPRO - Quality Control

Batch B510096 - EPA 3510C

Blank (B510096-BLK1)

Prepared & Analyzed: 10/20/15

FLPRO Total	0.057	0.500	mg/L							
<i>Surrogate: o-Terphenyl</i>	0.0558		mg/L	0.05000		112	70-130			
<i>Surrogate: Nonatriacontane</i>	0.296		mg/L	0.3000		98.8	42-193			

LCS (B510096-BS1)

Prepared & Analyzed: 10/20/15

FLPRO Total	1.01	0.500	mg/L	1.360		74.3	60-120			
<i>Surrogate: o-Terphenyl</i>	0.0561		mg/L	0.05000		112	70-130			
<i>Surrogate: Nonatriacontane</i>	0.290		mg/L	0.3000		96.7	42-193			

LCS Dup (B510096-BSD1)

Prepared & Analyzed: 10/20/15

FLPRO Total	1.01	0.500	mg/L	1.360		74.3	60-120	0.0885	30	
<i>Surrogate: o-Terphenyl</i>	0.0566		mg/L	0.05000		113	70-130			
<i>Surrogate: Nonatriacontane</i>	0.289		mg/L	0.3000		96.2	42-193			

Calibration Check (B510096-CCV1)

Prepared & Analyzed: 10/20/15

FLPRO Total	1.02		mg/L	1.360		75.1	70-130			U
<i>Surrogate: o-Terphenyl</i>	0.0538		mg/L	0.05000		108	0-200			U
<i>Surrogate: Nonatriacontane</i>	0.299		mg/L	0.3000		99.6	0-200			U

Calibration Check (B510096-CCV2)

Prepared & Analyzed: 10/20/15

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

1550 Latham Road, Suite 2, West Palm Beach, FL 33409, phone: (561)689-6701, fax: (561)689-6702



CERTIFICATE OF ANALYSIS

Terracon WPB
1225 Omar Road
West Palm Beach, FL 33405

ATTN: Andrew Petric
PHONE: (561) 689-4299 **FAX:** (561) 689-5955

LOG #: 0013888
COC#: 22131
REPORTED: 10/23/2015 2:28:49PM
PROJECT #: 8514018
PROJECT: Palm Beach Cnty Transit Auth

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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FLPRO - Quality Control

Batch B510096 - EPA 3510C

Calibration Check (B510096-CCV2) Continued

Prepared & Analyzed: 10/20/15

FLPRO Total	1.01		mg/L	1.360		74.3	70-130			U
<i>Surrogate: o-Terphenyl</i>	<i>0.0546</i>		<i>mg/L</i>	<i>0.05000</i>		<i>109</i>	<i>0-200</i>			U
<i>Surrogate: Nonatriacontane</i>	<i>0.329</i>		<i>mg/L</i>	<i>0.3000</i>		<i>110</i>	<i>0-200</i>			U

Duplicate (B510096-DUP1)

Source: 0013888-02

Prepared & Analyzed: 10/20/15

FLPRO Total	1.55	0.500	mg/L		1.45			6.94	200	
<i>Surrogate: o-Terphenyl</i>	<i>0.0563</i>		<i>mg/L</i>	<i>0.05000</i>		<i>113</i>	<i>70-130</i>			
<i>Surrogate: Nonatriacontane</i>	<i>0.335</i>		<i>mg/L</i>	<i>0.3000</i>		<i>112</i>	<i>42-193</i>			

Matrix Spike (B510096-MS1)

Source: 0013888-02

Prepared & Analyzed: 10/20/15

FLPRO Total	2.79	0.500	mg/L	1.360	1.45	98.3	40-155			
<i>Surrogate: o-Terphenyl</i>	<i>0.0557</i>		<i>mg/L</i>	<i>0.05000</i>		<i>111</i>	<i>70-130</i>			
<i>Surrogate: Nonatriacontane</i>	<i>0.279</i>		<i>mg/L</i>	<i>0.3000</i>		<i>93.1</i>	<i>42-193</i>			

Matrix Spike Dup (B510096-MSD1)

Source: 0013888-02

Prepared & Analyzed: 10/20/15

FLPRO Total	2.64	0.500	mg/L	1.360	1.45	87.7	40-155	5.31	30	
<i>Surrogate: o-Terphenyl</i>	<i>0.0536</i>		<i>mg/L</i>	<i>0.05000</i>		<i>107</i>	<i>70-130</i>			
<i>Surrogate: Nonatriacontane</i>	<i>0.327</i>		<i>mg/L</i>	<i>0.3000</i>		<i>109</i>	<i>42-193</i>			

Metals by EPA 6000/7000 Series Methods - Quality Control

Batch B510089 - NO PREP

Blank (B510089-BLK1)

Prepared & Analyzed: 10/17/15

Lead	U	0.005	mg/L							U
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LCS (B510089-BS1)

Prepared & Analyzed: 10/17/15

Lead	0.014	0.005	mg/L	0.01500		96.0	80-120			
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Calibration Check (B510089-CCV1)

Prepared & Analyzed: 10/17/15

Lead	0.098		mg/L	0.1000		98.2	90-110			
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Duplicate (B510089-DUP1)

Source: 0013888-05

Prepared & Analyzed: 10/17/15

Lead	0.0001	0.005	mg/L		0.0001			0.00	20	
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Matrix Spike (B510089-MS1)

Source: 0013888-05

Prepared & Analyzed: 10/17/15

Lead	0.013	0.005	mg/L	0.01500	0.0001	88.0	70-130			
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Matrix Spike Dup (B510089-MSD1)

Source: 0013888-05

Prepared & Analyzed: 10/17/15

Lead	0.013	0.005	mg/L	0.01500	0.0001	88.0	70-130	0.00	25	
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Palm Beach Environmental
Laboratories Inc.

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

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

terracon.com

Terracon

Environmental



Facilities



Geotechnical



Materials



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.


Andrew Petric, P.G.
Project Manager
Florida License No. PG2788



 /FOR
Eric Krebill, P.G.
Senior Project Manager



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	Exhibit 2 – Site Diagram
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Appendix D: Field Logs (Boring Logs, Well Construction and Development Logs, Groundwater Sampling Logs, & Equipment Calibration Log) and Well Permit and Completion Reports

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

LIMITED CONTAMINATION ASSESSMENT REPORT

FORMER PALM TRAN FACILITY PALM BEACH INTERNATIONAL 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 ($\mu\text{g/L}$) and total xylenes of 50 $\mu\text{g/L}$, 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, 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 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 borings. 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 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 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 ($\mu\text{g/L}$) which exceeds the GCTL of 1 $\mu\text{g/L}$.
- n 1-methylnaphthalene and 2-methylnaphthalene were reported in sample MW-4 at concentrations of 95.8 $\mu\text{g/L}$ and 48.6 $\mu\text{g/L}$, respectively, exceeding the GCTL of 28 $\mu\text{g/L}$ for these compounds.

The estimated extent of BTEX and the PAH compounds 1-methylnaphthalene and 2-methylnaphthalene 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.
- n 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#: 50/8514018

Facility Name: Former Palm Tran Facility

See notes at end of table.

Well ID.	Well Owner	Well Use	Well Depth (feet bgs)	Well Screen Section Depth (feet bgs)	Well Diameter (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)

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

TABLE 2: SOIL SCREENING SUMMARY

Facility ID#: 50/8514018

Facility

See notes at end of table.

Name: Former Palm Tran Facility

SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
SB-1	10/12/2015	5.3	0-1	<1	
			1-2	3	
			2-3	60	
			3-4	9999+	Slight petroleum odor at 3 ft
			4-6	9999+	Strong petroleum odor at 4-8 ft
			6-8	9999+	
SB-2	10/12/2015	5.3	0-1	48	
			1-2	528	SB-2(1-2) - Lab ID 13883-05
			2-3	9999+	Petroleum odor at 1-8 ft
			3-4	9999+	SB-2(3-4) - Lab ID 13883-04
			4-6	9999+	1-inch layer of concrete observed at 5 ft
			6-8	9999+	
SB-3	10/12/2015	5.3	0-1	<1	
			1-2	252	Petroleum odor at 1-8 ft
			2-3	471	
			3-4	9999+	
			4-6	9999+	
			6-8	9999+	
SB-4	10/12/2015	5.3	0-1	4	
			1-2	5	
			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+	
SB-5	10/12/2015	5.3	0-1	3514	
			1-2	9999+	Petroleum odor at 0.5-8 ft
			2-3	9999+	
			3-4	9999+	
			4-6	9999+	
			6-8	9999+	
SB-6	10/12/2015	5.3	0-1	2	
			1-2	41	
			2-3	165	
			3-4	139	
			4-6	<1	
			6-8	<1	
SB-7	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	

TABLE 2: SOIL SCREENING SUMMARY

Facility ID#: 50/8514018

Facility

See notes at end of table.

Name: Former Palm Tran Facility

SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
SB-8	10/12/2015	5.3	0-1	411	Slight petroleum odor at 0-1 ft
			1-2	<1	
			2-3	1	
			3-4	<1	
			4-6	1	
			6-8	10	
SB-9	10/12/2015	5.3	0-1	<1	
			1-2	1	
			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+	
SB-10	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	224	Petroleum odor at 3-8 ft
			4-6	1472	
			6-8	970	
SB-11	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	6	
			6-8	63	
SB-12	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	2	
SB-13	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	21	
			4-6	386	Slight petroleum odor from 4-8 ft
			6-8	311	
SB-14	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	9	
			6-8	9	

TABLE 2: SOIL SCREENING SUMMARY

Facility ID#: 50/8514018

Facility

See notes at end of table.

