REMEDIAL INVESTIGATION AND INTERIM REMEDIAL MEASURE IMPLEMENTATION REPORT – VOLUME 1 OF 9

Former Drive & Park, Inc. Site Brownfield Cleanup Program #C314111 28 IBM Road Town of Poughkeepsie Dutchess County, New York

Prepared for:

Avis Rent A Car System, Inc. 6 Sylvan Way Parsippany, New Jersey 07054

April 2007

Project No. 9328.000





April 16, 2007 Project 9328.000

Michelle Tipple Project Manager Division of Environmental Remediation, Region 3 New York State Department of Environmental Conservation (NYSDEC) 21 South Putt Corners Road New Paltz, NY 12561-1696

Subject: Remedial Investigation and Interim Remedial Measure Implementation Report Former Drive & Park, Inc. Site Brownfield Cleanup Program #C314111 28 IBM Road Town of Poughkeepsie Dutchess County, New York

Dear Ms. Tipple:

Please find enclosed the *Remedial Investigation and Interim Remedial Measure Implementation Report*, dated March 2007, for the Former Drive & Park, Inc. Site in Poughkeepsie, New York. This report was prepared by Geomatrix Consultants, Inc. on behalf of Avis Rent A Car System, Inc.

Please contact either of the undersigned if you have any questions about this report.

Sincerely yours, GEOMATRIX CONSULTANTS, INC.

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Enclosure

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Prepared for: Avis Rent A Car System, Inc. 6 Sylvan Way Parsippany, New Jersey 07054

Prepared by:

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April 2007

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PROFESSIONAL CERTIFICATION

REMEDIAL INVESTIGATION AND INTERIM REMEDIAL MEASURE IMPLEMENTATION REPORT Former Drive & Park, Inc. Site Brownfield Cleanup Program #C314111 28 IBM Road Town of Poughkeepsie, Dutchess County, New York

16 April 2007 Project 9328.000

This report was prepared by Geomatrix Engineering LLC, under the professional supervision of Kelly R. McIntosh. The findings, recommendations, specifications, and/or professional opinions presented in this report were prepared in accordance with generally accepted professional engineering practice, and within the scope of the project. There is no other warranty, either express or implied.

Kelly R. McIntosh, Ph.D., P.E. Senior Engineer



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REMEDIAL INVESTIGATION AND INTERIM REMEDIAL MEASURE IMPLEMENTATION REPORT

Former Drive & Park, Inc. Site Brownfield Cleanup Program #C314111 28 IBM Road Town of Poughkeepsie Dutchess County, New York

1.0 INTRODUCTION

Geomatrix Consultants, Inc. (Geomatrix), has prepared this Remedial Investigation and Interim Remedial Measure Implementation Report on behalf of Avis Rent A Car System, Inc. (Avis), to document additional remedial investigations and implementation of an interim remedial measure at the Former Drive & Park, Inc. site located at 28 IBM Road in Poughkeepsie, New York (the site; Figure 1). This report provides details of remedial investigations (including potential conduit investigation, upgradient fuel oxygenate groundwater investigation, and geotechnical investigation) and implementation of the interim remedial measure (i.e., excavation) as agreed upon by the New York State Department of Environmental Conservation (NYSDEC) and Avis at a September 27, 2005, meeting. The purpose of the interim remedial measure was to mitigate risks to the environment and/or public health, as required by the NYSDEC's May 2004 *Draft Brownfield Cleanup Program Guide*. This report has been prepared in accordance with the Brownfield Site Cleanup Agreement (BCA) executed July 6, 2005 (Appendix A), and NYSDEC's *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NYSDEC DER-10) (NYSDEC, 2002).

1.1 PHYSICAL SETTING

The site is currently an active car rental facility located at 28 IBM Road in Poughkeepsie, New York, within a commercial/residential section just south of the city limits. Approximately 14,000 square feet of the eastern portion of the property is occupied by an office and maintenance building (Figure 2). The remainder of the site property is used primarily for vehicle storage and is paved with asphalt and concrete, with the exception of some landscaped traffic berms. The topography of the site slopes gently downward to the south and southeast. Neighboring properties include an IBM business campus to the north, commercial facilities to the east and west, and a child care facility and wetland to the south.

Municipal water supplies the site and the site area, and no sources of drinking water have been identified within 2,000 feet of the site.



1.2 SITE BACKGROUND

A release of gasoline at the site was reported to the NYSDEC by Drive & Park, Inc., on December 9, 1986. The NYSDEC issued spill number 86-05706. The release was discovered when impacted soils were encountered during the removal of two gasoline underground storage tanks (USTs), which had been in use from approximately 1965 to 1986. In 1987, two USTs were installed in place of and at the same location as those removed.

At the time the release was reported, the site was owned by Broad Act Corporation and used as a car rental facility by Drive & Park, Inc. Avis purchased the property in 1991, five years after the leaking UST system was removed.

Avis installed groundwater monitoring wells in 1991 and 1992 and collected water samples for analysis from the wells in 1992 and 1997. Analytical data for groundwater samples collected from the monitoring wells indicated that the release had extended onto the adjacent property to the south.

In 1998, the two USTs that had been installed in 1987 were removed. The 1998 removal of the two USTs was witnessed by the NYSDEC, and it was determined that there was no evidence of a release from the gasoline USTs installed in 1987, although existing soil contamination was observed. After removal of these USTs, the NYSDEC closed spill number 86-05706, although Avis was not informed of the case closure. Avis continued to monitor the site. The NYSDEC subsequently reopened the case, as discussed below.

In March 2003, Avis collected groundwater samples from eight existing monitoring wells on the site and from three monitoring wells on the adjacent property. Analytical results in groundwater were similar to the previous sampling events conducted in 1992 and 1997. However, floating free product (gasoline) was found in one monitoring well near the former USTs. Floating free product, other than a sheen, had not previously been reported at the site.

Avis conducted high-vacuum extraction at the site from mid-April 2003 until September 2003 to recover floating free product from the impacted monitoring well. In September 2003, extraction was discontinued when measurable floating free product was no longer observed. The monitoring well was monitored at least semiannually between September 2003 and September 2005.

Upon discovery of the floating free product, Avis met with representatives from the NYSDEC in September 2003 to discuss the status of the site. NYSDEC concurred with Avis that the



contamination was related to the 1986 release, and therefore reopened spill number 86-05706. Avis conducted a soil boring investigation in November 2003; no areas of recoverable floating free product were located. Avis collected discrete-depth groundwater samples on the adjacent property to the south to evaluate the extent of impacted groundwater. No floating free product was observed; however, one location contained dissolved petroleum constituents. Dissolved petroleum constituents were not found to extend below the building on the adjacent property. The results of the investigation were presented to the NYSDEC in the *November 2003 Soil and Groundwater Investigation Report* prepared by Geomatrix in April 2004.

Avis applied for entry to the Brownfield Cleanup Program in April 2004 and was accepted; a Brownfield Site Cleanup Agreement was executed in July 2005 (Appendix A).

During a September 27, 2005, meeting, the NYSDEC and Avis agreed to implement an interim remedial measure consisting of residual source removal through excavation of petroleumimpacted soils using conventional earthmoving equipment. Geomatrix developed and submitted the *Interim Remedial Measure (IRM) Work Plan* to the NYSDEC on November 1, 2005. The NYSDEC approved the IRM Work Plan on November 29, 2005.

