"LIMITED" PHASE II REMEDIAL INVESTIGATION REPORT

New Jersey Department of Transportation
Petersburg Maintenance Facility
Upper Township, Cape May County, New Jersey

Prepared for:

NEW JERSEY DEPARTMENT OF TRANSPORTATION
BUREAU OF ENVIRONMENTAL PROGRAM RESOURCES
951 Parkway Avenue,
Arthur Foran Building, Room #5
P.O. Box 600
Trenton, New Jersey 08625-0600

Prepared by:

DRESDNER ROBIN
371 Warren Street
P.O. Box 38
Jersey City, New Jersey 07303-3035

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FINAL REPORT

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1.0 INTRODUCTION

On behalf of the New Jersey Department of Transportation (NJDOT), DRESDNER ROBIN prepared this *"Limited" Phase II Remedial Investigation Report* as requested by the New Jersey Department of Environmental Protection (NJDEP) during a meeting held on November 18, 2008 between NJDOT, NJDEP and DRESDNER ROBIN and further outlined in NJDEP's March 23, 2009 correspondence (**Appendix A**). This report summarizes the information presented during the November 18, 2008 meeting and the recommendations for the next phase of work at the NJDOT's Petersburg Maintenance Facility located in Upper Township, Cape May County, New Jersey (hereafter referred to as the "Site"). The approximate location of the Site and surrounding area is depicted on **Figure 1** (USGS Topographic Map) and on **Figure 2** (Aerial Photograph). A site plan is depicted on **Figure 3**.

2.0 BACKGROUND

In November 2000, one (1) 4,000-gallon gasoline underground storage tank (UST) was removed at the Site by URS Corporation (URS). Post excavation soil samples were collected from the UST excavation and beneath the dispenser island and the analytical results were below the NJDEP's most stringent Soil Cleanup Criteria (SCC). During the UST removal, small holes were observed in the UST, accordingly URS recommended further soil and ground water investigations be performed in the area of the former gasoline UST in order to assess the vertical and horizontal extent of any contamination from the possible leakage from the gasoline UST.

In addition, one (1) 10,000-gallon diesel fuel UST was removed later the same month from the Site. Post excavation soil samples were collected from the diesel fuel UST excavation and the analytical results were below the NJDEP's most stringent SCC. An *Undergorund Storage Tank Closure Report*, dated March 2001 was prepared by URS.

On August 14, 2002, the NJDEP issued a No Further Action (NFA) for the 10,000-gallon diesel fuel UST. However, as outlined in the NJDEP's August 14, 2002 correspondence, the NJDEP recommended to install one (1) monitoring well down-gradient of the former 4,000-gallon gasoline UST and collect ground water samples.

On November 13, 2002, Brocon Petroleum, Incorporated (Brocon) contracted Hammer, Incorporated (Hammer) to install one (1) monitoring well (MW-1) down-gradient of the former gasoline UST excavation. MW-1 was subsequently sampled on November 29, 2002. MW-1 exhibited elevated levels of volatile organic compounds (VOCs) and base neutral (BN) organic compounds above the NJDEP's Ground Water Quality Standards (GWQS).

Based upon ground water contamination and elevated photo ionization detector (PID) readings of the soil encountered during the installation of MW-1, both NJDOT and Brocon decided to excavate and attempt to delineate the soil contamination within this

Area of Concern (AOC). During excavation activities in April 2003, free product was encountered on the ground water and approximately 2,200 gallons of gasoline and water was removed from the excavation by Lorco Petroleum Services. A total of approximately 698 tons of contaminated soil was removed during excavation activities and transported off-site; however, the contamination was not fully delineated and no post excavation soil samples were collected.

Between May and June 2003, Hammer installed four (4) monitoring wells including replacing MW-1 which was abandoned during soil excavation activities with MW-1R. The other three (3) monitoring wells (MW-2, MW-3, and MW-4) were installed around the remediation excavation. All four (4) monitoring wells were sampled for VO+10 with MTBE, TBA and total xylenes; BN+15; and total lead on November 24, 2003. The ground water analytical results indicated concentrations of **benzene**, **toluene**, **ethylbenzene**, **total xylenes** and **chloroform** from MW-2 above the NJDEP's GWQS. As noted in the *Soil Remediation and Ground Water Investigation Summary Report*, inconsistencies with what was observed in the field and the laboratory analytical results from MW-1R and MW-2 revealed that possibly the analytical results recorded from MW-2 were actually those from MW-1R. A *Soil Remediation and Ground Water Investigation Summary Report*, dated August 2004 was prepared by Brocon.

On February 1, 2005, DRESDNER ROBIN attended a meeting with Ms. Kirstin Hahn of the NJDEP-Southern Field Office to discuss the project and make recommendations for further investigations. The meeting resulted in NJDEP concurrence with the following approach for the Site:

- Confirmatory round of ground water samples;
- Two (2) rounds of static water elevations;
- Performing an NJDEP Well Search;
- Advancing soil borings and sampling; and
- Preparing and submitting a Remedial Investigation Report.

3.0 SITE AND REMEDIAL INVESTIGATIONS – MAY 2006 – JULY 2008

3.1 Ground Water Sampling – May 2006 – October 2006

A ground water sampling event was performed by the NJDOT on May 24, 2006 from MW-1R, MW-2, MW-3 and MW-4. The analytical results from this event were found to have discrepancies which resulted in a second ground water sampling event on September 12, 2006 from MW-1R, MW-2, MW-3 and MW-4 also performed by the NJDOT. The analytical results indicated concentrations of diethyl phthalate; ethylbenzene; 2-methylnaphthalene; naphthalene; toluene; and total xylenes below the NJDEP's GWQS and concentrations of **total volatile** and **semi-volatile tentatively identified compounds (TICs)** above the NJDEP's GWQS in **MW-1R**. Concentrations of ethylbenzene; 2-methylnaphthalene; and naphthalene were detected and **toluene**, **total xylenes** and **total volatile** and **semi-volatile TICs** were detected at concentrations above

the NJDEP's GWQS in **MW-4**. The analytical results from MW-2 and MW-3 indicated no detections with the exception of low concentrations of diethyl phthalate.

As a result of these findings, the NJDOT requested DRESDNER ROBIN to perform one (1) confirmatory round of ground water sampling on October 30, 2006 from MW-1R, MW-2, MW-3 and MW-4. The analytical results indicated concentrations of ethylbenzene, naphthalene, total xylenes, and total volatile and semi-volatile TICs in MW-1R below the NJDEP's GWQS. Concentrations of **benzene**, **total xylenes** and **total volatile** and **semi-volatile TICs** were detected above the NJDEP's GWQS in **MW-4**. The analytical results from MW-2 and MW-3 indicated no detections with the exception of low concentrations of naphthalene. In addition, no detections of lead were encountered in each of the four (4) monitoring wells.

A summary of the historical ground water analytical results (detections and exceedances) from November 2002 through July 2008 are presented in **Table 1**.

3.2 Residential Well Sampling – November 2006 – July 2008

Based upon the confirmatory ground water sampling results from the October 30, 2006 ground water sampling event and the information compiled from the NJDEP well search performed in November 2006, fourteen (14) down-gradient and side-gradient properties, totaling eighteen (18) wells were selected for residential well sampling (1st sampling event) in November/December 2006. The sampling parameters consisted of volatile organic compounds, total and dissolved lead, sodium and chloride. The analytical results indicated no concentrations of volatile organic compounds above the NJDEP's GWQS or Federal/New Jersey Primary and Secondary Drinking Water Standards (FNJPSDWS). The analytical results indicated concentrations of **total and/or dissolved lead** in seven (7) wells above the NJDEP's GWQS and/or FNJPSDWS. Concentrations of sodium and chloride were detected in a majority of the wells with one (1) of the samples (Deuter's well) exceeding the NJDEP's GWQS and FNJPSDWS of 50,000 micrograms per liter (µg/L) for **sodium** at a concentration of 81,800 µg/L.

A second residential sampling event was performed in May 2007 from eight (8) down-gradient and side-gradient properties, totaling ten (10) wells. This event was performed to confirm exceedances identified from the November/December 2006 event for lead and sodium. In addition, a confirmatory sample was collected at two (2) properties identified with detections below the applicable standards; one (1) property was identified with a detection of tetrachloroethene (PCE) and the second property was identified with a detection of MTBE of 40 µg/L (irrigation well). Seven (7) wells were sampled for total and dissolved lead; one (1) well was sampled for sodium; one (1) well was sampled for MTBE; and one (1) well was sampled for PCE. It should be noted that at two (2) properties (Turner and Gaglione), samples were collected before and after an inline potable treatment system. The analytical results indicated no concentrations of MTBE or PCE above the NJDEP's GWQS or FNJPSDWS. The analytical results indicated concentrations of **total and dissolved lead** in two (2) residential wells (Gaglione 1 and Gaglione 2) above the NJDEP's GWQS. It is understood that one (1) of the wells

(Gaglione 2) was equipped with an inline treatment system and the sample collected after the system indicated no detections of lead. It is also understood that the other well (Gaglione 1) with the lead exceedances is being used for irrigation purposes. A concentration of **sodium** was detected in Dueters well exceeding the NJDEP's GWQS and FNJPSDWS of 50,000 µg/L at a concentration of 80,700 µg/L.

A third residential sampling event was performed in August 2007 from seven (7) down-gradient and side-gradient properties, totaling eight (8) wells. It should be noted that at two (2) properties (Turner and Blevin), samples were collected before and after an inline potable treatment system. The sampling parameters consisted of volatile organic compounds, total and dissolved lead, sodium and chloride. The analytical results indicated no concentrations of volatile organic compounds above the NJDEP's GWQS or FNJPSDWS. The analytical results indicated concentrations of **total and/or dissolved lead** in three (3) wells above the NJDEP's GWQS and/or FNJPSDWS. It should be noted that one (1) of the wells (Blevin) was equipped with an inline treatment system and the sample collected after the system indicated no detections of lead. Concentrations of sodium and chloride were detected in a majority of the wells with one (1) of the samples (Dueter) exceeding the NJDEP's GWQS and FNJPSDWS of 50,000 µg/L for **sodium** at a concentration of 65,800 µg/L.

A fourth residential sampling event was performed in July 2008 from eleven (11) down-gradient and side-gradient properties, totaling thirteen (13) wells. The municipal building and rescue squad were included in the eleven (11) properties. It should be noted that at six (6) properties (Harwood, Middle School, Turner, Blevin, Municipal Building, Rescue Squad), samples were collected before and after an inline potable treatment system. The sampling parameters consisted of volatile organic compounds, total and dissolved lead, sodium and chloride. The analytical results indicated no concentrations of volatile organic compounds above the NJDEP's GWQS or FNJPSDWS. MTBE concentrations ranged from non-detect to 0.9 µg/L. Chloroform concentrations ranged from non-detect to 1.6 µg/L. The analytical results indicated concentrations of **total and/or dissolved lead** in three (3) wells above the NJDEP's GWQS. The concentrations were below the FNJPSDWS. It should be noted that one (1) of the wells (Municipal Building) was equipped with an inline treatment system and the sample collected after the system indicated detections of lead below the NJDEP's GWQS. Concentrations of sodium and chloride were detected in the majority of the wells with three (3) of the samples (Dueter, Scheiben and Turner) exceeding the NJDEP's GWQS and FNJPSDWS of 50,000 µg/L for **sodium** at a concentration of 66,000 µg/L, 51,000 µg/L, and 51,000 µg/L, respectively. It should be noted that the exceedance from the Turner's well was from the sample collected after treatment; the sample collected before treatment was below the criteria.

A summary of the historical residential well sampling analytical results (detections and exceedances) from November 2006 through July 2008 are presented in **Table 2**. Residential well locations and the July 2008 analytical results (exceedances) for sodium and total and dissolved lead are depicted on **Figures 4** and **5.**

3.3 Monitoring Well Installation Program – July 2007

Consistent with the provisions of the NJDEP's *Technical Requirements for Site Remediation* N.J.A.C. 7:26E, nine (9) ground water monitoring wells (MW-1D, MW-4D, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, and MW-11) were installed in July 2007. The wells were installed in an attempt to delineate the horizontal and vertical extent of ground water contamination. MW-6, MW-7 and MW-8 were installed in the shallow aquifer in the apparent down-gradient direction. Both MW-6 and MW-7 were installed along the north side of Old Tuckahoe Road, within the existing Right-of-Way (ROW) and MW-8 was installed along the northeastern corner of the Site. The two (2) deeper monitoring wells (MW-1D and MW-4D) were installed within ten (10) feet of the existing monitoring wells (MW-1R and MW-4) to vertically delineate the shallow ground water contamination previously identified. MW-5 and MW-9 were installed in the shallow aquifer in both apparent side-gradient directions. MW-10 was installed at the southern property boundary (up-gradient) to investigate possible ground water contamination (i.e., lead) migrating onto the Site. MW-11 was installed along the property boundary adjacent to Block 476, Lot 2 to monitor ground water quality as a result of the detection of PCE in the residential well on this property. The monitoring well locations are depicted on **Figure 6**.

The monitoring wells were installed using a hollow stem auger drill rig. The soil retrieved was visually inspected for signs of contamination and/or staining and field screened with a PID for the presence of volatile organic compounds. The Monitoring Well Construction Details are provided in **Table 3**.

DRESDNER ROBIN, a New Jersey licensed land surveyor, surveyed each monitoring well. Elevations of the protective casing, inner casing, and ground surface were recorded. The horizontal data points were reported in New Jersey State Plane Coordinates using the North American Datum of 1983 (N.A.D. 1983) and the vertical data points were reported as depth below ground surface and in mean sea level using the North American Vertical Datum of 1988 (N.A.V.D. 1988).

Prior to installing MW-1D, MW-4D and MW-10, soil samples were collected and analyzed for TCL-VOCs+10 via USEPA Method 8260B and Lead via USEPA Method 6010B. The analytical results indicated no compounds above the NJDEP's Soil Remediation Standards.

3.4 Soil Investigation – June 2007

To evaluate for the presence of contamination in the area of the former gasoline UST/remediation excavation area, DRESDNER ROBIN collected sixteen (16) soil samples from nine (9) soil borings (SB-1, SB-2, SB-3, SB-4, SB-5, SB-6, SB-7, SB-8 and SB-9).

To evaluate for the presence of contamination in the area of the existing gasoline and diesel fuel AST concrete pads, DRESDNER ROBIN collected twelve (12) soil samples from six (6) soil borings (A-1, A-2, A-3, A-4, A-5 and A-6). Based upon field observations at

some of the boring locations; two (2) additional delineation borings (S-1 and S-2) were advanced in the apparent down-gradient direction and four (4) soil samples were collected.

The soil samples were analyzed for TCL-VOCs+10 and lead.

The analytical results indicated concentrations of toluene, ethylbenzene, and total xylenes in soil samples SB-9B and A-5B and concentrations of ethylbenzene and total xylenes in soil sample A-4B above the NJDEP's Default Impact to Ground Water Soil Remediation Standards. No concentrations of lead were detected above the NJDEP's Soil Remediation Standards. The analytical results are presented in **Table 4** and the soil boring locations and analytical results exceeding the NJDEP's SRS are provided on **Figure 7**.

3.5 Ground Water Sampling – July 2007 and July 2008

A ground water sampling event (5th event) was performed by DRESDNER ROBIN on July 25-27, 2007 from MW-1R, MW-1D, MW-2, MW-3, MW-4, MW-4D, MW-5, MW-6, MW-7, MW-8, MW-9, and MW-10. The ground water samples were analyzed for TCL-VOCs+10 with MTBE and TBA; TCL-BN+15; lead; sodium and chloride. The analytical results indicated the following compounds above the NJDEP's GWQS:

- Benzene was detected in excess of its GWQS of 1 μg/L in MW-7 at 3.6 μg/L.
- Toluene was detected in excess of its GWQS of 600 μg/L in MW-4 at 2,900 μg/L and in MW-7 at 1,100 μg/L.
- Total Xylenes were detected in excess of its GWQS of 1,000 μg/L in MW-4 at 2,400 μg/L and in MW-7 at 1,800 μg/L.
- Tentatively Identified Compounds for Volatile Organic Compounds were detected in excess of its GWQS of 500 μg/L in MW-1R at 1,012 μg/L; in MW-4 at 4,920 μg/L; and in MW-7 at 2,238 μg/L.
- Tentatively Identified Compounds for Semi-Volatile Organic Compounds were detected in excess of its GWQS of 500 μg/L in MW-4 at 3,774 μg/L and in MW-7 at 3,449 μg/L.
- Lead was detected in excess of its GWQS of 5 μg/L in MW-5 at 8.4 μg/L and in MW-7 at 12.6 μg/L.
- Sodium was detected in excess of its GWQS of 50,000 μg/L in MW-5 at 175,000 μg/L and in MW-8 at 68,600 μg/L.

- Chloride was detected in excess of its GWQS of 250,000 μg/L in MW-5 at 385,000 μg/L.

It should be noted that monitoring well MW-11 was installed in July 2007 along the property boundary adjacent to Block 476, Lot 2 to monitor ground water quality as a result of the detection of PCE in the residential well on this property. Ground water samples were collected from MW-11 on August 17, 2007 and the analytical results indicated no compounds with concentrations above the NJDEP's GWQS. It should be noted that PCE was not detected.

A ground water sampling event (6th event) was performed by DRESDNER ROBIN on July 14-17, 2008 from MW-1R, MW-1D, MW-2, MW-3, MW-4, MW-4D, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, and MW-11. The ground water samples were analyzed for TCL-VOCs+10 with MTBE and TBA; TCL-BN+15; lead; sodium and chloride. The analytical results indicated the following compounds above the NJDEP's GWQS:

- Benzene was detected in excess of its GWQS of 1 μg/L in MW-7 at 16 μg/L and in the duplicate sample (DUP71608) from MW-7 at 7.9 μg/L.

- Total Xylenes were detected equal to its GWQS of 1,000 μg/L in MW-4 at 1,000 μg/L.

- MTBE was detected in excess of its GWQS of 70 μg/L in MW-7 at 180 μg/L and in the duplicate sample (DUP71608) from MW-7 at 100 μg/L.

- Tentatively Identified Compounds for Volatile Organic Compounds were detected in excess of its GWQS of 500 μg/L in MW-1R at 1,032 μg/L; in MW-4 at 2,395 μg/L; in MW-7 at 1,094 μg/L; and in the duplicate sample (DUP71608) from MW-7 at 525 μg/L.

- Tentatively Identified Compounds for Semi-Volatile Organic Compounds were detected in excess of its GWQS of 500 μg/L in MW-4 at 1,809 μg/L and in the duplicate sample from MW-7 at 616.6 μg/L.

A summary of the historical ground water analytical results (detections and exceedances) from November 2002 through July 2008 are presented in **Table 1**. The ground water exceedances from the July 2008 sampling event are depicted on **Figure 8**. Isoconcentration figures for benzene, MTBE and total xylenes from the July 2008 event are depicted on **Figures 9, 10, and 11,** respectively.

3.6 Water Elevation Program

DRESDNER ROBIN collected static water level measurements on October 30, 2006; July 23, 2007 and July 14, 2008 from the on-site monitoring wells to establish the direction of ground water flow beneath the Site. Ground water elevation data from the July 14, 2008

event is presented in **Table 5**. **Figure 12** presents the interpreted flow direction beneath the Site during the July 14, 2008 event.

Based on the data collected, the ground water flow direction beneath the Site was interpreted to be to the northeast direction.

3.7 Rising Head Aquifer Testing

Rising head aquifer tests (i.e., slug tests) were conducted in monitoring wells MW-1R, MW-1D, MW-4 and MW-4D on September 19, 2007 to assess the hydraulic conductivity at the Site. Each test was conducted by inserting a Mini-Troll Pro (30 psi) submersible data logger followed by a sand-filled PVC tube (slug) into each of the wells. The water level within each well reflected a drastic change due to the disruption caused by the slug. After the water table reached equilibrium, the PVC slug was quickly extracted from each of the wells, which again caused a disruption to the water level. The Mini-Troll Pro (30 psi) submersible intelligent data logger continuously recorded the water levels in the wells throughout the duration of each disruption. The test continued until the water level recovered to at least 90 percent of the initial drawdown within each well.

Water level recovery data obtained from the slug tests were analyzed by three (3) methods. The methods developed by Bouwer and Rice (1976) and Black (1978) both apply to unconfined aquifer conditions. The KGS model applies partially penetrating wells in either confined or unconfined aquifers. The three (3) methods yielded comparable values of hydraulic conductivity. Using the Bouwer and Rice Method, the hydraulic conductivity was found to be **18.03 ft/day** in MW-1D. Using the Black Method, the hydraulic conductivity was found to be **16.04 ft/day** in MW-1D. Finally, the KGS model found the hydraulic conductivity in MW-1D to be **15.53 ft/day**.

The average groundwater flow velocity at the Site was calculated using the formula V=(Ki)/n. An assumed porosity (n) of 30% and an average hydraulic gradient (i) of 0.0019 ft/ft were used. The groundwater flow velocity in the water table aquifer was determined to be **0.11 ft/day** or **40.15 ft/yr.**

3.8 Downhole Geophysical Well Logging – August 2008

A downhole geophysical well logging program was performed within select potable wells and monitoring wells in August 2008 to determine well construction, general lithology and internal flow patterns. The downhole logging was performed at MW-1D; MW-4D; Block 477, Lot 4 - Upper Township Middle School (UTMS 2) and Block 477, Lot 23 – Blevin property. As for the wells located at Block 477, Lot 21 – Turner and Block 477, Lot 22 - Mason; it was determined in the field that these wells were constructed with a 1 ¼" galvanized pipe installed by jetting procedures. Black polyethylene tubing was observed from the galvanized pipe to the pump located in the basement or garage. The well at Block 477, Lot 25 – Harwood was unable to be located; however, conversations with the homeowner suggest the well was constructed and installed similar to the well on

Turner and Mason properties. A further summary of the well logging procedures and the findings are provided in **Table 6**.

3.9 CPT/MIPS/Deep Borehole – September 2008

In September 2008, Conetec advanced two (2) locations (CPT-1 and CPT-2) and performed Cone Penetrometer Tests/Membrane Interface Probes (CPT/MIP) at each location. CPT-1 was advanced within the ROW of Old Tuckahoe Road adjacent to MW-7 to a depth of 71 feet and CPT-2 was advanced at the Site to a depth of 72 feet. Based upon the findings, FID readings with peaks between 40-50' in CPT-1 and FID peaks between 50-70', with the highest at 60' in CPT-2.

3.10 Off-Site Plume Investigation – September – October 2008

During the period from September 23, 2008 through October 7, 2008, eleven (11) temporary well point cluster locations (TW-1 to TW-7 and TW-10 to TW-13) were advanced by Talon Drilling, Inc. for the purpose of investigating the gasoline constituent plume. One (1) location was advanced on the Site; three (3) locations within the ROW of Old Tuckahoe Road and seven (7) locations within the boundaries of three (3) off-site properties (Block 477, Lot 22; Block 477, Lot 21; and Block 477, Lot 20). A temporary well point was installed at each location; one (1) additional well point was installed at TW-2, TW-6 and TW-13 and two (2) additional well points were installed at TW-5 and TW-10. Ground water screening samples were collected from each temporary well point location and analyzed for TCL-VOCs+10 with MTBE and TBA and total and dissolved lead. In summary, ten (10) shallow ground water samples were collected (15-25'); five (5) intermediate ground water samples were collected (1 [37-42']; 4 [35-45']); and three (3) deep ground water samples were collected (1 [40-50']; 2 [55-65']). The samples were collected utilizing the low flow purge method.

The analytical results indicated concentrations of benzene and MTBE in five (5) shallow temporary well point locations (TW-5S, TW-10S, TW-11, TW-12, and TW-13S) above the NJDEP's GWQS. Benzene concentrations in TW-5S, TW-10S, TW-11, TW-12, and TW-13S were 7.5 μg/L, 9.8 μg/L, 7.2 μg/L, 6.2 μg/L, and 3.5 μg/L, respectively. MTBE concentrations in TW-5S, TW-10S, TW-11, TW-12, and TW-13S were 180 μg/L, 230 μg/L, 180 μg/L, 170 μg/L, and 140 μg/L, respectively. Low concentrations of volatile organic compounds were detected in the intermediate and deep ground water samples. Isolated total lead exceedances were detected in six (6) ground water samples; however, dissolved lead was non-detect in all ground water samples.

A summary of the ground water analytical results from the temporary well point locations are presented in **Table 7**. The location of the temporary well point clusters and the analytical results exceeding the GWQS are on **Figure 13**.

3.11 Vapor Intrusion Investigation – October 2008

Sampling was performed on October 3, 2009 at four residences identified by the NJDEP as requiring investigations due to their locale in relation to the inferred plumes path. A total of four indoor air, four sub-slab soil gas, and three exterior ambient air samples were collected as presented in the following table:

PROPERTY	SAMPLE ID	SAMPLE LOCATION
Robert and Gail Blevin 435 South Old Tuckahoe Road Block 477, Lot 23	Blevin_B1	southeastern corner of the basement
	Blevin_SS1	southeastern corner of the basement
	Blevin_BG1	front / south face of the residence
William and Donna Mason 421 South Old Tuckahoe Road Block 477, Lot 22	Mason_CS1	eastern portion of the crawlspace
	Mason_SS1	rear northeast corner of the garage
	Mason_BG1	front / south face of the residence
George and Catherine Turner 401 South Old Tuckahoe Road Block 477, Lot 21	Turner_B1	living space area located on the eastern portion of basement
	Turner_SS1	storage room area located on the western portion of the basement
	Turner_BG1	exterior southwestern corner of the residence
George Harwood 451 South Old Tuckahoe Road Block 477, Lot 25	Harwood_B1	center of the basement
	Harwood_SS1	eastern side of the basement

3.11.1 Indoor and Exterior Air Sampling Procedures

Prior to conducting sampling, the NJDEP "Indoor Air Building & Sampling Form" was completed for each property. The form consists of eight sections that record building characteristics, outside and indoor contaminant sources, meteorological conditions, occupant information, sampling information and other general and miscellaneous information.

Samples were collected for a twenty-four hour period with the canisters positioned at three (3) to five (5) feet in height, correlating to the estimated breathing zone. At each sample location thermometers were stationed capable of recording maximum and minimum temperatures. General observations of precipitation during the twenty-four hour sampling period were recorded.

Test America, a New Jersey certified environmental laboratory, provided 6-Liter summa canisters, dedicated flow controllers/critical orifices, dust filters, vacuum gauges and lengths of Teflon tubing. The samples were collected and analyzed in accordance with the "Compendium Method TO-15 Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially Prepared Canisters and Analyzing by Gas Chromatography/Mass Spectrometry (GC/MS)."

Each canister was equipped with a flow controller/critical orifice preset by the laboratory to provide air sampling at a constant rate over a twenty-four hour period. The canister sampling train included a "U tube" to prevent clogging of the sample train and a vacuum gauge to monitor the rate the canister is filled. The provided canister label was completed to record the sample IDs and locations. The air monitoring systems were set up to avoid toppling, especially at the exterior locations. Prior to commencing sampling, all sample train connections were verified for tightness. Diligent care was exercised to prevent accidental opening of a canister not equipped with a flow controller.

Prior to the end of sampling, the vacuum gauges were checked to verify that sampling did not end prematurely. Sampling was terminated twenty-four hours after the start of sampling or the vacuum readings were below four pounds per square inch (psi). The final observed vacuum gauge reading was recorded and the canister valve was closed. The sampling systems were decommissioned; chain of custody completed and the canisters were forwarded to the laboratory for analysis.