Name: Former Palm Tran Facility

SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
SB-15	10/12/2015	5.3	0-1	<1	
			1-2	209	
			2-3	1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
SB-16	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	1	
SB-17	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	612	Petroleum odor at 4-8 ft
			6-8	1232	
SB-18	10/12/2015	5.3	0-1	21	
			1-2	180	
			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	
SB-19	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	1	
			4-6	368	Slight petroleum odor at 4-8 ft
			6-8	508	
SB-20	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	1	
			6-8	<1	
SB-21	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
			0-1	<1	
			1-2	<1	

TABLE 2: SOIL SCREENING SUMMARY

Facility ID#: 50/8514018

Facility

See notes at end of table.

Name: Former Palm Tran Facility

SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
SB-22	10/12/2015	5.3	2-3	20	
			3-4	<1	
			4-6	9	
			6-8	9999+	
SB-23	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	3041	Petroleum odor at 4-8 ft
SB-24	10/12/2015	5.3	6-8	9999+	
			0-1	<1	
			1-2	<1	
			2-3	2	
			3-4	2	
			4-6	2231	Petroleum odor at 4-8 ft
SB-25	10/12/2015	5.3	6-8	1587	
			0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
SB-26	10/12/2015	5.3	6-8	<1	
			0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	9999+	Petroleum odor at 4-8 ft
SB-27	10/12/2015	5.3	6-8	1820	
			0-1	120	Slight petroleum odor at 0-1 ft
			1-2	39	
			2-3	1	
			3-4	8336	
			4-6	9999+	Strong petroleum odor at 4-8 ft
SB-28	10/12/2015	5.3	6-8	9999+	
			0-1	<1	
			1-2	<1	
			2-3	6	
			3-4	<1	
			4-6	<1	
SB-29	10/12/2015	5.3	6-8	<1	
			0-1	131	Slight petroleum odor at 0-8 ft
			1-2	91	
			2-3	188	
			3-4	36	

TABLE 2: SOIL SCREENING SUMMARY

Facility ID#: 50/8514018

Facility

See notes at end of table.

Name: Former Palm Tran Facility

SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
			4-6	183	
			6-8	51	
SB-30	10/12/2015	5.3	0-1	5085	Petroleum odor at 0-8 ft
			1-2	3712	
			2-3	3562	
			3-4	4732	
			4-6	772	
			6-8	2442	
SB-31	8/11/2016	4.5	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
SB-32	8/11/2016	4.5	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
SB-33	8/11/2016	4.5	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
SB-34	8/11/2016	4.5	0-1	1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
SB-35	8/11/2016	4.5	0-1	<1	
			1-2	<1	
			2-3	1	
			3-4	25	SB-35(4') - Lab ID 14692-04
			4-6	454	Petroleum odor at 4-6 ft
			6-8	82	

TABLE 2: SOIL SCREENING SUMMARY

Facility ID#: 50/8514018

Facility

See notes at end of table.

Name: Former Palm Tran Facility

SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
SB-36	8/11/2016	4.5	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
SB-37	8/11/2016	4.5	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	2	
			6-8	<1	
SB-38	8/11/2016	4.5	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
SB-39	8/11/2016	4.5	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	SB-39(3') - Lab ID 14692-03
			4-6	<1	
			6-8	<1	
SB-40	8/11/2016	4.5	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
SB-41	8/11/2016	4.5	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
SB-42	8/11/2016	4.5	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	

TABLE 2: SOIL SCREENING SUMMARY

Facility ID#: 50/8514018

Facility

See notes at end of table.

Name: Former Palm Tran Facility

SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
SB-43	8/11/2016	4.5	0-1	3	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
SB-44	8/11/2016	4.5	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			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

Facility Name: Former Palm Tran Facility

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-1D	08/11/16	Direct Push	99.75		30	25-30	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	99.54	n/a, at grade	13	3-13	2	Unknown
MW-6	08/11/16	Direct Push	100.48	n/a, at grade	13	3-13	1	SP
MW-7	08/11/16	Direct Push	100.40	n/a, at grade	13	3-13	1	SP
MW-8	08/11/16	Direct Push	99.76	n/a, at grade	13	3-13	1	SP

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.

TABLE 4 : GROUNDWATER ELEVATION SUMMARY

Facility ID#: 50/8514018

Facility Name: Former Palm Tran Facility

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	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											
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

Sample				OVA	Laboratory Analyses						Comments
Boring/ Well No.	Date Collected	Depth to Water (ft)	Sample Interval (fbIs)	Net OVA Reading (ppm)	Benzene (mg/kg)	Ethyl-benzene (mg/kg)	Toluene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TRPHs (mg/kg)	
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	
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-Exposure 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
 fbIs = 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

Facility ID#: 50/8514018

Facility Name: Former Palm Tran Facility

See notes at end of table.

Sample				OVA	Laboratory Analyses											Comments
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) perylene (mg/kg)	Fluoran- thene (mg/kg)	Fluor- ene (mg/kg)	Phenan- threne (mg/kg)	Pyrene (mg/kg)	
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 I	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	
SB-35	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	
SB-39	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	
Leachability Based on Groundwater Criteria (mg/kg)					1.2	3.1	8.5	2.1	27	2,500	32,000	1,200	160	250	880	
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 SCTL (mg/kg)					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 7: SOIL ANALYTICAL SUMMARY - Carcinogenic PAHs

Facility ID#: 50/8514018

Facility Name: Former Palm Tran Facility

See notes at end of table.

Sample				OVA	Laboratory Analyses								Comments
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)	
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 Exposure Residential (mg/kg)					0.1	#	#	#	#	#	#	0.1	
Commercial-Industrial Direct-Exposure SCTL (mg/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 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	MTBE	EDB	Total Lead
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1	10/15/2015	0.950 I	0.660 U	0.730 U	1.81	0.530 U	0.01120 U	3 I
	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	0.3 I
	8/15/2016	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	NA	NA
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 I
	8/15/2016	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	NA	NA
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 I
	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
MW-7	8/15/2016	0.640 U	0.660 U	0.730 U	1.63 U	0.530 U	NA	NA
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
GCTLs		1**	40**	30**	20**	20	0.02**	15**
NADCs		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
 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.

Sample	TRPHs	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (g,h,i) perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo (a) pyrene	Benzo (a) anthracene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Chrysene	Dibenz (a,h) anthracene	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)	
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
	8/15/2016	911	0.147 U	4.52 I	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 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
	8/15/2016	65 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
	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
GP-1	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
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
GCTLs		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
NADCs		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.

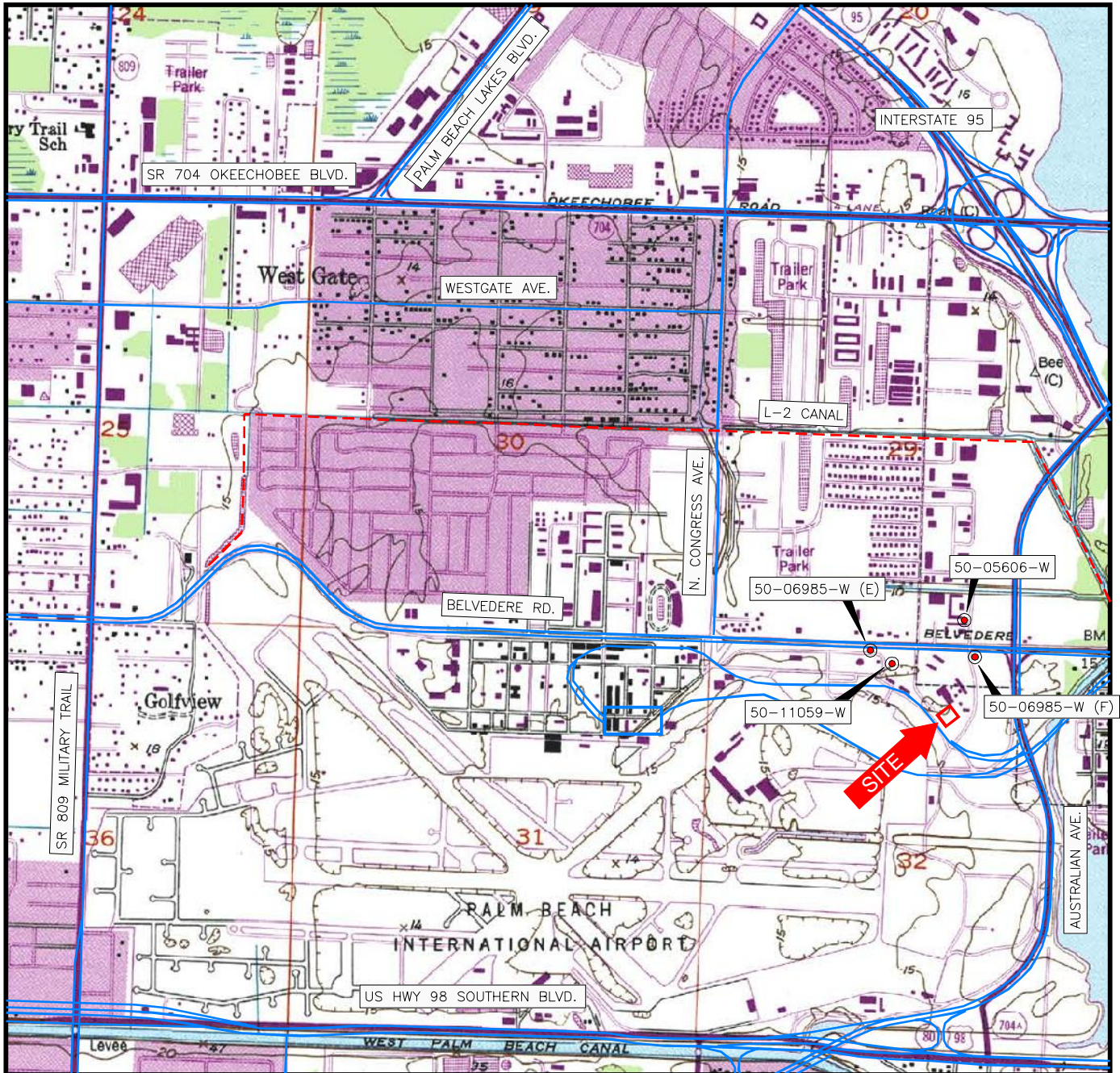
I = The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