1.3 GEOLOGY AND HYDROGEOLOGY

The geology of the site consists of silty sand overlying an intermittent peat layer and an intermittent gravel layer, with an underlying layer of fine-grained silt and clay. Shallow groundwater flow direction has generally ranged from west to south at the site and from southwest to southeast on the adjacent property to the south. A potentiometric surface map for September 7, 2005, is provided as Figure 3 and historical groundwater levels are provided in Table 1. National Environmental Technology Corporation (NETC) performed slug tests in wells MW-1 through MW-13 and analyzed the data using the Bouwer and Rice slug test method to estimate hydraulic conductivity (K) in fully or partially penetrating wells under unconfined aquifer conditions. NETC's values ranged from 9.62 x 10^{-6} feet per minute (ft/min) to 1.2×10^{-3} ft/min (NETC, 1992).

2.0 SITE CONDITIONS

2.1 SUMMARY OF REMEDIAL INVESTIGATIONS

Remedial investigation work conducted at the site, as described in Section 1, defined the nature of contamination and identified the source of petroleum hydrocarbons. Several of the investigations have been described in detail in other reports, and only the investigation results are summarized in this section. Geomatrix conducted several additional remedial



investigations prior to, during, and following the interim remedial measure excavation, each with its specific objectives described below. The methods and results of these additional investigations are included in this report.

- Additional soil and groundwater investigations were performed in June, July, and September 2005 to delineate the extent of constituents in soil and groundwater and to define the target excavation area.
- After the target excavation area was defined, site investigations were conducted to
 provide design information for the excavation. These investigations included
 (1) advancing geotechnical borings in October 2005, and (2) investigating a potential
 conduit or unknown pipeline in November 2005 and January 2006.
- Soil vapor investigations were conducted pre- and post-excavation to assess the effectiveness of the excavation in mitigating soil vapor migration and reducing potential exposure to vapors at the downgradient extent of the residual hydrocarbons in soil.
- Following completion of the excavation, a groundwater investigation was conducted to evaluate the presence and source of fuel oxygenates. The purpose of the study was to provide additional data to evaluate the source of oxygenates in groundwater.

Summaries of the remedial investigations are presented in the following sections. Reports on the geotechnical investigation and the soil vapor investigation are provided in Appendixes B and C, respectively.

In addition to the remedial investigations described above, soil confirmation samples were collected from the sidewalls and floor of the excavation to document the condition of the material left in place. Analytical results for these samples are presented in Section 4.4.

2.2 SOIL INVESTIGATIONS

Soil investigations performed to date are described in this section. Soil boring locations are shown on Figure 4 and analytical results are presented on Tables 2, 3, and 4.



2.2.1 On-site Areas

2.2.1.1 Former Gulf Station

A Gulf gasoline station was formerly located on the northwest corner of the site, at the intersection of Barnegat Road and IBM Road. In 1987, four USTs on this parcel were abandoned in place by WCC Tank Technology (NETC, 1991).

During a site audit on December 18, 1990, NETC advanced two soil borings (PK-6 and PK-7) to 8 to 10 feet below ground surface (bgs) south of the abandoned tanks (NETC, 1990). Soils encountered showed no indication of petroleum hydrocarbons (i.e., no odor or discoloration), and organic vapor meter measurements ranged from 0 to 20 parts per million (ppm). Soil samples collected from the soil borings at the water table (between 6 and 8 feet bgs) were analyzed for the volatile organic compounds (VOCs) benzene, toluene, ethylbenzene, and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH). No target analytes were detected in the samples.

On November 20, 2003, Geomatrix advanced three soil borings (PZ-10, PZ-11, and PZ-12) to 10 feet bgs and one soil boring for a well installation (MW-103) to 14 feet bgs in the area of the former Gulf gasoline station (Geomatrix, 2004). Locations were selected based on the findings of a 2003 geophysical investigation, which showed several likely underground storage tanks in the area. Soils encountered showed no indication of petroleum hydrocarbons (i.e., no odor or discoloration), and organic vapor meter measurements ranged from 0 to 0.5 ppm. Soil samples collected from the soil borings at the water table (between 6 and 8 feet bgs) were analyzed for VOCs, gasoline range organics (GROs), and diesel range organics (DROs). No VOCs, GROs, or DROs were detected in the samples.

2.2.1.2 Former Drive & Park, Inc. UST Area

In 1986, two existing gasoline USTs were removed at the site and impacted soil was encountered. Impacted soil was removed, and the two USTs were replaced by two new USTs (NETC, 1991). In 1987 and 1988, four monitoring wells (DP-1 through DP-4) were installed at the site.

During a site audit on December 18, 1990, NETC advanced two soil borings (PK-3 and PK-4) to 9.5 feet bgs south of the Former Drive & Park, Inc. USTs in use at that time (NETC, 1990); a third boring, PK-5, was proposed but abandoned following field observations at PK-3 and PK-4. Soils encountered exhibited a strong petroleum odor, and organic vapor meter measurements exceeded 400 ppm. Soil samples collected from the soil borings at the water table (between 7 and 9.5 feet bgs) were analyzed for BTEX and TPH.



Two additional borings, PK-1 and PK-2, were advanced to 6 feet bgs southeast of the main building, hydraulically down- and crossgradient of the USTs (NETC, 1990). Soils encountered showed no indication of petroleum hydrocarbons (i.e., no odor or discoloration), and organic vapor meter measurements ranged from 0 to 20 ppm. Soil samples collected from the soil borings at the water table (between 4 and 6 feet bgs) were analyzed for BTEX and TPH. No target analytes were detected in the samples.

On October 5, 1998, NETC witnessed the removal of the two USTs installed in 1987 (NETC, 1998). The excavated soil was screened with an organic vapor meter, and six samples were collected for characterization from the sidewalls and base of the 24-foot by 14-foot excavation. The organic vapor meter did not detect the presence of petroleum compounds, visible staining was not present, and the tanks were visually inspected and found to be in good condition. The six analytical samples did contain some petroleum constituents; however, the detected concentrations did not exceed the NYSDEC human health guidance values, and therefore no further action was required (NETC, 1998). The NYSDEC determined that the existing soil contamination was not from the USTs installed in 1987.

In November 2003, Geomatrix advanced three soil borings (PZ-1, PZ-7, and PZ-13) in the vicinity of the former USTs, near existing well MW 2, where free product has been detected (Geomatrix, 2004). One additional soil boring (PZ-5) was advanced in the area of the former fuel dispenser, and another (PZ-6) was advanced on the east side of the former USTs. The approximate locations of these soil borings are shown in Figure 4. Because impacted soils were encountered at these locations, Geomatrix added additional step-out borings (PZ-2, PZ-3, PZ-4, PZ-8, and PZ-9) to evaluate the lateral extent of soil contamination. The borings were approximately 10 feet deep, and soil samples were collected between 2 and 8 feet bgs. A sheen was visible either on the sampling equipment or on soil samples at seven borings (PZ-1, PZ-2, PZ-3, PZ-3, PZ-5, PZ-6, PZ-7, and PZ-13). No visible sheen was noted on equipment or soil samples at the other two borings (PZ-4 and PZ-8).

Soil samples were analyzed for VOCs in accordance with EPA Method 8260. VOCs consistent with a petroleum hydrocarbon release were detected at nine of the ten soil sample locations in the area of the former USTs. A soil sample was collected from PZ-5 at the 2- to 4-foot depth interval because there was no recovery at the depth (4 to 6 feet) where a sheen was noted. Thus, although a sheen was visible at this boring, VOCs were not detected in the soil sample from PZ-5.