3.11.2 Sub-Slab Soil Gas Sampling Procedures

In order to identify vapors which potentially accumulated beneath the slab of the residences, sub-slab soil gas samples were collected. Test America, a New Jersey certified environmental laboratory, provided 6-Liter summa canisters, dedicated flow controllers/critical orifices, dust filters, vacuum gauges and lengths of Teflon tubing. Soil gas samples were collected at each of the four residences. It should be noted that sample collected at the Mason residence was collected from beneath the garage slab as the house has a crawlspace and no basement.

Sample points were installed by drilling through the slab into the sub-slab material to create an open cavity. A sand pack, consisting of silica sand, was constructed at the base of the sampling point, to facilitate the movement of air, and an annular seal was constructed at the top of the sampling point. The seal consisted of a non-volatile emitting/non-shrinking material such as modeling clay.

Teflon tubing was inserted into the sampling point and then connected to a 6-Liter summa canister. Each canister was equipped with a flow controller/critical orifice preset by the laboratory to provide air sampling at a constant rate over a one hour period.

An air-monitoring technician remained at the Site to monitor the initial stage of the air quality one hour monitoring event. Prior to the end of sampling, the vacuum gauges were checked to verify that sampling did not end prematurely. The final observed vacuum reading was recorded and the canister valve was closed. The sampling systems were decommissioned; the hole was properly filled with concrete to restore the slab to its original state, chain of custody completed and the canisters were forwarded to the laboratory for analysis.

3.11.3 Sample Results

Sample results were compared to the NJDEP Indoor Air Screening Levels (IASL) or Soil Gas Screening Levels (SGSL). Comparisons were made between the indoor air, soil gas, and the exterior ambient results (background levels).

3.11.3.1 Indoor Air Sample Results

Indoor air analytical results from the Turner residence revealed concentrations of methylene chloride at concentrations which exceed the NJDEP IASL. The remaining samples revealed no compounds in excess of the NJDEP IASL.

Sample exceedances are shown on **Figure 14**. A summary of the laboratory analytical results is provided in **Table 8.**

3.11.3.2 Sub-Slab Soil Gas Results

Sub-slab soil gas analytical results from the Turner residence revealed concentrations of chloroform exceeding the NJDEP SGSL at the Turner residence. The remaining samples revealed no compounds in excess of the NJDEP SGSL.

A summary of the laboratory analytical results is provided in **Table 8.** Exceedances are presented on **Figure 14**.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based upon the agreed-upon outcomes of the November 18, 2008 meeting between NJDOT, NJDEP and DRESDNER ROBIN; the recommendations to address the horizontal and vertical delineation of dissolved phase contaminants in ground water off-site are summarized as follows:

- **"Limited" Geophysical Investigation**

A geophysical investigation is proposed at each proposed monitoring and temporary well point location (twelve [12] locations total). The investigation would be conducted in an effort to detect and mark subsurface utilities and/or anomalies prior to advancing the borehole.

- **Installation and Development of Seven (7) Monitoring Wells Off-Site**

Seven (7) monitoring wells are proposed to be installed off-site in an attempt to delineate the horizontal and vertical extent of ground water contamination.

Since four (4) of the monitoring wells would be installed at the locations of the previous temporary well points in which the borehole has been logged continuously, no logging of

the soil at these locations would occur, instead the borehole would be augered to the appropriate depth of the well. However, for the remaining three (3) monitoring well locations, continuously logging (split spooning) of the borehole lithology to the appropriate depth of the well would occur.

Five (5) monitoring wells would be installed in the shallow aquifer (estimated total depth of twenty-five [25] feet; one (1) monitoring well would be installed in the intermediate aquifer (estimated total depth of forty-five [45] feet); and one (1) monitoring well would be "held" as a contingent well to be used based upon the findings obtained in the field (estimated total depth of forty-five [45] feet). The proposed monitoring well locations are depicted on **Figure 15**.

The monitoring wells would be developed by the driller after installation as per the NJDEP's *Field Sampling Procedures Manual* utilizing the pump and surge method. The monitoring wells would be developed to the extent necessary to achieve a turbid free discharge or as close to a turbid free discharge as possible.

In addition, one (1) soil sample would be collected from each borehole location and analyzed for Total Organic Carbon (TOC), particle size and bulk density.

It should also be noted that one (1) additional monitoring well (MW-11D) would be installed in the vicinity of the existing monitoring well (MW-11) on NJDOT's property to monitor ground water quality in relation to Doris Cloud's residential well (Block 476, Lot 2). MW-11D would be installed to investigate ground water conditions/quality associated with the detection of PCE in Doris Cloud's well on two (2) separate occasions. It should be noted that the analytical results from the two (2) recent sampling events from Doris Cloud's well indicated that PCE was not detected.

- **Three (3) Rounds of Ground Water Sampling**

Since fifteen (15) feet of screen would be installed and the NJDEP requested the collection of one (1) sample for every five (5) feet of screen; three (3) ground water samples would be collected and analyzed from each of the seven (7) monitoring wells during the first sampling event for volatile organic compounds only. One (1) of the three (3) ground water samples from each well would also be analyzed for base neutrals, lead, sodium and chloride. The remaining two (2) ground water sampling events would consist of one (1) ground water sample from each well, with the five (5) foot interval to be sampled biased on the analytical results from the first sampling round. A total of twenty-one (21) monitoring wells would be sampled (thirteen [13] existing; eight [8] proposed).

Ground water samples would be analyzed for the following parameters:

- Target Compound List Volatile Organic Compounds plus ten (TCL-VOCs+10) with Methyl Tertiary Butyl Ether (MTBE), Tertiary Butyl Alcohol (TBA), and Total Xylenes via USEPA Method 624;
- Target Compound List Base Neutrals plus fifteen (TCL-BN+15) via USEPA Method 625;

- Total and Dissolved Lead and Sodium via USEPA Method 200.7; and
- Chloride via USEPA Method 4500-CIE

The required quality assurance/quality control (QA/QC) samples would also be collected which would consist of field blanks, trip blanks and replicates.

- **Advancement of Five (5) Temporary Well Point Cluster Locations and Ground Water Sampling Off-Site**

After the installation and initial assessment of ground water sampling results of the proposed monitoring wells off-site, twelve (12) temporary well points at five (5) locations off-site are proposed to be installed in order to collect ground water screening samples. At each location, two (2) temporary well points (1" PVC points) would be installed at depths of twenty-five (25) feet and forty-five (45) feet, respectively. For the two (2) locations down-gradient and along the center line of the plume, two (2) additional temporary well points would be installed to a depth of sixty-five (65) feet. Continuously logging (split spooning) at these two (2) locations to a depth of sixty-five (65) feet would occur. The five (5) proposed temporary well point cluster locations are depicted on **Figure 15**.

Ground water samples would be collected to "field screen" the water quality following purging using the low-flow method. One (1) ground water sample would be collected and analyzed from each temporary well point for the following parameters:

- Target Compound List Volatile Organic Compounds plus ten (TCL-VOCs+10) with Methyl Tertiary Butyl Ether (MTBE), Tertiary Butyl Alcohol (TBA), and Total Xylenes via USEPA Method 624; and
- Total and Dissolved Lead via USEPA Method 200.7.

The required quality assurance/quality control (QA/QC) samples would also be collected which would consist of field blanks, trip blanks and replicates.

- **Surveying Services**

The seven (7) proposed monitoring wells and the proposed monitoring well (MW-11D) would be surveyed by a New Jersey licensed land surveyor. Elevations of the protective casing, inner casing, and ground surface would be recorded for each proposed monitoring well. NJDEP monitoring well Forms A and B certificates would be provided for each proposed monitoring well. The horizontal data points would be reported in New Jersey State Plane Coordinates using the North American Datum of 1983 (N.A.D. 1983) and the vertical data points would be reported as depth below ground surface, and in mean sea level using the North American Vertical Datum of 1988 (N.A.V.D. 1988).

The five (5) temporary well point cluster locations and the previous eleven (11) temporary well point cluster locations would be surveyed using a Global Positioning System (GPS) unit in order to obtain coordinates (northing and easting locations). This data would be prepared to the NJDEP's standards for incorporation into the State

Geographic Information System (GIS) database, as required by the NJDEP's *Technical Requirements for Site Remediation*.

- **Three (3) Rounds of Residential Well Sampling**

In order to continue monitoring ground water conditions in the immediate area, additional residential sampling would be performed to further investigate the extent of ground water impacts from the Site.

Samples would be collected at the wellhead and faucet at properties equipped with an in line potable treatment system and the remaining properties just wellhead samples would be collected. Samples would be analyzed for the following parameters:

- TCL-VOCs+10 with MTBE, TBA and Total Xylenes;
- Total and Dissolved Lead via USEPA Method 200.9;
- Sodium via USEPA Method 200.7; and
- Chloride via USEPA Method 4500-CIE.

In summary, a total of twelve (12) properties, representing fourteen (14) wells would be sampled. The list of properties is as follows:

- Upper Township Middle School (2 wells) (Block 477, Lot 4);
- Harwood (1 well) (Block 477, Lot 25);
- Blevin (1 well) (Block 477, Lot 23);
- William and Donna Mason (1 well) (Block 477, Lot 22);
- Turner (1 well) (Block 477, Lot 21);
- Upper Township Municipal Building (1 well) (Block 477, Lot 5.01);
- Upper Township Library (1 well) (Block 477, Lot 5.02);
- Rescue Squad (1 well) (Block 477, Lot 6);
- Doris Cloud (1 well) (Block 476, Lot 2);
- James Cloud (2 wells) (Block 476, Lot 3);
- Deuter (1 well) (Block 476, Lot 4); and
- Scheiben (1 well) (Block 476, Lot 5).

It is the understanding that Kenneth and Patricia Mason (Block 477, Lot 24) no longer would like to be part of the on-going investigation.

- **Aquifer Testing/Ground Water Fluctuations/Rising Head Aquifer Tests**

As per NJDEP's request, data loggers would be installed in select monitoring wells (up to four [4] wells) to monitor water levels for fluctuations and diurnal variations. Two (2) wells within the source and two (2) of the proposed monitoring wells would be utilized. 72 hours has been allowed to monitor ground water conditions.

In addition rising head aquifer testing would be performed on four (4) monitoring wells. The data collected during the slug tests would be analyzed using Aquifer Win 32 software and the results would be used to estimate hydraulic conductivity and storativity of the aquifer.

A copy of the schedule for the tasks outlined in this section is provided in **Appendix B**.

Table 1
Historical Ground Water Analytical Results - November 2002 - July 2008
Detections and Exceedances
NJDOT - Petersburg Maintenance Facility
Upper Township, Cape May County, New Jersey

Sample ID:		MW-1	MW-1R*	MW-1R	MW-1R	MW-1R	MW-1R	MW-1R	MW-1D	MW-1D	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2
Matrix:		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Date:		11/29/2002	11/24/2003	5/24/2006	9/12/2006	10/30/2006	7/27/07	7/17/08	7/26/2007	7/17/2008	11/24/2003	5/24/2003	9/12/2006	10/30/2006	7/25/2007	7/15/2008
Dilution:		NA	NA	1	5	1	5	2	1	1	NA	NA	1	1	1	1
Units:		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	NJDEP Ground Water Quality Standards GWQS (µg/L)															
Volatiles																
Chloromethane	NC	**0.8 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	ND	**290* JD**	ND	ND	ND	ND	ND	ND	ND	**1 J**	ND	ND	ND	ND	ND
Acetone	6,000	NA	ND	~	~	ND	ND	ND	ND	ND	ND	ND	~	ND	ND	ND
2-Butanone	300	NA	ND	~	~	ND	ND	ND	ND	ND	ND	ND	~	ND	ND	ND
Benzene	1	**2**	**1,600* D**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	**77 D**	**1,500* D**	**16**	**129**	**1.2**	**26**	**14**	ND	ND	ND	ND	ND	ND	ND	ND
Methyl-t-butyl ether	70	ND	ND	ND	~	ND	ND	ND	ND	ND	ND	ND	~	ND	ND	ND
t-Butyl Alcohol	100	ND	ND	ND	~	ND	ND	ND	ND	ND	ND	ND	~	ND	ND	ND
Toluene	600	**560 D**	**16,000* D**	ND	**3.21**	ND	ND	ND	ND	**0.3**	**1 J**	ND	ND	ND	ND	ND
Total Xylenes	1,000	**170 D**	**6,500* D**	**109**	**781**	**7.2**	**180**	**83**	ND	ND	ND	ND	ND	ND	ND	ND
TotalVolatileTIC	500	**554 JN**	ND	**20 JN**	**2,200**	**88**	**1,012**	**1,032**	ND	ND	ND	ND	ND	ND	ND	ND
Total Confident Volatiles	NC	**809**	**25,600**	**125**	**913**	**8.4**	**206**	**97**	ND	**0.3**	ND	ND	ND	ND	ND	ND
Semivolatiles																
2-Methylnapthalene	NC	**~**	**36**	ND	**5.31**	ND	ND	**4.8**	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	300	**7 J**	**130* D**	ND	**12.2**	**0.2**	**0.034 J**	**5.8**	ND	ND	ND	ND	ND	**0.088**	ND	ND
Acenaphthylene	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	400	ND	ND	ND	ND	ND	ND	**0.07**	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	300	ND	ND	ND	ND	ND	ND	0.033 **J**	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	6,000	ND	**2* JB**	ND	**0.451**	ND	ND	ND	ND	ND	ND	ND	**0.594**	ND	ND	ND
Pyrene	200	ND	ND	ND	ND	ND	ND	ND	**0.057**	ND	**1 J**	ND	ND	ND	ND	ND
TotalSemi-Volatile TIC	500	**815 JN**	**16 JN**	**1 JN**	**541**	**9.7**	**92**	**354**	**33**	ND	**1,286 JN**	**1 JN**	ND	ND	ND	ND
Total Confident Semi-Volatile	NC	ND	**166**		**18**	**0.2**	ND	**10.6**	**0.057**	ND	ND	ND	**0.594**	**0.088**	ND	ND
Metals																
Lead	5	ND	ND	~	~	ND	ND	0.372 **B**	ND	0.632 B	ND	ND	~	ND	ND	**0.74 B**
Sodium	50,000	ND	~	~	~	~	**28,900**	**46,300**	**22,700**	**37,100**	~	~	~	~	**8,580**	**41,600**
Wet Chemistry																
Chloride	250,000	ND	~	~	~	~	**37,000**	**102,000**	**39,500**	**52,700**	~	~	~	~	**8,900**	**70,600**

Footnotes:

Concentration exceeds the NJDEP's Ground Water Quality Standards.

D - Diluted
ND - Not Detected
NA - Not Applicable
NC - No NJDEP GWGS Available
~ - Not Analyzed
J - Estimated value below reference reporting limit
N - Indicates as Estimated Value, Detected but Below the PQL
B - Indicates Compound found in Associated Blank.
ug/L - Micrograms per liter, equivalent to parts per billion (ppb).
* - Analytical results were reported under sample ID: MW-2 in the Brocon Petroleum Inc, Report.

Table 1
Historical Ground Water Analytical Results - November 2002 - July 2008
Detections and Exceedances
NJDOT - Petersburg Maintenance Facility
Upper Township, Cape May County, New Jersey

Sample ID:		MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4D	MW-4D
Matrix:		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Date:		11/24/2003	5/24/2006	9/12/2006	10/30/2006	7/25/2007	7/15/2008	11/24/2003	5/24/2006	9/12/2006	10/30/2006	7/26/2007	7/16/2008	7/26/2007	7/16/2008
Dilution:		NA	1	1	1	1	1	NA	1	25	2	25	1	1	1
Units:		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/l	ug/l
	NJDEP Ground Water Quality Standards GWQS (ug/L)														
Volatiles															
Chloromethane	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.1**	**0.6**	ND
Chloroform	70	**1 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	6,000	ND	~	~	ND	ND	ND	ND	~	~	ND	ND	ND	ND	ND
2-Butanone	300	ND	~	~	ND	ND	ND	ND	~	~	ND	ND	ND	ND	ND
Benzene	1	ND	ND	ND	ND	ND	ND	ND	**6.2**	ND	**1**	ND	**0.5**	ND	ND
Ethylbenzene	700	ND	ND	ND	ND	ND	ND	ND	**87**	**534**	**370**	**410**	**340**	ND	ND
Methyl-t-butyl ether	70	ND	ND	~	ND	ND	ND	ND	ND	~	**1.8**	ND	**1.1**	ND	ND
t-Butyl Alcohol	100	ND	ND	~	ND	ND	ND	ND	ND	~	ND	ND	ND	ND	ND
Toluene	600	ND	ND	ND	ND	ND	ND	ND	**640 D**	**1,630**	**290**	**2,900**	**95**	**1.3**	ND
Total Xylenes	1,000	ND	ND	ND	ND	ND	ND	ND	**660 D**	**2,550**	**2,200**	**2,400**	**1,000**	**1.6**	ND
TotalVolatileTIC	500	ND	ND	ND	ND	**40.1**	ND	ND	**20 JN**	**4,410**	**3,620**	**4,920**	**2,395**	ND	ND
Total Confident Volatiles	NC	ND	ND	ND	ND	ND	ND	ND	**1,393.2**	**4,710**	**2,862**	**5,710**	**1,438**	**3.5**	ND
Semivolatiles															
2-Methylnapthalene	NC	ND	~	ND	ND	ND	ND	ND	ND	**7**	**15**	**39**	**16**	ND	ND
Naphthalene	300	ND	ND	ND	**0.076**	**0.055**	ND	ND	ND	**35.3**	**79**	**100**	**89**	ND	ND
Acenaphthylene	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.031 J**	**0.061**	**0.031 J**	ND	ND
Acenaphthene	400	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.2**	**0.3**	**0.2**	ND	ND
Fluorene	300	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.1**	**0.2**	**0.1**	ND	ND
Phenanthrene	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.037 J**	**0.1**	**0.048 J**	ND	ND
Fluoranthene	300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	6,000	ND	ND	**0.689**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TotalSemi-Volatile TIC	500	**286 JN**	**1 JN**	ND	ND	ND	ND	**551 JN**	**18 JN**	**1,190**	**2,643**	**3,774**	**1,809**	**37**	ND
Total Confident Semi-Volatile	NC	ND	ND	**0.689**	**0.076**	**0.055**	ND	**ND**	ND	**42.3**	**94.3**	**139/0.661**	**105**	ND	ND
Metals															
Lead	5	ND	~	~	ND	ND	**0.346 B**	ND	~	**~**	ND	ND	**0.174 B**	ND	0.37 B
Sodium	50,000	~	~	~	~	**3,700 B**	**8,480**	~	~	**~**	~	**33,000**	**14,000**	**18,000**	**20,200**
Wet Chemistry															
Chloride	250,000	~	~	~	~	**7,500**	**17,100**	~	~	**~**	~	**72,400**	**29,700**	**21,200**	**34,100**

Footnotes:

Concentration exceeds the NJDEP's Ground Water Quality Standards.

D - Diluted
ND - Not Detected
NA - Not Applicable
NC - No NJDEP GWGS Available
~ - Not Analyzed
J - Estimated value below reference reporting limit
N - Indicates as Estimated Value, Detected but Below the PQL
B - Indicates Compound found in Associated Blank.
ug/L - Micrograms per liter, equivalent to parts per billion (ppb).

Table 1
Historical Ground Water Analytical Results - November 2002 - July 2008
Detections and Exceedances
NJDOT - Petersburg Maintenance Facility
Upper Township, Cape May County, New Jersey

Sample ID:		MW-5	MW-5	MW-6	MW-6	MW-7	MW-7	MW-8	MW-8	MW-9	MW-9	MW-10	MW-10	MW_11	MW_11
Matrix:		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Date:		7/24/2007	7/15/2008	7/25/2007	7/16/2008	7/25/2007	7/16/2008	7/24/2007	7/16/2008	7/24/2007	7/15/2008	7/23/2007	7/14/2008	8/17/2007	7/15/2008
Dilution:		1	1	1	1	10	10	1	1	1	1	1	1	1	1
Units:		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	NJDEP Ground Water Quality Standards GWQS (µg/L)														
Volatiles															
Chloromethane	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	ND	ND	ND	ND	ND	ND	ND	**0.4**	ND	ND	ND	ND	ND	ND
Acetone	6,000	ND	ND	**27**	ND	**130**	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	ND	ND	**5.3**	ND	**16**	**6**	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	ND	ND	ND	ND	**3.6**	**16**	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	ND	ND	**9.8**	ND	**280**	**180**	ND	ND	ND	ND	ND	ND	ND	ND
Methyl-t-butyl ether	70	ND	ND	**0.8**	**0.3**	**45**	**180**	ND	ND	ND	ND	ND	**0.3**	ND	**0.3**
t-Butyl Alcohol	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	ND	ND	ND	ND	**1,100**	**70**	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	1,000	ND	ND	**5**	ND	**1,800**	**440**	ND	ND	ND	ND	ND	ND	ND	ND
TotalVolatileTIC	500	ND	ND	**225**	ND	**2,238**	**1,094**	ND	ND	ND	ND	ND	ND	ND	**0.3**
Total Confident Volatiles	NC	ND	ND	**47.9**	**0.3**	**3,374.6**	**892**	ND	**0.4**	ND	ND	ND	**0.3**	ND	ND
Semivolatiles															
2-Methylnapthalene	NC	ND	ND	ND	ND	**27**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	300	ND	**0.1**	**2**	**0.02 J**	**100**	**0.04 J**	ND	**0.025 J**	ND	ND	**0.3**	**0.033 J**	ND	**0.3**
Acenaphthylene	NC	ND	ND	ND	ND	**0.023 J**	ND	ND	ND	ND	ND	ND	ND	ND	**0.024 J**
Acenaphthene	400	ND	ND	**0.041 J**	ND	**0.1**	ND	ND	ND	ND	ND	ND	ND	ND	**0.03 J**
Fluorene	300	ND	ND	**0.031 J**	ND	**0.087**	ND	ND	ND	ND	ND	ND	ND	ND	**0.037 J**
Phenanthrene	NC	ND	**0.03 J**	**0.024 J**	ND	**0.03 J**	ND	ND	ND	ND	**0.042 J**	ND	ND	ND	**0.1**
Fluoranthene	300	ND	**0.022 J**	**0.024 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.052**
Diethyl phthalate	6,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	200	ND	ND	**0.078**	ND	**0.06**	ND	ND	ND	ND	ND	ND	ND	ND	**0.071**
TotalSemi-Volatile TIC	500	ND	ND	**8.6**	ND	**3,499**	ND	ND	ND	**8.4**	ND	ND	ND	ND	ND
Total Confident Semi-Volatile	NC	ND	ND	**2.078**	ND	**127/0.247**	ND	ND	ND	ND	ND	**0.3**	ND	ND	**0.523**
Metals															
Lead	5	**8.4**	**1.18 B**	ND	**0.344 B**	**12.6**	**0.701 B**	ND	**1.66**	ND	**2.33**	ND	**1.47 B**	ND	**2.67**
Sodium	50,000	**175,000**	**32,000**	**17,000**	**12,200**	**43,200**	**24,500**	**68,600**	**42,900**	**3,530 B**	**5,490**	**44,700**	**31,100**	**32,400**	**37,100**
Wet Chemistry															
Chloride	250,000	**385,000**	**29,600**	**22,600**	**23,500**	**47,300**	**35,200**	**99,300**	**54,400**	ND	**10,300**	**81,100**	**39,400**	**47,100**	**60,200**

Footnotes:

Concentration exceeds the NJDEP's Ground Water Quality Standards.

D - Diluted
ND - Not Detected
NA - Not Applicable
NC - No NJDEP GWGS Available
~ - Not Analyzed
J - Estimated value below reference reporting limit
N - Indicates as Estimated Value, Detected but Below the PQL
B - Indicates Compound found in Associated Blank.
ug/L - Micrograms per liter, equivalent to parts per billion (ppb).