µg/L = Microgram per liter

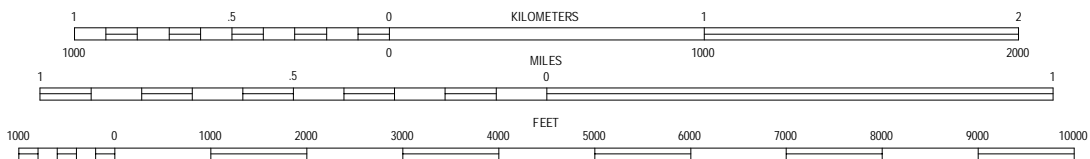
PAH = Polynuclear aromatic hydrocarbons

TRPH = Total recoverable petroleum hydrocarbons

Appendix B - Exhibits



SCALE 1:24 000



CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

SECTION: 32
TOWNSHIP: 43 SOUTH
RANGE: 43 EAST

PALM BEACH, FLORIDA
ISSUED: 1946 REVISED: 1983
7.5 MINUTE SERIES (QUADRANGLE)

INDICATES WATER SUPPLY WELL LOCATION



Aug30, 2016-10:02am N:\Projects-Other Offices\West Palm Beach\2016\HD167057\cadd\7057-usgs-1.dwg

Project Mng:	AP
Drawn By:	SW
Checked By:	AP
Approved By:	EK

Project No.	HD167057
Scale:	AS SHOWN
File No.	HD167057-1
Date:	8-30-16

Terracon
Consulting Engineers and Scientists

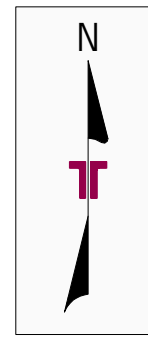
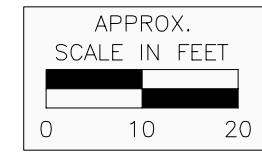
1225 OMAR ROAD WEST PALM BEACH, FLORIDA 33405
PH. (561) 689-4299 FAX. (561) 689-5955

TOPOGRAPHIC VICINITY MAP
LIMITED CONTAMINATION ASSESSMENT REPORT
FORMER PALM TRAN FACILITY
PALM BEACH INTERNATIONAL AIRPORT (PBI) - BLDG. S-1440
WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA
FDEP FACILITY ID No. 50 / 8514018

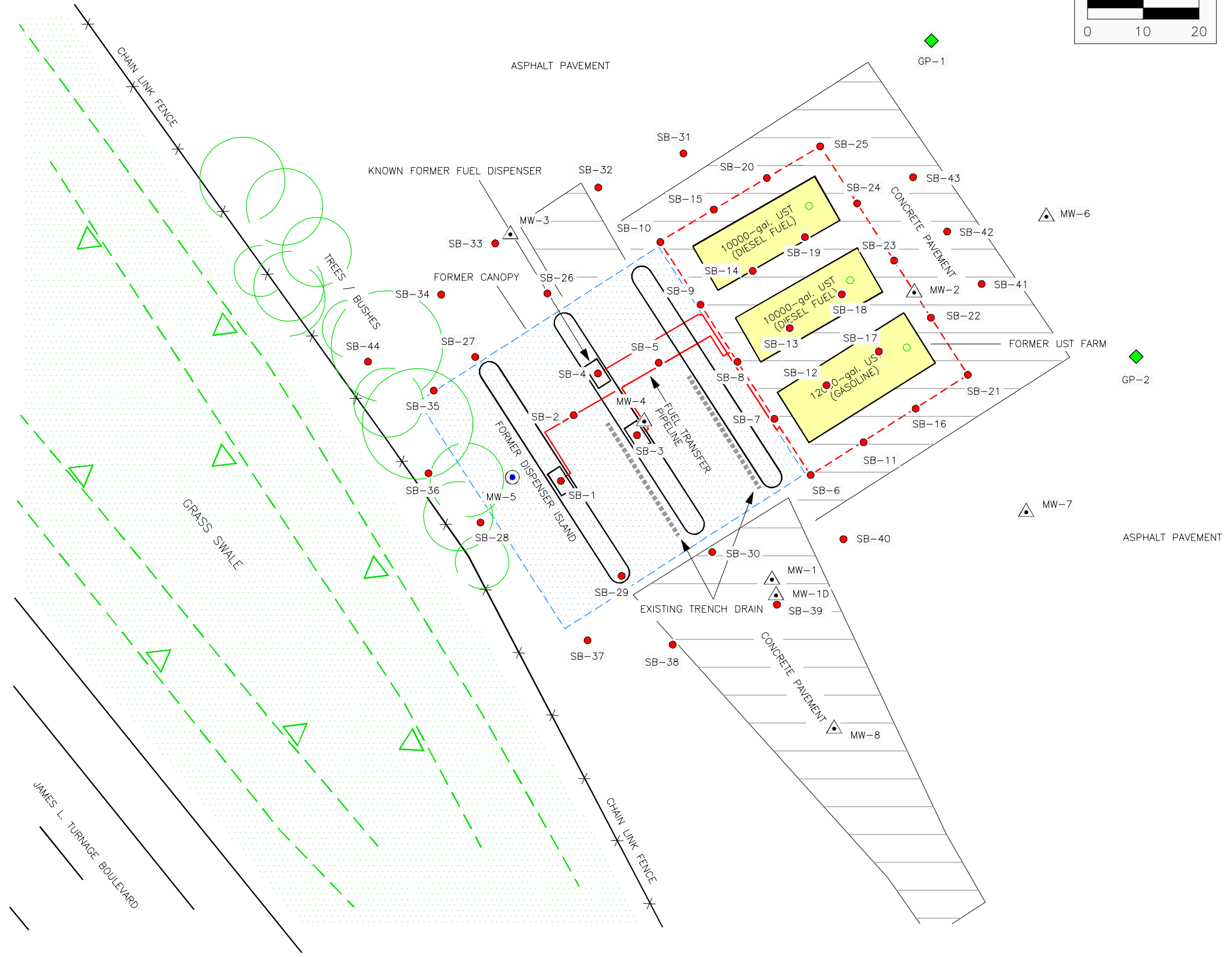
EXHIBIT

1

Aug30, 2016-10:04am N:\Projects-Other Offices\West Palm Beach\2016\HD167057\cod\7057-site 2.dwg



LEGEND	
	EXISTING MONITORING WELL
	TERRACON INSTALLED MONITORING WELL
	TERRACON SOIL BORING
	TERRACON TEMPORARY GROUNDWATER SAMPLE POINT



Project Mng:	AP	Project No.	HD167057
Drawn By:	SW	Scale:	AS SHOWN
Checked By:	AP	File No.	HD167057-2
Approved By:	EK	Date:	8-29-16

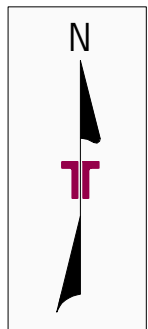
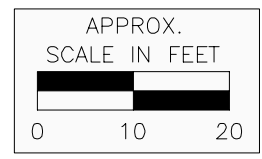
Terracon
Consulting Engineers and Scientists

1225 OMAR ROAD WEST PALM BEACH, FLORIDA 33405
PH. (561) 689-4299 FAX. (561) 689-5955

SITE DIAGRAM

LIMITED CONTAMINATION ASSESSMENT REPORT
FORMER PALM TRAN FACILITY
PALM BEACH INTERNATIONAL AIRPORT (PBI) - BLDG. S-1440
WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA
FDEP FACILITY ID No. 50 / 8514018

Aug30, 2016--10:31am N:\Projects--Other Offices\West Palm Beach\2016\HD167057\cod\7057-OVA 3.dwg



LEGEND

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

SAMPLE DATES FOR SOIL BORING LOCATIONS SB-1 TO SB-30
10-12-2015

SB-1	SB-2	SB-3	SB-4	SB-5
DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)
0-1 <1	0-1 48	0-1 <1	0-1 4	0-1 3514
1-2 3	1-2 528	1-2 252	1-2 6	1-2 9999+
2-3 60	2-3 9999+	2-3 471	2-3 3712	2-3 9999+
3-4 9999+	3-4 9999+	3-4 9999+	3-4 9999+	3-4 9999+
4-6 9999+	4-6 9999+	4-6 9999+	4-6 9999+	4-6 9999+
6-8 9999+	6-8 9999+	6-8 9999+	6-8 9999+	6-8 9999+

SB-6	SB-7	SB-8	SB-9	SB-10
DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)
0-1 2	0-1 <1	0-1 411	0-1 <1	0-1 <1
1-2 42	1-2 <1	1-2 <1	1-2 1	1-2 <1
2-3 165	2-3 <1	2-3 1	2-3 31	2-3 <1
3-4 139	3-4 <1	3-4 <1	3-4 5437	3-4 224
4-6 <1	4-6 <1	4-6 1	4-6 9999+	4-6 1472
6-8 <1	6-8 <1	6-8 10	6-8 9999+	6-8 970