Soil boring PZ-8 was located immediately west of an unknown subsurface feature crossing the site from north to south that was identified during the geophysical investigation. PZ-9 and MW-101 were located immediately east of the feature, 10 feet from PZ-8. Observations made during sampling (odor, sheen, and headspace readings) indicated that soil and groundwater at PZ-8 were less impacted than those at PZ-9 and MW-101. Additionally, concentrations of VOCs detected in soil samples collected from PZ-8 were lower than those detected in soil samples from MW-101.

In November 2003, Geomatrix advanced three soil borings at the site for the installation of monitoring wells upgradient (MW-104) and downgradient (MW-101 and MW-102) of the suspected release area. Soils encountered at boring MW-101 exhibited a strong petroleum odor and elevated organic vapor meter measurements (25 to 3,000 ppm) from 2 feet bgs to total depth at 14 feet bgs, suggesting an impact from petroleum hydrocarbons. Soil encountered at down-/crossgradient boring MW-102 and upgradient boring MW-104 showed no indication of petroleum hydrocarbons (i.e., no odor or discoloration), and organic vapor meter measurements ranged from 0 to 2 ppm. Soil samples collected from the three soil borings above (between 0 and 2 feet bgs) and at the water table (between 4 and 6 feet bgs) were analyzed for VOCs in accordance with EPA Method 8260. Only soil collected from soil boring MW-101 contained VOCs (Geomatrix, 2004).

In June and July 2005, Zebra Environmental, Inc. of Lynbrook, New York, a licensed drilling contractor, advanced 22 membrane interface probe (MIP) and soil conductivity (SC) borings (MIP-1 through MIP-22) using a Geoprobe 5400 rig, under the supervision of a Geomatrix geologist. To calibrate the MIP/SC borings, one soil boring was also advanced using the direct-push method (MIP-B-1), sampled using a Geoprobe macro-core sampler, and logged by a Geomatrix geologist. Four additional soil borings (MIP-B-13W, MIP-B-14E, MIP-B-16N, and MIP-B-20) were advanced at the site using direct-push methods to collect soil samples with the Geoprobe macro-core sampler for chemical analysis of VOCs and fuel oxygenates by U.S. Environmental Protection Agency (EPA) Method 8260B. The headspaces of soil samples collected from the soil borings were also screened in the field with a handheld organic vapor meter and field tested for residual product by placing soil samples inside a jar with clean water, shaking the jar, and noting if a sheen formed on the surface of the clean water. Based on relative concentrations observed with the MIP and compared to analytical data from soil samples collected at companion borings, highly affected soil corresponded to greater than approximately 60,000 microvolts (μV) on the photoionization detector of the MIP. The lateral and vertical extent of highly affected soil was delineated using these observations and data



from previous investigations, as described in Section 2.2.3. A copy of the MIP logs and corresponding soil borings is provided in Appendix D.

2.2.1.3 Geotechnical Borings

Geomatrix completed a geotechnical investigation on October 24, 2005, prior to implementation of the interim remedial measure. Martin Geo-Environmental of Belchertown, Massachusetts, a licensed geotechnical drilling contractor, advanced two hollow-stem auger borings, GB-1 and GB-2, in the north and south areas of the on-site excavation footprint. Geotechnical and physical tests were performed on samples of soil retrieved from the borings. A soil report, including soil boring logs, geotechnical cross sections, geotechnical laboratory data, and soil parameters, was prepared and provided to the excavation subcontractor in the Request for Bid (RFB) package. Data from the geotechnical investigation were used to develop design parameters for the temporary excavation shoring and to determine requirements for backfill materials and methods. A copy of the soil report is included as Appendix B.

2.2.2 Off-site Areas

2.2.2.1 Adjacent Property to the South

NETC used the results of a soil vapor survey, discussed in Section 2.3, to identify the approximate extent of petroleum hydrocarbon-affected soil and to determine placement of offsite monitoring wells MW-11 through MW-13. NETC collected shallow soil samples from depths of up to 2.5 feet below ground surface (bgs) from the monitoring well borings and the samples were analyzed for BTEX by EPA Method 8020 (NETC, 1992).

Surface samples taken from the ground surface to 3 inches bgs did not contain BTEX, except for 34 micrograms per kilogram (μ g/kg) toluene at MW-13. The deeper samples did contain BTEX; the highest concentrations were in MW-11 and MW-12.

In April 2003, MFG collected four soil samples from 0 to 0.5 foot bgs at Locations 1, 2, 3, and 4 from the seasonally wet area at the base of a slope above the adjacent off-site wetland and submitted them for analysis for VOCs and polynuclear aromatic hydrocarbons (PAHs). Only the sample from Location 4 had detections of VOCs. PAHs were detected at all four locations (MFG, 2003).

In November 2003, Geomatrix advanced seven hand-auger borings (HA-1 through HA-7) to approximately 4 feet bgs on the adjacent property south of the site to collect grab groundwater samples.



In July 2005, Zebra Environmental, Inc. of Albany, New York, a licensed driller, advanced eight direct-push soil borings using a Geoprobe 5400 rig to further evaluate the extent of gasoline impact on the adjacent property to the south, under the supervision of a Geomatrix geologist. The soil was logged by a Geomatrix geologist, headspaces of soil samples collected from the soil borings were screened in the field with a handheld organic vapor meter, and soil was field tested for residual product by placing soil samples inside a jar with clean water, shaking the jar, and noting if a sheen formed on the surface of the clean water. Of the eight locations (GP-1 through GP-8), five contained petroleum-impacted soil (GP-1 through GP-5). In September 2005, four companion soil borings (HA-GP-1 through HA-GP-4) were advanced next to GP-1 through GP-4 using a hand auger. A soil sample was collected from the most visually impacted zone of each boring and submitted for laboratory analysis for VOCs by EPA Method 8260B. Soil samples from all four locations had moderate to high detections of BTEX and other VOCs (benzene ranged from 0.234 to 11.4 milligrams per kilogram [mg/kg]). Copies of the logs are provided in Appendix D.

2.2.3 Extent of Hydrocarbons in Soil

The extent of soil potentially containing residual product in soil was defined and bounded on the site by MIP and conventional soil borings (Figure 4). The estimated extent of residual product in soil was bounded to the north by MIP-4, MIP-15, MIP-21, MIP-3, and MIP-11; to the west by MIP-B-13W, MIP-19, and MIP-9, and previous borings PZ-4, PZ-8, PZ-9, and MW-101; and to the east by MIP-2, MIP-10, and MIP-B-1. The extent of residual product in soil extended onto the adjacent property to the south approximately 120 feet, as defined by soil borings GP-6, GP-7, and GP-8. Cross sections A-A' and B-B', delineated in Figure 2, are shown as Figures 5 and 6. These cross sections illustrate the subsurface lithology and the extent of gasoline constituents identified in the soil.

Soil samples collected in the former Gulf gasoline station area did not show evidence of petroleum hydrocarbons or other fuel constituents.