Table 2
Historical Residential Well Sampling Analytical Detects and Exceedances - November/December 2006,May 2007, August 2007 and July 2008
NJDOT Petersburg Maintenance Facility
Upper Township, Cape May County, New Jersey

Sample ID:			MASON_443	M443_IRRIGATION	M443_IRRIGATION	SCHEIBEIN_340	Scheibein_340	SCHEIBEIN	SCHEIBEIN	DEUTER_360	Deuter_360	DEUTER	DEUTER_360	RADECKI_501
Sampling Date:			11/30/06	11/30/06	05/17/07	11/30/06	05/17/07	8/16/2007	7/25/2008	11/30/06	05/17/07	8/16/2007	7/25/2008	12/01/06
Matrix:			Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water
Dilution Factor:			1	1	1.0	1	NA	1	1	1	NA	1	1	1
Units:			ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	NJDEP Class IIA Ground Water Quality Standards GWQS (Nov. 2005) (µg/L)	Federal/NJ State Primary & Secondary Drinking Water Standards (µg/L)												
Volatile Organic Compounds														
Chloroform	70	NC	0.9	0.9	NR	ND	NR	ND	ND	ND	NR	ND	ND	ND
Tetrachloroethene (PCE)	1	1	ND	ND	NR	ND	NR	ND	ND	ND	NR	ND	ND	ND
MTBE	70	70	ND	40	30	1.0	NR	0.8	0.9	0.8	NR	1.4	0.9	0.7
Tetrahydrofuran	NC	NC	ND	ND	NR	ND	NR	ND	ND	ND	NR	ND	ND	ND
Metals														
Total Lead	5	15	4.5	ND	NR	*11.9*	2.3 U	ND	3.3	2.9B	NR	ND	4.5	2.3B
Dissolved Lead	5	15	4.5	1.5B	NR	*6.9*	2.3 U	ND	2.2	3	NR	ND	1	1.4B
Sodium	50,000	50,000	17,100	20,900	NR	48,600	NR	49,500	**51,000**	**81,800**	**80,700**	**65,800**	**66,000**	31,700
Chloride	250,000	250,000	41,800	40,400	NR	83,000	NR	82,500	80,400.00	146,000	NR	95,100	85,300.0	62,000

Footnotes:

Bold	Concentration exceeds both the NJDEPs Drinking Water and Class IIA Ground Water Quality Standards
Italics	Concentration exceeds the NJDEP's Class IIA GWQS

U - The compound was not detected at the indicated method detection limit (MDL).
NC - No Criteria
ND - Not Detected
B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the sample.
ug/L - Micrograms per liter, equivalent to parts per billion (ppb).
NR - Not analyzed
NA - Not Applicable
Turner 401-B and Gaglione_2B were collected from the kitchen sink (after the treatment device).
* Lab Results out of normal "holding time"

Table 2
Historical Residential Well Sampling Analytical Detects and Exceedances - November/December 2006,May 2007, August 2007 and July 2008
NJDOT Petersburg Maintenance Facility
Upper Township, Cape May County, New Jersey

Sample ID:			HARWOOD_451	HARWOOD_451A	HARWOOD_451B	HASSIEPEN_461	UTMS_1	UTMS_1A	UTMS_1B	UTMS_2	UTMS_2	CLOUD370_1	Cloud370_1	CLOUD_370_1	CLOUD_370_1	CLOUD370_2	Cloud370_2	CLOUD_370_2	CLOUD_370_2
Sampling Date:			12/01/06	7/25/2008	7/25/2008	12/01/06	12/01/06	7/24/2008	7/24/2008	12/01/06	7/24/2008	12/01/06	05/17/07	8/16/2007	7/25/2008	12/01/06	05/17/07	8/16/2007	7/25/2008
Matrix:			Potable Water	WATER	WATER	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water
Dilution Factor:			1	1	1	1	1	1	1	1	1	1	NA	1.0	1	1	NA	1.0	1
Units:			ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	NJDEP Class IIA Ground Water Quality Standards GWQS (Nov. 2005) (µg/L)	Federal/NJ State Primary & Secondary Drinking Water Standards (µg/L)																	
Volatile Organic Compounds																			
Chloroform	70	NC	1.3	1.6	1.5	ND	0.8	0.8	0.7	ND	ND	ND	NR	ND	ND	ND	NR	ND	0.5
Tetrachloroethene (PCE)	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	NR	ND	ND
MTBE	70	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NR	ND	0.6	ND	NR	ND	ND
Tetrahydrofuran	NC	NC	ND	ND	ND	ND	ND	ND	ND	ND	0.6	ND	NR	ND	ND	ND	NR	2.8	ND
Metals																			
Total Lead	5	15	4.7	0.64	1.1	3.0B	3.4	1.7	0.58	ND	3.1	**16**	4.1	*7.5*	3.3	*6.1*	3.2	**27.1**	4.0
Dissolved Lead	5	15	3.0B	1.1	ND	4.6	2.7B	ND	ND	ND	*12*	3B	2.3 U	ND	1.0	2.6B	2.5B	**28.2**	2.2
Sodium	50,000	50,000	13,600	17,000	42,000	4,020B	4,900B	30,000	36,000	8,840	8,800	43,200	NR	48,800	45,000	12,300	NR	4,240 B	12,000
Chloride	250,000	250,000	28,600	29,100	29,500	9,300	9,300	11,900	12,600	ND	ND	64,900	NR	57,900	55,900	24,000	NR	8,000*	22,000

Footnotes:

Bold	Concentration exceeds both the NJDEPs Drinking Water and Class IIA Ground Water Quality Standards
Italics	Concentration exceeds the NJDEP's Class IIA GWQS

U - The compound was not detected at the indicated method detection limit (MDL).
NC - No Criteria
ND - Not Detected
B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the sample.
ug/L - Micrograms per liter, equivalent to parts per billion (ppb).
NR - Not analyzed
NA - Not Applicable
Turner 401-B and Gaglione_2B were collected from the kitchen sink (after the treatment device).
* Lab Results out of normal "holding time"

Table 2
Historical Residential Well Sampling Analytical Detects and Exceedances - November/December 2006,May 2007, August 2007 and July 2008
NJDOT Petersburg Maintenance Facility
Upper Township, Cape May County, New Jersey

Sample ID:			CLOUD390	Cloud390	CLOUD_390	CLOUD_390	BOCK503	Bock503	TURNER401	Turner401-A	Turner401-B	TURNER_401_A	TURNER_401_B	TURNER_401_A	TURNER_401_B	BLEVIN_435	BLEVIN_1A	BLEVIN_1B	BLEVIN_1A	BLEVIN_1B
Sampling Date:			12/01/06	05/17/07	8/16/2007	7/25/2008	12/01/06	05/17/07	12/01/06	05/17/07	05/17/07	8/17/2007	8/17/2007	7/25/2008	7/26/2008	11/30/06	8/16/2007	8/16/2007	7/24/2008	7/24/2008
Matrix:			Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water
Dilution Factor:			1	NA	1	1	1	NA	1	NA	NA	1	1	1	1	1	1	1	1	1
Units:			ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	NJDEP Class IIA Ground Water Quality Standards GWQS (Nov. 2005) (µg/L)	Federal/NJ State Primary & Secondary Drinking Water Standards (µg/L)																		
Volatile Organic Compounds																				
Chloroform	70	NC	ND	NR	ND	ND	0.8	NR	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene (PCE)	1	1	0.5	0.5	ND	ND	ND	NR	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	70	70	ND	NR	ND	ND	ND	NR	1.3	NR	NR	ND	ND	0.6	0.6	ND	ND	ND	ND	ND
Tetrahydrofuran	NC	NC	ND	NR	ND	ND	ND	NR	ND	NR	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals																				
Total Lead	5	15	ND	NR	ND	1.0	*6.1*	2.3 U	**15.2**	2.3 U	2.3 U	2.8	ND	0.83	0.58	4.4	**17**	ND	0.89	ND
Dissolved Lead	5	15	ND	NR	ND	0.98	2.4B	2.3 U	*13.5*	2.3 U	2.3 U	ND	ND	1.3	0.56	ND	ND	ND	0.78	ND
Sodium	50,000	50,000	30,100	NR	23,600	28,000	14,700	NR	29,300	NR	NR	26,900	46,500	30,000	**51,000**	3,480B	3,920B	3,740	3,900	30,000
Chloride	250,000	250,000	50,000	NR	35,100	46,300	30,300	NR	46,400	NR	NR	42,600*	NA	46,000	45,500	6,600	5,900	ND	7,100	6,600

Footnotes:

Bold	Concentration exceeds both the NJDEPs Drinking Water and Class IIA Ground Water Quality Standards
Italics	Concentration exceeds the NJDEP's Class IIA GWQS

U - The compound was not detected at the indicated method detection limit (MDL).
NC - No Criteria
ND - Not Detected
B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the sample.
ug/L - Micrograms per liter, equivalent to parts per billion (ppb).
NR - Not analyzed
NA - Not Applicable
Turner 401-B and Gaglione_2B were collected from the kitchen sink (after the treatment device).
* Lab Results out of normal "holding time"

Table 2
Historical Residential Well Sampling Analytical Detects and Exceedances - November/December 2006,May 2007, August 2007 and July 2008
NJDOT Petersburg Maintenance Facility
Upper Township, Cape May County, New Jersey

Sample ID:			MASON_421	MASON_421	MASON_421	GAGLIONE_1	Gaglione_1A	GAGLIONE_2	Gaglione_2A	Gaglione_2B	MB-A	MB-B	RS-A	RS-B
Sampling Date:			11/30/06	8/16/2007	7/25/2008	12/02/06	05/17/07	12/02/06	05/17/07	05/17/07	7/24/2008	7/24/2008	7/24/2008	7/24/2008
Matrix:			Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water	Potable Water
Dilution Factor:			1	1	1	1	NA	1	NA	NA	1	1	1	1
Units:			ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	NJDEP Class IIA Ground Water Quality Standards GWQS (Nov. 2005) (µg/L)	Federal/NJ State Primary & Secondary Drinking Water Standards (µg/L)												
Volatile Organic Compounds														
Chloroform	70	NC	ND	ND	ND	1.4	NR	ND	NR	NR	ND	ND	ND	ND
Tetrachloroethene (PCE)	1	1	ND	ND	ND	ND	NR	ND	NR	NR	ND	ND	ND	ND
MTBE	70	70	ND	0.5	ND	ND	NR	ND	NR	NR	ND	ND	ND	ND
Tetrahydrofuran	NC	NC	ND	ND	ND	ND	NR	ND	NR	NR	ND	ND	ND	ND
Metals														
Total Lead	5	15	ND	ND	3.7	*7.3*	*13.9*	**57**	*12.4*	2.3 U	*13*	0.36	0.93	0.36
Dissolved Lead	5	15	ND	ND	1.9	*8.6*	*9.6*	**66**	*13.3*	2.3 U	*6.0*	ND	0.64	ND
Sodium	50,000	50,000	26,800	30,500	42,000	9,400	NR	4,140B	NR	NR	4,300	ND	3,700	8,200
Chloride	250,000	250,000	48,900	51,500	69,100	20,300	NR	6,400	NR	NR	7,800	8,100	5,700	6,300

Footnotes:

Bold	Concentration exceeds both the NJDEPs Drinking Water and Class IIA Ground Water Quality Standards
Italics	Concentration exceeds the NJDEP's Class IIA GWQS

U - The compound was not detected at the indicated method detection limit (MDL).
NC - No Criteria
ND - Not Detected
B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the sample.
ug/L - Micrograms per liter, equivalent to parts per billion (ppb).
NR - Not analyzed
NA - Not Applicable
Turner 401-B and Gaglione_2B were collected from the kitchen sink (after the treatment device).
* Lab Results out of normal "holding time"

Table 3
Monitoring Well Construction Details
NJDOT Petersburg Maintenance Facility
Petersburg Township, Cape May County, New Jersey

Well Name	Date Installed	Ground Elevation (ft amsl)	Measuring Point Elevation (ft amsl) (Top of PVC Rim)	Height of Stick-up (feet)	Total Depth (feet bmp)	Length of Screen (feet)	Length of Casing (feet)	Screen Interval (feet bmp)	Screen Interval Elevation (feet amsl)	Screen Slot Size (inches)	Casing and Screen Material	Well Diameter (inches)	Borehole Diameter (inches)	NJ State Plane Coordinates North (feet)	East (feet)
MW-1R	05/19/03	28.10	28.03	-0.07	21.93	15.00	7.00	7.0-22.0	21.03-6.03	0.020	PVC	4	10	155402.0	426717.0
MW-1D	06/01/07	28.22	27.71	-0.51	39.49	10.00	30.00	30.0-40.0	(-)2.29-(-)12.29	0.020	PVC	4	10	155399.05	426721.0
MW-2	05/19/03	27.70	27.43	-0.27	21.73	15.00	7.00	7.0-22.0	20.43-5.43	0.020	PVC	4	10	155346.0	426672.0
MW-3	05/19/03	29.00	28.56	-0.44	21.56	15.00	7.00	7.0-22.0	21.56-6.56	0.020	PVC	4	10	155465.0	426680.0
MW-4	05/19/03	26.60	26.46	-0.14	21.86	15.00	7.00	7-0.22.0	19.46-4.46	0.020	PVC	4	10	155475.0	426836.0
MW-4D	06/01/07	26.54	26.13	-0.42	38.58	10.00	30.00	30.0-40.0	(-)3.87-(-)13.87	0.020	PVC	4	10	155469.78	426835.02
MW-5	06/01/07	28.62	28.40	-0.23	24.77	15.00	10.00	10.0-25.0	18.40-3.40	0.020	PVC	4	10	155378.57	426865.82
MW-6	06/01/07	27.45	27.22	-0.23	24.18	15.00	10.00	10.0-25.0	17.22-2.22	0.020	PVC	4	10	155511.49	426837.42
MW-7	06/01/07	26.30	25.98	-0.32	24.68	15.00	10.00	10.0-25.0	15.98-0.98	0.020	PVC	4	10	155503.14	426926.74
MW-8	06/01/07	25.61	25.48	-0.13	24.87	15.00	10.00	10.0-25.0	15.48-0.48	0.020	PVC	4	10	155455.71	427031.7
MW-9	06/01/07	31.53	34.62	3.09	24.91	15.00	13.00	10.0-25.0	24.62-9.62	0.020	PVC	4	10	155443.35	426308.15
MW-10	06/01/07	22.36	24.80	2.43	17.47	15.00	13.00	10.0-25.0	14.80-(-)0.20	0.020	PVC	4	10	155205.38	426217.94
MW-11	07/01/07	25.45	25.35	-0.10	23.20	15.00	10.00	10.0-25.0	15.35-0.35	0.020	PVC	4	10	155340.6	427037.15

Footnotes:
BMP = top of PVC Rim
ft amsl = Feet Above Mean Sea Level (relative to NAVD 1988)
ft bmp = Feet Below Measuring Point
PVC = Polyvinyl Chloride
Height of Stick-up =(measuring point elevation) - (ground surface elevation)

Table 4
Post-Exacavation Soil Sampling Analytical Results
NJDOT Petersburg Maintenance Facility
Upper Township, Cape May County, New Jersey
June 2007

Sample ID				**SB-1**	**SB-2**	**SB-3A**	**SB-3B**	**SB-4A**	**SB-4B**	**SB-5A**	**SB-5B**	**SB-6A**	**SB-6B**	**SB-7A**	**SB-7B**	**SB-8A**	**SB-8B**	**SB-9A**	**SB-9B**	**FB062107**	**FB062507**
Lab Sample Number				**840274**	**840275**	**840276**	**840277**	**840658**	**840659**	**840266**	**840267**	**840660**	**840661**	**840268**	**840269**	**840270**	**840271**	**840272**	**840273**	**839918**	**840657**
Sampling Date				**06/22/07**	**06/22/07**	**06/22/07**	**06/22/07**	**6/25/2007**	**6/25/2007**	**06/21/07**	**06/21/07**	**6/25/2007**	**6/25/2007**	**06/22/07**	**06/22/07**	**06/22/07**	**06/22/07**	**06/22/07**	**06/22/07**	**06/21/07**	**6/25/2007**
Sample Depths				**10.5-11.0**	**10.5-11.0**	**10.0-10.5**	**17.0-18.0**	**12.5-13.0**	**16.5-17.0**	**11.5-12.0**	**16.0-16.5**	**10.5-11.0**	**17.5-18.0**	**11.0-11.5**	**15.0-16.0**	**12.5-13.0**	**16.5-17.0**	**9.5-10.0**	**16.0-16.5**	**NA**	**NA**
Matrix				**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Water**	**Water**
Dilution Factor				**50.0**	**50.0**	**50.0**	**50.0**	**50**	**50**	**50.0**	**50.0**	**50**	**50**	**50.0**	**50.0**	**50.0**	**50.0**	**50.0**	**100.0**	**1.0**	**1.0**
Units				**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**ug/L**	**ug/L**
	NJDEP Soil Cleanup Criteria June 2008																				
	NJ Residential Direct Contact Soil Remediation Standard mg/kg	NJ Non-Residential Direct Contact Soil Remediation Standard mg/kg	NJ Impact to Ground Water Soil Remediation Standard (Default) mg/kg																		
Volatile Compounds (GC/MS)																					
Chloromethane	4	12	NC	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
Bromomethane	25	59	0.03	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
VinylChloride	0.7	2	0.005	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
Chloroethane	220	1,100	NC	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
MethyleneChloride	34	97	0.007	0.35 U	0.32 U	0.32 U	0.33 U	0.33 U	0.3 U	0.38 U	0.33 U	0.43 U	0.35 U	0.36 U	0.32 U	0.34 U	0.34 U	0.34 U	0.70 U	3.0 U	3.0 U
Acetone	70,000	NC	NC	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
CarbonDisulfide	7,800	110,000	3.6	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
1,1-Dichloroethene	11	150	0.005	0.23 U	0.21 U	0.22 U	0.22 U	0.22 U	0.2 U	0.25 U	0.22 U	0.29 U	0.23 U	0.24 U	0.21 U	0.23 U	0.23 U	0.23 U	0.46 U	2.0 U	2.0 U
1,1-Dichloroethane	8	24	0.2	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	300	720	0.4	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	230	560	0.2	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
Chloroform	0.6	2	0.2	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
1,2-Dichloroethane	0.9	3	0.005	0.23 U	0.21 U	0.22 U	0.22 U	0.22 U	0.2 U	0.25 U	0.22 U	0.29 U	0.23 U	0.24 U	0.21 U	0.23 U	0.23 U	0.23 U	0.46 U	2.0 U	2.0 U
2-Butanone	3,100.0	44,000	0.61	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
1,1,1-Trichloroethane	290	4,200	0.2	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
CarbonTetrachloride	0.6	2	0.005	0.23 U	0.21 U	0.22 U	0.22 U	0.22 U	0.2 U	0.25 U	0.22 U	0.29 U	0.23 U	0.24 U	0.21 U	0.23 U	0.23 U	0.23 U	0.46 U	2.0 U	2.0 U
Bromodichloromethane	1	3	0.005	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U	0.13 U	0.11 U	0.14 U	0.12 U	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.23 U	1.0 U	1.0 U
1,2-Dichloropropane	2	5	0.005	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U	0.13 U	0.11 U	0.14 U	0.12 U	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.23 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	2	7	0.005	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
Trichloroethene	7	20	0.007	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U	0.13 U	0.11 U	0.14 U	0.12 U	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.23 U	1.0 U	1.0 U
Dibromochloromethane	3	8	0.005	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
1,1,2-Trichloroethane	2	6	0.01	0.35 U	0.32 U	0.32 U	0.33 U	0.33 U	0.3 U	0.38 U	0.33 U	0.43 U	0.35 U	0.36 U	0.32 U	0.34 U	0.34 U	0.34 U	0.70 U	3.0 U	3.0 U
Benzene	2	5	0.005	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U	0.13 U	0.11 U	0.14 U	0.12 U	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.23 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	2	7	0.005	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
Bromoform	81	280	0.020	0.47 U	0.43 U	0.43 U	0.44 U	0.44 U	0.4 U	0.51 U	0.44 U	0.57 U	0.46 U	0.48 U	0.42 U	0.45 U	0.46 U	0.46 U	0.93 U	4.0 U	4.0 U
4-Methyl-2-Pentanone	NC	NC	NC	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
2-Hexanone	NC	NC	NC	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
Tetrachloroethene	2	5	0.005	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U	0.13 U	0.11 U	0.14 U	0.12 U	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.23 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	1	3	0.005	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U	0.13 U	0.11 U	0.14 U	0.12 U	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.23 U	1.0 U	1.0 U
Toluene	6,300	91,000	4	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	**20**	5.0 U	5.0 U
Chlorobenzene	510	7,400	0.4	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
Ethylbenzene	7,800	110,000	8	0.47 U	0.43 U	0.43 U	0.44 U	**0.68**	0.4 U	0.51 U	0.44 U	0.57 U	0.46 U	0.48 U	0.42 U	0.45 U	0.46 U	0.46 U	**11**	4.0 U	4.0 U
Styrene	90	260	2.2	0.59 U	0.54 U	0.54 U	0.55 U	0.55 U	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	0.53 U	0.56 U	0.57 U	0.57 U	1.2 U	5.0 U	5.0 U
Xylene(Total)	12,000	170,000	12	0.59 U	0.54 U	0.54 U	0.55 U	**4.9**	0.5 U	0.64 U	0.55 U	0.72 U	0.58 U	0.60 U	**0.16** J	0.56 U	0.57 U	0.57 U	**74**	5.0 U	5.0 U
Total Confident Conc. VOAs (s)	NC	NC	NC	ND	ND	ND	ND	**5.58**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**105**	ND	ND
Total Estimated Conc. VOA TICs (s)	NC	NC	NC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**113**	ND	ND
Total Confident + Estimated Conc. VOA T	1,000	1,000	1,000	ND	ND	ND	ND	**5.58**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**218**	ND	ND
Metals																					
Lead	400	800	59	**1.6**	**0.70** B	**1.5**	**1.1**	**2.6**	0.6 U	**3.8**	**1.5**	**1.5**	**1.1** B	**0.95** B	**0.70** B	**4.1**	0.62 U	**2.1**	**1.5**	2.7 U	2.7 U

Footnotes:
U - The compound was not detected at the indicated concentration.
ND - Not Detected
NC - No Criteria
mg/kg - Milligrams per kilogram, equivalent to parts per million (ppm).
B - Reported value is less than the Reporting Limit but greater than the Instrument Detection Limit.
J - Estimated concentration
- Exceedance of NJDEP Soil Cleanup Criteria

Table 4A
Delineation Soil Sampling Analytical Results
NJDOT Petersburg Maintenance Facility
Upper Township, Cape May County, New Jersey
June 2007

Sample ID				A-1A	A-1B	A-2A	A-2B	A-3A	A-3B	A-4A	A-4B	A-5A	A-5B	REP062107-A	A-6A	A-6B	FB062107
Lab Sample Number				838909	838910	838911	838912	839921	839922	839923	839924	839925	839926	839927	840264	840265	839918
Sampling Date				06/18/07	06/18/07	06/18/07	06/18/07	06/21/07	06/21/07	06/21/07	06/21/07	06/21/07	06/21/07	06/21/07	06/21/07	06/21/07	06/21/07
Sample Depths				1.5-2.0	11.5-12.0	1.5-2.0	9.5-10.0	7.5-8.0	11.0-11.5	10.5-11.0	15.5-16.0	11.0-11.5	17.0-17.5	17.0-17.5	13.5-14.0	18.0-18.5	NA
Matrix				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Water
Dilution Factor				50.0	50.0	50.0	50.0	50.0	50.0	50.0	200.0	50.0	200.0	200.0	50.0	100.0	1.0
Units				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/L
	NJDEP Soil Cleanup Criteria June 2008																
	NJ Residential Direct Contact Soil Remediation Standard mg/kg	NJ Non-Residential Direct Contact Soil Remediation Standard mg/kg	NJ Impact to Ground Water Soil Remediation Standard (Default) mg/kg														
Volatile Compounds (GC/MS)																	
Chloromethane	4	12	NC	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
Bromomethane	25	59	0.03	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
VinylChloride	0.7	2	0.005	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
Chloroethane	220	1,100	NC	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
MethyleneChloride	34	97	0.007	0.37 U	0.34 U	0.33 U	0.37 U	0.37 U	0.37 U	0.34 U	1.2 U	0.35 U	1.4 U	1.3 U	0.40 U	0.70 U	3.0 U
Acetone	70,000	NC	NC	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
CarbonDisulfide	7,800	110,000	3.6	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
1,1-Dichloroethene	11	150	0.005	0.24 U	0.23 U	0.22 U	0.24 U	0.25 U	0.24 U	0.23 U	0.83 U	0.23 U	0.91 U	0.87 U	0.27 U	0.47 U	2.0 U
1,1-Dichloroethane	8	24	0.2	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
trans-1,2-Dichloroethene	300	720	0.4	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
cis-1,2-Dichloroethene	230	560	0.2	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
Chloroform	0.6	2	0.2	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
1,2-Dichloroethane	0.9	3	0.005	0.24 U	0.23 U	0.22 U	0.24 U	0.25 U	0.24 U	0.23 U	0.83 U	0.23 U	0.91 U	0.87 U	0.27 U	0.47 U	2.0 U
2-Butanone	3,100.0	44,000	0.61	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
1,1,1-Trichloroethane	290	4,200	0.2	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
CarbonTetrachloride	0.6	2	0.005	0.24 U	0.23 U	0.22 U	0.24 U	0.25 U	0.24 U	0.23 U	0.83 U	0.23 U	0.91 U	0.87 U	0.27 U	0.47 U	2.0 U
Bromodichloromethane	1	3	0.005	0.12 U	0.11 U	0.11 U	0.12 U	0.12 U	0.12 U	0.12 U	0.41 U	0.12 U	0.46 U	0.43 U	0.13 U	0.23 U	1.0 U
1,2-Dichloropropane	2	5	0.005	0.12 U	0.11 U	0.11 U	0.12 U	0.12 U	0.12 U	0.12 U	0.41 U	0.12 U	0.46 U	0.43 U	0.13 U	0.23 U	1.0 U
cis-1,3-Dichloropropene	2	7	0.005	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
Trichloroethene	7	20	0.007	0.12 U	0.11 U	0.11 U	0.12 U	0.12 U	0.12 U	0.12 U	0.41 U	0.12 U	0.46 U	0.43 U	0.13 U	0.23 U	1.0 U
Dibromochloromethane	3	8	0.005	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
1,1,2-Trichloroethane	2	6	0.01	0.37 U	0.34 U	0.33 U	0.37 U	0.37 U	0.37 U	0.34 U	1.2 U	0.35 U	1.4 U	1.3 U	0.40 U	0.70 U	3.0 U
Benzene	2	5	0.005	0.12 U	0.11 U	0.11 U	0.12 U	0.12 U	0.12 U	0.12 U	0.41 U	0.12 U	0.46 U	0.43 U	0.13 U	0.23 U	1.0 U
trans-1,3-Dichloropropene	2	7	0.005	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
Bromoform	81	280	0.020	0.49 U	0.46 U	0.45 U	0.49 U	0.50 U	0.49 U	0.46 U	1.6 U	0.46 U	1.8 U	1.7 U	0.54 U	0.94 U	4.0 U
4-Methyl-2-Pentanone	NC	NC	NC	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
2-Hexanone	NC	NC	NC	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
Tetrachloroethene	2	5	0.005	0.12 U	0.11 U	0.11 U	0.12 U	0.12 U	0.12 U	0.12 U	0.41 U	0.12 U	0.46 U	0.43 U	0.13 U	0.23 U	1.0 U
1,1,2,2-Tetrachloroethane	1	3	0.005	0.12 U	0.11 U	0.11 U	0.12 U	0.12 U	0.12 U	0.12 U	0.41 U	0.12 U	0.46 U	0.43 U	0.13 U	0.23 U	1.0 U
Toluene	6,300	91,000	4	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	**3.8**	0.58 U	**15**	**0.58** J	0.67 U	1.2 U	5.0 U
Chlorobenzene	510	7,400	0.4	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
Ethylbenzene	7,800	110,000	8	0.49 U	0.46 U	0.45 U	0.49 U	0.50 U	0.49 U	0.46 U	**14**	0.46 U	**8.5**	**1.8**	0.54 U	0.94 U	4.0 U
Styrene	90	260	2.2	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	2.1 U	0.58 U	2.3 U	2.2 U	0.67 U	1.2 U	5.0 U
Xylene(Total)	12,000	170,000	12	0.61 U	0.57 U	0.56 U	0.61 U	0.62 U	0.61 U	0.58 U	**100**	0.58 U	**64**	**14**	0.67 U	1.2 U	5.0 U
Total Confident Conc. VOAs (s)	NC	NC	NC	ND	ND	ND	ND	ND	ND	ND	**118**	ND	**88**	**16**	ND	ND	ND
Total Estimated Conc. VOA TICs (s)	NC	NC	NC	ND	ND	ND	ND	ND	ND	ND	**362**	ND	**200**	**91**	ND	**167**	ND
Total Confident + Estimated Conc. VOA TICs (s	1,000	1,000	1,000	ND	ND	ND	ND	ND	ND	ND	**480**	ND	**288**	**107**	ND	**167**	ND
Metals																	
Lead	400	800	59	**1.9**	**1.6**	**5.8**	0.61 U	**1.4**	0.56 U	**0.75** B	0.62 U	0.57 U	0.30 U	0.59 U	**2.1**	**1.4**	2.7 U

Footnotes:
U - The compound was not detected at the indicated concentration.
ND - Not Detected
NC - No Criteria
mg/kg - Milligrams per kilogram, equivalent to parts per million (ppm).
B - Reported value is less than the Reporting Limit but greater than the Instrument Detection Limit.
J - Estimated concentration
- Exceedance of NJDEP Soil Cleanup Criteria

Table 4A
Delination Soil Sampling Analytical Results
NJDOT Petersburg Maintenance Facility
Upper Township, Cape May County, New Jersey
June 2007