SB-11	SB-12	SB-13	SB-14	SB-15
DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)
0-1 <1	0-1 <1	0-1 <1	0-1 <1	0-1 <1
1-2 <1	1-2 <1	1-2 <1	1-2 <1	1-2 209
2-3 <1	2-3 <1	2-3 <1	2-3 <1	2-3 1
3-4 <1	3-4 <1	3-4 21	3-4 <1	3-4 <1
4-6 6	4-6 <1	4-6 386	4-6 9	4-6 <1
6-8 64	6-8 2	6-8 311	6-8 9	6-8 <1

SB-16	SB-17	SB-18	SB-19	SB-20
DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)
0-1 <1	0-1 <1	0-1 21	0-1 <1	0-1 <1
1-2 <1	1-2 <1	1-2 180	1-2 <1	1-2 <1
2-3 <1	2-3 <1	2-3 1837	2-3 <1	2-3 <1
3-4 <1	3-4 <1	3-4 1039	3-4 1	3-4 <1
4-6 <1	4-6 612	4-6 21	4-6 368	4-6 1
6-8 2	6-8 1232	6-8 19	6-8 508	6-8 <1

SB-21	SB-22	SB-23	SB-24	SB-25
DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)
0-1 <1	0-1 <1	0-1 <1	0-1 <1	0-1 <1
1-2 <1	1-2 <1	1-2 <1	1-2 <1	1-2 <1
2-3 <1	2-3 20	2-3 <1	2-3 2	2-3 <1
3-4 <1	3-4 <1	3-4 <1	3-4 2	3-4 <1
4-6 <1	4-6 9	4-6 3041	4-6 2231	4-6 <1
6-8 <1	6-8 9999+	6-8 9999+	6-8 1587	6-8 <1

SB-26	SB-27	SB-28	SB-29	SB-30
DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)
0-1 <1	0-1 120	0-1 <1	0-1 131	0-1 5085
1-2 <1	1-2 38.8	1-2 <1	1-2 91	1-2 3712
2-3 <1	2-3 1	2-3 6	2-3 188	2-3 3562
3-4 <1	3-4 8336	3-4 <1	3-4 36	3-4 4732
4-6 9999+	4-6 9999+	4-6 <1	4-6 183	4-6 772
6-8 1820	6-8 9999+	6-8 <1	6-8 51	6-8 2442

SAMPLE DATES FOR SOIL BORING LOCATIONS SB-31 TO SB-44
8-11-2016

SB-31	SB-32	SB-33	SB-34
DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)
0-1 <1	0-1 <1	0-1 <1	0-1 1
1-2 <1	1-2 <1	1-2 <1	1-2 <1
2-3 <1	2-3 <1	2-3 <1	2-3 <1
3-4 <1	3-4 <1	3-4 <1	3-4 <1
4-6 <1	4-6 <1	4-6 <1	4-6 <1
6-8 <1	6-8 <1	6-8 <1	6-8 <1

SB-35	SB-36	SB-37	SB-38	SB-39
DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)
0-1 <1	0-1 <1	0-1 <1	0-1 <1	0-1 <1
1-2 <1	1-2 <1	1-2 <1	1-2 <1	1-2 <1
2-3 1	2-3 <1	2-3 <1	2-3 <1	2-3 <1
3-4 25	3-4 <1	3-4 <1	3-4 <1	3-4 <1
4-6 454	4-6 <1	4-6 2	4-6 <1	4-6 <1
6-8 82	6-8 <1	6-8 <1	6-8 <1	6-8 <1

SB-40	SB-41	SB-42	SB-43	SB-44
DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)	DEPTH (feet) OVA (ppm)
0-1 <1	0-1 <1	0-1 <1	0-1 3	0-1 <1
1-2 <1	1-2 <1	1-2 <1	1-2 <1	1-2 <1
2-3 <1	2-3 <1	2-3 <1	2-3 <1	2-3 <1
3-4 <1	3-4 <1	3-4 <1	3-4 <1	3-4 <1
4-6 <1	4-6 <1	4-6 <1	4-6 <1	4-6 <1
6-8 <1	6-8 <1	6-8 <1	6-8 <1	6-8 <1

ESTIMATED EXTENT OF SMEAR ZONE SOILS WITH OVA READINGS IN EXCESS OF 500 ppm

ESTIMATED EXTENT OF VADOSE ZONE SOILS WITH OVA READINGS IN EXCESS OF 500 ppm

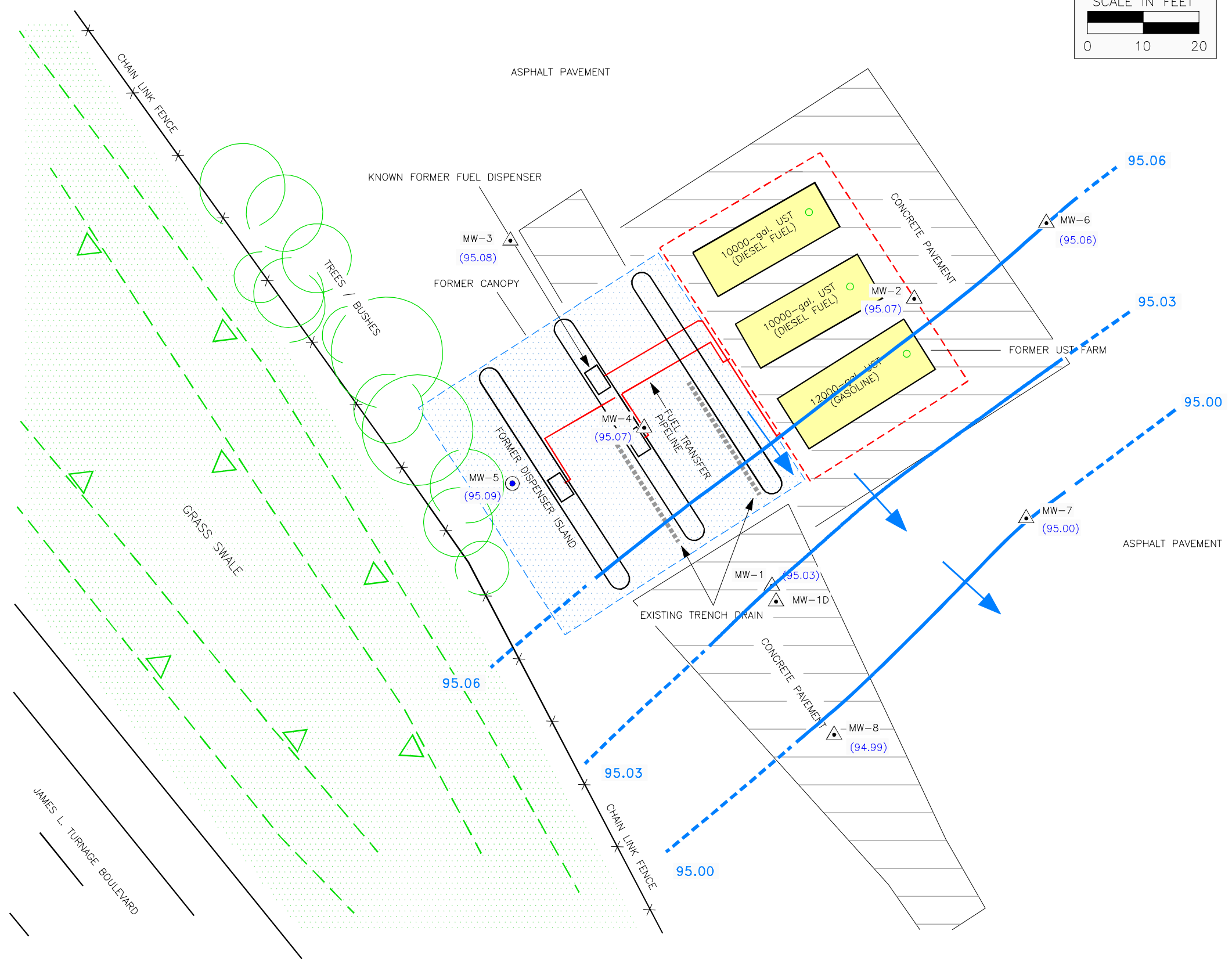
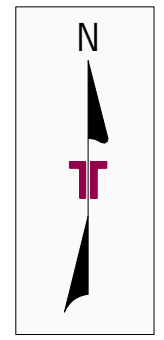
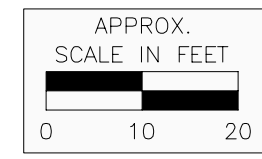
Project Mng:	AP	Project No.	HD167057
Drawn By:	SW	Scale:	AS SHOWN
Checked By:	AP	File No.	HD167057-3
Approved By:	EK	Date:	8-29-16

Terracon
Consulting Engineers and Scientists

1225 OMAR ROAD WEST PALM BEACH, FLORIDA 33405
PH. (561) 689-4299 FAX. (561) 689-5955

SOIL SCREENING DIAGRAM
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

Aug30, 2016-10:06am N:\Projects-Other Offices\West Palm Beach\2016\HD167057\cod\7057-groundwater 4.dwg



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

Project Mng:	AP	Project No.	HD167057
Drawn By:	SW	Scale:	AS SHOWN
Checked By:	AP	File No.	HD167057-4
Approved By:	EK	Date:	8-29-16