2.3 SOIL VAPOR INVESTIGATION

In the early 1990s, NETC conducted a soil vapor survey in an attempt to refine the proposed monitoring well locations south of the southern site boundary, on an adjacent property (NETC, 1992). Based on the analytical results from shallow soil borings conducted as part of the Phase I environmental site assessment (ESA) and the topographic relief across the study area, NETC established a 20-foot by 20-foot grid approximately 30 feet south of the site property line. The initial grid system was 100 feet wide east to west and 80 feet wide north to



south and contained 30 sampling locations (Figure 7). NETC installed soil vapor tubes at the lower left corner of each of the 30 grid locations to 2 feet bgs, left them overnight, and returned to sample the vapor content within each tube with an HNU Systems, Inc., Model PI-101 (HNU) PID, utilizing a 10.2 eV ultraviolet light. The initial grid system was extended 40 feet to the east, and six probe locations (31 to 36) were added to the initial program. Soil vapor tubes were left two hours before sampling in these additional sampling points. Ambient air concentrations also were recorded prior to measuring each sample.

Results of the soil vapor measurements are listed in Table 5. The shaded area on Figure 7 delineates the soil vapor readings that exceed five times the background concentrations.

Geomatrix conducted a soil vapor investigation at the adjacent property to the south of the site to identify current or potential human exposures to subsurface vapors, if any, associated with the site (Geomatrix, 2006a). The results of this investigation were provided in the *Soil Vapor Investigation Report* submitted to the NYSDEC on September 5, 2006, a copy of which is provided in Appendix C. Both petroleum- and nonpetroleum-related compounds were detected in some soil vapor samples at concentrations sufficiently higher than ambient air concentrations to suggest a subsurface soil vapor source or sources both prior to and following the interim remedial measure excavation. However, the source or sources responsible for these detections appear to be unrelated to the site.

2.4 **GROUNDWATER INVESTIGATIONS**

Groundwater investigations performed to date are described in this section. Monitoring well locations are shown on Figures 8a and 8b and groundwater analytical results are presented on Tables 6 and 7.

2.4.1 On-site Areas

2.4.1.1 Former Gulf Station

Monitoring wells MW-08 and MW-103 were installed south and downgradient of the former Gulf station in 1991 and 2003, respectively. Groundwater samples collected from these wells since their installation have been non-detect for target analytes, with the exception of methyl tert-butyl ether (MTBE). MTBE has been detected in both monitoring wells, at concentrations ranging from 6 to 87 micrograms per liter (μ g/L).

On November 20, 2003, Geomatrix advanced boreholes PZ-10, PZ-11, and PZ-12 to 10 feet bgs (approximately 5 feet below the water table) in the vicinity of the former Gulf



station. The three boreholes were sealed following logging because no petroleum impacts were observed; no groundwater samples were collected (Geomatrix, 2004).

2.4.1.2 Former Drive & Park, Inc. UST Area

Work was completed at the site in 1987 and 1988 that included the installation and sampling of four monitoring wells (DP-1 through DP-4) in the Former Drive & Park, Inc. UST area (NETC, 1991). The groundwater samples collected from these monitoring wells contained BTEX (Table 6). By 1991, NETC was able to locate three of the four wells (DP-1, DP-2, and DP-3), retrofit them with permanent caps, and use them as monitoring locations (NETC, 1992). Additional wells have since been installed in the Former Drive & Park, Inc. UST source area, as well as up-, cross-, and downgradient of the area.

Analytical results from groundwater samples collected in September 2005 from the 8 on-site monitoring wells (MW-1, MW-6 through MW-10, and MW-101, and MW-102) show concentrations of VOCs similar to the previous sampling events, where applicable, conducted in March and November 2003. For those wells sampled in 1991, 1992, or 1997, VOC concentrations have generally decreased since the 1990s. VOCs associated with petroleum were detected in wells in the vicinity of or downgradient of the former UST source area, including wells MW-1 through MW-4, and MW-101.

2.4.2 Off-site Areas

2.4.2.1 Adjacent Property to the South

Groundwater samples have been collected from monitoring wells and hand-auger locations on the adjacent property to the south. Three monitoring wells, MW-11, MW-12, and MW-13, were installed in August 1992, and two additional wells, MW-110 and MW-111, were installed in July 2005. Groundwater samples were collected from these wells in 1992, 2003, and 2005. BTEX has consistently been detected in wells MW-11 and MW-12, whereas BTEX compounds have not been detected in wells MW-13, MW-110, and MW-111, with the exception of toluene at 1 μ g/L in MW-13 in November 1992. Wells MW-111 and MW-13 have had detections of MTBE (1.31 to 11.2 μ g/L). MTBE has not been detected in MW-110.

In November 2003, Geomatrix collected grab groundwater samples from seven locations (HA-1 through HA-7) located east of the child care building and analyzed the samples for VOCs. Several VOCs were detected in the grab groundwater sample from boring HA-2; acetone was detected in the sample collected from boring HA-1. VOCs were not detected in any of the other grab groundwater samples, including those advanced adjacent to the child care building (HA-4 and HA-6). Residual hydrocarbon was not observed in soil or water



encountered in any of the borings. In July 2005, Geomatrix collected grab groundwater samples from three locations (HA-101 through HA-103) located in the wetlands area and analyzed the samples for VOCs. MTBE was the only constituent detected in the grab groundwater samples from the three borings, at concentrations ranging from 2.9 to 41.4 μ g/L.

2.4.2.2 Off-site Oxygenates Source Investigation

MTBE was detected in samples collected from monitoring wells in March 2003, November 2003 (Geomatrix, 2004), and September 2005 throughout the site and adjacent property to the south. Elevated concentrations of MTBE have been detected in monitoring wells hydraulically upgradient of the location of the former USTs, including MW-8 (87 μ g/L) and MW-1 (20 μ g/L). The oxygenate tertiary-amyl methyl ether (TAME) was detected in monitoring wells hydraulically crossgradient or upgradient of the location of the former USTs, including MW-6, MW-8, and MW-10. The oxygenate tertiary-butyl alcohol (TBA) was detected in monitoring wells hydraulically crossgradient or upgradient of the location of the former USTs, including MW-6, as well as in monitoring wells hydraulically downgradient of the former USTs, including MW-6, as well as in monitoring wells hydraulically downgradient of the former USTs, including MW-11, MW-101, and MW-111. Because the distribution of the oxygenates MTBE, TAME, and TBA in groundwater does not appear to correlate with the distribution of BTEX compounds in groundwater, these chemicals may be migrating onto the site from an off-site source and may not be related to the historical gasoline release at the site. Consequently, these oxygenates may continue to be present in groundwater beneath the site.

The potential for oxygenates, mainly MTBE, to migrate onto the site from off-site sources was further investigated in July 2006 by evaluating the extent of oxygenates in groundwater up- and crossgradient of the site. Eight direct-push borings, consisting of six discrete-depth grab groundwater borings at locations GP-9 through GP-14 and two companion soil borings advanced at locations near borings GP-9 and GP-12, were advanced west and north of the site (Figures 8a and 8b). Three borings were advanced on the west side of Barnegat Road (GP-9, GP-10, and GP-11), and three borings were advanced in IBM Road, 5 feet south of the north roadside (GP-12, GP-13, and GP-14). The Barnegat Road borings were advanced immediately east of a 54-inch concrete storm sewer, and the IBM Road borings were advanced immediately south of the same storm sewer pipeline system. A total of 13 discrete-depth groundwater samples were collected.

Prior to the investigation, a Dutchess County work permit was secured for work along IBM Road, a copy of which is included in Appendix E; additional permits were not required. DigSafely New York was notified of the work, and Premier Utility Locating (Premier) of Patchogue, New York, a private utility locator company, was used to clear the locations.