Sample ID				**S-1A**	**S-1B**	**S-2A**	**S-2B**	**REP062607**
Lab Sample Number				**841027**	**841028**	**841029**	**841030**	**841031**
Sampling Date				**6/26/2007**	**6/26/2007**	**6/26/2007**	**6/26/2007**	**6/26/2007**
Sample Depths				**10.0-10.5**	**18.0-19.0**	**9.5-10.0**	**16.5-17.0**	**18.0-19.0**
Matrix				**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Dilution Factor				**50**	**50**	**50**	**50**	**50**
Units				**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
	NJDEP Soil Cleanup Criteria June 2008							
	NJ Residential Direct Contact Soil Remediation Standard mg/kg	NJ Non-Residential Direct Contact Soil Remediation Standard mg/kg	NJ Impact to Ground Water Soil Remediation Standard (Default) mg/kg					
Volatile Compounds (GC/MS)								
Chloromethane	4	12	NC	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
Bromomethane	25	59	0.03	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
VinylChloride	0.7	2	0.005	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
Chloroethane	220	1,100	NC	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
MethyleneChloride	34	97	0.007	0.3 U	0.32 U	0.36 U	0.76 U	0.31 U
Acetone	70,000	NC	NC	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
CarbonDisulfide	7,800	110,000	3.6	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
1,1-Dichloroethene	11	150	0.005	0.2 U	0.22 U	0.24 U	0.51 U	0.2 U
1,1-Dichloroethane	8	24	0.2	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
trans-1,2-Dichloroethene	300	720	0.4	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
cis-1,2-Dichloroethene	230	560	0.2	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
Chloroform	0.6	2	0.2	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
1,2-Dichloroethane	0.9	3	0.005	0.2 U	0.22 U	0.24 U	0.51 U	0.2 U
2-Butanone	3,100.0	44,000	0.61	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
1,1,1-Trichloroethane	290	4,200	0.2	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
CarbonTetrachloride	0.6	2	0.005	0.2 U	0.22 U	0.24 U	0.51 U	0.2 U
Bromodichloromethane	1	3	0.005	0.098 U	0.11 U	0.12 U	0.25 U	0.1 U
1,2-Dichloropropane	2	5	0.005	0.098 U	0.11 U	0.12 U	0.25 U	0.1 U
cis-1,3-Dichloropropene	2	7	0.005	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
Trichloroethene	7	20	0.007	0.098 U	0.11 U	0.12 U	0.25 U	0.1 U
Dibromochloromethane	3	8	0.005	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
1,1,2-Trichloroethane	2	6	0.01	0.3 U	0.32 U	0.36 U	0.76 U	0.31 U
Benzene	2	5	0.005	0.098 U	0.11 U	0.12 U	0.25 U	0.1 U
trans-1,3-Dichloropropene	2	7	0.005	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
Bromoform	81	280	0.020	0.39 U	0.43 U	0.48 U	1 U	0.41 U
4-Methyl-2-Pentanone	NC	NC	NC	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
2-Hexanone	NC	NC	NC	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
Tetrachloroethene	2	5	0.005	0.098 U	0.11 U	0.12 U	0.25 U	0.1 U
1,1,2,2-Tetrachloroethane	1	3	0.005	0.098 U	0.11 U	0.12 U	0.25 U	0.1 U
Toluene	6,300	91,000	4	0.49 U	0.54 U	0.6 U	1.3 U	**0.39** J
Chlorobenzene	510	7,400	0.4	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
Ethylbenzene	7,800	110,000	8	0.39 U	0.43 U	0.48 U	1 U	**0.037** J
Styrene	90	260	2.2	0.49 U	0.54 U	0.6 U	1.3 U	0.51 U
Xylene(Total)	12,000	170,000	12	0.49 U	0.54 U	0.6 U	1.3 U	**0.25** J
Total Confident Conc. VOAs (s)	NC	NC	NC	ND	ND	ND	ND	ND
Total Estimated Conc. VOA TICs (s)	NC	NC	NC	ND	ND	ND	ND	ND
Total Confident + Estimated Conc. VOA TICs (s)	1,000	1,000	1,000	ND	ND	ND	ND	ND
Metals								
Lead	400	800	59	**0.73** B	0.61 U	0.56 U	0.6 U	0.6 U

Footnotes:
U - The compound was not detected at the indicated concentration.
ND - Not Detected
NC - No Criteria
mg/kg - Milligrams per kilogram, equivalent to parts per million (ppm).
B - Reported value is less than the Reporting Limit but greater than the Instrument Detection Limit.
J - Estimated concentration

Table 5
Ground Water Elevation Data
NJDOT-Petersburg Maintenance Facility,
Upper Township, Cape May County, New Jersey
July 2008

Date	Well No.	Well Depth From PVC at Installation (feet)	Ground Elevation (ft. amsl)	PVC Elevation (measuring point) (ft. amsl)	Depth to Water (BMP) (feet)	Water Elevation (ft. amsl)	Aquifer Designation
7/14/2008	MW-1R	21.93	28.10	28.03	12.61	15.42	Shallow
7/14/2008	MW-1D	38.36	28.22	27.71	12.32	15.39	Deep
7/14/2008	MW-2	21.73	27.70	27.43	11.92	15.51	Shallow
7/14/2008	MW-3	21.56	29.00	28.56	13.29	15.27	Shallow
7/14/2008	MW-4	21.86	26.60	26.46	11.34	15.12	Shallow
7/14/2008	MW-4D	38.08	26.54	26.13	11.31	14.82	Deep
7/14/2008	MW-5	23.00	28.62	28.40	13.22	15.18	Shallow
7/14/2008	MW-6	24.18	27.45	27.22	12.12	15.10	Shallow
7/14/2008	MW-7	24.03	26.30	25.98	11.40	14.58	Shallow
7/14/2008	MW-8	22.27	25.61	25.48	10.70	14.78	Shallow
7/14/2008	MW-9	24.91	31.53	34.62	18.41	16.21	Shallow
7/14/2008	MW-10	17.47	22.36	24.80	8.13	16.67	Shallow
7/14/2008	MW-11	23.20	25.45	25.35	10.50	14.85	Shallow

Table 6
Geophysical Well Logging

In order to determine well construction, general lithology, and internal flow patterns within the well potable wells and/or monitoring wells MW-1D, MW-4D, George and Catherine Turner, William and Donna Mason, Robert and Gail Blevin, George Harwood, and the Upper Township Middle School well UTMS_2 underwent a geophysical logging program.

Geophysical Well Logging Procedures

- Sampling for Total Coliform (TC) was conducted at potable wells prior to pump removal.
- Pumps in existing potable wells were removed by a licensed pump installer (Talon),
- Mid-Atlantic Geosciences immediately conducted downhole geophysical survey for the following parameters:
    - Slim Hole Video Camera, Short and Long Resistivity, Single Point Resistance, Natural Gamma, and Heat Pulse Flowmeter sondes. Flowmeter logging was performed under static conditions,
- Immediately upon completion of the downhole geophysical survey, the pump was reinstalled by a licensed pump installer (Talon),
- Potable wells were chlorinated after pump installation (Talon),
- The potable well was allowed to sit for approx. six (6) hours,
- The water was run through the pipes and allowed to site for one (1) hour and then purged until no odors or taste of chlorine was evident,
- Once no indications of odors or taste were present the potable well was sampled for Total Coliform (TC). Laboratory results were available in 48 hours of sampling.

Monday, August 4, 2008

Monitoring Well MW-1D

- The total depth (TD) of the well is approximately 38 feet below ground surface (BGS).
- The depth to water (DTW) was measured at 13.55 feet BGS at the time of the survey.
- The diameter of the casing at the surface was measured to be four inches, and the bottom of the casing (BOC) was located at 38 feet BGS.
- The natural gamma response shows only minor fluctuations throughout the well.
- Based primarily on the approximate location of the screened interval, 6 stations or depths were selected for heat pulse flowmeter measurements. Slight upward flow was detected in the borehole, with the largest flow located at approximately 36 feet BGS.

Monitoring Well MW-4D

- The total depth (TD) of the well is approximately 38 feet below ground surface (BGS).
- The depth to water (DTW) was measured at 12.3 feet BGS at the time of the survey.

- The diameter of the casing at the surface was measured to be four inches, and the bottom of the casing (BOC) was located at 38 feet BGS.
- The natural gamma response shows only minor fluctuations throughout the well.
- Based primarily on the approximate location of the screened interval, 6 stations or depths were selected for heat pulse flowmeter measurements. There was no upward or downward flow detected in the borehole.

George and Catherine Turner

The potable well is buried approximately 5 feet below grade and is located off the front left corner of the house. Upon unearthing it was determined to be a 1 1/4" galvanized pipe with a 90 degree elbow connected to black polyethylene piping running to the pump located within the basement. As the instrumentation could not fit within the well based upon its small diameter and entering the well would likely damage the threads and well screen it was determined that the logging would be cancelled at this residence. The well was marked with a stake and covered back with overburden soils.

William and Donna Mason

The potable well is buried approximately 4 feet below grade and is located off the center left of the house. Upon unearthing it was determined to be a 1 1/4" galvanized pipe with a 90 degree elbow connected to black polyethylene piping running through the crawl space to the pump located within the garage on the other side of the residence. As the instrumentation could not fit within the well based upon its small diameter and entering the well would likely damage the threads and well screen it was determined that the logging would be cancelled at this residence. The well was marked with a stake and covered back with overburden soils.

George Harwood

The potable well was not uncovered as the homeowner stated the well was a 1 1/4" to 1 ½" galvanized pipe installed by "jetting" it into place. As the instrumentation could not fit within the well based upon its small diameter and entering the well would likely damage the threads and well screen it was determined that the logging would be cancelled at this residence.

Tuesday, August 5, 2008

Upper Township Middle School (UTMS_2)

- The well diameter was 6-inches with a submersible pump which is suspended at approximately 265 feet from the top of the well head.
- The total depth (TD) of the well is approximately 263.6 feet below ground surface (BGS).
- The depth to water (DTW) was measured at 22.35 feet BGS at the time of the survey.
- The diameter of the casing at the surface was measured to be six inches, and the bottom of the casing (BOC) was located at 263.6 feet BGS.
- The screened interval was determined to be approximately 245 feet to 265 feet bgs.
- The pump was set at approximately 110 to 120 feet bgs.
- The natural gamma response shows only minor fluctuations throughout the well.
- Based primarily on the approximate location of the screened interval, 6 stations or depths were selected for heat pulse flowmeter measurements. Significant upward flow was detected in the borehole, with the largest flow located at approximately 250.4 feet BGS.

Wednesday, August 6, 2008

Robert and Gail Blevin

- The well diameter was 4-inches with a submersible pump which is suspended at approximately 107.15-feet from the top of the well head,
- The total depth (TD) of the well is approximately 106.7 feet below ground surface (BGS).
- The depth to water (DTW) was measured at 21.2 feet BGS at the time of the survey.
- The diameter of the casing at the surface was measured to be four inches, and the bottom of the casing (BOC) was located at 106.7 feet BGS.
- The screened interval could not be determined due to turbidity within the well.
- The pump was set at approximately 60 to 65 feet bgs.
- The natural gamma response shows only minor fluctuations throughout the well.
- Based primarily on the approximate location of the screened interval, 6 stations or depths were selected for heat pulse flowmeter measurements. The recorded flows (based on an averaging of three to seven individual measurements per station) are listed below, with positive being upward. Significant upward flow was detected in the borehole, with the largest flow located at approximately 99.7 feet BGS.

Table 7
Temporary Well Point Analytical Results - September and October 2008
SHALLOW GROUND WATER SAMPLES
NJDOT Petersburg Maintenance Facility
Upper Township, Cape May County, New Jersey

Sample ID	NJ Higher of	TW-1_15-25		TW-2S_15-25		TW-4_15-25		TW-5S_15-25		TW-6S_15-25		TW-7_15-25		TW-10S_15-25		TW-11_15-25		TW-12_15-25		TW-13S_15-25	
Lab Sample No.	PQLs and	955752		952958		956589		955189		956251		956253		955424		956590		956591		956588	
Sampling Date	GW Quality	10/3/2008		9/23/2008		10/7/2008		10/1/2008		10/6/2008		10/6/2008		10/2/2008		10/7/2008		10/7/2008		10/7/2008	
Matrix	2005 Criteria	WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Dilution Factor		1		1		1		1		1		1		2		1		1		1	
Units	ug/l	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
VOLATILE COMPOUNDS (GC/MS)																					
Chloromethane	NC	**2.3**		0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.9	U	0.4	U	0.4	U	0.4	U
Bromomethane	10	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.9	U	0.4	U	0.4	U	0.4	U
Vinyl Chloride	1	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.5	U	0.2	U	0.2	U	0.2	U
Chloroethane	NC	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.9	U	0.4	U	0.4	U	0.4	U
Methylene Chloride	3	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.8	U	0.4	U	0.4	U	0.4	U
Acetone	6,000	**6.8**		**6.7**		**7.1**		1.5	U	1.5	U	1.5	U	3	U	**9**		1.5	U	1.5	U
Carbon Disulfide	700	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.9	U	0.4	U	0.4	U	0.4	U
1,1-Dichloroethene	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.9	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	50	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.5	U	0.3	U	0.3	U	0.3	U
trans-1,2-Dichloroethene	100	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.8	U	0.4	U	0.4	U	0.4	U
cis-1,2-Dichloroethene	70	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.6	U	0.3	U	0.3	U	0.3	U
Chloroform	70	0.2	U	0.2	U	0.2	U	0.2	U	**1.8**		**1.5**		**1.4**		0.2	U	0.2	U	0.2	U
1,2-Dichloroethane	2	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.5	U	0.3	U	0.3	U	0.3	U
2-Butanone	300	**2.1**		1.3	U	1.3	U	**13**		1.3	U	1.3	U	2.6	U	1.3	U	1.3	U	1.3	U
1,1,1-Trichloroethane	30	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.8	U	0.4	U	0.4	U	0.4	U
Carbon Tetrachloride	1	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.7	U	0.3	U	0.3	U	0.3	U
Bromodichloromethane	1	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.5	U	0.2	U	0.2	U	0.2	U
1,2-Dichloropropane	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.3	U	0.1	U	0.1	U	0.1	U
Trichloroethene	1	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.7	U	0.4	U	0.4	U	0.4	U
Dibromochloromethane	1	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.5	U	0.3	U	0.3	U	0.3	U
1,1,2-Trichloroethane	3	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.4	U	0.2	U	0.2	U	0.2	U
Benzene	1	**0.9**		0.2	U	0.2	U	**7.5**		0.2	U	0.2	U	**9.8**		**7.2**		**6.2**		**3.5**	
trans-1,3-Dichloropropene	NC	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.3	U	0.2	U	0.2	U	0.2	U
Bromoform	4	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.4	U	0.2	U	0.2	U	0.2	U
4-Methyl-2-Pentanone	NC	0.7	U	0.7	U	0.7	U	**1**		0.7	U	0.7	U	1.5	U	0.7	U	0.7	U	0.7	U
2-Hexanone	NC	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	1.4	U	0.7	U	0.7	U	0.7	U
Tetrachloroethene	1	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.8	U	0.4	U	0.4	U	0.4	U
1,1,2,2-Tetrachloroethane	1	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.7	U	0.4	U	0.4	U	0.4	U
Toluene	1,000	**1**		0.3	U	0.3	U	**60**		0.3	U	0.3	U	0.6	U	**0.4**		0.3	U	0.3	U
Chlorobenzene	50	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.5	U	0.2	U	0.2	U	0.2	U
Ethylbenzene	700	0.4	U	0.4	U	0.4	U	**110**		0.4	U	0.4	U	**15**		**0.6**		0.4	U	0.4	U
Styrene	100	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.8	U	0.4	U	0.4	U	0.4	U
Xylene (Total)	1,000	0.4	U	0.4	U	0.4	U	**260**		0.4	U	0.4	U	**3.4**		**1.1**		0.4	U	0.4	U
TBA	100	6.5	U	6.5	U	6.5	U	6.5	U	6.5	U	6.5	U	13	U	6.5	U	6.5	U	6.5	U
MTBE	70	0.3	U	0.3	U	0.3	U	**180**		0.3	U	0.3	U	**230**		**180**		**170**		**140**	
Total VOs	NC	**13.1**		**6.7**		**7.1**		**631.5**		**1.8**		**1.5**		**259.6**		**198.3**		**176.2**		**143.5**	
Total TICs	500	**120.3**		ND		ND		**496**		ND		ND		**264.1**		**50.1**		**94.4**		**9.3**	
METALS																					
Total Lead	5	2.7	U	**559**		2.7	U	**4.5**	B	2.7	U	2.7	U	2.7	U	2.7	U	2.7	U	2.7	U
Dissolved Lead	5	2.7	U	2.7	U	2.7	U	2.7	U	2.7	U	2.7	U	2.7	U	2.7	U	2.7	U	2.7	U

Footnotes:

U - The compound was not detected at the indicated concentration.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the sample.

NC- No Criteria

ND - No Detect

ug/L = Micrograms per liter, equivalent to parts per billion (ppb).

Bold - Detection

= Concentration exceeds the applicable NJDEP Groundwater Quality Standards

Table 7
Temporary Well Point Analytical Results - September and October 2008
INTERMEDIATE GROUND WATER SAMPLES
NJDOT Petersburg Maintenance Facility
Upper Township, Cape May County, New Jersey

Sample ID	NJ Higher of	TW-2D_37-42		DUP_092308		TW-5I_35-45		TW-6D_35-45		TW-10I_35-45		TW-13I_35-45	
Lab Sample No.	PQLs and	952959		952960		955188		956252		955425		956587	
Sampling Date	GW Quality	9/23/2008		9/23/2008		10/1/2008		10/6/2008		10/2/2008		10/7/2008	
Matrix	2005 Criteria	WATER		WATER		WATER		WATER		WATER		WATER	
Dilution Factor		1		1		1		1		1		1	
Units	ug/l	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
VOLATILE COMPOUNDS (GC/MS)													
Chloromethane	NC	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Bromomethane	10	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Vinyl Chloride	1	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Chloroethane	NC	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Methylene Chloride	3	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Acetone	6,000	**8.7**		**12**		1.5	U	1.5	U	**30**		**8.1**	
Carbon Disulfide	700	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
1,1-Dichloroethene	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	50	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
trans-1,2-Dichloroethene	100	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
cis-1,2-Dichloroethene	70	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
Chloroform	70	0.2	U	0.2	U	**6.2**		**0.2**		**0.3**		**0.6**	
1,2-Dichloroethane	2	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
2-Butanone	300	1.3	U	1.3	U	**7.1**		1.3	U	**1.4**		1.3	U
1,1,1-Trichloroethane	30	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Carbon Tetrachloride	1	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
Bromodichloromethane	1	0.2	U	0.2	U	**0.5**		0.2	U	0.2	U	0.2	U
1,2-Dichloropropane	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Trichloroethene	1	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Dibromochloromethane	1	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
1,1,2-Trichloroethane	3	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Benzene	1	0.2	U	0.2	U	**0.4**		0.2	U	0.2	U	0.2	U
trans-1,3-Dichloropropene	NC	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Bromoform	4	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
4-Methyl-2-Pentanone	NC	0.7	U	0.7	U	0.7	U	0.7	U	**1.2**		0.7	U
2-Hexanone	NC	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Tetrachloroethene	1	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
1,1,2,2-Tetrachloroethane	1	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Toluene	1,000	0.3	U	0.3	U	**1.8**		0.3	U	**0.6**		0.3	U
Chlorobenzene	50	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Ethylbenzene	700	0.4	U	0.4	U	**9.5**		0.4	U	0.4	U	0.4	U
Styrene	100	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Xylene (Total)	1,000	0.4	U	0.4	U	**2.7**		0.4	U	0.4	U	0.4	U
TBA	100	6.5	U	6.5	U	6.5	U	6.5	U	6.5	U	6.5	U
MTBE	70	0.3	U	0.3	U	**0.8**		**0.4**		**1.4**		**3.9**	
Total VOs	NC	**8.7**		**12**		**29**		**0.6**		**34.9**		**12.6**	
Total TICs	500	ND		ND		**92.3**		ND		ND		ND	
METALS													
Total Lead	5	**348**		**194**		**5.3**		2.7	U	2.7	U	2.7	U
Dissolved Lead	5	2.7	U	2.7	U	2.7	U	2.7	U	2.7	U	2.7	U

Footnotes:

U - The compound was not detected at the indicated concentration.

NC- No Criteria

ND - No Detect

ug/L = Micrograms per liter, equivalent to parts per billion (ppb).

Bold - Detection

= Concentration exceeds the applicable NJDEP Groundwater Quality Standards

Sample DUP_092308 is a duplicate of sample TW-2D_37-42

Table 7
Temporary Well Point Analytical Results - September and October 2008
DEEP GROUND WATER SAMPLES
NJDOT Petersburg Maintenance Facility
Upper Township, Cape May County, New Jersey

Sample ID	NJ Higher of	TW-3_40-50		TW-5D_55-65		TW-10D_55-65	
Lab Sample No.	PQLs and	955753		954891		955426	
Sampling Date	GW Quality	10/3/2008		9/30/2008		10/2/2008	
Matrix	2005 Criteria	WATER		WATER		WATER	
Dilution Factor		1		1		1	
Units	ug/l	ug/L		ug/L		ug/L	
VOLATILE COMPOUNDS (GC/MS)							
Chloromethane	NC	0.4	U	0.4	U	0.4	U
Bromomethane	10	0.4	U	0.4	U	0.4	U
Vinyl Chloride	1	0.2	U	0.2	U	0.2	U
Chloroethane	NC	0.4	U	0.4	U	0.4	U
Methylene Chloride	3	0.4	U	0.4	U	0.4	U
Acetone	6,000	**12**		1.5	U	1.5	U
Carbon Disulfide	700	0.4	U	0.4	U	0.4	U
1,1-Dichloroethene	1	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	50	0.3	U	0.3	U	0.3	U
trans-1,2-Dichloroethene	100	0.4	U	0.4	U	0.4	U
cis-1,2-Dichloroethene	70	0.3	U	0.3	U	0.3	U
Chloroform	70	**0.4**		**6.8**		**3**	
1,2-Dichloroethane	2	0.3	U	0.3	U	0.3	U
2-Butanone	300	1.3	U	1.3	U	1.3	U
1,1,1-Trichloroethane	30	0.4	U	0.4	U	0.4	U
Carbon Tetrachloride	1	0.3	U	0.3	U	0.3	U
Bromodichloromethane	1	0.2	U	**0.5**		0.2	U
1,2-Dichloropropane	1	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	1	0.1	U	0.1	U	0.1	U
Trichloroethene	1	0.4	U	0.4	U	0.4	U
Dibromochloromethane	1	0.3	U	0.3	U	0.3	U
1,1,2-Trichloroethane	3	0.2	U	0.2	U	0.2	U
Benzene	1	0.2	U	0.2	U	0.2	U
trans-1,3-Dichloropropene	NC	0.2	U	0.2	U	0.2	U
Bromoform	4	0.2	U	0.2	U	0.2	U
4-Methyl-2-Pentanone	NC	0.7	U	0.7	U	0.7	U
2-Hexanone	NC	0.7	U	0.7	U	0.7	U
Tetrachloroethene	1	0.4	U	0.4	U	0.4	U
1,1,2,2-Tetrachloroethane	1	0.4	U	0.4	U	0.4	U
Toluene	1,000	**0.9**		**3.5**		0.3	U
Chlorobenzene	50	0.2	U	0.2	U	0.2	U
Ethylbenzene	700	**0.6**		**0.8**		0.4	U
Styrene	100	0.4	U	0.4	U	0.4	U
Xylene (Total)	1,000	**2.6**		**1.2**		0.4	U
TBA	100	6.5	U	6.5	U	6.5	U
MTBE	70	**0.8**		**2.8**		**0.5**	
Total VOs	NC	**17.3**		**15.6**		**3.5**	
Total TICs	500	ND		ND		ND	
METALS							
Total Lead	5	2.7	U	**10.5**		**30.7**	
Dissolved Lead	5	2.7	U	2.7	U	2.7	U

Footnotes:
U - The compound was not detected at the indicated concentration.
NC- No Criteria
ND - No Detect
ug/L = Micrograms per liter, equivalent to parts per billion (ppb).
Bold - Detection
= Concentration exceeds the applicable NJDEP Groundwater Quality Standard

Table 7
Temporary Well Point Analytical Results - September and October 2008
Field Blanks and Trip Blanks
NJDOT Petersburg Maintenance Facility
Upper Township, Cape May County, New Jersey

Sample ID	NJ Higher of	FB_092308		FB093008		FB100108		FB100208		FB100608		FB100708		TB_092208		TB093008		TB100108		TB100208		TB100608		TB100708	
Lab Sample No.	PQLs and	952957		954892		955191		955422		956249		956585		952956		954893		955190		955423		956250		956586	
Sampling Date	GW Quality	9/23/2008 0:00		9/30/2008 0:00		10/1/2008 0:00		10/2/2008 0:00		10/6/2008 0:00		10/7/2008 0:00		9/22/2008 0:00		9/30/2008 0:00		10/1/2008 0:00		10/2/2008 0:00		10/6/2008 0:00		10/7/2008 0:00	
Matrix	2005Criteria	WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Dilution Factor		1		1		1		1		1		1		1		1		1		1		1		1	
Units	ug/l	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
VOLATILE COMPOUNDS (GC/MS)																									
Chloromethane	NC	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Bromomethane	10	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Vinyl Chloride	1	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Chloroethane	NC	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Methylene Chloride	3	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Acetone	6,000	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Carbon Disulfide	700	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
1,1-Dichloroethene	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	50	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
trans-1,2-Dichloroethene	100	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
cis-1,2-Dichloroethene	70	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
Chloroform	70	0.2	U	0.2	U	0.2	U	0.2	U	**1.8**		**1.7**		0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
1,2-Dichloroethane	2	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
2-Butanone	300	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
1,1,1-Trichloroethane	30	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Carbon Tetrachloride	1	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
Bromodichloromethane	1	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
1,2-Dichloropropane	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Trichloroethene	1	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Dibromochloromethane	1	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
1,1,2-Trichloroethane	3	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Benzene	1	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
trans-1,3-Dichloropropene	NC	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Bromoform	4	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
4-Methyl-2-Pentanone	NC	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
2-Hexanone	NC	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Tetrachloroethene	1	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
1,1,2,2-Tetrachloroethane	1	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Toluene	1,000	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
Chlorobenzene	50	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Ethylbenzene	700	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Styrene	100	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Xylene (Total)	1,000	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
TBA	100	6.5	U	6.5	U	6.5	U	6.5	U	6.5	U	6.5	U	6.5	U	6.5	U	6.5	U	6.5	U	6.5	U	6.5	U
MTBE	70	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
Total Confident Conc.	NC	ND		ND		ND		ND		1.8		1.7		ND		ND		ND		ND		ND		ND	
Total Estimated Conc. (TICs)	500	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
METALS																									
Total Lead	5	2.7	U	2.7	U	**3.2**	B	2.7	U	2.7	U	2.7	U	NA		NA		NA		NA		NA		NA	

Footnotes:

U - The compound was not detected at the indicated concentration.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the sample.

NC- No Criteria

ND - No Detect

NA - Not Analyzed

ug/L = Micrograms per liter, equivalent to parts per billion (ppb).