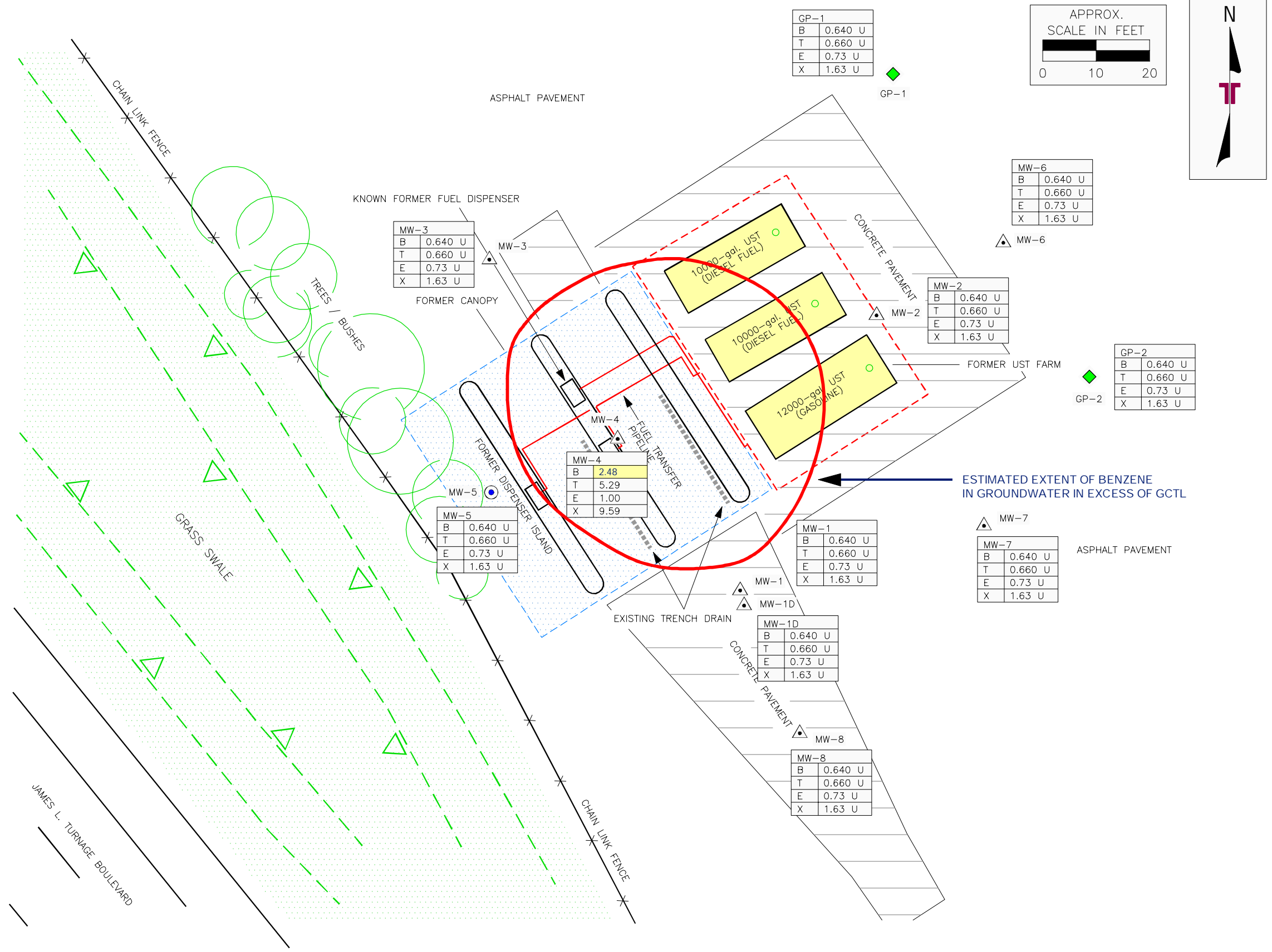
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Consulting Engineers and Scientists

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PH. (561) 689-4299 FAX. (561) 689-5955

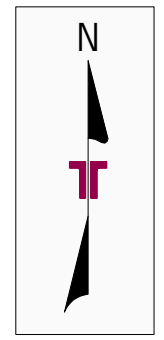
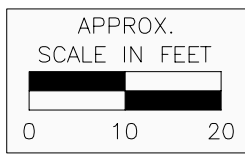
GROUNDWATER ELEVATION DIAGRAM (8-15-2016)

LIMITED CONTAMINATION ASSESSMENT REPORT
FORMER PALM TRAN FACILITY
PALM BEACH INTERNATIONAL AIRPORT (PBI) - BLDG. S-1440
WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA
FDEP FACILITY ID No. 50 / 8514018

Aug30, 2016-10:11am N:\Projects-Other Offices\West Palm Beach\2016\HD167057\cod\7057-BTEX 5.dwg



GP-1	
B	0.640 U
T	0.660 U
E	0.73 U
X	1.63 U



MW-3	
B	0.640 U
T	0.660 U
E	0.73 U
X	1.63 U

MW-6	
B	0.640 U
T	0.660 U
E	0.73 U
X	1.63 U

MW-2	
B	0.640 U
T	0.660 U
E	0.73 U
X	1.63 U

GP-2	
B	0.640 U
T	0.660 U
E	0.73 U
X	1.63 U

MW-4	
B	2.48
T	5.29
E	1.00
X	9.59

MW-5	
B	0.640 U
T	0.660 U
E	0.73 U
X	1.63 U

MW-1	
B	0.640 U
T	0.660 U
E	0.73 U
X	1.63 U

MW-7	
B	0.640 U
T	0.660 U
E	0.73 U
X	1.63 U

MW-1D	
B	0.640 U
T	0.660 U
E	0.73 U
X	1.63 U

MW-8	
B	0.640 U
T	0.660 U
E	0.73 U
X	1.63 U

LEGEND

- EXISTING MONITORING WELL
- TERRACON INSTALLED MONITORING WELL
- TERRACON TEMPORARY GROUNDWATER SAMPLE POINT

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

NOTES:

- 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.)
- 2.48** CONCENTRATIONS GREATER THAN GCTL (BOLD TEXT/YELLOW)
- 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**

SAMPLE DATES: MW-1 TO MW-8 (8-15-2016)
GP-1 AND GP-2 (8-11-2016)

Project Mng:	AP	Project No.	HD167057
Drawn By:	SW	Scale:	AS SHOWN
Checked By:	AP	File No.	HD167057-5
Approved By:	EK	Date:	8-29-16

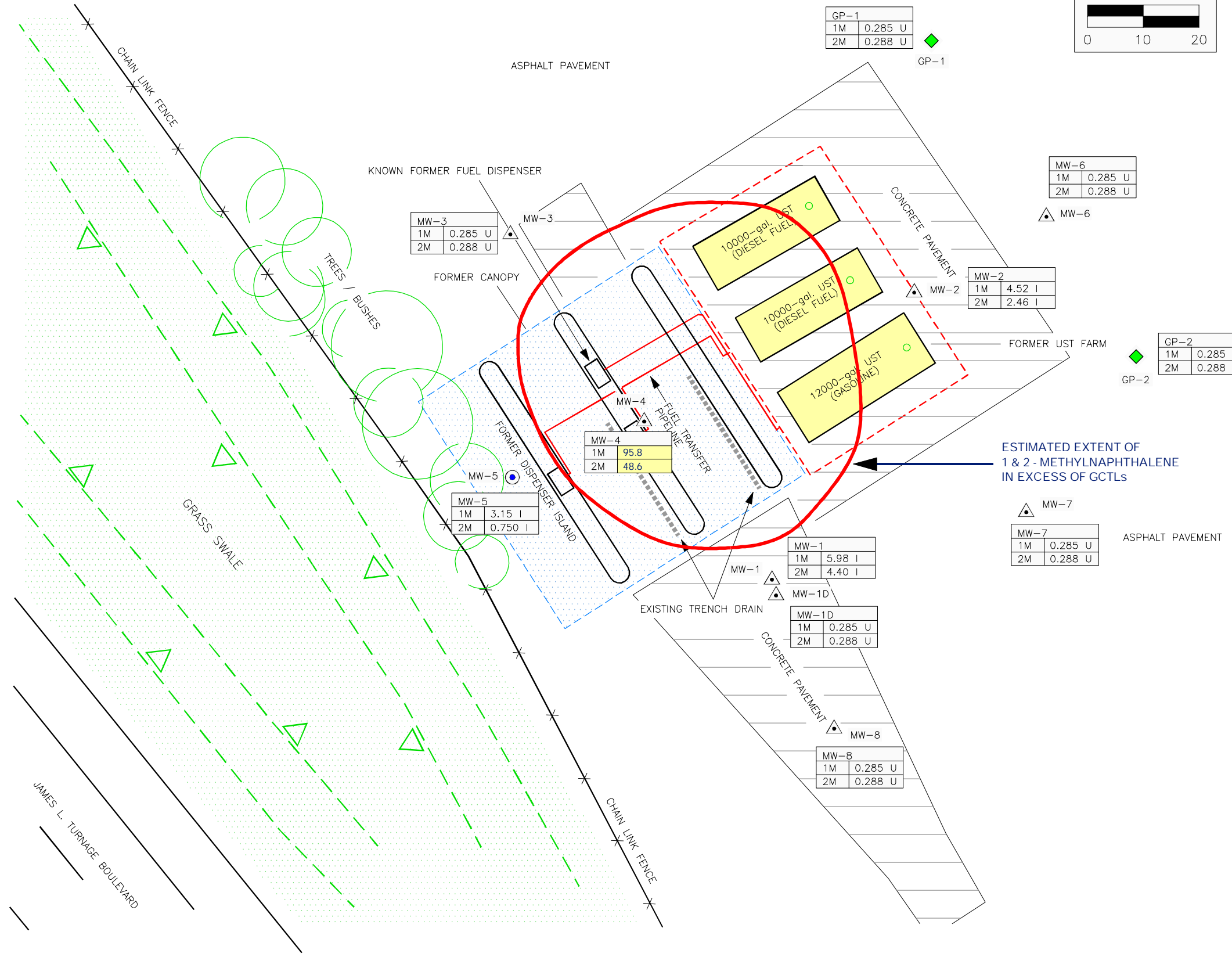
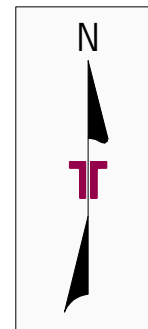
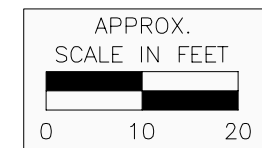
Terracon
Consulting Engineers and Scientists