Zebra Environmental of Albany, New York, advanced the borings on July 12 and 17, 2006, using a Geoprobe 54DT drill rig. A Geomatrix geologist screened recovered soil cores for organic vapors using a MiniRAE 2000 organic vapor meter field calibrated using a 100 ppm isobutylene gas standard. The soil cores were described using the American Society for Testing and Materials Standard D2488-90, which is based on the Unified Soil Classification System, for guidance. Soil samples were also examined for indications of petroleum hydrocarbons, i.e., petroleum odor and/or staining/discoloration (greenish gray color). Copies of the boring logs are included in Appendix F. Three discrete-depth groundwater samples were planned to be collected from each of the six boring locations at depths selected based on site geology. Samples were to be collected from a fine-grained unit near the top of the water table, from a deeper coarser-grained unit, and from a deeper fine-grained unit. However, the soils observed in the companion soil boring at location GP-9 were not similar to the lithology observed in on-site borings. Saturated soils were first encountered in a fine-grained unit (silt/clay) at a deeper depth. Therefore, three discrete-depth samples were not collected at GP-9, GP-10, or GP-11; one to two samples were collected at each location. Three samples were collected at locations GP-12, GP-13, and GP-14. The NYSDEC verbally approved this modification to the work scope on July 12, 2006.

The discrete-depth grab groundwater samples were collected using new polyethylene tubing and stopcock valves. The valves were cleaned with distilled water and an Alconox wash and rinsed twice with distilled water. The samples were submitted under standard chain-of-custody procedures to ESS Laboratory of Cranston, Rhode Island, an Environmental Laboratory Accreditation Program (ELAP) certified analytical laboratory, for analysis of TPHg, BTEX, and oxygenates by EPA Method 8260. Results of this investigation are summarized in Table 6 and analytical reports are provided in Appendix G.

No BTEX compounds or TPHg were detected in any of the samples analyzed.

The oxygenates MTBE, TAME, and TBA were detected in several of the samples. MTBE was detected in 10 of the 13 samples collected, TBA was detected in one of 13 samples and TAME was detected in 3 of 13 samples (Figure 8b). The analytical results are summarized as follows:

• Concentrations of MTBE detected in groundwater samples collected from GP-9 and GP-10 on the west side of Barnegat Road were lower than those detected in the samples collected from GP-12, GP-13, and GP-14 on the north side of IBM Road. MTBE was not detected in the grab groundwater sample from boring GP-11



- In samples collected on the west side of Barnegat Road, MTBE was detected in samples from borings GP-9 and GP-10, collected from the depth intervals of 10.5 to 14 feet bgs, at 3.3 and 1.8 μ g/L, respectively. MTBE was not detected in the sample collected from GP-10 at a depth interval of 15 to 18 feet bgs and it was not detected in the sample collected at 96.1 μ g/L in the sample collected from 10.5 to 14 feet bgs at GP-9. TBA was not detected in any other samples. TAME was not detected in any of the samples.
- In samples collected on the north side of IBM Road, MTBE was detected at all three sample locations, GP-12, GP-13, and GP-14, at concentrations ranging from 16.2 to 86.8 µg/L. MTBE was detected at all three depth intervals in the three sample locations with the exception of the depth interval 15 to 18 feet bgs in GP-14; no target analytes were detected in GP-14 at this depth interval. MTBE concentrations were higher in the deeper intervals at each of these three locations. At locations GP-12, GP-13, and GP-14, the depth interval with the highest concentration of MTBE coincided with the only detections of TAME in that boring. The TAME concentrations were just above the TAME laboratory reporting limit (1.0 µg/L) and ranged from 1.10 to 1.19 µg/L. TBA was not detected in any of these samples.

Soil cuttings, equipment wash water, and well development and purge water generated during boring and discrete-depth grab groundwater sampling were contained in appropriately labeled 55-gallon drums that were temporarily stored at the site for off-site disposal. Copies of the disposal records are provided in Appendix H.

2.4.3 Extent of Hydrocarbons in Groundwater

The extent of groundwater apparently impacted by the historical gasoline release is defined and bounded by perimeter monitoring wells MW-6 through MW-10, MW-13, MW-102 through MW-104, MW-110, and MW-111, as illustrated on Figure 8a. Floating hydrocarbon product was measured in MW-2 (0.01 foot) during water level measurements made on September 7, 2005. A measurable layer of hydrocarbon product was not measured in any of the other monitoring wells during the event; however, a sheen was noted in MW-101.

Groundwater samples collected in the area of the former Gulf gasoline station, upgradient of the Former Drive & Park, Inc. UST source area, did not show evidence of petroleum hydrocarbons or other fuel constituents, except MTBE was detected in groundwater samples collected from wells MW-8 and MW-104.



Downgradient of the Former Drive & Park, Inc. UST source area, grab groundwater results and monitoring well sampling results suggest that petroleum hydrocarbons in groundwater do not extend to the child care facility building, as illustrated by the non-detects in samples HA-3, HA-4, HA-6, and MW-110.

The fuel oxygenate TAME was detected in the groundwater samples collected from wells and temporary grab groundwater locations up- and crossgradient of the Former Drive & Park, Inc. UST source area. The fuel oxygenate MTBE was detected in samples collected from monitoring wells along the north, east, and west sides of the site (Figure 8b). The fuel oxygenate TBA was detected in monitoring wells along the west and south of the site. In the recent investigation of a potential offsite source of fuel oxygenates to the north and west of the site, MTBE was found in all but one of six grab groundwater boring locations and 10 of 13 grab groundwater samples. TBA and TAME were also detected in some of these grab groundwater is not related to the historical gasoline release at the site. TBA may occur as a fuel oxygenate or as a breakdown product of MTBE.

2.5 SURFACE WATER INVESTIGATION

On August 19, 1992, NETC conducted a surface water investigation to assess the occurrence of petroleum constituents in the wetland area south of the site. NETC collected three surface water samples: upstream (at the storm water outfall), midstream (near MW-13), and downstream (at Barnegat Road overpass) from the stream that passes through the wetland southeast of the site. The surface water samples were analyzed for BTEX by EPA Method 602 (NETC, 1992). No relative impact was observed, as none of the samples contained BTEX, with the exception of 1 part per billion (ppb) toluene detected in the upstream sample (Table 8).

2.6 POTENTIAL CONDUIT INVESTIGATION

A geophysical investigation was conducted by Geomatrix at the site in November 2003. Using ground penetrating radar (GPR), the geophysical investigation identified a previously unknown subsurface feature, interpreted as a pipe, crossing the site from north to south and extending onto the neighboring property to the south; the location of the feature is shown on Figure 9. The pipe was estimated to be greater than 4 feet deep and approximately 10 to 18 inches in diameter. The exact depth and diameter of the suspected utility pipe could not be determined using the geophysical instruments.

The suspected utility pipe was traced via GPR to an apparent concrete "dry well" structure located on the adjacent property to the south. The dry well was inspected by uncovering and



removing the cover plate, and was found to contain water. A connection between the apparent dry well and the suspected utility pipe could not be seen by inspection.

The suspected utility pipe was located within the area of impacted soil and groundwater at the site. A pipe, if present, and backfill around it have the potential to serve as a conduit for contaminant migration, not only from the site but also onto the site from upgradient locations. Pursuant to the DER-10, Section 3.3, requirements, further investigation of this potential conduit was completed prior to excavation. The investigation included conducting additional file research and physically exposing the suspected utility pipe. Avis conducted a file review at the town of Poughkeepsie and contacted local sewer and water purveyors in March 2004. Results of the file review and further research with the sewer department did not provide additional useful information regarding the unknown pipe line. No additional records or files were located for review.