Bold - Detection

= Concentration exceeds the applicable NJDEP Groundwater Quality Standards

Table 8
New Jersey Department of Transportation
Petersburg Maintenance Facility
Vapor Intrusion - Sub Slab Sample Results
October 6, 2008

Chemical	CAS Number	Molecular Weight	Residential Soil Gas Screening Levels in ppbv	Residential Soil Gas Screening Levels in ug/m3	HARWOOD_SS1			BLEVIN_SS1			MASON_SS1			TURNER_SS1		
					Results in ppbv		Results in ug/m3	Results in ppbv		Results in ug/m3	Results in ppbv		Results in ug/m3	Results in ppbv		Results in ug/m3
Acetone (2-propanone)	67-64-1	58.078	69,000	160,000	50	U	120	**180**		**430**	50	U	120	50	U	120
Benzene	71-43-2	78.108	5	16	2.0	U	6.4	2.0	U	6.4	2.0	U	6.4	2.0	U	6.4
Bromodichloromethane	75-27-4	163.83	5	34	2.0	U	13	2.0	U	13	2.0	U	13	2.0	U	13
Bromoethene	593-60-2	106.96	5	22	2.0	U	8.7	2.0	U	8.7	2.0	U	8.7	2.0	U	8.7
Bromoform	75-25-2	252.75	8	80	2.0	U	21	2.0	U	21	2.0	U	21	2.0	U	21
Bromomethane (Methyl bromide)	74-83-9	94.94	66	260	2.0	U	7.8	2.0	U	7.8	2.0	U	7.8	2.0	U	7.8
1,3-Butadiene	106-99-0	54.09	5	11	5.0	U	11	5.0	U	11	5.0	U	11	5.0	U	11
2-Butanone (Methyl ethyl ketone)	78-93-3	72.11	87,000	260,000	5.0	U	15	5.0	U	15	5.0	U	15	5.0	U	15
Carbon disulfide	75-15-0	76.14	12,000	36,000	5.0	U	16	5.0	U	16	5.0	U	16	5.0	U	16
Carbon tetrachloride	56-23-5	153.81	5	31	2.0	U	13	2.0	U	13	2.0	U	13	2.0	U	13
Chlorobenzene	108-90-7	112.55	550	2,600	2.0	U	9.2	2.0	U	9.2	2.0	U	9.2	2.0	U	9.2
Chloroethane	75-00-3	64.52	41	110	5.0	U	13	5.0	U	13	5.0	U	13	5.0	U	13
Chloroform	67-66-3	119.38	5	24	2.0	U	9.8	2.0	U	9.8	2.0	U	9.8	**10**		**49**
Chloromethane (Methyl chloride)	74-87-3	50.49	2,300	4,700	5.0	U	10	5.0	U	10	5.0	U	10	5.0	U	10
3-Chloropropene (allyl chloride)	107-05-1	76.53	5	16	5.0	U	16	5.0	U	16	5.0	U	16	5.0	U	16
2-Chlorotoluene (o-Chlorotoluene)	95-49-8	126.59	700	3,600	2.0	U	10	2.0	U	10	2.0	U	10	2.0	U	10
Cyclohexane	110-82-7	84.16	90,000	310,000	2.0	U	6.9	2.0	U	6.9	2.0	U	6.9	2.0	U	6.9
Dibromochloromethane	124-48-1	208.29	5	43	2.0	U	17	2.0	U	17	2.0	U	17	2.0	U	17
1,2-Dibromoethane	106-93-4	187.87	5	38	2.0	U	15	2.0	U	15	2.0	U	15	2.0	U	15
1,2-Dichlorobenzene	95-50-1	147	1,200	7,300	2.0	U	12	2.0	U	12	2.0	U	12	2.0	U	12
1,3-Dichlorobenzene	541-73-1	147	91	550	2.0	U	12	2.0	U	12	2.0	U	12	2.0	U	12
1,4-Dichlorobenzene	106-46-7	147	5	30	2.0	U	12	2.0	U	12	2.0	U	12	2.0	U	12
Dichlorodifluoromethane	75-71-8	120.91	1,800	9,100	5.0	U	25	5.0	U	25	5.0	U	25	5.0	U	25
1,1-Dichloroethane	75-34-3	98.96	6,300	26,000	2.0	U	8.1	2.0	U	8.1	2.0	U	8.1	2.0	U	8.1
1,2-Dichloroethane	107-06-2	98.96	5	20	2.0	U	8.1	2.0	U	8.1	2.0	U	8.1	2.0	U	8.1
1,1-Dichloroethene	75-35-4	96.94	2,800	11,000	2.0	U	7.9	2.0	U	7.9	2.0	U	7.9	2.0	U	7.9
1,2-Dichloroethene (cis)	156-59-2	96.94	460	1,800	2.0	U	7.9	2.0	U	7.9	2.0	U	7.9	2.0	U	7.9
1,2-Dichloroethene (trans)	156-60-5	96.94	920	3,600	2.0	U	7.9	2.0	U	7.9	2.0	U	7.9	2.0	U	7.9
1,2-Dichloroethene (total)	156-60-6	96.94	410	1,600												
1,2-Dichloropropane	78-87-5	112.99	5	23	2.0	U	9.2	2.0	U	9.2	2.0	U	9.2	2.0	U	9.2
1,3-Dichloropropene (cis)	10061-01-5	110.97	~	~	2.0	U	9.1	2.0	U	9.1	2.0	U	9.1	2.0	U	9.1
1,3-Dichloropropene (trans)	10061-02-6	110.97	~	~	2.0	U	9.1	2.0	U	9.1	2.0	U	9.1	2.0	U	9.1
1,3-Dichloropropene (total)	10061-02-7	110.97	7	31												
1,2-Dichlorotetrafluoroethane (Freon 114)	76-14-2	170.92	~	~	2.0	U	14	2.0	U	14	2.0	U	14	2.0	U	14
Ethylbenzene	100-41-4	106.17	12,000	53,000	2.0	U	8.7	2.0	U	8.7	2.0	U	8.7	2.0	U	8.7
4-Ethyltoluene (p-Ethyltoluene)	622-96-8	120.2	~	~	2.0	U	9.8	2.0	U	9.8	2.0	U	9.8	2.0	U	9.8
n-Heptane	142-82-5	100.21	~	~	2.0	U	8.2	2.0	U	8.2	2.0	U	8.2	2.0	U	8.2
Hexachlorobutadiene	87-68-3	260.76	5	53	2.0	U	21	2.0	U	21	2.0	U	21	2.0	U	21

Table 8
New Jersey Department of Transportation
Petersburg Maintenance Facility
Vapor Intrusion - Sub Slab Sample Results
October 6, 2008

Chemical	CAS Number	Molecular Weight	Residential Soil Gas Screening Levels in ppbv	Residential Soil Gas Screening Levels in ug/m3	HARWOOD_SS1			BLEVIN_SS1			MASON_SS1			TURNER_SS1		
					Results in ppbv		Results in ug/m3	Results in ppbv		Results in ug/m3	Results in ppbv		Results in ug/m3	Results in ppbv		Results in ug/m3
n-Hexane	110-54-3	86.172	10,000	36,000	5.0	U	18	5.0	U	18	5.0	U	18	5.0	U	18
Methylene Chloride	75-09-2	84.93	55	190	**28**		**97**	**38**		**130**	**29**		**100**	**29**		**100**
4-Methyl-2-pentanone (MIBK)	108-10-1	100.16	38,000	160,000	5.0	U	20	5.0	U	20	5.0	U	20	5.0	U	20
MTBE (Methyl tert-butyl ether)	1634-04-4	88.15	22	78	5.0	U	18	5.0	U	18	5.0	U	18	5.0	U	18
Styrene	100-42-5	104.15	12,000	52,000	2.0	U	8.5	2.0	U	8.5	2.0	U	8.5	2.0	U	8.5
Tertiary butyl alcohol (TBA)	75-65-0	74.12	1,100	3,300	50	U	150	50	U	150	50	U	150	50	U	150
1,1,2,2-Tetrachloroethane	79-34-5	167.85	5	34	2.0	U	14	2.0	U	14	2.0	U	14	2.0	U	14
Tetrachloroethene (PCE)	127-18-4	165.83	5	34	2.0	U	14	2.0	U	14	2.0	U	14	2.0	U	14
Toluene	108-88-3	92.14	68,000	260,000	**2.2**		**8.3**	**3.0**		**11**	**2.4**		**9**	**2.3**		**8.7**
1,2,4-Trichlorobenzene	120-82-1	181.45	250	1,800	5.0	U	37	5.0	U	37	5.0	U	37	5.0	U	37
1,1,1-Trichloroethane	71-55-6	133.41	9,400	51,000	2.0	U	11	2.0	U	11	2.0	U	11	2.0	U	11
1,1,2-Trichloroethane	79-00-5	133.41	5	27	2.0	U	11	2.0	U	11	2.0	U	11	2.0	U	11
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	187.38	200,000	1,600,000	2.0	U	15	2.0	U	15	2.0	U	15	2.0	U	15
Trichloroethene (TCE)	79-01-6	131.39	5	27	2.0	U	11	2.0	U	11	2.0	U	11	2.0	U	11
Trichlorofluoromethane (Freon 11)	75-69-4	137.37	6,500	36,000	2.0	U	11	2.0	U	11	2.0	U	11	2.0	U	11
1,2,4-Trimethylbenzene	95-63-6	120.2	~	~	2.0	U	9.8	2.0	U	9.8	2.0	U	9.8	2.0	U	9.8
1,3,5-Trimethylbenzene	108-67-8	120.2	~	~	2.0	U	9.8	2.0	U	9.8	2.0	U	9.8	2.0	U	9.8
2,2,4-Trimethylpentane	540-84-1	114.23	~	~	2.0	U	9.3	2.0	U	9.3	2.0	U	9.3	2.0	U	9.3
Vinyl Chloride	75-01-4	62.5	5	13	2.0	U	5.1	2.0	U	5.1	2.0	U	5.1	2.0	U	5.1
Xylene (total)	1330-20-6	106.17	1,300	5,500												
Xylene (m,p)	1330-20-7	106.17	~	~	5.0	U	22	5.0	U	22	5.0	U	22	5.0	U	22
Xylene (o)	95-47-6	106.17	~	~	2.0	U	8.7	2.0	U	8.7	2.0	U	8.7	2.0	U	8.7

Footnotes:

U - The compound was not detected at the indicated concentration.

Table 8
New Jersey Department of Transportation
Petersburg Maintenance Facility
Vapor Intrusion - Indoor Air Sample Results
October 6, 2008

Chemical	CAS Number	Molecular Weight	Residential Indoor Air Screening Levels in ppbv	Residential Indoor Air Screening Levels in ug/m3	Rapid Action Levels (RAL) in ppbv	Health Dept Notification Levels in ppbv	HARWOOD_B1			BLEVIN_B1			MASON_CS1			TURNER_B1		
							Results in ppbv		Results in ug/m3	Results in ppbv		Results in ug/m3	Results in ppbv		Results in ug/m3	Results in ppbv		Results in ug/m3
Acetone (2-propanone)	67-64-1	58.078	1,400	3,300	2,800	13,000	5.0	U	12	**10**		**24**	5.0	U	12	**12**		**29**
Benzene	71-43-2	78.108	0.5	2	4	4	0.20	U	0.64	0.20	U	0.64	0.20	U	0.64	**0.31**		**0.99**
Bromodichloromethane	75-27-4	163.83	0.5	3	~	~	0.20	U	1.3	0.20	U	1.3	0.20	U	1.3	0.20	U	1.3
Bromoethene	593-60-2	106.96	0.5	2	~	~	0.20	U	0.87	0.20	U	0.87	0.20	U	0.87	0.20	U	0.87
Bromoform	75-25-2	252.75	0.5	5	~	~	0.20	U	2.1	0.20	U	2.1	0.20	U	2.1	0.20	U	2.1
Bromomethane (Methyl bromide)	74-83-9	94.94	1	5	~	~	0.20	U	0.78	0.20	U	0.78	0.20	U	0.78	0.20	U	0.78
1,3-Butadiene	106-99-0	54.09	0.5	1	~	~	0.50	U	1.1	0.50	U	1.1	0.50	U	1.1	0.50	U	1.1
2-Butanone (Methyl ethyl ketone)	78-93-3	72.11	1,700	5,100	~	~	**0.52**		**1.5**	**2.8**		**8.3**	0.50	U	1.5	**12**		**35**
Carbon disulfide	75-15-0	76.14	230	730	~	~	0.50	U	1.6	0.50	U	1.6	0.50	U	1.6	0.50	U	1.6
Carbon tetrachloride	56-23-5	153.81	0.5	3.0	2	20	0.20	U	1.3	0.20	U	1.3	0.20	U	1.3	0.20	U	1.3
Chlorobenzene	108-90-7	112.55	11	51	~	~	0.20	U	0.92	0.20	U	0.92	0.20	U	0.92	0.20	U	0.92
Chloroethane	75-00-3	64.52	0.8	2	~	~	0.50	U	1.3	0.50	U	1.3	0.50	U	1.3	0.50	U	1.3
Chloroform	67-66-3	119.38	0.5	2	2	20	0.20	U	0.98	0.20	U	0.98	0.20	U	0.98	0.20	U	0.98
Chloromethane (Methyl chloride)	74-87-3	50.49	46	95	~	~	0.50	U	1	0.50	U	1	0.50	U	1	0.50	U	1
3-Chloropropene (allyl chloride)	107-05-1	76.53	0.5	2	~	~	0.50	U	1.6	0.50	U	1.6	0.50	U	1.6	0.50	U	1.6
2-Chlorotoluene (o-Chlorotoluene)	95-49-8	126.59	14	73	~	~	0.20	U	1	0.20	U	1	0.20	U	1	0.20	U	1
Cyclohexane	110-82-7	84.16	1,800	6,200	~	~	0.20	U	0.69	0.20	U	0.69	0.20	U	0.69	0.20	U	0.69
Dibromochloromethane	124-48-1	208.29	0.5	4	~	~	0.20	U	1.7	0.20	U	1.7	0.20	U	1.7	0.20	U	1.7
1,2-Dibromoethane	106-93-4	187.87	0.5	4	~	~	0.20	U	1.5	0.20	U	1.5	0.20	U	1.5	0.20	U	1.5
1,2-Dichlorobenzene	95-50-1	147	24	150	~	~	0.20	U	1.2	0.20	U	1.2	0.20	U	1.2	0.20	U	1.2
1,3-Dichlorobenzene	541-73-1	147	2	11	~	~	0.20	U	1.2	0.20	U	1.2	0.20	U	1.2	0.20	U	1.2
1,4-Dichlorobenzene	106-46-7	147	0.5	3	~	~	0.20	U	1.2	0.20	U	1.2	0.20	U	1.2	0.20	U	1.2
Dichlorodifluoromethane	75-71-8	120.91	37	180	~	~	**0.57**		**2.8**	**0.58**		**2.9**	**0.54**		**2.7**	**0.55**		**2.7**
1,1-Dichloroethane	75-34-3	98.96	130	510	~	~	0.20	U	0.81	0.20	U	0.81	0.20	U	0.81	0.20	U	0.81
1,2-Dichloroethane	107-06-2	98.96	0.5	2	~	~	0.20	U	0.81	0.20	U	0.81	0.20	U	0.81	0.20	U	0.81
1,1-Dichloroethene	75-35-4	96.94	55	220	~	~	0.20	U	0.79	0.20	U	0.79	0.20	U	0.79	0.20	U	0.79
1,2-Dichloroethene (cis)	156-59-2	96.94	9	36	~	~	0.20	U	0.79	0.20	U	0.79	0.20	U	0.79	0.20	U	0.79
1,2-Dichloroethene (trans)	156-60-5	96.94	18	73	~	~	0.20	U	0.79	0.20	U	0.79	0.20	U	0.79	0.20	U	0.79
1,2-Dichloroethene (total)	156-60-6	97.94	1	33	16	100												
1,2-Dichloropropane	78-87-5	112.99	0.5	2.0	~	~	0.20	U	0.92	0.20	U	0.92	0.20	U	0.92	0.20	U	0.92
1,3-Dichloropropene (total)	78-87-6	110.97	8	33	~	~												
1,3-Dichloropropene (cis)	10061-01-5	110.97	~	~	~	~	0.20	U	0.91	0.20	U	0.91	0.20	U	0.91	0.20	U	0.91
1,3-Dichloropropene (trans)	10061-02-6	110.97	~	~	~	~	0.20	U	0.91	0.20	U	0.91	0.20	U	0.91	0.20	U	0.91
1,2-Dichlorotetrafluoroethane (Freon 114)	76-14-2	170.92	~	~	~	~	0.20	U	1.4	0.20	U	1.4	0.20	U	1.4	0.20	U	1.4
Ethylbenzene	100-41-4	106.17	240	1,100	480	1,000	0.20	U	0.87	**0.75**		**3.3**	0.20	U	0.87	**0.35**		**1.5**
4-Ethyltoluene (p-Ethyltoluene)	622-96-8	120.2	~	~	~	~	0.20	U	0.98	**1.0**		**4.9**	0.20	U	0.98	**0.22**		**1.1**
n-Heptane	142-82-5	100.21	~	~	~	~	0.20	U	0.82	**0.78**		**3.2**	0.20	U	0.82	**1.1**		**4.5**
Hexachlorobutadiene	87-68-3	260.76	0.5	5	~	~	0.20	U	2.1	0.20	U	2.1	0.20	U	2.1	0.20	U	2.1

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New Jersey Department of Transportation
Petersburg Maintenance Facility
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October 6, 2008

Chemical	CAS Number	Molecular Weight	Residential Indoor Air Screening Levels in ppbv	Residential Indoor Air Screening Levels in ug/m3	Rapid Action Levels (RAL) in ppbv	Health Dept Notification Levels in ppbv	HARWOOD_B1			BLEVIN_B1			MASON_CS1			TURNER_B1		
							Results in ppbv		Results in ug/m3	Results in ppbv		Results in ug/m3	Results in ppbv		Results in ug/m3	Results in ppbv		Results in ug/m3
n-Hexane	110-54-3	86.172	210	730	~	~	0.50	U	1.8	0.50	U	1.8	0.50	U	1.8	**0.66**		**2.3**
Methylene Chloride	75-09-2	84.93	1	4	100	300	**0.50**	U	1.7	**0.50**	U	1.7	0.50	U	1.7	**1.2**		**4.2**
4-Methyl-2-pentanone (MIBK)	108-10-1	100.16	770	3,100	~	~	0.50	U	2	0.50	U	2	0.50	U	2	0.50	U	2
MTBE (Methyl tert-butyl ether)	1634-04-4	88.15	0.5	2	40	400	0.50	U	1.8	0.50	U	1.8	0.50	U	1.8	0.50	U	1.8
Styrene	100-42-5	104.15	250	1,000	~	~	0.20	U	0.85	**0.30**		**1.3**	0.20	U	0.85	0.20	U	0.85
Tertiary butyl alcohol (TBA)	75-65-0	74.12	22	66	~	~	5.0	U	15	5.0	U	15	5.0	U	15	5.0	U	15
1,1,2,2-Tetrachloroethane	79-34-5	167.85	0.5	3	~	~	0.20	U	1.4	0.20	U	1.4	0.20	U	1.4	0.20	U	1.4
Tetrachloroethene (PCE)	127-18-4	165.83	0.5	3	5	50	0.20	U	1.4	0.20	U	1.4	0.20	U	1.4	0.20	U	1.4
Toluene	108-88-3	92.14	1,400	5,100	2,800	> 1,400	**0.69**		**2.6**	**1.6**		**6**	**0.20**		**0.75**	**4.3**		**16**
1,2,4-Trichlorobenzene	120-82-1	181.45	5	36	~	~	0.50	U	3.7	0.50	U	3.7	0.50	U	3.7	0.50	U	3.7
1,1,1-Trichloroethane	71-55-6	133.41	190	1,000	~	~	0.20	U	1.1	0.20	U	1.1	0.20	U	1.1	0.20	U	1.1
1,1,2-Trichloroethane	79-00-5	133.41	0.5	3.0	~	~	0.20	U	1.1	0.20	U	1.1	0.20	U	1.1	0.20	U	1.1
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	187.38	4,100	31,000	~	~	0.20	U	1.5	0.20	U	1.5	0.20	U	1.5	0.20	U	1.5
Trichloroethene (TCE)	79-01-6	131.39	0.5	3	3	3	0.20	U	1.1	0.20	U	1.1	0.20	U	1.1	0.20	U	1.1
Trichlorofluoromethane (Freon 11)	75-69-4	137.37	130	730	~	~	**0.25**		**1.4**	**0.23**		**1.3**	**0.22**		**1.2**	**0.33**		**1.9**
1,2,4-Trimethylbenzene	95-63-6	120.2	~	~	~	~	0.20	U	0.98	**2.6**		**13**	0.20	U	0.98	**0.25**		**1.2**
1,3,5-Trimethylbenzene	108-67-8	120.2	~	~	~	~	0.20	U	0.98	**1.3**		**6.4**	0.20	U	0.98	0.20	U	0.98
2,2,4-Trimethylpentane	540-84-1	114.23	~	~	~	~	0.20	U	0.93	0.20	U	0.93	0.20	U	0.93	**0.69**		**3.2**
Vinyl Chloride	75-01-4	62.5	0.5	1	3	30	0.20	U	0.51	0.20	U	0.51	0.20	U	0.51	0.20	U	0.51
Xylene (total)	1330-20-6	106.17	25	110	50	1,000												
Xylene (m,p)	1330-20-7	106.17	~	~	~	~	0.50	U	2.2	**3.2**		**14**	0.50	U	2.2	**0.99**		**4.3**
Xylene (o)	95-47-6	106.17	~	~	~	~	0.20	U	0.87	**1.2**		**5.2**	0.20	U	0.87	**0.33**		**1.4**

Footnotes:

U - The compound was not detected at the indicated concentration.

Table 8
New Jersey Department of Transportation
Petersburg Maintenance Facility
Vapor Intrusion - Ambient Air (Background) Sample Results
October 6, 2008

Chemical	CAS Number	Molecular Weight	Residential Indoor Air Screening Levels in ppbv	Residential Indoor Air Screening Levels in ug/m3	MASON_BG1			BLEVIN_BG1			TURNER_BG1		
					Insert Results in ppbv		Generates Results in ug/m3	Insert Results in ppbv		Results in ug/m3	Insert Results in ppbv		Generates Results in ug/m3
Acetone (2-propanone)	67-64-1	58.078	1,400	3,300	5.0	U	12	5.0	U	12	5.0	U	12
Benzene	71-43-2	78.108	0.5	2	0.20	U	0.64	0.20	U	0.64	0.20	U	0.64
Bromodichloromethane	75-27-4	163.83	0.5	3	0.20	U	1.3	0.20	U	1.3	0.20	U	1.3
Bromoethene	593-60-2	106.96	0.5	2	0.20	U	0.87	0.20	U	0.87	0.20	U	0.87
Bromoform	75-25-2	252.75	0.5	5	0.20	U	2.1	0.20	U	2.1	0.20	U	2.1
Bromomethane (Methyl bromide)	74-83-9	94.94	1	5	0.20	U	0.78	0.20	U	0.78	0.20	U	0.78
1,3-Butadiene	106-99-0	54.09	0.5	1	0.50	U	1.1	0.50	U	1.1	0.50	U	1.1
2-Butanone (Methyl ethyl ketone)	78-93-3	72.11	1,700	5,100	0.50	U	1.5	0.50	U	1.5	0.50	U	1.5
Carbon disulfide	75-15-0	76.14	230	730	0.50	U	1.6	0.50	U	1.6	0.50	U	1.6
Carbon tetrachloride	56-23-5	153.81	0.5	3	0.20	U	1.3	0.20	U	1.3	0.20	U	1.3
Chlorobenzene	108-90-7	112.55	11	51	0.20	U	0.92	0.20	U	0.92	0.20	U	0.92
Chloroethane	75-00-3	64.52	0.8	2	0.50	U	1.3	0.50	U	1.3	0.50	U	1.3
Chloroform	67-66-3	119.38	0.5	2	0.20	U	0.98	0.20	U	0.98	0.20	U	0.98
Chloromethane (Methyl chloride)	74-87-3	50.49	46	95	0.50	U	1	0.50	U	1	**0.51**		**1.1**
3-Chloropropene (allyl chloride)	107-05-1	76.53	0.5	2	0.50	U	1.6	0.50	U	1.6	0.50	U	1.6
2-Chlorotoluene (o-Chlorotoluene)	95-49-8	126.59	14	73	0.20	U	1	0.20	U	1	0.20	U	1
Cyclohexane	110-82-7	84.16	1,800	6,200	0.20	U	0.69	0.20	U	0.69	0.20	U	0.69
Dibromochloromethane	124-48-1	208.29	0.5	4	0.20	U	1.7	0.20	U	1.7	0.20	U	1.7
1,2-Dibromoethane	106-93-4	187.87	0.5	4	0.20	U	1.5	0.20	U	1.5	0.20	U	1.5
1,2-Dichlorobenzene	95-50-1	147	24	150	0.20	U	1.2	0.20	U	1.2	0.20	U	1.2
1,3-Dichlorobenzene	541-73-1	147	2	11	0.20	U	1.2	0.20	U	1.2	0.20	U	1.2
1,4-Dichlorobenzene	106-46-7	147	0.5	3	0.20	U	1.2	0.20	U	1.2	0.20	U	1.2
Dichlorodifluoromethane	75-71-8	120.91	37	180	**0.58**		**2.9**	**0.60**		**3**	**0.60**		**3**
1,1-Dichloroethane	75-34-3	98.96	130	510	0.20	U	0.81	0.20	U	0.81	0.20	U	0.81
1,2-Dichloroethane	107-06-2	98.96	0.5	2	0.20	U	0.81	0.20	U	0.81	0.20	U	0.81
1,1-Dichloroethene	75-35-4	96.94	55	220	0.20	U	0.79	0.20	U	0.79	0.20	U	0.79
1,2-Dichloroethene (cis)	156-59-2	96.94	9	36	0.20	U	0.79	0.20	U	0.79	0.20	U	0.79
1,2-Dichloroethene (trans)	156-60-5	96.94	18	73	0.20	U	0.79	0.20	U	0.79	0.20	U	0.79
1,2-Dichloroethene (total)	156-60-6	96.94	8	33									
1,2-Dichloropropane	78-87-5	112.99	0.5	2	0.20	U	0.92	0.20	U	0.92	0.20	U	0.92
1,3-Dichloropropene (total)	10061-01-4	110.97	1	2									
1,3-Dichloropropene (cis)	10061-01-5	110.97	~	~	0.20	U	0.91	0.20	U	0.91	0.20	U	0.91
1,3-Dichloropropene (trans)	10061-02-6	110.97	~	~	0.20	U	0.91	0.20	U	0.91	0.20	U	0.91
1,2-Dichlorotetrafluoroethane (Freon 114)	76-14-2	170.92	~	~	0.20	U	1.4	0.20	U	1.4	0.20	U	1.4
Ethylbenzene	100-41-4	106.17	240	1,100	0.20	U	0.87	0.20	U	0.87	0.20	U	0.87
4-Ethyltoluene (p-Ethyltoluene)	622-96-8	120.2	~	~	0.20	U	0.98	0.20	U	0.98	0.20	U	0.98
n-Heptane	142-82-5	100.21	~	~	0.20	U	0.82	0.20	U	0.82	0.20	U	0.82
Hexachlorobutadiene	87-68-3	260.76	0.5	5	0.20	U	2.1	0.20	U	2.1	0.20	U	2.1