1225 OMAR ROAD WEST PALM BEACH, FLORIDA 33405
PH. (561) 689-4299 FAX. (561) 689-5955

BTEX IN GROUNDWATER (AUGUST 2016)

LIMITED CONTAMINATION ASSESSMENT REPORT
FORMER PALM TRAN FACILITY
PALM BEACH INTERNATIONAL AIRPORT (PBI) - BLDG. S-1440
WEST PALM BEACH, PALM BEACH COUNTY, FLORIDA
FDEP FACILITY ID No. 50 / 8514018

Aug30, 2016-10:15am N:\Projects-Other Offices\West Palm Beach\2016\HD167057\cod\7057-1-2 METHYL 6.dwg



MW-3
1M 0.285 U
2M 0.288 U

MW-4
1M 95.8
2M 48.6

MW-5
1M 3.15 I
2M 0.750 I

MW-1
1M 5.98 I
2M 4.40 I

MW-1D
1M 0.285 U
2M 0.288 U

MW-8
1M 0.285 U
2M 0.288 U

MW-6
1M 0.285 U
2M 0.288 U

MW-2
1M 4.52 I
2M 2.46 I

GP-2
1M 0.285 U
2M 0.288 U

GP-1
1M 0.285 U
2M 0.288 U

LEGEND

- EXISTING MONITORING WELL
- ▲ TERRACON INSTALLED MONITORING WELL
- ◆ TERRACON TEMPORARY GROUNDWATER SAMPLE POINT

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.)
2. NADC = NATURAL ATTENUATION DEFAULT CONCENTRATION, CHAPTER 62-777, FLORIDA ADMINISTRATIVE CODE (F.A.C.)
3. 95.8 CONCENTRATIONS GREATER THAN GCTL (BOLD TEXT/YELLOW)
4. I = REPORTED VALUES ARE BETWEEN METHOD DETECTION LIMIT (MDL) AND PRACTICAL QUANTITATION LIMIT.
5. U = ANALYTE WAS NOT DETECTED. REPORTED VALUES ARE BELOW MDL.

— ESTIMATED EXTENT OF GROUNDWATER CONCENTRATIONS EXCEEDING GCTL'S (ug/L) RED

SAMPLE DATES: MW-1 TO MW-8 (8-15-2016)
GP-1 AND GP-2 (8-11-2016)

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

terracon.com

Terracon

Environmental



Facilities



Geotechnical



Materials



November 10, 2015

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

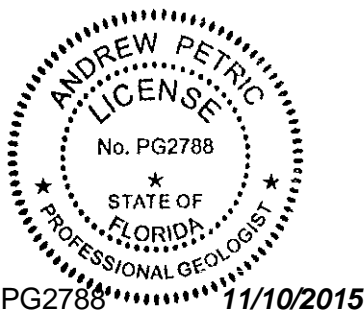
Dear Mr. Wilson:

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.

Sincerely,
Terracon


Andrew Petric, P.G.
Project Manager
Florida License No. PG2788



 /FOR
Eric Krebill, P.G.
Senior Project Manager

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



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1.3 Screening Endpoint Categories	1
1.4 Regulatory Records Summary	2
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5.0 RECOMMENDATIONS	9

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	Table 2 – Monitoring Well Construction Details
	Table 3 – Groundwater Elevation Summary
	Table 4 – Soil Analytical Summary – VOAs and TRPHs
	Table 5 – Soil Analytical Summary – Non-Carcinogenic PAHs
	Table 6 – Soil Analytical Summary – Carcinogenic PAHs
	Tables 6A & 6B – Benzo(a)pyrene Conversion Tables
	Table 7 – Groundwater Monitoring Well Analytical Summary – VOCs and Lead
	Table 8 – Groundwater Monitoring Well Analytical Summary – PAHs and TRPHs
Appendix B:	Exhibit 1 – Topographic Vicinity Map
	Exhibit 2 – Site Diagram
	Exhibit 3 – Vadose Soil Screening Diagram (10/12/2015)
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	Exhibit 7 – Select PAHs in Groundwater (10/15/2015)

LIST OF APPENDICES (continued)

Appendix C: Field Logs (Boring Logs, Well Construction and Development Logs, Field Notes, Groundwater Sampling Logs, & Equipment Calibration Log) and Well Permit and Completion Reports

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

LOW SCORE SITE INITIATIVE ASSESSMENT REPORT

FORMER PALM TRAN FACILITY PBI, 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 (PBI) 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:
 - I. 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 ($\mu\text{g/L}$) and total xylenes of 50 $\mu\text{g/L}$ 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 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 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 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 through 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 concentration 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 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. 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 placed 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 ($\mu\text{g/L}$) and 86.4 $\mu\text{g/L}$, respectively, exceeding the GCTL of 28 $\mu\text{g/L}$ for these compounds.
- Acenaphthene was reported in MW-2 at a concentration of 35.3 $\mu\text{g/L}$ exceeding the GCTL of 20 $\mu\text{g/L}$.

- 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 direct-exposure 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

TABLE 1: SOIL SCREENING SUMMARY

Facility ID#: 50/8514018

Facility

See notes at end of table.

Name: Former Palm Tran Facility

SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
SB-1	10/12/2015	5.3	0-1	<1	
			1-2	3.0	
			2-3	60.3	
			3-4	9999+	Slight petroleum odor at 3 ft
			4-6	9999+	Strong petroleum odor at 4-8 ft
			6-8	9999+	
SB-2	10/12/2015	5.3	0-1	48.4	
			1-2	528	SB-2(1-2) - Lab ID 13883-05
			2-3	9999+	Petroleum odor at 1-8 ft
			3-4	9999+	SB-2(3-4) - Lab ID 13883-04
			4-6	9999+	1-inch layer of concrete observed at 5 ft
			6-8	9999+	
SB-3	10/12/2015	5.3	0-1	<1	
			1-2	252	Petroleum odor at 1-8 ft
			2-3	471	
			3-4	9999+	
			4-6	9999+	
			6-8	9999+	
SB-4	10/12/2015	5.3	0-1	3.5	
			1-2	5.6	
			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+	
SB-5	10/12/2015	5.3	0-1	3514	
			1-2	9999+	Petroleum odor at 0.5-8 ft
			2-3	9999+	
			3-4	9999+	
			4-6	9999+	
			6-8	9999+	
SB-6	10/12/2015	5.3	0-1	2.4	
			1-2	41.5	
			2-3	165	
			3-4	139	
			4-6	<1	
			6-8	<1	
SB-7	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	

TABLE 1: SOIL SCREENING SUMMARY

Facility ID#: 50/8514018

Facility

See notes at end of table.

Name: Former Palm Tran Facility

SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
SB-8	10/12/2015	5.3	0-1	411	Slight petroleum odor at 0-1 ft
			1-2	<1	
			2-3	1.2	
			3-4	<1	
			4-6	1.4	
			6-8	10.3	
SB-9	10/12/2015	5.3	0-1	<1	
			1-2	1.2	
			2-3	31.1	
			3-4	5437	SB-9(3-4) - Lab ID 13883-02
			4-6	9999+	Strong petroleum odor at 3-8 ft
			6-8	9999+	
SB-10	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	224	Petroleum odor at 3-8 ft
			4-6	1472	
			6-8	970	
SB-11	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	5.5	
			6-8	63.5	
SB-12	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	2.1	
SB-13	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	21.1	
			4-6	386	Slight petroleum odor from 4-8 ft
			6-8	311	
SB-14	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	8.5	
			6-8	9.1	

TABLE 1: SOIL SCREENING SUMMARY

Facility ID#: 50/8514018

Facility

See notes at end of table.

Name: Former Palm Tran Facility

SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
SB-15	10/12/2015	5.3	0-1	<1	
			1-2	209	
			2-3	1.2	
			3-4	<1	
			4-6	<1	
			6-8	<1	
SB-16	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	1.7	
SB-17	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	612	Petroleum odor at 4-8 ft
			6-8	1232	
SB-18	10/12/2015	5.3	0-1	21.2	
			1-2	180	
			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	
SB-19	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	1.2	
			4-6	368	Slight petroleum odor at 4-8 ft
			6-8	508	
SB-20	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	1.4	
			6-8	<1	
SB-21	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	

TABLE 1: SOIL SCREENING SUMMARY

Facility ID#: 50/8514018

Facility

See notes at end of table.

Name: Former Palm Tran Facility

SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
SB-22	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	20.2	
			3-4	0.4	
			4-6	9.1	
			6-8	9999+	
SB-23	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	3041	Petroleum odor at 4-8 ft
			6-8	9999+	
SB-24	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	2.1	
			3-4	2.2	
			4-6	2231	Petroleum odor at 4-8 ft
			6-8	1587	
SB-25	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	<1	
			6-8	<1	
SB-26	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	<1	
			3-4	<1	
			4-6	9999+	Petroleum odor at 4-8 ft
			6-8	1820	
SB-27	10/12/2015	5.3	0-1	120	Slight petroleum odor at 0-1 ft
			1-2	38.8	
			2-3	1.1	
			3-4	8336	
			4-6	9999+	Strong petroleum odor at 4-8 ft
			6-8	9999+	
SB-28	10/12/2015	5.3	0-1	<1	
			1-2	<1	
			2-3	6.2	
			3-4	<1	
			4-6	<1	
			6-8	<1	

TABLE 1: SOIL SCREENING SUMMARY

Facility ID#: 50/8514018

Facility

See notes at end of table.