On October 24, 2005, Martin Geo-Environmental of Belchertown, Massachusetts, a licensed drilling contractor, used an air knife to expose the suspected pipe at two locations shown on Figure 9. The unknown pipe was identified near the center of the parking lot and near the south property boundary as a 2-inch steel pipe running NNE to SSW across the western limits of the planned interim remedial measure excavation area. Geomatrix attempted to locate and expose the line in a third location northwest of the former USTs, but was unsuccessful after three attempts. The subsurface materials surrounding the exposed pipe did not appear to be non-native backfill material. The exposed areas were backfilled with native soil.

On November 22, 2005, Premier used an induced electromagnetic field and ground penetrating radar to locate and trace the suspected utility pipe on site and on the adjacent property to the south. On the adjacent property to the south, the pipe was traced to a lower subsurface elevation approximately 15 feet north of the apparent dry well. The property owner stated that the apparent dry well is part of a secondary septic system in that area, with a holding tank between that structure and the child care facility building. To the north of the excavation area, Premier traced the unknown utility line to the east toward the site building, west to northwest of the former fuel dispenser.

Geomatrix invited local utility representatives to the site to view the unearthed suspected utility pipe for potential identification, but none were available during the time that it was exposed. Geomatrix spoke with representatives from the Poughkeepsie Public Works Department regarding the nature of the pipe, but they were unable to determine its possible use.



After interim remedial measure excavation began on the adjacent property in December 2005, the unknown utility line was found to extend farther to the south than it had been traced in November. The line passed east of the apparent dry well (it was not connected to the apparent dry well) and extended south of the southern limits of the excavation. Premier returned on January 13, 2006, to trace the southern extent of the utility line. According to their investigation, the utility line turns west near MW-110, at which point it apparently runs under the existing child care facility building and is not traceable.

3.0 INTERIM REMEDIAL MEASURE WORK PLAN

During a September 27, 2005 meeting, the NYSDEC and Avis agreed to implement an interim remedial measure consisting of residual source removal through excavation of petroleumimpacted soils using conventional earthmoving equipment. Geomatrix developed and submitted an *Interim Remedial Measure Work Plan* to the NYSDEC on November 1, 2005. The NYSDEC approved the IRM Work Plan on November 29, 2005.

The objective of the interim remedial measure was to mitigate risks to the environment and public health. The selected interim remedy to achieve this objective was excavation to remove residual petroleum constituents in soil on and off site, as delineated by the previous site investigation activities described in Section 2.0 of this report.

4.0 INTERIM REMEDIAL MEASURE IMPLEMENTATION

The IRM Work Plan was implemented between December 19, 2005, and July 24, 2006. The IRM Work Plan implementation is discussed below.

4.1 CONTRACTOR SELECTION

Geomatrix prepared contract documents to solicit bids to excavate soil with residual petroleum from soil by qualified soil remediation contractors. Op-Tech Environmental, Inc. (Op-Tech), of Albany, New York, a licensed remediation contractor, was selected as the remediation contractor.

4.2 CONSTRUCTION MANAGEMENT

Geomatrix managed remediation construction to implement the interim remedial measure. Geomatrix field representatives were on site during work performed by Op-Tech and/or their subcontractors. Tasks conducted by the Geomatrix field representatives included daily planning and interaction with Op-Tech personnel; management, oversight and documentation of construction activities; health and safety monitoring for Geomatrix personnel; perimeter air



monitoring and sampling; screening the excavation floor and sidewalls for chemicals of concern; and soil and water sample collection for laboratory chemical analysis. Geomatrix personnel recorded and documented remediation activities, including:

- work activities completed;
- types and volumes of material excavated and/or replaced;
- weather conditions, including precipitation and wind conditions;
- air quality conditions and dust and/or vapor suppression activities;
- storm water management measures used to control runoff during wet conditions;
- details of testing completed on samples collected for laboratory analysis;
- visitors to the site;
- unforeseen conditions encountered during the work;
- equipment present and in use at the site; and
- health and safety status and issues.

In addition, Geomatrix documented remedial work by taking digital photographs of the work as it progressed. Selected photographs were submitted via e-mail to the NYSDEC upon request during the course of the project.

Geomatrix regularly updated NYSDEC and Avis regarding the work status. Ms. Michelle Tipple of NYSDEC visited the site regularly throughout the course of the work.

4.3 **PERMITTING AND REGULATORY NOTIFICATION**

Geomatrix notified the Town of Poughkeepsie Planning Department, the Town of Poughkeepsie Engineering Department, and the Dutchess County Highway Department of the start of IRM excavation activities on December 26, 2005.

Avis completed and submitted a Town of Poughkeepsie wastewater discharge permit application on December 2, 2005, and notified the Town of Poughkeepsie Engineering Department on December 26, 2006, of the planned start of water discharge. Geomatrix provided regular updates to the Town of Poughkeepsie on the progress of treated water discharge to the sanitary sewer.



4.4 SITE PREPARATION

Site preparation consisted of utility clearance, establishment of survey control, realignment of natural gas service, and removal of existing site features. Site preparation activities are discussed below.

4.4.1 Utility Clearance

Prior to the start of excavation-related activities, Dig Safely New York was contacted. Premier, a private utility locating service, was also hired by Geomatrix to identify the locations of nearby public and private underground utilities. Premier performed underground locating services at the site on December 20, 2005.

4.4.2 Survey Control

Prior to excavation activities, Morris Associates, P.S., L.L.C. (Morris Associates), of Poughkeepsie, New York, established local horizontal and vertical survey control for the project. Morris Associates also marked the corners of the excavation for use in establishing excavation boundaries, as needed, during the work. Morris Associates then returned on July 24, 2006 to perform the as-built topographic survey of the area to document grades following excavation work. A copy of the as-built topographical survey is attached as Appendix I.

4.4.3 Realignment of Natural Gas Service Pipeline

An existing subsurface natural gas service pipeline was identified inside the on-site excavation area. On January 19, 2006, Central Hudson Gas and Electric (CHG&E) rerouted the gas service to a new alignment that passed approximately 15 feet north of the planned on-site excavation area (Figure 2). As discussed in Section 4.4.2.2., the northern boundary of the on-site excavation was subsequently extended approximately 20 feet north to remove impacted soil outside the planned excavation area. To accommodate this over excavation that now extended past the realigned gas service, the natural gas service was temporarily disconnected by CHG&E on April 28, 2006. Once the excavation was completed, the gas service was reconnected by CHG&E on May 2, 2006.

4.4.4 Monitoring Well Removal

Eight monitoring wells located within the excavation area were removed during excavation activities. In accordance with the approved work plan, Op-Tech removed the entire lengths of monitoring wells MW-2, MW-3, DP-1, DP-2, DP-3, MW-4, MW101, and MW-11, including



all casing, filter pack material, and seal, using conventional heavy construction equipment. A Geomatrix field engineer oversaw the removal of these monitoring wells.

4.4.5 Removal of Existing Site Features

The off-site excavation area was cleared prior to excavation activities. Seven large trees were removed, along with assorted shrubbery and other landscaping. Child play equipment was temporarily relocated away from the excavation area at the adjacent child care facility. Existing site boundary fencing was also removed in preparation for excavation activities.

4.4.6 Site Security

During construction activities, the entire work area was surrounded by fencing to prevent access by the public. Active child play areas at the adjacent child care facility were separated from active work areas by two parallel chain-link construction fences placed approximately 10 feet apart.