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Petersburg Maintenance Facility
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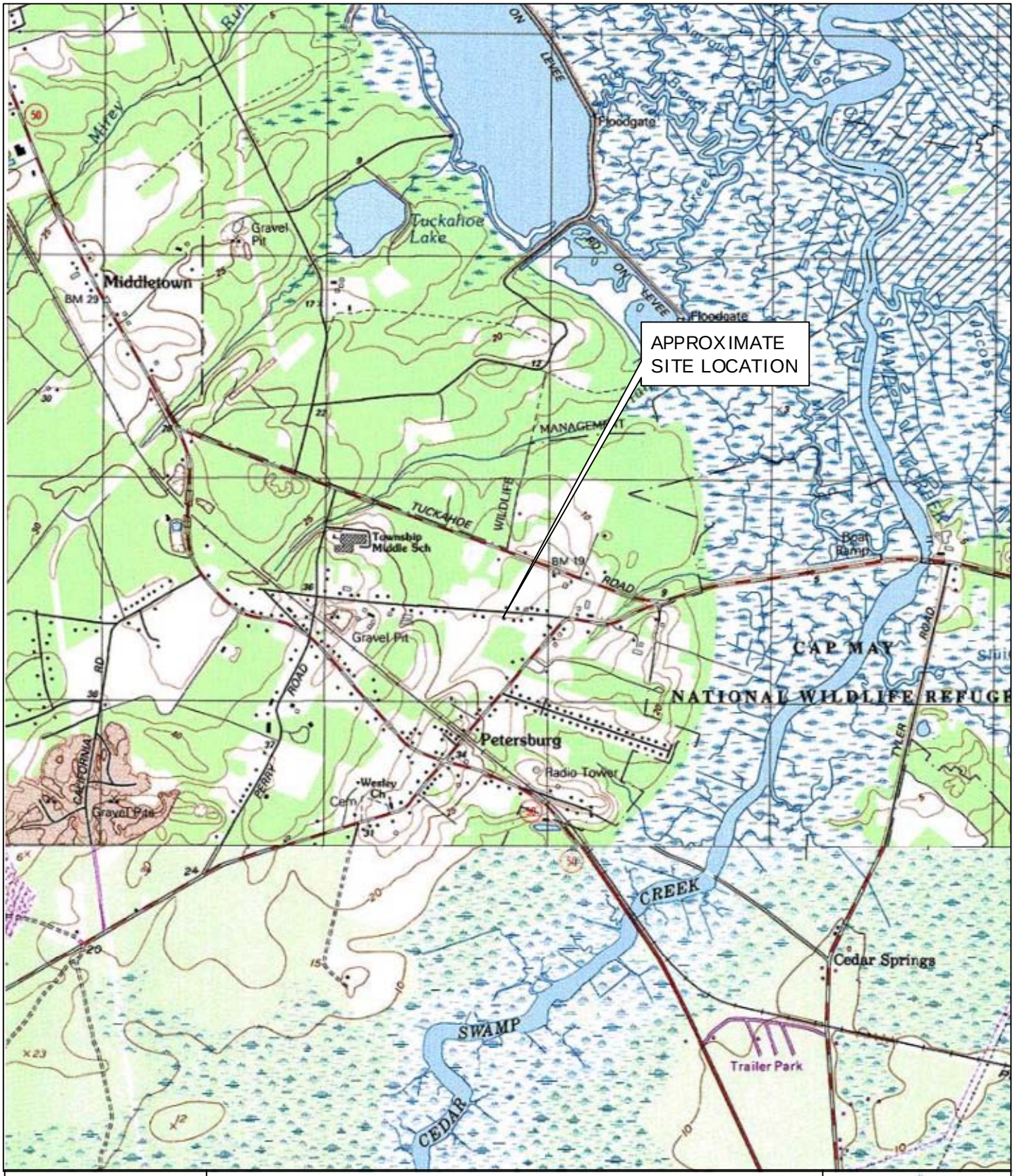
October 6, 2008

Chemical	CAS Number	Molecular Weight	Residential Indoor Air Screening Levels in ppbv	Residential Indoor Air Screening Levels in ug/m3	MASON_BG1			BLEVIN_BG1			TURNER_BG1		
					Insert Results in ppbv		Generates Results in ug/m3	Insert Results in ppbv		Results in ug/m3	Insert Results in ppbv		Generates Results in ug/m3
n-Hexane	110-54-3	86.172	210	730	0.50	U	1.8	0.50	U	1.8	0.50	U	1.8
Methylene Chloride	75-09-2	84.93	1	4	0.50	U	**1.7**	0.50	U	**1.7**	0.50	U	1.7
4-Methyl-2-pentanone (MIBK)	108-10-1	100.16	770	3,100	0.50	U	2	0.50	U	2	0.50	U	2
MTBE (Methyl tert-butyl ether)	1634-04-4	88.15	0.5	2	0.50	U	1.8	0.50	U	1.8	0.50	U	1.8
Styrene	100-42-5	104.15	250	1,000	0.20	U	0.85	0.20	U	0.85	0.20	U	0.85
Tertiary butyl alcohol (TBA)	75-65-0	74.12	22	66	5.0	U	15	5.0	U	15	5.0	U	15
1,1,2,2-Tetrachloroethane	79-34-5	167.85	0.5	3	0.20	U	1.4	0.20	U	1.4	0.20	U	1.4
Tetrachloroethene (PCE)	127-18-4	165.83	0.5	3	0.20	U	1.4	0.20	U	1.4	0.20	U	1.4
Toluene	108-88-3	92.14	1,400	5,100	**0.39**		**1.5**	**0.34**		**1.3**	**0.25**		**0.94**
1,2,4-Trichlorobenzene	120-82-1	181.45	5	36	0.50	U	3.7	0.50	U	3.7	0.50	U	3.7
1,1,1-Trichloroethane	71-55-6	133.41	190	1,000	0.20	U	1.1	0.20	U	1.1	0.20	U	1.1
1,1,2-Trichloroethane	79-00-5	133.41	0.5	3.0	0.20	U	1.1	0.20	U	1.1	0.20	U	1.1
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	187.38	4,100	31,000	0.20	U	1.5	0.20	U	1.5	0.20	U	1.5
Trichloroethene (TCE)	79-01-6	131.39	0.5	3	0.20	U	1.1	0.20	U	1.1	0.20	U	1.1
Trichlorofluoromethane (Freon 11)	75-69-4	137.37	130	730	**0.23**		**1.3**	**0.25**		**1.4**	**0.25**		**1.4**
1,2,4-Trimethylbenzene	95-63-6	120.2	~	~	0.20	U	0.98	0.20	U	0.98	0.20	U	0.98
1,3,5-Trimethylbenzene	108-67-8	120.2	~	~	0.20	U	0.98	0.20	U	0.98	0.20	U	0.98
2,2,4-Trimethylpentane	540-84-1	114.23	~	~	0.20	U	0.93	0.20	U	0.93	0.20	U	0.93
Vinyl Chloride	75-01-4	62.5	0.5	1	0.20	U	0.51	0.20	U	0.51	0.20	U	0.51
Xylene (total)	1330-20-6	106.17	25	110									
Xylene (m,p)	1330-20-7	106.17	~	~	0.50	U	2.2	0.50	U	2.2	0.50	U	2.2
Xylene (o)	95-47-6	106.17	~	~	0.20	U	0.87	0.20	U	0.87	0.20	U	0.87

Footnotes:

U - The compound was not detected at the indicated concentration.

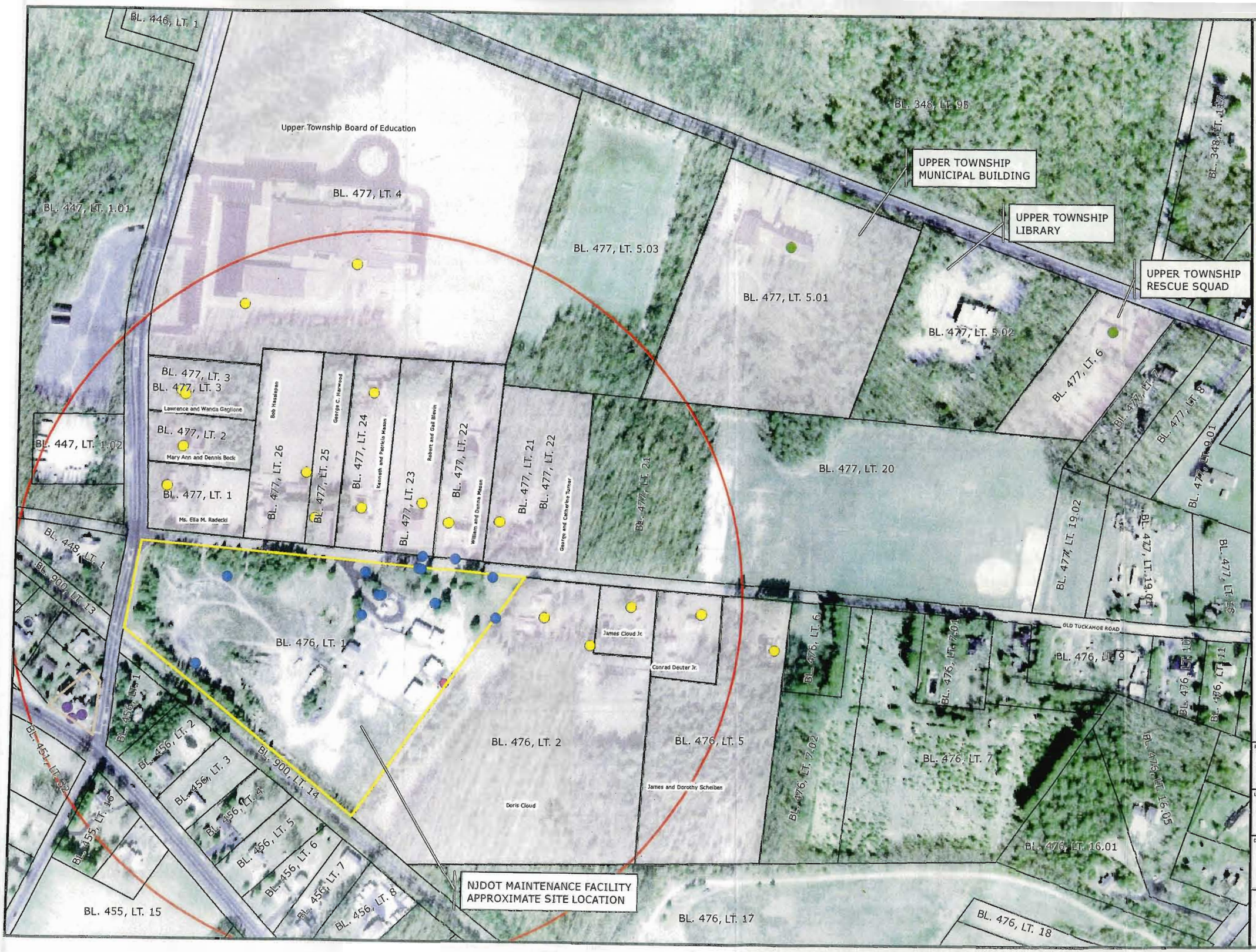


SITE LOCATION MAP
NJDOT PETERSBURG MAINTENANCE FACILITY
OLD TUCKAHOE ROAD
PETERSBURG
CAPE MAY COUNTY, NEW JERSEY

Source: USGS, 2002.

DRESDNER ROBIN
Engineering, Environmental, Planning and Surveying
371 WARREN STREET
JERSEY CITY, NJ 07302
(201) 217-9200

JOB NUMBER:	FIGURE NUMBER:
B431-604	1



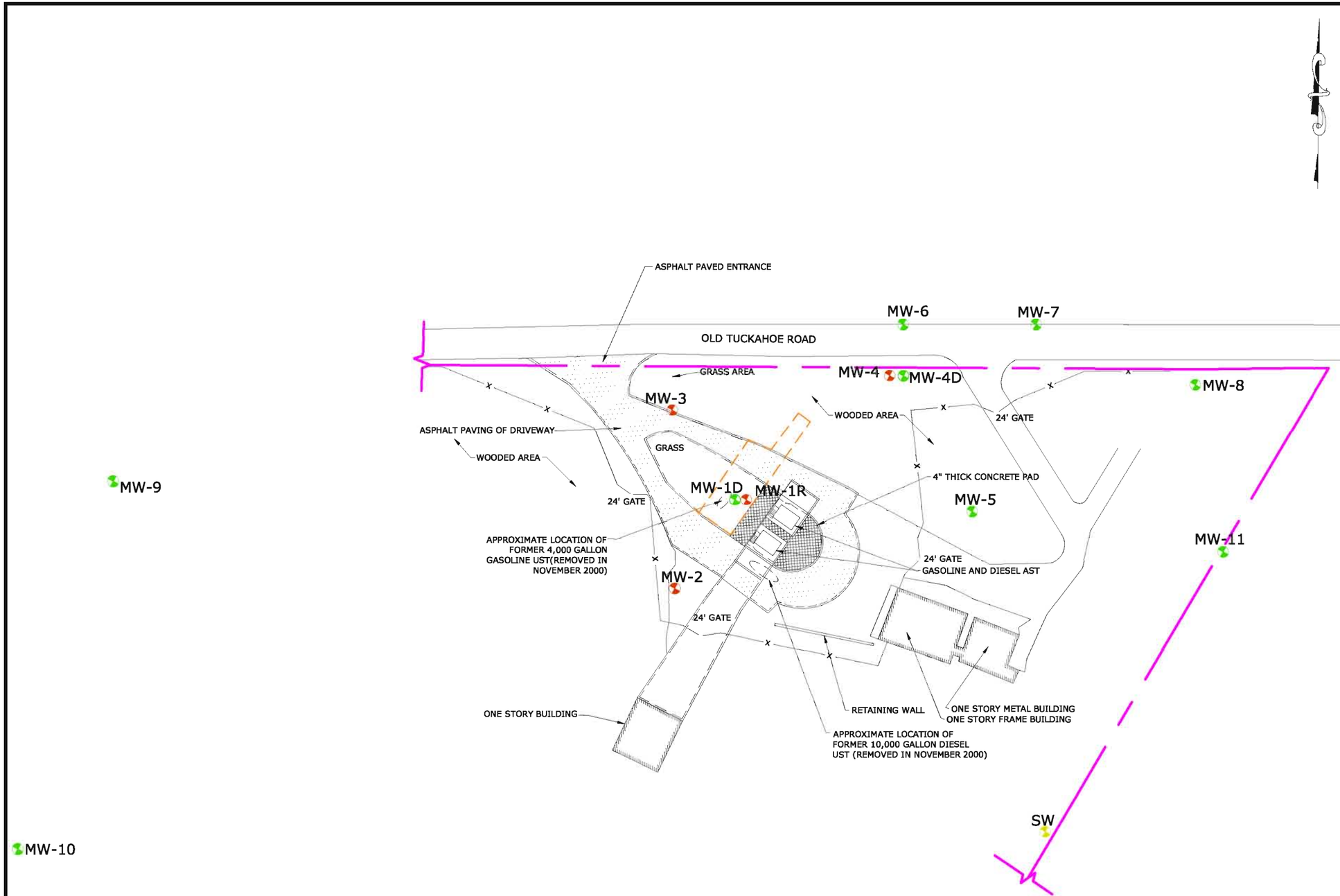
PROJECT:
NEW JERSEY DEPARTMENT
OF TRANSPORTATION
PETERSBURG MAINTENANCE FACILITY

LOCATION:
UPPER TOWNSHIP,
CAPE MAY COUNTY,
NEW JERSEY

DRAWING TITLE:
AERIAL VIEW OF SITE & SURROUNDING AREA

DRAWN BY:	J.G.V	JOB NUMBER:	B431-604
CHECKED BY:	R.W	FILE:	Flex
DATE:	04/15/09	DWG. NUMBER:	2
SCALE:	1:3,000		

DRESCHER MALIN



LEGEND

- Approximate Extent of Property Boundary
- Building
- Concrete Curb
- 6' High Chain Link Fence
- Monitoring Wells Installed by Dresdner Robin in July & August 2007
- Monitoring Wells Installed by Brocon in 2003
- Supply Well
- UST — Underground Storage Tank
- AST — Aboveground Storage Tank
- Former Excavation Area ("Approximate")'

SOURCE:

1. SITE PLAN PREPARED BY URS CORPORATION
2. MONITORING WELLS SURVEYING PERFORMED BY DRESDNER ROBIN
3. PROPERTY BOUNDARY PROVIDED BY CAPE MAY PARCEL VIEWER

GRAPHIC SCALE
(IN FEET)

70 35 0 70

PROJECT:
NEW JERSEY DEPARTMENT OF TRANSPORTATION
PETERSBURG MAINTENANCE FACILITY

LOCATION:
UPPER TOWNSHIP,
CAPE MAY COUNTY, NEW JERSEY

DRAWING TITLE:
SITE PLAN

DRESDNER ROBIN
Engineering, Environmental, Planning and Surveying
371 WARREN STREET, JERSEY CITY, NEW JERSEY, 07302

DRAWN BY: PA	JOB NUMBER: B-431-604
CHECKED BY: NN	FILE: /March '09 Limited Phase II/ Figures
DATE: 04/15/09	DWG. NUMBER: 3
SCALE: AS SHOWN	

UTMS_2
ANALYTE
TOTAL SODIUM: 8,800 µg/L
CHLORIDE: ND

UTMS_1B
ANALYTE
TOTAL SODIUM: 36,000 µg/L
CHLORIDE: 12,600 µg/L

UTMS_1A
ANALYTE
TOTAL SODIUM: 30,000 µg/L
CHLORIDE: 11,900 µg/L

MB-A
ANALYTE
TOTAL SODIUM: 4,300 µg/L
CHLORIDE: 7,800 µg/L

MB-B
ANALYTE
TOTAL SODIUM: ND
CHLORIDE: 8,100 µg/L

RS-B
ANALYTE
TOTAL SODIUM: 8,200 µg/L
CHLORIDE: 6,300 µg/L

BLEVIN - 1A
ANALYTE
TOTAL SODIUM: 3,900 µg/L
CHLORIDE: 7,100 µg/L

BLEVIN - 1B
ANALYTE
TOTAL SODIUM: 30,000 µg/L
CHLORIDE: 6,600 µg/L

MASON - 421
ANALYTE
TOTAL SODIUM: 42,000 µg/L
CHLORIDE: 69,100 µg/L

REP072508
ANALYTE
TOTAL SODIUM: 42,000 µg/L
CHLORIDE: 69,600 µg/L

RS-A
ANALYTE
TOTAL SODIUM: 3,700 µg/L
CHLORIDE: 5,700 µg/L

HARWOOD_451A
ANALYTE
TOTAL SODIUM: 17,000 µg/L
CHLORIDE: 29,100 µg/L

TURNER - 401 - A
ANALYTE
TOTAL SODIUM: 30,000 µg/L
CHLORIDE: 46,000 µg/L

HARWOOD_451B
ANALYTE
TOTAL SODIUM: 42,000 µg/L
CHLORIDE: 29,500 µg/L

TURNER - 401 - B
ANALYTE
TOTAL SODIUM: 51,000 µg/L
CHLORIDE: 45,500 µg/L

CLOUD - 390
ANALYTE
TOTAL SODIUM: 28,000 µg/L
CHLORIDE: 46,300 µg/L

CLOUD - 370 - 1
ANALYTE
TOTAL SODIUM: 45,000 µg/L
CHLORIDE: 55,900 µg/L

CLOUD - 370 - 2
ANALYTE
TOTAL SODIUM: 12,000 µg/L
CHLORIDE: 22,000 µg/L

DEUTER
ANALYTE
TOTAL SODIUM: 66,000 µg/L
CHLORIDE: 85,300 µg/L

SCHEIBEN
ANALYTE
TOTAL SODIUM: 51,000 µg/L
CHLORIDE: 80,400 µg/L

Upper Township Board of Education
Upper Township Municipal Building
Rescue Squad
Bob Hassiepen
George C. Harwood
Kenneth and Patricia Mason
Robert and Gail Blevin
William and Donna Mason
George and Catherine Turner
James Cloud Jr.
Conrad Deuter Jr.
James and Dorothy Scheiben
Doris Cloud
CAPE MAY COUNTY 631
OLD TUCKAHOE RD
PERRY

N

LEGEND
- NJDOT MAINTENANCE FACILITY
- RESIDENTIAL WELL LOCATION
- PROPERTY WITH ANALYTICAL DETECTS
- PROPERTY WITH ANALYTICAL EXCEEDANCES
- SAMPLE LOCATION

NOTE: PROPERTY BOUNDARIES ARE APPROXIMATE.

250 0 250
FEET

NJDEP
Ground Water
Quality Standards
(GWQS)

SODIUM 50,000 µg/L
CHLORIDE 250,000 µg/L

Federal/New Jersey State
Primary/Secondary
Drinking Water
Standards (FNJPSDWS)

SODIUM *50,000 µg/L*
CHLORIDE *250,000 µg/L*

ND = Non Detect

PROJECT:
NEW JERSEY DEPARTMENT
OF TRANSPORTATION
PETERSBURG MAINTENANCE FACILITY

LOCATION:
UPPER TOWNSHIP,
CAPE MAY COUNTY,
NEW JERSEY

DRAWING TITLE:
RESIDENTIAL WELL LOCATIONS
AND ANALYTICAL RESULTS
FOR SODIUM AND CHLORIDE
JULY 2008

DRESDNER ROBIN

DRAWN BY: J.G.V.
CHECKED BY: N.M.
DATE: 04/15/09
SCALE: 1:3,800
JOB NUMBER: B-431-604
FILE: mxd
DWG. NUMBER: 4

Source: USGS 2002, Cape May County 2007 and Dresdner Robin Sampling July 2008

UTMS_2
ANALYTE
TOTAL LEAD: 3.1 µg/L
DISSOLVED LEAD: 12.0 µg/L

UTMS_1B
ANALYTE
TOTAL LEAD: 0.58 µg/L
DISSOLVED LEAD: ND

UTMS_1A
ANALYTE
TOTAL LEAD: 1.7 µg/L
DISSOLVED LEAD: ND

MB-A
ANALYTE
TOTAL LEAD: 13.0 µg/L
DISSOLVED LEAD: 6.0 µg/L

MB-B
ANALYTE
TOTAL LEAD: 0.36 µg/L
DISSOLVED LEAD: ND

RS-A
ANALYTE
TOTAL LEAD: 0.93 µg/L
DISSOLVED LEAD: 0.64 µg/L

RS-B
ANALYTE
TOTAL LEAD: 0.36 µg/L
DISSOLVED LEAD: ND

BLEVIN - 1A
ANALYTE
TOTAL LEAD: 0.89 µg/L
DISSOLVED LEAD: 0.78 µg/L

BLEVIN - 1B
ANALYTE
TOTAL LEAD: ND
DISSOLVED LEAD: ND

MASON - 421
ANALYTE
TOTAL LEAD: 3.7 µg/L
DISSOLVED LEAD: 1.9 µg/L

REP072508
ANALYTE
TOTAL LEAD: 5.3 µg/L
DISSOLVED LEAD: 2.4 µg/L

HARWOOD_451A
ANALYTE
TOTAL LEAD: 0.64 µg/L
DISSOLVED LEAD: 1.1 µg/L

HARWOOD_451B
ANALYTE
TOTAL LEAD: 1.1 µg/L
DISSOLVED LEAD: ND

TURNER - 401 - A
ANALYTE
TOTAL LEAD: 0.83 µg/L
DISSOLVED LEAD: 1.3 µg/L

TURNER - 401 - B
ANALYTE
TOTAL LEAD: 0.58 µg/L
DISSOLVED LEAD: 0.56 µg/L

CLOUD - 390
ANALYTE
TOTAL LEAD: 1.0 µg/L
DISSOLVED LEAD: 0.98 µg/L

CLOUD - 370 - 1
ANALYTE
TOTAL LEAD: 3.3 µg/L
DISSOLVED LEAD: 1.0 µg/L

CLOUD - 370 - 2
ANALYTE
TOTAL LEAD: 4.0 µg/L
DISSOLVED LEAD: 2.2 µg/L

DEUTER
ANALYTE
TOTAL LEAD: 4.5 µg/L
DISSOLVED LEAD: 1.0 µg/L

SCHEIBEN
ANALYTE
TOTAL LEAD: 3.3 µg/L
DISSOLVED LEAD: 2.2 µg/L

Upper Township Board of Education
Upper Township Municipal Building
Rescue Squad
George C. Harwood
Robert and Gail
William and Donna Mason
George and Catherine Turner
James Cloud Jr.
Conrad Deuter Jr.
James and Dorothy Scheiben
Doris Cloud
CAPE MAY COUNTY 631
OLD TUCKAHOE RD
PERRY

N

LEGEND
- NJDOT MAINTENANCE FACILITY
- RESIDENTIAL WELL LOCATION
- PROPERTY WITH ANALYTICAL DETECT
- PROPERTY WITH ANALYTICAL EXCEEDANCE
- SAMPLE LOCATION

NOTE: PROPERTY BOUNDARIES ARE APPROXIMATE.

250 0 250
FEET

NJDEP
GROUND WATER
QUALITY STANDARDS
(GWQS)

TOTAL LEAD 5 µg/L
DISSOLVED LEAD 5 µg/L

FEDERAL/NEW JERSEY STATE
PRIMARY/SECONDARY
DRINKING WATER
STANDARDS (FNJPSDWS)

TOTAL LEAD *15 µg/L*
DISSOLVED LEAD *15 µg/L*

PROJECT:
NEW JERSEY DEPARTMENT
OF TRANSPORTATION
PETERSBURG MAINTENANCE FACILITY

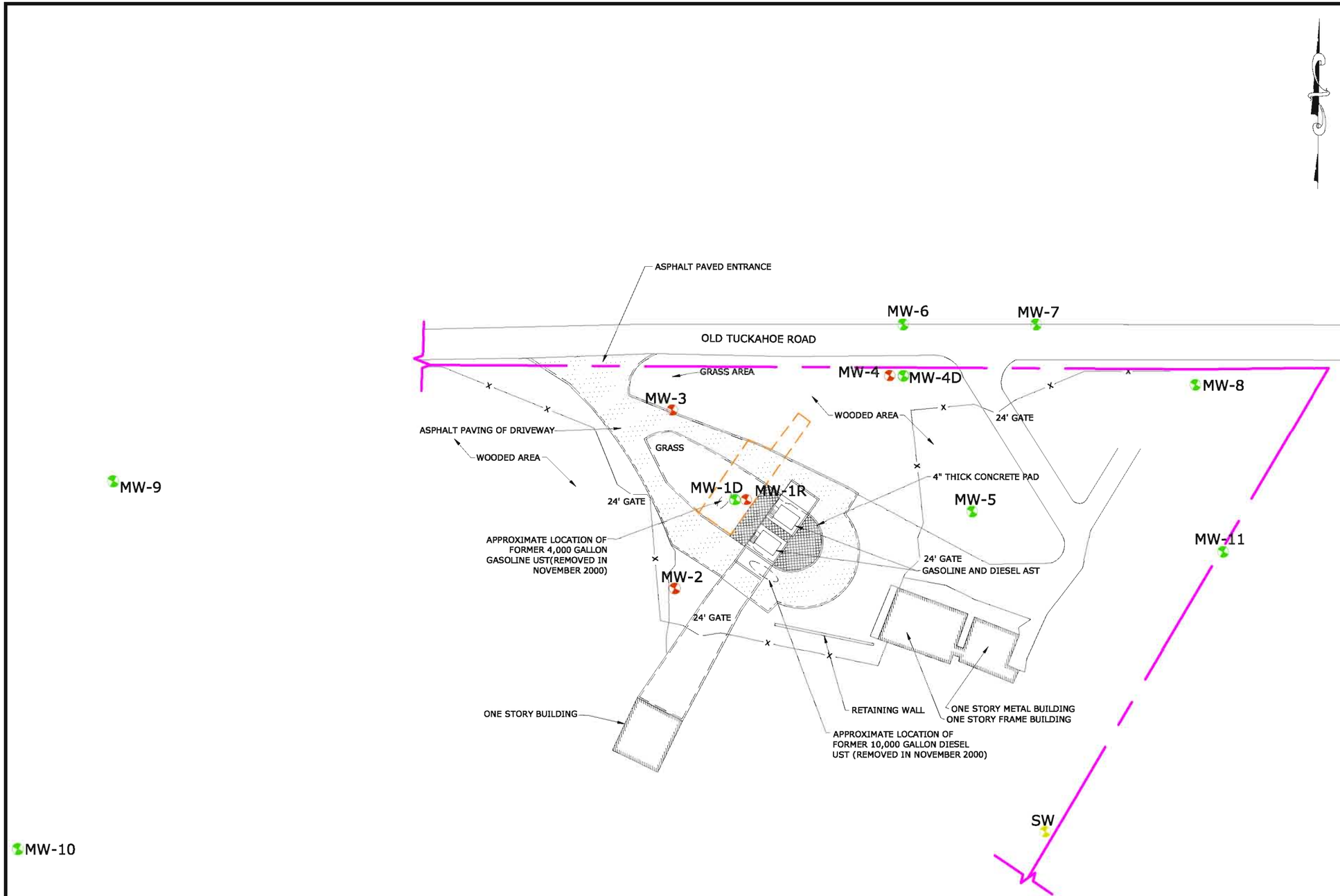
LOCATION:
UPPER TOWNSHIP,
CAPE MAY COUNTY,
NEW JERSEY

DRAWING TITLE:
RESIDENTIAL WELL LOCATIONS
AND ANALYTICAL RESULTS
FOR TOTAL AND DISSOLVED LEAD
JULY 2008

DRESDNER ROBIN

DRAWN BY: J.S.V
CHECKED BY: N.N.
DATE: 07/15/09
SCALE: 1:3,000
JOB NUMBER: 9-431-604
FILE: Read
DWG. NUMBER: 5

Source: USGS 2002, Cape May County 2007 and Dresdner Robin Sampling July 2008



LEGEND

- Approximate Extent of Property Boundary
- Building
- Concrete Curb
- 6' High Chain Link Fence
- Monitoring Wells Installed by Dresdner Robin in July & August 2007
- Monitoring Wells Installed by Brocon in 2003
- Supply Well
- UST — Underground Storage Tank
- AST — Aboveground Storage Tank
- Former Excavation Area ("Approximate")'