Name: Former Palm Tran Facility

SAMPLE				PID Reading (PPM)	COMMENTS
BORING No.	DATE	DEPTH TO WATER (feet)	SAMPLE INTERVAL (feet)		
SB-29	10/12/2015	5.3	0-1	131	Slight petroleum odor at 0-8 ft
			1-2	91.0	
			2-3	188	
			3-4	36.0	
			4-6	183	
			6-8	51.1	
SB-30	10/12/2015	5.3	0-1	5085	Petroleum odor at 0-8 ft
			1-2	3712	
			2-3	3562	
			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#: 50/8514018

Facility Name: Former Palm Tran Facility

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

Facility 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)	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

Sample				OVA	Laboratory Analyses						Comments
Boring/ Well No.	Date Collected	Depth to Water (ft)	Sample Interval (fbls)	Net OVA Reading (ppm)	Benzene (mg/kg)	Ethyl-benzene (mg/kg)	Toluene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TRPHs (mg/kg)	
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 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-Exposure 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
 fbfs = 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.

Sample				OVA	Laboratory Analyses											Comments
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) perylene (mg/kg)	Fluoran- thene (mg/kg)	Fluor- ene (mg/kg)	Phenan- threne (mg/kg)	Pyrene (mg/kg)	
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 I	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 Groundwater Criteria (mg/kg)					1.2	3.1	8.5	2.1	27	2,500	32,000	1,200	160	250	880	
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 SCTL (mg/kg)					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.

Sample				OVA	Laboratory Analyses								Comments
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)	
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	
Leachability Based on Groundwater Criteria (mg/kg)					8	0.8	2.4	24	77	0.7	6.6	**	
Direct Exposure Residential (mg/kg)					0.1	#	#	#	#	#	#	0.1	
Commercial-Industrial Direct-Exposure SCTL (mg/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

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample 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	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	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

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample 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	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	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value
≥ MDL but < PQL	PQL	M	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	MTBE	EDB	Total Lead
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1	10/15/2015	0.950 I	0.660 U	0.730 U	1.81	0.530 U	0.01120 U	3 I
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 I
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 I
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
GCTLs		1**	40**	30**	20**	20	0.02**	15**
NADCs		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.

Sample		TRPHs	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (g,h,i) perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo (a) pyrene	Benzo (a) anthracene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Chrysene	Dibenz (a,h) anthracene	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
GCTLs		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
NADCs		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.

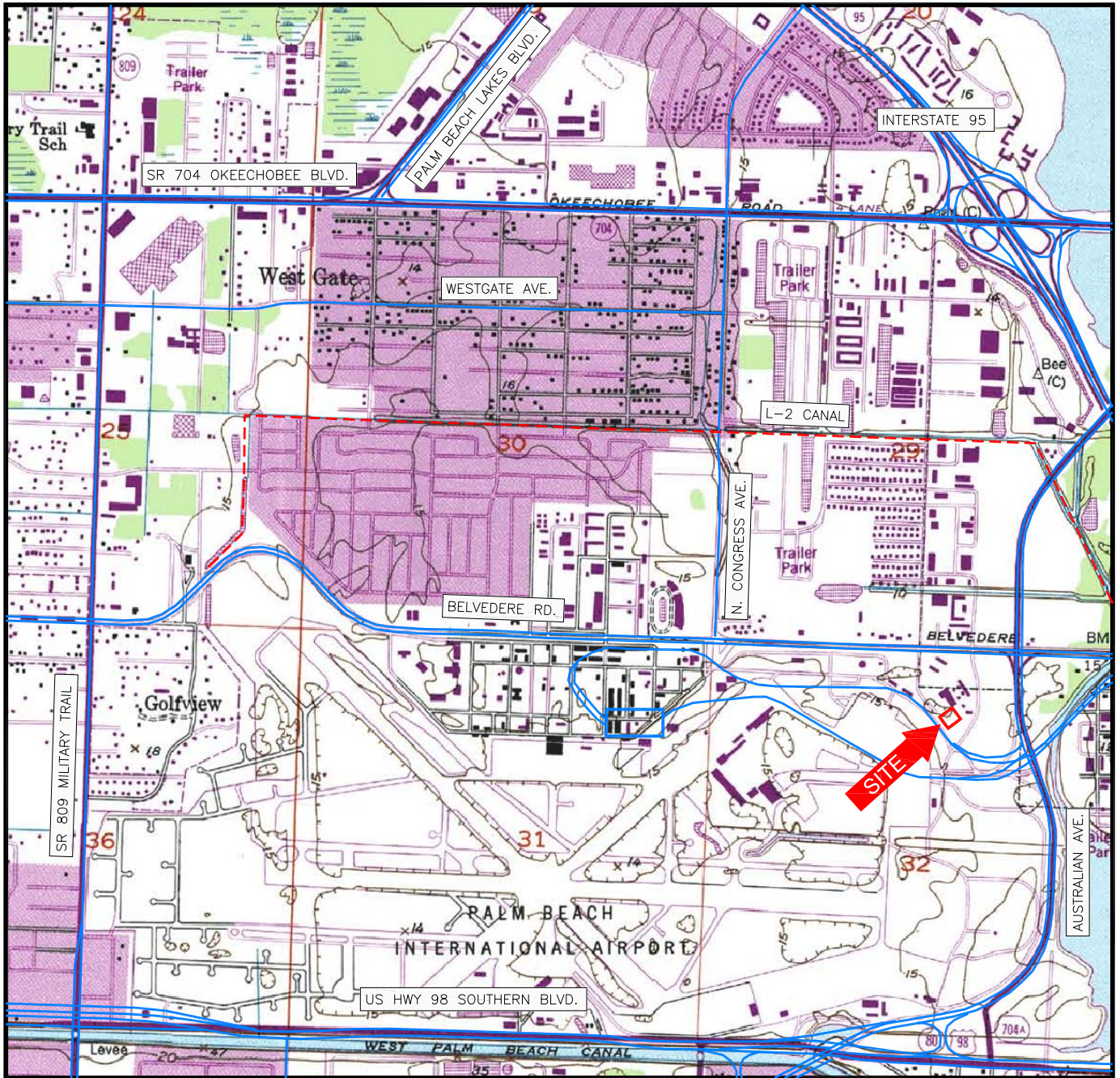
I = The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

µg/L = Microgram per liter

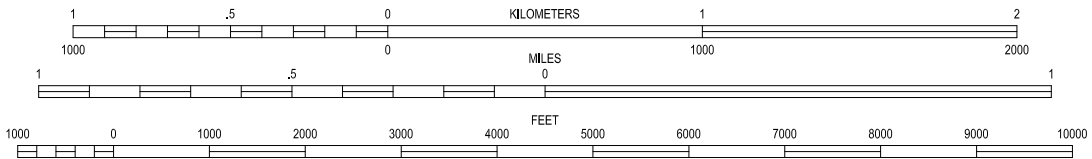
PAH = Polynuclear aromatic hydrocarbons

TRPH = Total recoverable petroleum hydrocarbons

Appendix B - Exhibits



SCALE 1:24 000



CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

SECTION: 32
TOWNSHIP: 43 SOUTH
RANGE: 43 EAST

PALM BEACH, FLORIDA
ISSUED: 1946 REVISED: 1983
7.5 MINUTE SERIES (QUADRANGLE)



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Nov09, 2015 - 2:30pm

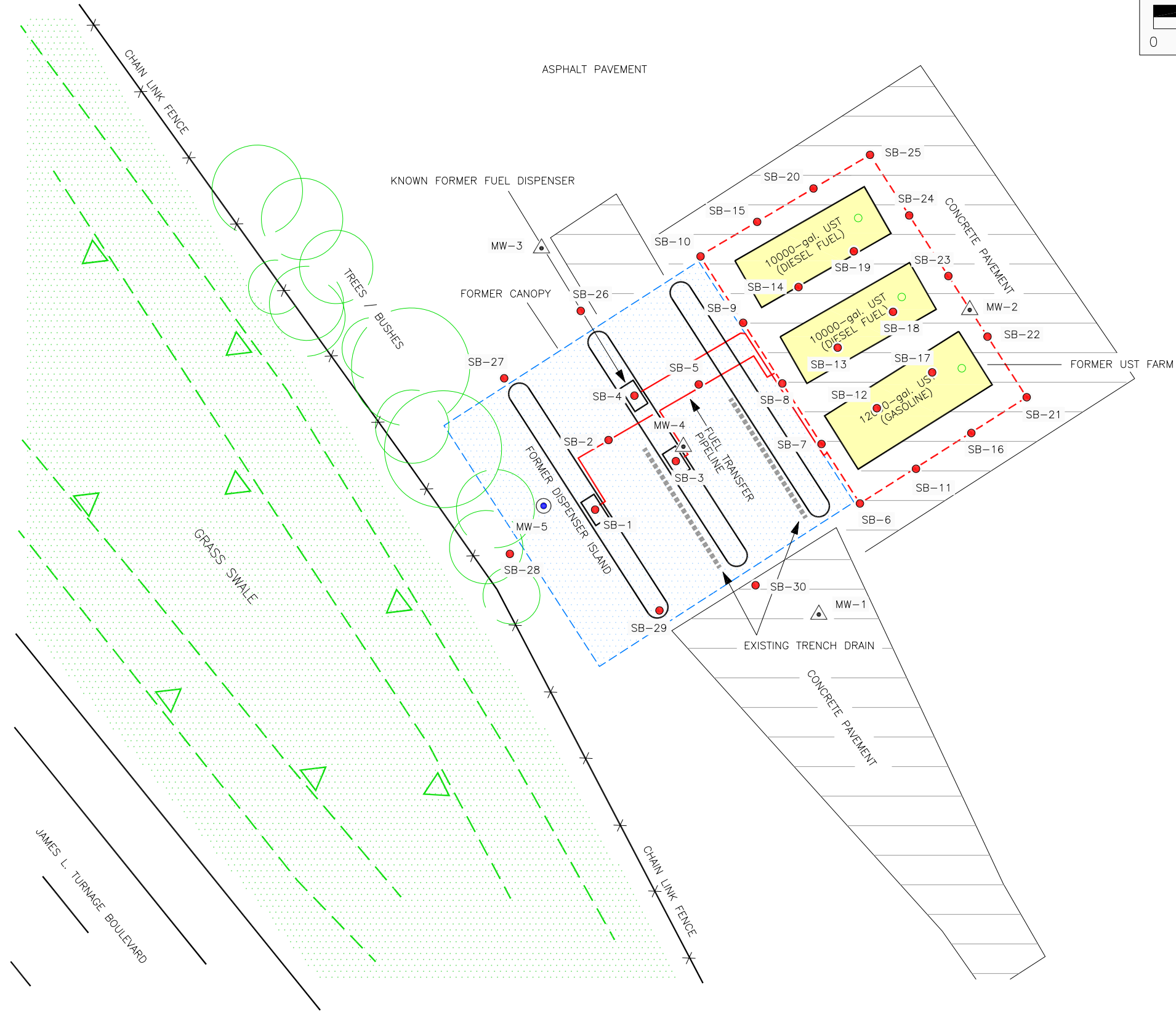
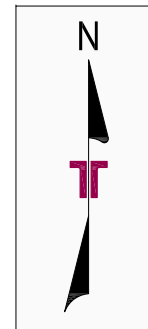
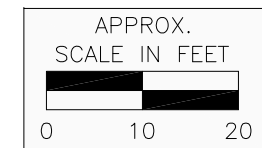
Project Mngr:	AP	Project No.	HD157021
Drawn By:	SW	Scale:	AS SHOWN
Checked By:	AP	File No.	HD157021-1
Approved By:	EK	Date:	11-9-15