4.5 SOIL EXCAVATION

The two excavation areas, designated as the Off-site Excavation and On-site Excavation, are shown on Figures 10 and 11. IRM activities included soil excavation, stockpiling, and loading; confirmation soil sample collection and analysis; excavation groundwater extraction and sampling; backfilling and paving; and soil characterization and disposal. Soil excavation activities began on December 26, 2005, and were completed on May 5, 2006. Excavation was performed by Op-Tech using conventional construction equipment.

4.5.1 Off-site Excavation

The off-site excavation was performed from December 26, 2005 through January 11, 2006. Based on results from field screening and confirmation soil sampling (described in Section 4.5), the horizontal extent of the off-site excavation was expanded beyond the planned excavation area to the west, south, and east. The vertical extent was also expanded. Approximately 6,150 tons of soil were excavated from the off-site excavation and stockpiled on site for characterization and off-site disposal. Figure 10 shows the final extent of the off-site excavation, and the locations of the off-site confirmation samples. Final off-site confirmation sample analytical data are presented on Table 9.

Analytical results were below NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046 recommended soil cleanup objectives (NYSDEC, 1994) for all final sidewall confirmation samples collected in the off-site excavation, with one exception, described below.



Sidewall sample SW-E21-10.0-123005 was collected at the northeast corner of the off-site excavation immediately adjacent to the wetland area. Analytical results from this sample were above NYSDEC TAGM 4046 recommended soil cleanup objectives for toluene, ethylbenzene, and total xylenes. Because extending the off-site excavation farther east would have resulted in encroachment upon federally designated wetlands, the excavation was not extended. To mitigate the potential impact to groundwater of this exceedance, Oxygen Release Compound, a proprietary material provided by Regenesis, Inc., was added to the backfill material in the off-site and on-site excavation to enhance the biodegradation of BTEX compounds in groundwater (further described in Section 4.10). The effectiveness of the Oxygen Release Compound will be evaluated as part of the groundwater monitoring program described in Section 5.0

The depth of the off-site excavation ranged from 8 to 15 feet bgs. Analytical results of excavation floor confirmation samples were below NYSDEC TAGM 4046 recommended soil cleanup objectives for the constituents of concern for the site, with the exceptions described below.

Benzene was detected in floor samples FL-E26-12.0-010606, FL-E28-14.0-011706, and FL-E29-14.0-011906 collected from the central floor of the off-site excavation at depths ranging from 12 to 14 feet bgs, at concentrations ranging from 0.53 to 4.8 mg/kg. The TAGM 4046 recommended cleanup level for benzene is 0.08 mg/kg. Because further excavation in these areas was becoming hazardous due to soft soil conditions and infiltrating groundwater, further excavation was not performed. As discussed above, Oxygen Release Compound was added to the backfill material to mitigate the potential impact to groundwater. The impact to groundwater will be evaluated as part of the groundwater monitoring program described in Section 5.

4.5.2 On-site Excavation

The on-site excavation was performed between January 27, 2006 and May 2, 2006. The final excavation depth and horizontal extent were determined based on field screening and confirmation soil sampling performed by Geomatrix (as described in Section 4.5). Approximately 17,750 tons of soil were excavated during the on-site excavation and stockpiled on site for characterization and off-site disposal. In addition, approximately 700 tons of asphalt concrete were removed from the on-site excavation area and transported directly for recycling at the Black Top Maintenance, Inc., facility in Poughkeepsie.

On February 24, 2006, four previously unknown steel containers were unearthed during the onsite excavation. One of the containers contained a small quantity (less than 250 milliliters) of



unknown liquid. The buried containers were removed from the excavation area and temporarily secured at the site pending characterization and off-site disposal. The buried containers were disposed at the Cycle Chem, Inc., facility in Lewisberry, Pennsylvania, on June 26, 2006. Buried container removal, handling, and disposal are discussed in Appendix J.

4.5.2.1 Excavation Shoring

Mabey Bridge and Shore Inc. (Mabey) of Linden, New Jersey, a subcontractor to Op-Tech, designed a braced shoring system to support the excavation adjacent to the existing on-site building. The shoring system was designed to maintain excavation sidewall stability, protect the adjacent building, and limit groundwater infiltration during excavation. The shored area of the on-site excavation measured approximately 43 feet by 85 feet. Figure 11 shows the shored area of the on-site excavation. The shoring system was installed by Op-Tech under supervision by a representative of Mabey. The shoring system consisted of steel sheet piles installed in an interlocked configuration and supported by horizontal hydraulic struts and frame.

4.5.2.2 Extent of Excavation

Figure 11 shows the final extent of the on-site excavation and the locations of the on-site confirmation samples. Based on the results of field screening and excavation sidewall confirmation sampling (described in Section 4.5), the lateral extent of the on-site excavation was increased, relative to what was anticipated in the *Interim Remedial Measure Work Plan*, to the west and north. Final on-site confirmation sample analytical data are presented on Table 9.

Analytical results for the final sidewall confirmation samples were all below NYSDEC TAGM 4046 recommended soil cleanup objectives.

Analytical results of excavation floor confirmation samples collected in the on-site excavation were below NYSDEC TAGM 4046 recommended soil cleanup objectives, with one exception. Benzene was detected in floor sample FL-ON-9-13.0-030106, collected from the west-central floor of the on-site excavation, at a concentration of 0.38 mg/kg, above the TAGM 4046 recommended cleanup level for benzene of 0.08 mg/kg. Because further excavation in this area was becoming hazardous because of soft soil conditions and infiltrating groundwater, further excavation was not performed. Oxygen Release Compound was added to the backfill material to mitigate the potential impact to groundwater. The impact to groundwater, if any, will be evaluated as part of the groundwater monitoring program described in Section 5.



4.6 SOIL FIELD SCREENING AND CONFIRMATION SAMPLING METHODS

Geomatrix performed field soil screening and confirmation sampling during excavation activities. Visual inspection and photoionization detector measurements were used to screen the excavation floor and sidewalls for the presence of petroleum hydrocarbons, and to direct Op-Tech to perform additional excavation. Excavation confirmation samples were collected when field screening did not indicate the presence of residual petroleum hydrocarbons in the excavation floor or sidewall. Soil sampling and field screening were performed using methods described in the Sampling and Analysis Plan, which was included as Appendix E of the IRM Work Plan.

Confirmation samples were transported under Geomatrix chain-of-custody to Adirondack Environmental Services (AES), of Albany, New York, an ELAP-certified analytical laboratory. Samples were analyzed by AES for VOCs by EPA Method 8260B, for total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8015M, and for total petroleum hydrocarbons as diesel (TPHd) by EPA Method 8015M. A portable laboratory, Stone Environmental Services, was mobilized to the site to provide interim analytical data to expedite decision making for the off-site excavation during the first week of excavation. However, all final confirmation samples and all confirmation sample analytical data presented in this Remedial Investigation Report were analyzed by AES. The analytical data were reviewed in accordance with the U.S. EPA National Functional Guidelines for Inorganic Data Review ` (U.S. EPA, 2002) and U.S. EPA National Functional Guidelines for Organic Data Review (U.S. EPA, 1999). Appendix K includes a summary of the data quality review. Copies of the laboratory analytical reports, with an index table, for work described in the sections below are provided in Appendix L. The results of the data quality review are reflected in the data summary tables (Tables 9 through 13).