SOURCE:

1. SITE PLAN PREPARED BY URS CORPORATION
2. MONITORING WELLS SURVEYING PERFORMED BY DRESDNER ROBIN
3. PROPERTY BOUNDARY PROVIDED BY CAPE MAY PARCEL VIEWER

GRAPHIC SCALE (IN FEET)

70 35 0 70

PROJECT:

NEW JERSEY DEPARTMENT OF TRANSPORTATION
PETERSBURG MAINTENANCE FACILITY

LOCATION:

UPPER TOWNSHIP,
CAPE MAY COUNTY, NEW JERSEY

DRAWING TITLE:

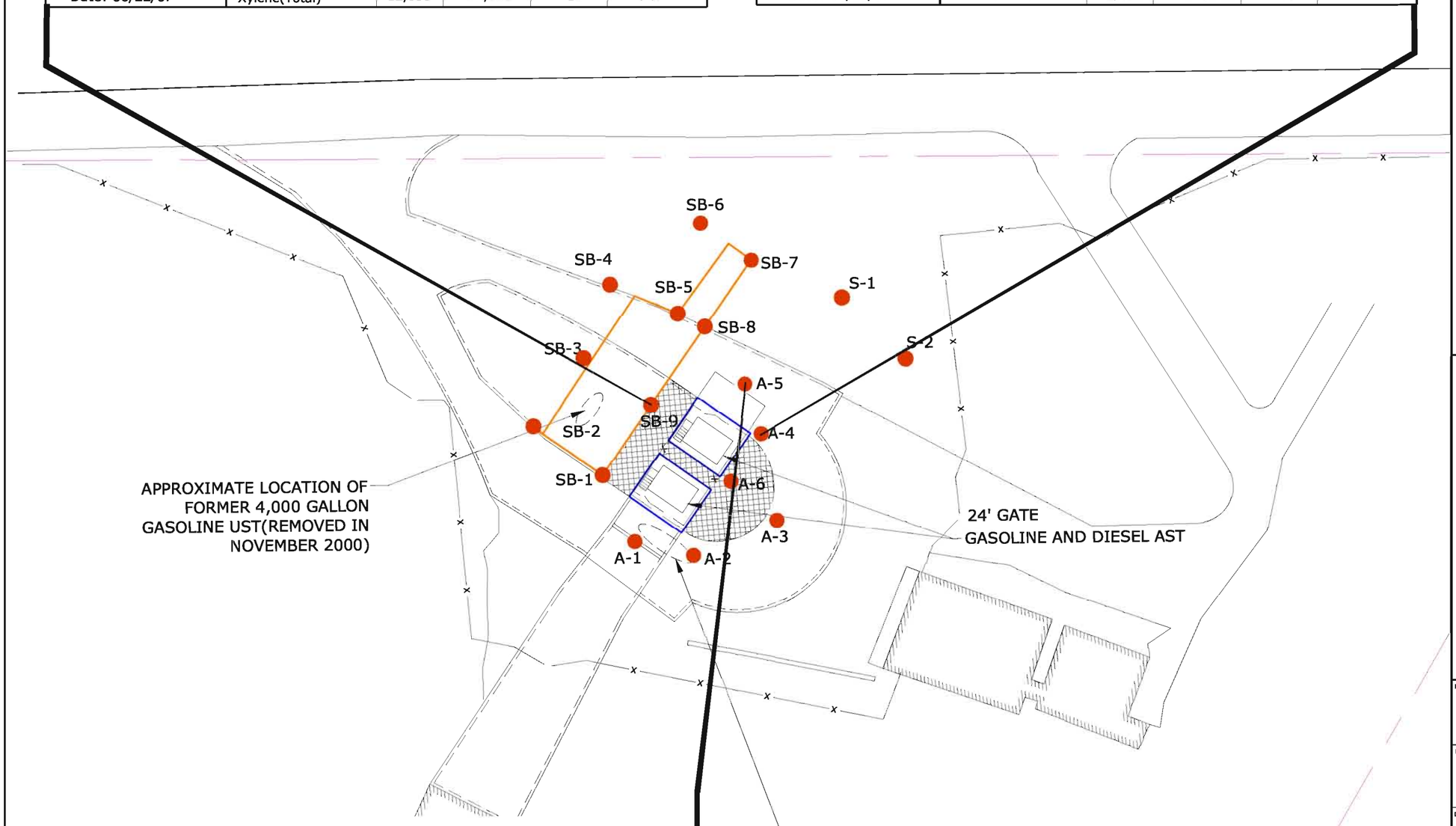
MONITORING WELL LOCATIONS

DRESDNER ROBIN
Engineering, Environmental, Planning and Surveying
371 WARREN STREET, JERSEY CITY, NEW JERSEY, 07302

DRAWN BY: PA	JOB NUMBER: B-431-604
CHECKED BY: NN	FILE: /March '09 Limited Phase II/ Figures
DATE: 04/15/09	DWG. NUMBER: 6
SCALE: AS SHOWN	

Sample ID:	Depth (ft):	Analyte	NJDEP RDCSRS (mg/Kg)	NJDEP NRDCSRS (mg/Kg)	NJDEP IGWSRS (mg/Kg)	Contaminant Concentration (mg/Kg)
SB-9B	16.0-16.5	Ethylbenzene	7,800	110,000	8	11
		Toluene	6,300	91,000	4	20
Date: 06/22/07		Xylene(Total)	12,000	170,000	12	74

Sample ID:	Depth ft:	Analyte	NJDEP RDCSRS (mg/Kg)	NJDEP NRDCSRS (mg/Kg)	NJDEP IGWSRS (mg/Kg)	Contaminant Concentration (mg/Kg)
A-4B	15.5-16.0	Ethylbenzene	7,800	110,000	8	14
Date: 06/21/07		Xylene(Total)	12,000	170,000	12	100



Sample ID:	Depth (ft):	Analyte	NJDEP RDCSRS (mg/Kg)	NJDEP NRDCSRS (mg/Kg)	NJDEP IGWSRS (mg/Kg)	Contaminant Concentration (mg/Kg)
A-5B	17.0-17.5	Ethylbenzene	7,800	110,000	8	8.5
		Toluene	6,300	91,000	4	15
Date: 06/21/07		Xylene(Total)	12,000	170,000	12	64

LEGEND

- Approximate Extent of Property Boundary
- Building
- Concrete Curb
- 6' High Chain Link Fence
- Soil Boring Location
- Extent of Former Excavation (Appromiximate)

NJDEP	New Jersey Department of Environmental Protection
mg/Kg	Milligrams per Kilogram, Equivalent to Parts Per Million (PPM)
RDCSRS	Residential Direct Contact Soil Remediation Standard
NRDCSRS	Non-Residential Direct Contact Soil Remediation Standard
IGWSRS	Impact to Groundwater Soil Remediation Standard

NOTES:

1. SB-4, SB-5, & SB-6 LOCATIONS WERE MOVED TOWARDS THE WEST DUE TO ANONALIES DETECTED DURING THE GEOPHYSICAL SURVEY PERFORMED ON JUNE 18, 2007 OR BASED ON FIELD OBSERVATIONS.

SOURCE:

1. SITE PLAN PREPARED BY URS CORPORATION
2. PROPERTY BOUNDARY PROVIDED BY CAPE MAY COUNTY PARCEL VIEWER
3. FORMER EXCAVATION LIMITS PROVIDED IN SOIL REMEDIATION AND GROUNDWATER INVESTIGATION SUMMARY REPORT PREPARED BY BROCON PETROLEUM DATED AUGUST 27, 2004

GRAPHIC SCALE (IN FEET)

40 20 0 40

PROJECT:
NEW JERSEY DEPARTMENT OF TRANSPORTATION
PETERSBURG MAINTENANCE FACILITY

LOCATION:
UPPER TOWNSHIP,
CAPE MAY COUNTY, NEW JERSEY

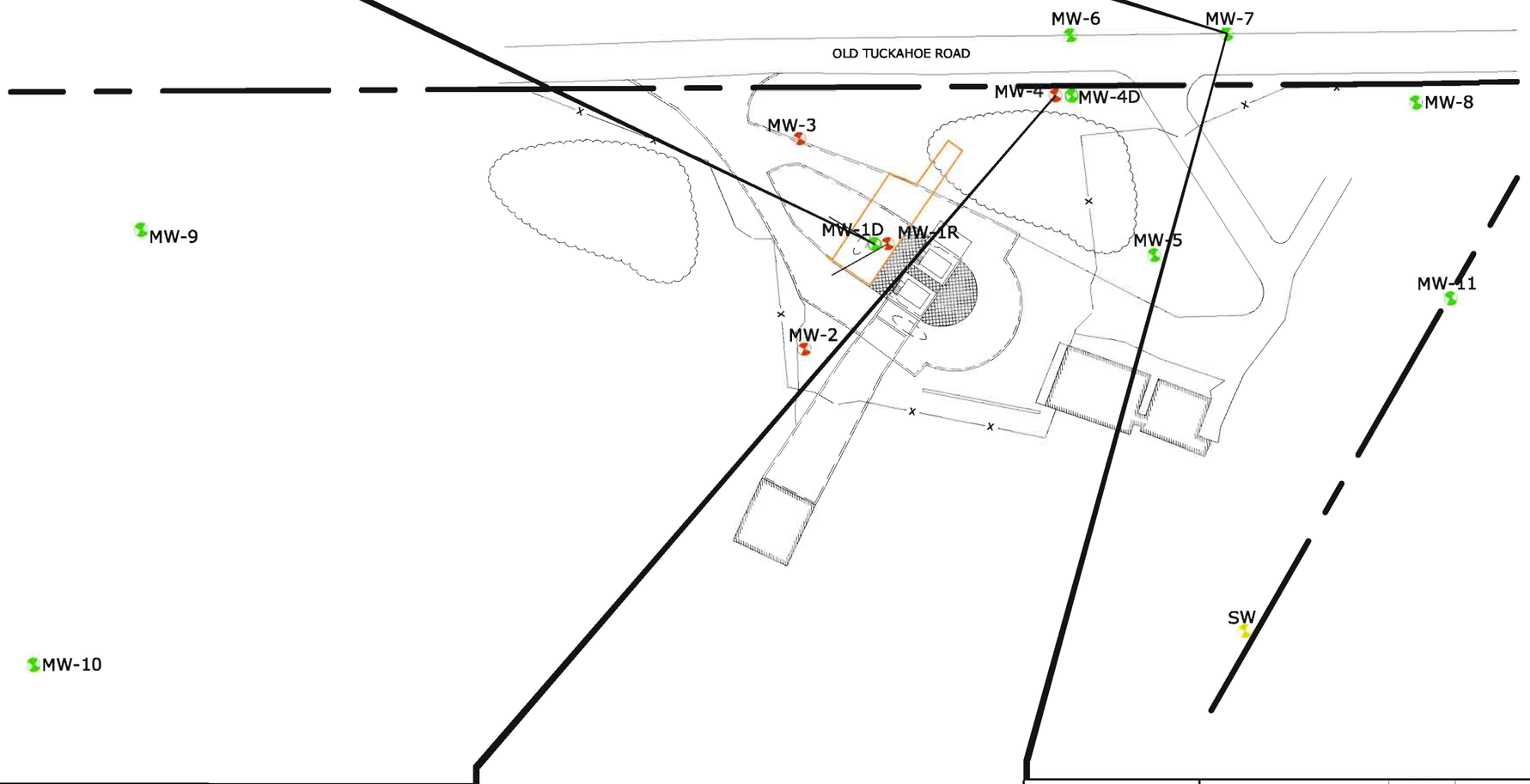
DRAWING TITLE:
SOIL BORING LOCATIONS
AND ANALYTICAL RESULTS EXCEEDING
NJDEP'S SOIL REMEDIATION STANDARDS

DRESDNER ROBIN
Engineering, Environmental, Planning and Surveying
371 WARREN STREET, JERSEY CITY, NEW JERSEY, 07302

DRAWN BY: PA	JOB NUMBER: B-431-604
CHECKED BY: NN	FILE: /March '09 Limited Phase II/ Figures
DATE: 04/15/09	DWG. NUMBER: 7
SCALE: AS SHOWN	

Sample ID:	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (ug/L)
MW-1R Date: 07/17/08	Total Estimated Conc.(TIC) (Volatiles)	500	1,032

Sample ID:	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (ug/L)
DUP71608 Date: 07/16/08	Benzene	1	7.9
	MTBE	70	100
	Total Estimated Conc.(TIC) (Volatiles)	500	525
	Total Estimated Conc.(TIC) (SemiVolatiles)	500	616.6



Sample ID:	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (ug/L)
MW-4 Date: 07/17/08	Xylene (Total)	1,000	1,000
	Total Estimated Conc.(TIC) (Volatiles)	500	2,395
	Total Estimated Conc.(TIC) (SemiVolatiles)	500	1,809

Sample ID:	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (ug/L)
MW-7 Date: 07/16/08	Benzene	1	16
	MTBE	70	180
	Total Estimated Conc.(TIC) (Volatiles)	500	1,094

LEGEND

- Approximate Extent of Property Boundary
- Building
- Concrete Curb
- 6' High Chain Link Fence
- Monitoring Wells Installed by Dresdner Robin in July & August 2007
- Monitoring Wells Installed by Brocon in 2003
- Supply Well
- Extent of Former Excavation

NJDEP — New Jersey Department of Environmental Protection

GWQS — Groundwater Quality Standards

ug/L — Micrograms per Liter Equivalent to Parts Per Billion (PPB)

SOURCE:

1. SITE PLAN PREPARED BY URS CORPORATION
2. MONITORING WELL SURVEYING PERFORMED BY DRESDNER ROBIN

GRAPHIC SCALE
(IN FEET)
75 37.5 0 75

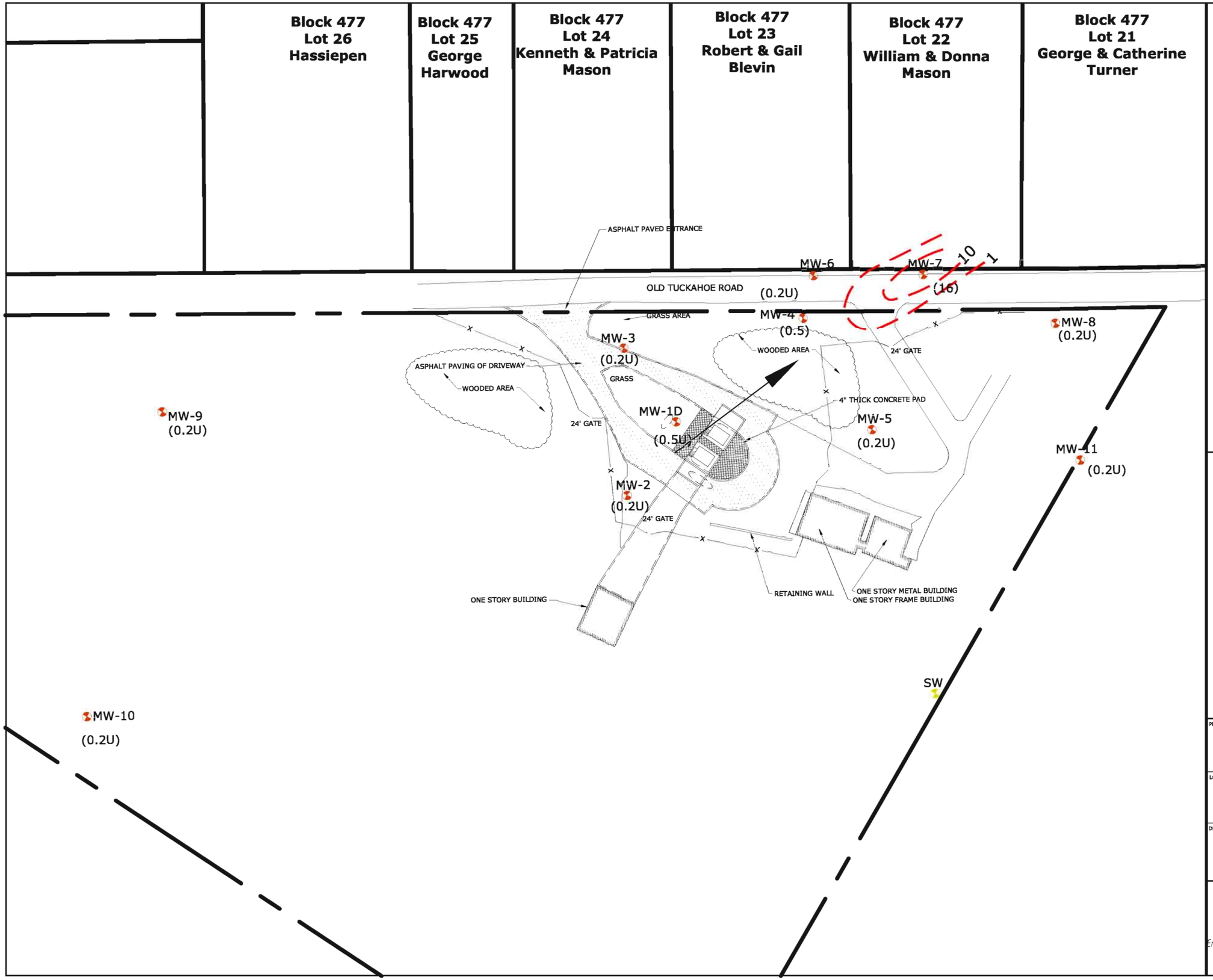
PROJECT:
NEW JERSEY DEPARTMENT OF TRANSPORTATION
PETERSBURG MAINTENANCE FACILITY

LOCATION:
UPPER TOWNSHIP,
CAPE MAY COUNTY, NEW JERSEY

DRAWING TITLE:
GROUNDWATER EXCEEDANCES
(JULY 2008)

DRESDNER ROBIN
Engineering, Environmental, Planning and Surveying
371 WARREN STREET, JERSEY CITY, NEW JERSEY, 07302

DRAWN BY: PA	JOB NUMBER: B-431-604
CHECKED BY: NN	FILE: /March '09 Limited Phase II/ Figures
DATE: 04/15/09	DWG. NUMBER: 8
SCALE: AS SHOWN	



LEGEND

- Approximate Extent of Property Boundary
- Lot Line
- Building
- Concrete Curb
- x—x—x—x 6' High Chain Link Fence
- MW-1R Monitoring Well Location
- SW Supply Well
- 1 Inferred Line of Equal Benzene Concentration
- U The Compound was not Detected at the Indicated Concentration
- (0.2U) Benzene Concentration (ug/L)
- µg/L Micrograms per Liter Equivalent to Parts Per Billion (PPB)

NOTES:

1. PROFESSIONAL JUDGEMENT HAS BEEN USED IN INTERPRETING AND REPRESENTING GROUND WATER CONTOURS.
2. SURFER® 8 SOFTWARE AND KRIGING METHOD UTILIZED FOR GENERATION OF GROUND WATER CONTOURS.
3. CONTOUR INTERVAL 10 ug/L.

SOURCE:

1. SITE PLAN PREPARED BY URS CORPORATION
2. MONITORING WELL SURVEYING PERFORMED BY DRESDNER ROBIN

GRAPHIC SCALE
(IN FEET)
75 37.5 0 75

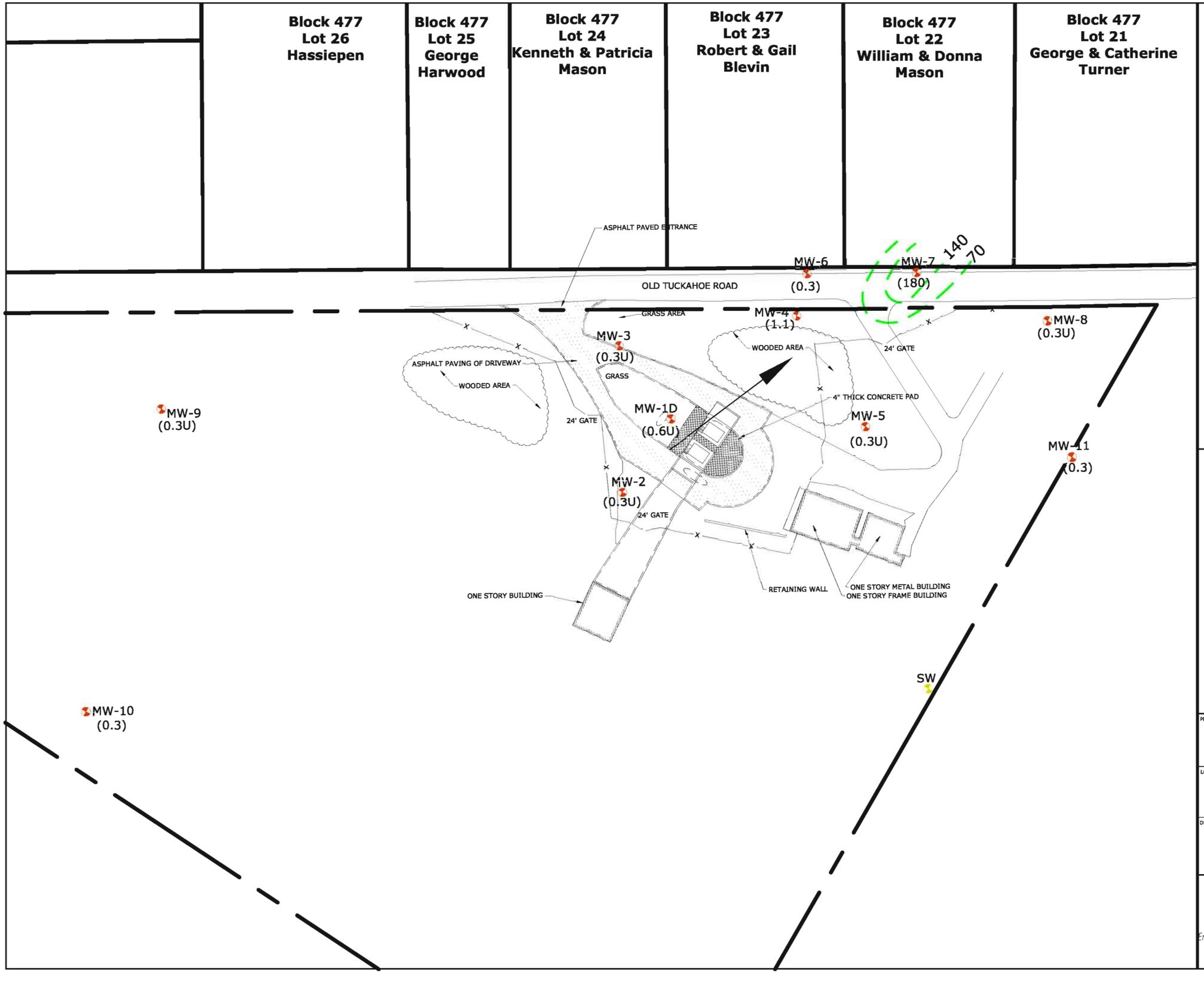
PROJECT:
NEW JERSEY DEPARTMENT OF TRANSPORTATION
PETERSBURG MAINTENANCE FACILITY

LOCATION:
UPPER TOWNSHIP,
CAPE MAY COUNTY, NEW JERSEY

DRAWING TITLE:
BENZENE (SHALLOW) ISOCONCENTRATION CONTOURS (JULY 2008)

DRESDNER ROBIN
Engineering, Environmental, Planning and Surveying
371 WARREN STREET, JERSEY CITY, NEW JERSEY, 07302

DRAWN BY: PA	JOB NUMBER: B-431-604
CHECKED BY: NN	FILE: /March '09 Limited Phase II/ Figures
DATE: 04/15/09	DWG. NUMBER: 9
SCALE: AS SHOWN	



LEGEND

- Approximate Extent of Property Boundary
- Lot Line
- Building
- Concrete Curb
- 6' High Chain Link Fence
- MW-1R — Monitoring Well Location
- SW — Supply Well
- 70 — Inferred Line of Equal MTBE Concentration
- U — The Compound was not Detected at the Indicated Concentration
- (0.3U) — MTBE Concentration (ug/L)
- µg/L — Micrograms per Liter Equivalent to Parts Per Billion (PPB)

NOTES:

1. PROFESSIONAL JUDGEMENT HAS BEEN USED IN INTERPRETING AND REPRESENTING GROUND WATER CONTOURS.
2. SURFER® 8 SOFTWARE AND KRIGING METHOD UTILIZED FOR GENERATION OF GROUND WATER CONTOURS.
3. CONTOUR INTERVAL 70.00 ug/L.