Terracon
Consulting Engineers and Scientists
1225 OMAR ROAD WEST PALM BEACH, FLORIDA 33405
PH. (561) 689-4299 FAX. (561) 689-5955

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

EXHIBIT
1

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



LEGEND	
	EXISTING MONITORING WELL
	NEW TERRACON MONITORING WELL
	TERRACON SOIL BORING

Project Mngr:	AP	Project No.	HD157021
Drawn By:	SW	Scale:	AS SHOWN
Checked By:	AP	File No.	HD157021-2
Approved By:	EK	Date:	11-9-15

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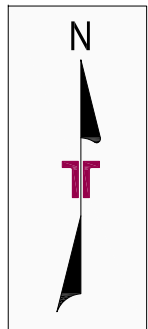
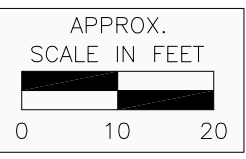
1225 OMAR ROAD WEST PALM BEACH, FLORIDA 33406
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SITE DIAGRAM

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

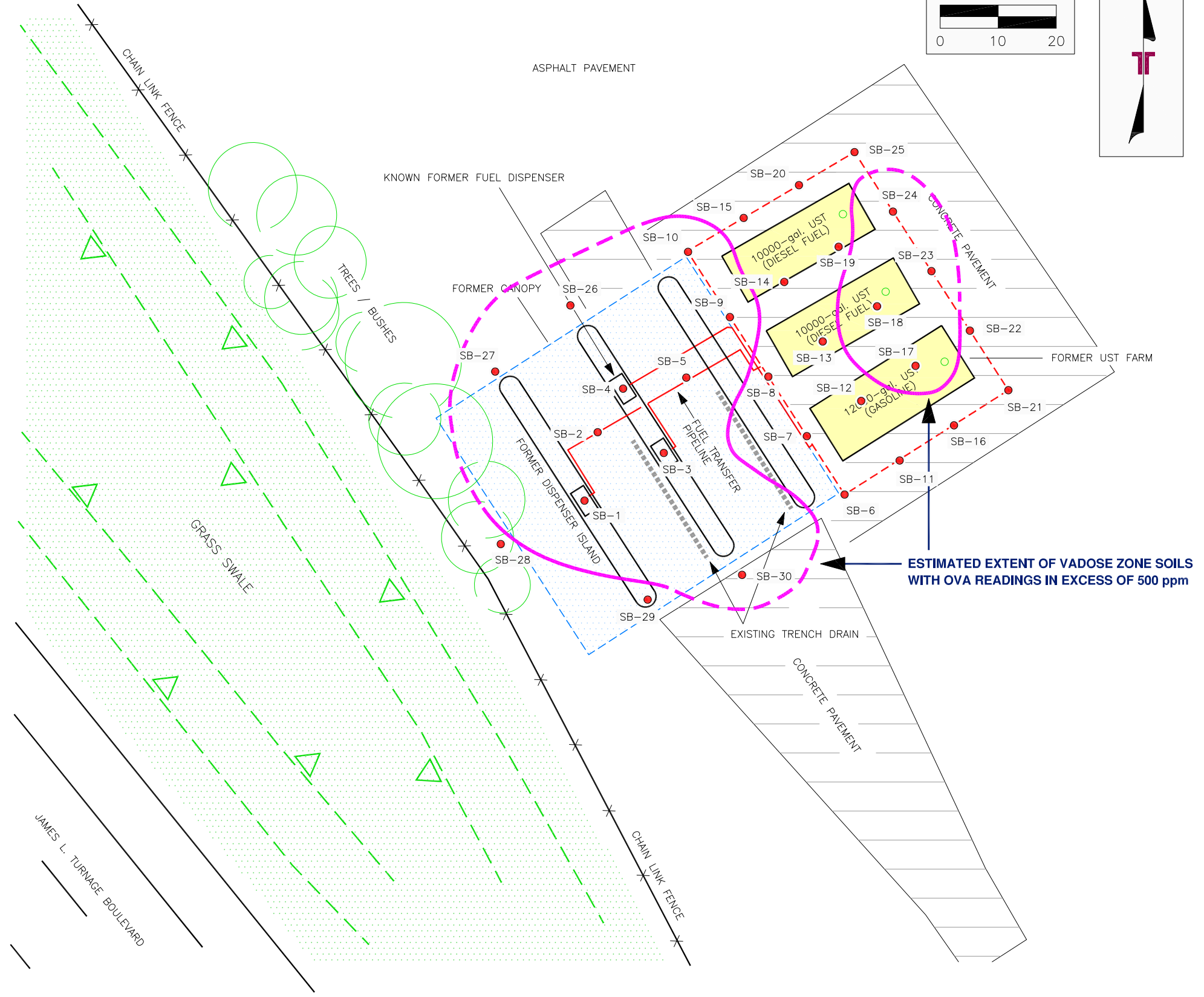
EXHIBIT
2

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LEGEND

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



SB-1	SB-2	SB-3	SB-4	SB-5	
DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)
0-1	<1	0-1	<1	0-1	3514
1-2	3.0	1-2	252	1-2	9999+
2-3	60.3	2-3	471	2-3	9999+
3-4	9999+	3-4	9999+	3-4	9999+
4-6	9999+	4-6	9999+	4-6	9999+
6-8	9999+	6-8	9999+	6-8	9999+

SB-6	SB-7	SB-8	SB-9	SB-10	
DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)
0-1	2.4	0-1	<1	0-1	<1
1-2	41.5	1-2	<1	1-2	<1
2-3	165	2-3	<1	2-3	31.1
3-4	139	3-4	<1	3-4	5437
4-6	<1	4-6	<1	4-6	9999+
6-8	<1	6-8	10.3	6-8	970

SB-11	SB-12	SB-13	SB-14	SB-15	
DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)
0-1	<1	0-1	<1	0-1	<1
1-2	<1	1-2	<1	1-2	209
2-3	<1	2-3	<1	2-3	1.2
3-4	<1	3-4	21.1	3-4	<1
4-6	5.5	4-6	386	4-6	<1
6-8	63.5	6-8	311	6-8	<1

SB-16	SB-17	SB-18	SB-19	SB-20	
DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)
0-1	<1	0-1	21.2	0-1	<1
1-2	<1	1-2	180	1-2	<1
2-3	<1	2-3	1837	2-3	<1
3-4	<1	3-4	1039	3-4	<1
4-6	<1	4-6	21.4	4-6	1.4
6-8	1.7	6-8	18.5	6-8	<1

SB-21	SB-22	SB-23	SB-24	SB-25	
DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)
0-1	<1	0-1	<1	0-1	<1
1-2	<1	1-2	<1	1-2	<1
2-3	<1	2-3	20.2	2-3	<1
3-4	<1	3-4	0.4	3-4	<1
4-6	<1	4-6	9.1	4-6	<1
6-8	<1	6-8	9999+	6-8	<1

SB-26	SB-27	SB-28	SB-29	SB-30	
DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)	DEPTH (feet)	OVA (ppm)
0-1	<1	0-1	<1	0-1	5085
1-2	<1	1-2	<1	1-2	3712
2-3	<1	2-3	6.2	2-3	3562
3-4	<1	3-4	<1	3-4	4732
4-6	9999+	4-6	<1	4-6	772
6-8	1820	6-8	<1	6-8	2442

ESTIMATED EXTENT OF VADOSE ZONE SOILS WITH OVA READINGS IN EXCESS OF 500 ppm

Project Mngr:	AP	Project No.	HD157021
Drawn By:	SW	Scale:	AS SHOWN
Checked By:	AP	File No.	HD157021-3
Approved By:	EK	Date:	11-9-15

Terracon
Consulting Engineers and Scientists

1225 OMAR ROAD WEST PALM BEACH, FLORIDA 33406
PH. (561) 688-4299 FAX. (561) 688-5955

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