SOURCE:

1. SITE PLAN PREPARED BY URS CORPORATION
2. MONITORING WELL SURVEYING PERFORMED BY DRESDNER ROBIN

GRAPHIC SCALE
(IN FEET)
75 37.5 0 75

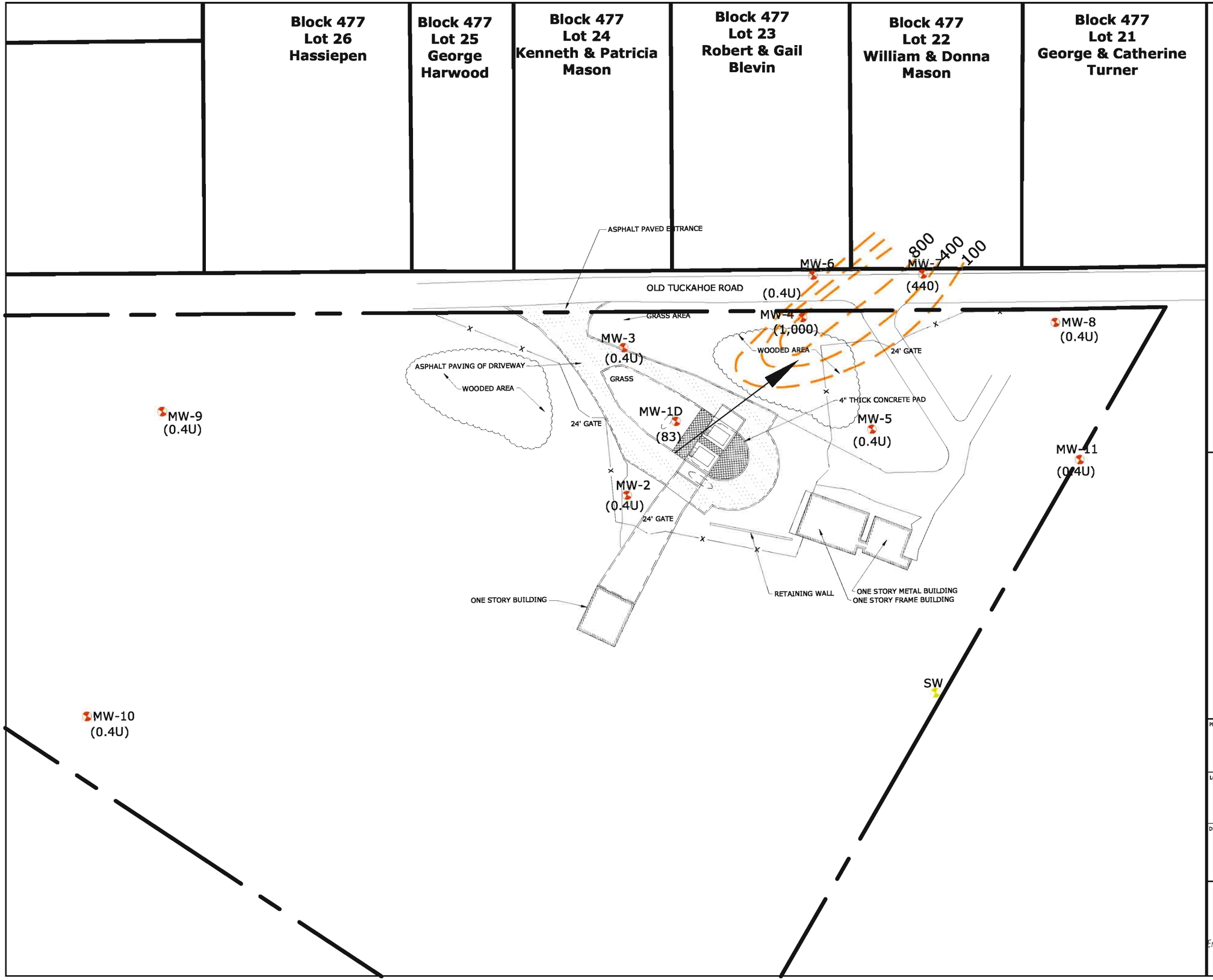
PROJECT:
NEW JERSEY DEPARTMENT OF TRANSPORTATION
PETERSBURG MAINTENANCE FACILITY

LOCATION:
UPPER TOWNSHIP,
CAPE MAY COUNTY, NEW JERSEY

DRAWING TITLE:
MTBE (SHALLOW)ISOCONCENTRATION CONTOURS
(JULY 2008)

DRESDNER ROBIN
Engineering, Environmental, Planning and Surveying
371 WARREN STREET, JERSEY CITY, NEW JERSEY, 07302

DRAWN BY: PA	JOB NUMBER: B-431-604
CHECKED BY: NN	FILE: /March '09 Limited Phase II/ Figures
DATE: 04/15/09	DWG. NUMBER: 10
SCALE: AS SHOWN	



LEGEND

- Approximate Extent of Property Boundary
- Lot Line
- Building
- Concrete Curb
- x—x—x—x 6' High Chain Link Fence
- MW-1R Monitoring Well Location
- SW Supply Well
- 800 Inferred Line of Equal Total Xylenes Concentration
- U The Compound was not Detected at the Indicated Concentration
- (0.4U) Total Xylenes Concentration (ug/L)
- µg/L Micrograms per Liter Equivalent to Parts Per Billion (PPB)

NOTES:

1. PROFESSIONAL JUDGEMENT HAS BEEN USED IN INTERPRETING AND REPRESENTING GROUND WATER CONTOURS.
2. SURFER® 8 SOFTWARE AND KRIGING METHOD UTILIZED FOR GENERATION OF GROUND WATER CONTOURS.
3. CONTOUR INTERVAL 400 ug/L.

SOURCE:

1. SITE PLAN PREPARED BY URS CORPORATION
2. MONITORING WELL SURVEYING PERFORMED BY DRESDNER ROBIN

GRAPHIC SCALE
(IN FEET)
75 37.5 0 75

PROJECT:
NEW JERSEY DEPARTMENT OF TRANSPORTATION
PETERSBURG MAINTENANCE FACILITY

LOCATION:
UPPER TOWNSHIP,
CAPE MAY COUNTY, NEW JERSEY

DRAWING TITLE:
TOTAL XYLENES (SHALLOW)
ISOCONCENTRATION CONTOURS
(JULY 2008)

DRESDNER ROBIN
Engineering, Environmental, Planning and Surveying
371 WARREN STREET, JERSEY CITY, NEW JERSEY, 07302

DRAWN BY: PA	JOB NUMBER: B-431-604
CHECKED BY: NN	FILE: /March '09 Limited Phase II/ Figures
DATE: 04/15/09	DWG. NUMBER: 11
SCALE: AS SHOWN	

Block 477
Lot 26
Hassiepen

Block 477
Lot 25
George
Harwood

Block 477
Lot 24
Kenneth & Patricia
Mason

Block 477
Lot 23
Robert & Gail
Blevin

Block 477
Lot 22
William & Donna
Mason

Block 477
Lot 21
George & Catherine
Turner

ASPHALT PAVED ENTRANCE

OLD TUCKAHOE ROAD

GRASS AREA

ASPHALT PAVING OF DRIVEWAY

WOODED AREA

GRASS

24' GATE

WOODED AREA

24' GATE

4" THICK CONCRETE PAD

MW-1R (15.22)

MW-2 (15.51)

MW-3 (15.23)

MW-4 (15.12)

MW-5 (15.18)

MW-6 (15.10)

MW-7 (14.58)

MW-8 (14.78)

MW-9 (16.21)

MW-10 (16.67)

MW-11 (14.85)

SW

16.2 16.1 16 15.9 15.8 15.7 15.6 15.5 15.4 15.3 15.2 15.1 15 14.9 14.8 14.7

ONE STORY BUILDING

RETAINING WALL

ONE STORY METAL BUILDING
ONE STORY FRAME BUILDING

LEGEND

- Approximate Extent of Property Boundary
- Lot Line
- Building
- Concrete Curb
- x—x—x—x 6' High Chain Link Fence
- MW-1R Monitoring Well Location
- SW Supply Well
- (14.58) Ground Water Elevation (ft. amsl)
- 15.10 Inferred Ground Water Elevation Contour
- Approximate Directon of Ground Water Flow

NOTES:

1. PROFESSIONAL JUDGEMENT HAS BEEN USED IN INTERPRETING AND REPRESENTING GROUND WATER CONTOURS.
2. SURFER® 8 SOFTWARE AND KRIGING METHOD UTILIZED FOR GENERATION OF GROUND WATER CONTOURS.
3. CONTOUR INTERVAL 0.10 FEET.

SOURCE:

1. SITE PLAN PREPARED BY URS CORPORATION
2. MONITORING WELL SURVEYING PERFORMED BY DRESDNER ROBIN

GRAPHIC SCALE
(IN FEET)
75 37.5 0 75

PROJECT:
NEW JERSEY DEPARTMENT OF TRANSPORTATION
PETERSBURG MAINTENANCE FACILITY

LOCATION:
UPPER TOWNSHIP,
CAPE MAY COUNTY, NEW JERSEY

DRAWING TITLE:
GROUNDWATER CONTOURS
(SHALLOW AQUIFER)
(JULY 14, 2008)

DRESDNER ROBIN
Engineering, Environmental, Planning and Surveying
371 WARREN STREET, JERSEY CITY, NEW JERSEY, 07302

DRAWN BY: PA	JOB NUMBER: B-431-604
CHECKED BY: NN	FILE: /NOV.2008 MEETING
DATE: 11/17/08	DWG. NUMBER: 12
SCALE: AS SHOWN	

LEGEND

- Lot line
- Building
- Concrete Curb
- 6' High Chain Link Fence
- Monitoring Well Locations
- Temporary Well Point Locations
- Deep Soil Boring
- Line of Section (A' – A)

S Shallow
I Intermediate
D Deep

SOURCE:

1. SITE PLAN PREPARED BY URS CORPORATION
2. SITE SURVEYING PERFORMED BY DRESDNER ROBIN

GRAPHIC SCALE
(IN FEET)

200 100 0 200

Sample ID: TW-2S	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (mg/Kg)
Date: 09/23/08	Lead (Total)	5	559
Depth: 15.0-25.0			

Sample ID: TW-2D	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (mg/Kg)
Date: 09/23/08	Lead (Total)	5	348
Depth: 37.0-42.0			

Sample ID: TW-5S	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (mg/Kg)
Date: 10/01/08	Benzene	1	7.5
Depth: 15.0-25.0	MTBE	70	180

Sample ID: TW-5D	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (mg/Kg)
Date: 09/30/08	Lead (Total)	5	10.5
Depth: 55.0-65.0			

Sample ID: TW-5I	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (mg/Kg)
Date: 09/30/08	Lead (Total)	5	5.3
Depth: 35.0-45.0			

Sample ID: TW-10S	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (mg/Kg)
Date: 10/02/08	Benzene	1	9.8
Depth: 15.0-25.0	MTBE	70	230

Sample ID: TW-10D	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (mg/Kg)
Date: 10/02/08	Lead (Total)	5	30.7
Depth: 55.0-65.0			

Sample ID: TURNER -401A	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (mg/Kg)
Date: 07/2008	MTBE	70	0.6

Sample ID: TURNER -401B	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (mg/Kg)
Date: 07/2008	MTBE	70	0.6

Sample ID: TW-11	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (mg/Kg)
Date: 10/07/08	Benzene	1	7.2
Depth: 15.0-25.0	MTBE	70	180

Sample ID: CLOUD 370-1	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (mg/Kg)
Date: 07/2008	MTBE	70	0.6

Sample ID: TW-13S	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (mg/Kg)
Date: 10/07/08	Benzene	1	3.5
Depth: 15.0-25.0	MTBE	70	140

Sample ID: TW-12	Analyte	NJDEP GWQS (ug/L)	Contaminant Concentration (mg/Kg)
Date: 10/07/08	Benzene	1	6.2
Depth: 15.0-25.0	MTBE	70	170

PROJECT:
NEW JERSEY DEPARTMENT OF TRANSPORTATION
PETERSBURG MAINTENANCE FACILITY

LOCATION:
UPPER TOWNSHIP,
CAPE MAY COUNTY, NEW JERSEY

DRAWING TITLE:
TEMPORARY WELL POINTS AND GROUNDWATER ANALYTICAL RESULTS EXCEEDING CRITERIA

DRESDNER ROBIN
Engineering, Environmental, Planning and Surveying
371 WARREN STREET, JERSEY CITY, NEW JERSEY, 07302

DRAWN BY:	JOB NUMBER:
PA	B-431-604
CHECKED BY:	FILE:
NN	/March '09 Limited Phase II/ Figures
DATE:	DWG. NUMBER:
04/15/09	13
SCALE:	
AS SHOWN	

BL. 447, LT. 1.01

BL. 477, LT. 4

BL. 348, LT. 95

BL. 348, LT. 117

UPPER TOWNSHIP MUNICIPAL BUILDING

UPPER TOWNSHIP LIBRARY

UPPER TOWNSHIP RESCUE SQUAD

BL. 477, LT. 5.03

BL. 477, LT. 5.01

BL. 477, LT. 5.02

BL. 477, LT. 6

BL. 477, LT. 7

BL. 477, LT. 8

BL. 477, LT. 3

Lawrence and Wanda Gaglione

BL. 477, LT. 2

Mary Ann and Dennis Bock

BL. 477, LT. 1

Ms. Ella M. Radecki

BL. 477, LT. 26

BL. 477, LT. 25

Bob Hassapan

George C. Harwood

BL. 477, LT. 24

Kenneth and Patricia Mason

BL. 477, LT. 23

Robert and Gail Blevin

BL. 477, LT. 22

William and Donna Mason

BL. 477, LT. 21

George and Catherine Turner

BL. 477, LT. 20

BL. 477, LT. 19.02

BL. 477, LT. 18

BL. 448, LT. 1

BL. 900, LT. 13

BL. 476, LT. 1

James Cloud Jr.

Conrad Deuter Jr.

Doris Cloud

BL. 476, LT. 2

BL. 476, LT. 5

James and Dorothy Scheiben

BL. 476, LT. 17

BL. 476, LT. 18

BL. 476, LT. 2

BL. 900, LT. 14

BL. 456, LT. 3

BL. 456, LT. 4

BL. 456, LT. 5

BL. 456, LT. 6

BL. 456, LT. 7

BL. 456, LT. 8

BL. 455, LT. 15

NJDOT MAINTENANCE FACILITY
APPROXIMATE SITE LOCATION

UPPER TOWNSHIP MUNICIPAL BUILDING

TURNER_B1
ANALYTE
METHYLENE CHLORIDE: 1.2 ppbv

TURNER_SS1
ANALYTE
CHLOROFORM: 10 ppbv

160 80 0 160 320
Feet

N

LEGEND

- NJDOT MAINTENANCE FACILITY
- APPROXIMATE PROPERTY LINE
- 1000 FT. FACILITY RADIUS
- PROPERTY WITH SAMPLED RESIDENTIAL WELL

NOTE: PROPERTY BOUNDARIES ARE APPROXIMATE.

INDOOR AIR SAMPLE LOCATIONS
- BACKGROUND
- INDOOR AIR
- SUBSLAB AND BACKGROUND
- SUBSLAB

250 125 0 250
Feet

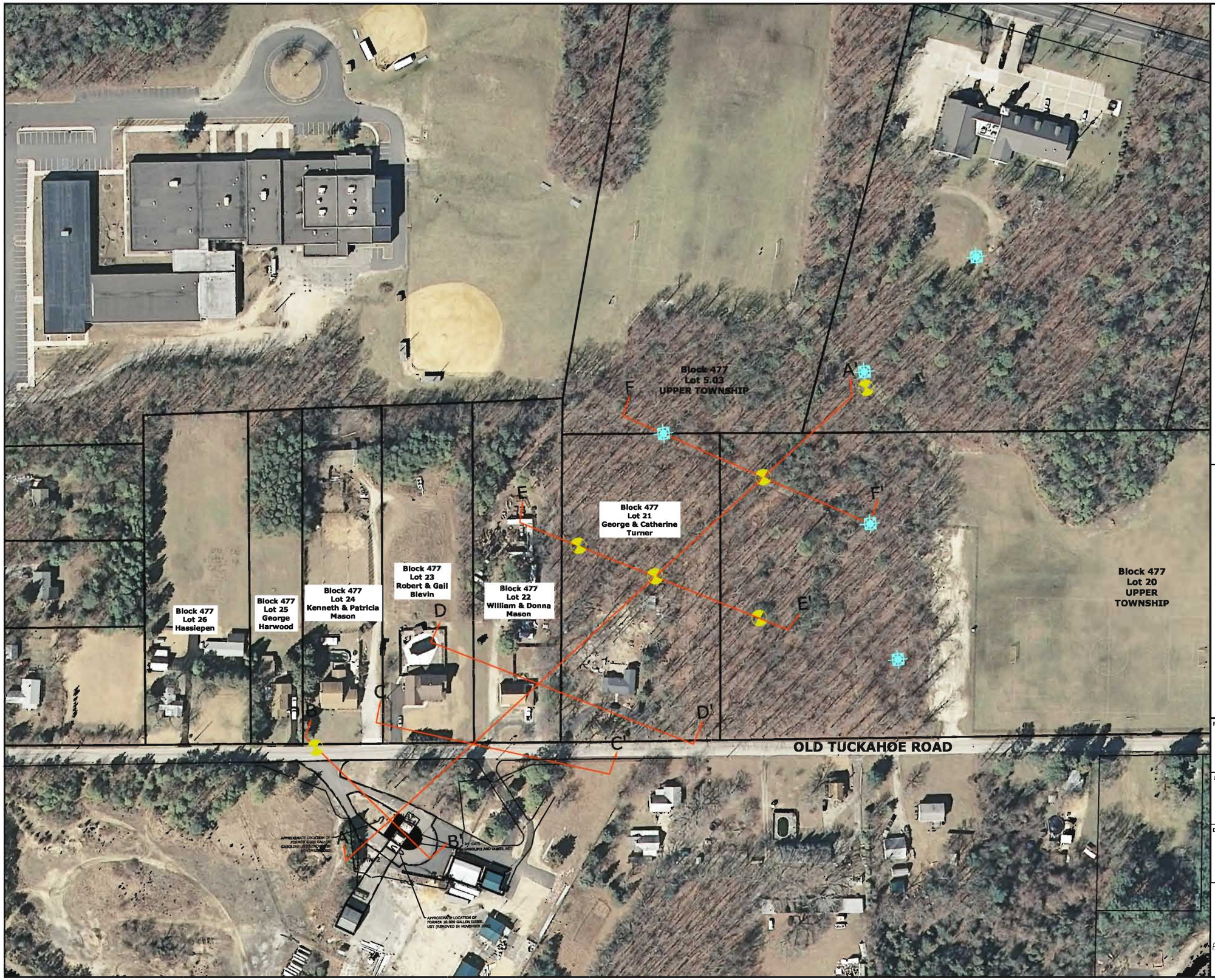
PROJECT:
NEW JERSEY DEPARTMENT
OF TRANSPORTATION
PETERSBURG MAINTENANCE FACILITY

LOCATION:
UPPER TOWNSHIP,
CAPE MAY COUNTY,
NEW JERSEY

DRAWING TITLE:
INDOOR AIR SAMPLING

DRESDNER ROBIN

DRAWN BY: J.S.V
CHECKED BY: M.N
DATE: 04/15/09
SCALE: 1:3,000
JOB NUMBER: B-431.60
FILE:
DWG. NUMBER:



LEGEND

- Lot Line
- Building
- Concrete Curb
- 6' High Chain Link Fence
- Proposed Monitoring Well Locations
- Proposed Temporary Well Point Locations
- Line of Section (A' — A)

SOURCE:

1. SITE PLAN PREPARED BY URS CORPORATION
2. SITE SURVEYING PERFORMED BY DRESDNER ROBIN

GRAPHIC SCALE
(IN FEET)

150 75 0 150

PROJECT:

NEW JERSEY DEPARTMENT OF TRANSPORTATION
PETERSBURG MAINTENANCE FACILITY

LOCATION:

UPPER TOWNSHIP,
CAPE MAY COUNTY, NEW JERSEY

DRAWING TITLE:

PROPOSED LOCATIONS OF MONITORING WELLS AND TEMPORARY WELL POINT CLUSTERS

DRESDNER ROBIN
Engineering, Environmental, Planning and Surveying
371 WARREN STREET, JERSEY CITY, NEW JERSEY, 07302

DRAWN BY: PA	JOB NUMBER: B-431-604
CHECKED BY: NN	FILE: /March '09 Limited Phase II/ Figures
DATE: 04/15/09	DWG. NUMBER: 15
SCALE: AS SHOWN	

APPENDICES

APPENDIX A

State of New Jersey

Jon S. Corzine
Governor

Department of Environmental Protection
Bureau of Southern Field Operations
Horizon Center
P.O. Box 407
Trenton, NJ 08625-0407
Phone #: 609-584-4150
Fax #: 609-584-4170

Mark N. Mauriello
Acting Commissioner

March 23, 2009

Mohammad Yousef
New Jersey Department of Transportation
P.O. Box 600
Trenton, NJ 08625

Re: Petersburg Maintenance Yard
Old Tuckahoe Road
Upper Township, Cape May County
SRP PI#: 012364
EA ID #: BFO000002
BFO File Number: 05-11-21

Dear Mr. Yousef:

On November 18, 2008, a meeting took place between Dresdner Robin, New Jersey Department of Transportation (NJDOT) and the New Jersey Department of Environmental Protection (Department). During this meeting, the following items/proposals were discussed which were later memorialized in the December 1, 2008 Meeting Minutes prepared by Dresdner Robin:

- Installation of additional six (6) permanent monitor wells and five (5) temporary well points to delineate the horizontal and vertical extent of the off-site dissolved phase contaminate ground water plume;
- The conduction of a second Vapor Intrusion Study during the winter months (December 2008 or January 2009);
- The placement of data loggers in several Site monitor wells to monitor the water levels for fluctuations and diurnal variations;
- Conduct research to determine the extent of any wetland areas that may be present down gradient of the Site; and
- Submission of a Phase II Remedial Investigation Report.

However, during the March 17, 2009 conference call between the Department, Dresdner Robin and the Cape County Department of Health, it was indicated that none of the additional items/proposals noted above had yet to be initiated.

Since NJDOT has failed to initiate any of the above noted proposals and recommendations, the Department would like to express its disappointment at the lack of voluntary progress made in regards to completing the important tasks noted above.

Therefore, within thirty (30) calendar days of receipt of this letter, please submit a schedule to this office, which details the anticipated timeframes for the initiation and completion of the proposals and recommendations noted above.

If a schedule is not submitted within the timeframe specified above, enforcement action may be initiated. If you have any questions regarding this matter, please contact Cheryl Priest at (609) 584-4162.

If you have any questions regarding this matter, please contact Cheryl Priest at (609) 584-4162.

Sincerely,

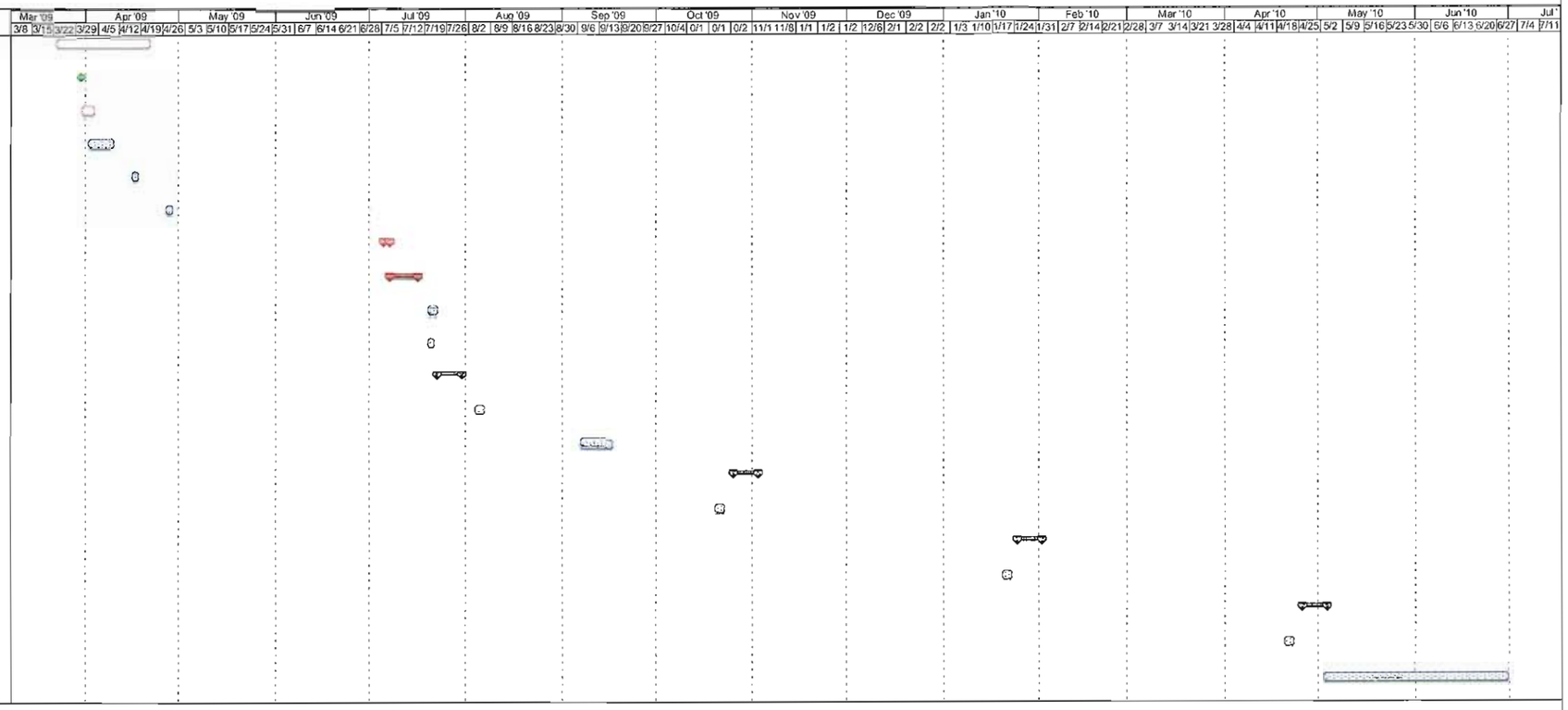
George King, Bureau Chief
Bureau of Southern Field Operations

c: Clerk, Upper Twp
Dresdner Robin
Cape May County Health Department
BFO File #: 05-11-21
S.Qureshi, NJDEP, OCR

APPENDIX B

NJDOT PETERSBURG MAINTENANCE FACILITY
UPPER TOWNSHIP, CAPE MAY COUNTY, NEW JERSEY
PROPOSED SCHEDULE FY09/FY10

Task Name	Duration	Start	Finish	Predecessors
Draft "Limited" Phase II Remedial Investigation Report	**22 days**	**Mon 3/23/09**	**Tue 4/21/09**	
Public Township Meeting	1 day	Tue 3/31/09	Tue 3/31/09	
Ground Water Sampling (13 wells/1 supply well) - April 2009	**4 days**	**Tue 3/31/09**	**Fri 4/3/09**	
Vapor Intrusion - Confirmatory Round of Air Sampling	6 days	Thu 4/2/09	Thu 4/9/09	
Residential Ground Water Sampling (12 prop./14 wells) - April 2009	*2 days*	*Thu 4/16/09*	*Fri 4/17/09*	
Installation of MW-11D Adjacent to MW-11 on-site	2 days	Mon 4/27/09	Tue 4/28/09	
Limited Geophysical Investigation (12 locations)	**2 days**	**Mon 7/6/09**	**Tue 7/7/09**	
Installation of 7 Monitoring Wells Off-Site	**7 days**	**Wed 7/8/09**	**Thu 7/16/09**	
Residential Ground Water Sampling (12 prop./14 wells) - July 2009	*3 days*	*Mon 7/20/09*	*Wed 7/22/09*	
Surveying	2 days	Mon 7/20/09	Tue 7/21/09	
Ground Water Sampling (21 wells/1 supply well) - July 2009	**6 days**	**Thu 7/23/09**	**Thu 7/30/09**	
Aquifer Testing/Ground Water Fluctuations/Slug Tests	3 days	Tue 8/4/09	Thu 8/6/09	
Advancement of 5 Temp. Well Cluster Locations and GW Sampling	8 days	Mon 9/7/09	Wed 9/16/09	
Ground Water Sampling (21 wells/1 Supply well) - October 2009	**6 days**	**Mon 10/26/09**	**Mon 11/2/09**	
Residentail Ground Water Sampling (12 prop./14 wells) - October 2009	*3 days*	*Tue 10/20/09*	*Thu 10/22/09*	
Ground Water Sampling (21 wells/1 supply well) - January 2010	**6 days**	**Mon 1/25/10**	**Mon 2/1/10**	
Residential Ground Water Sampling (12 prop./14 wells) - January 2010	*3 days*	*Wed 1/20/10*	*Fri 1/22/10*	
Ground Water Sampling (21 wells/1 supply well) - April 2010	**6 days**	**Mon 4/26/10**	**Mon 5/3/10**	
Residential Ground Water Sampling (12 prop./14 wells) - April 2010	*3 days*	*Tue 4/20/10*	*Thu 4/22/10*	
Remedial Investigation Report	**43 days**	**Mon 5/3/10**	**Wed 6/30/10**	



Project: SCHEDULE
Date: Fri 4/17/09

Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Progress | External Tasks | Project Summary | External Milestone | Deadline