4.7 EXCAVATED SOIL MANAGEMENT AND DISPOSAL

4.7.1 Stockpile Management

Excavated soil was temporarily stockpiled at the site prior to characterization and off-site transportation and disposal. Soil stockpile areas are shown on Figure 11. A vapor suppressant (Bio-Solve) was applied by Op-Tech to soil stockpiles in active soil loading areas when work zone air monitoring indicated that airborne VOCs were present.

Stockpile management practices were consistent with the storm water pollution protection plan prepared for the interim remedial measure activities. Hay bales were placed around the



perimeter of the soil stockpile area, and stockpiled soil was placed on plastic sheeting and covered with weighted plastic sheeting at the end of each work day.

4.7.2 Waste Characterization Sampling

Geomatrix performed waste characterization sampling required by the off-site soil disposal facilities. One four-point composite sample was collected per 800 cubic yards from soil stockpiles. In some cases a discrete soil sample was collected from test trenches excavated within the planned on-site excavation area per 800 cubic yards of excavated soil. Waste characterization samples were submitted to AES for chemical analyses required by the off-site soil disposal facilities.

4.7.3 Off-site Disposal

Based on disposal characterization sample analytical results, excavated soil was approved for disposal as nonhazardous waste at three soil treatment/recycling facilities: the Clean Earth, Inc., facility in Carteret, New Jersey (Clean Earth); the Clean Earth, Inc., facility in New Castle, Delaware (Clean Earth New Castle); and the Soil Safe, Inc., facility in Logan Township, New Jersey (Soil Safe).

Op-Tech transported soil to off-site disposal facilities from December 28, 2005, to May 1, 2006. After loading, visible soil was removed from the fenders and tires of transportation vehicles and the beds were covered with tarps. Each loaded truck left the site with a completed non-hazardous waste manifest, signed by a representative of Avis Rent A Car System, Inc. Copies of all soil disposal manifests are included as Appendix M. Copies of Certificates of Destruction for the soil excavated from the site are also provided in Appendix M. The three facilities received the following quantities of soil:

- Soil Safe 19,904.97 tons
- Clean Earth 3850.8 tons
- Clean Earth New Castle 140.2 tons

A total of 23,895.97 tons of impacted soil was disposed off site during the project.

4.8 EXCAVATION DEWATERING

Op-Tech performed excavation dewatering to facilitate soil excavation, confirmation soil sampling, and backfilling and compaction. Extracted groundwater was treated in an on-site treatment system and discharged via an on-site manhole to the Town of Poughkeepsie sanitary



sewer system. The on-site treatment system consisted of two 20,000-gallon settling tanks followed by parallel treatment process trains consisting of four sediment bag filters and two 1,000-pound granular activated carbon vessels, installed in series. A process and instrumentation diagram for the on-site treatment system is provided as Figure 12.

Geomatrix collected system influent, midstream, and effluent samples weekly during dewatering operations at the locations shown on Figure 12. Samples were submitted to AES for analysis for TPHg, TPH-d, VOCs, and fuel oxygenates (MTBE, ethyl tertiary butyl ether, tertiary-amyl methyl ether, and tertiary-butyl alcohol). Treatment system analytical results are summarized in Table 12. As indicated in Table 12, there were no detected concentrations of TPHg, TPHd, VOCs, or fuel oxygenates in any of the effluent samples. Laboratory analytical reports for dewatering system water samples are included in Appendix L.

Geomatrix notified the Town of Poughkeepsie Engineering Department on December 26, 2006, of the planned start of water discharge, and provided regular updates to the Town of Poughkeepsie on the progress of treated water discharge to the sanitary sewer. Extraction, treatment, and discharge began on December 29, 2005 and ended on March 13, 2006. A total of 622,452 gallons of groundwater was extracted, treated, and discharged to the Town of Poughkeepsie sanitary sewer.

4.9 **AIR MONITORING**

Geomatrix performed air monitoring in accordance with the Air Monitoring Plan issued as Appendix B of the IRM Work Plan. Air monitoring began on December 23, 2005, and ended on March 22, 2006, after excavation, backfill, and soil off-haul activities were substantially completed.

4.9.1 Work Zone Monitoring

To identify potential hazards to Geomatrix personnel, Geomatrix performed work zone air monitoring periodically during applicable work. Airborne concentrations of VOCs were monitored with RAE Systems MiniRAE 2000 photoionization detectors. Airborne dust was measured using MIE pDR-1000 portable aerosol monitors. Both photoionization detectors and portable aerosol monitors were calibrated daily, and Geomatrix personnel maintained written records of work zone air quality. Op-Tech mitigated VOC and dust emissions in the work zone with engineering controls and best work practices, including application of a vapor suppressant (Bio-Solve) in active excavation areas when work zone air monitoring indicated that airborne VOCs were present. Concentrations of airborne VOCs and airborne dust never exceeded work zone action levels presented in the Air Monitoring Plan.



4.9.2 Perimeter Monitoring

Geomatrix monitored and sampled perimeter air to assess and record the levels of airborne dust and VOCs at the perimeter of the work areas. Figure 13 shows the locations of the perimeter air monitoring stations. Geomatrix initially established two perimeter air monitoring stations; at the off-site southernmost work zone boundary near the child care facility building (Location B), and at the northernmost work zone boundary adjacent to the existing rental car office (Location N). Air monitoring station "B" was located near the child care facility during off-site excavation work and was moved on-site to the southern site property boundary during on-site excavation work, as shown in Figure 13. In response to VOC odors observed during soil loading in the soil stockpile area, Geomatrix established a third perimeter air monitoring station on February 3, 2006, located between the soil stockpile area and an adjacent office building at 26 IBM Road (one location with two labels, Locations F and S; see Figure 13).

Perimeter air monitoring initially consisted of continuously monitoring and logging airborne dust using a data-logging portable aerosol monitor (MIE pDR-1000) and VOC concentrations using a data-logging photoionization detector (RAE Systems MiniRAE 2000) installed at each monitoring station. Each instrument was periodically monitored throughout the day and when work was likely to mobilize VOCs and/or dust (e.g., during loading of stockpiled soil onto trucks for off-site disposal). In addition, the data from each instrument were downloaded at the end of each work day and reviewed to confirm compliance with the Air Monitoring Plan. Perimeter air monitoring dust and VOC data for all monitoring stations are included as Appendixes N and O.

On February 14, 2006, Geomatrix augmented the perimeter air monitoring program by collecting air samples at perimeter air monitoring stations using SUMMA® canisters. Air sampling was instituted to collect speciated VOC data. Concentrations of several VOCs were detected in air samples. The VOC data were compared to Minimal Risk Levels (MRLs) published by the Agency for Toxic Substances and Disease Registry (ATSDR, 2006). Concentrations of VOCs detected in air samples were below MRLs for the appropriate exposure periods. Table 13 presents air sampling data. Air sampling laboratory analytical reports are included as Appendix P. Geomatrix communicated results of air sampling to the NYSDEC regularly as part of monthly progress reports submitted to the NYSDEC.

4.10 EXCAVATION BACKFILLING

Following excavation, Op-Tech backfilled the excavation using excavated soil from the site that was tested and determined to be acceptable for re-use, and soil imported to the site from



off-site sources. Op-Tech also applied Oxygen Release Compound to the backfill as it was placed.

4.10.1 Backfill Material Screening and Chemical Analysis

Prior to backfilling, Geomatrix reviewed existing analytical results provided by others, if available, and collected representative samples for chemical analysis of materials used to backfill excavations.

Approximately 950 cubic yards of excavated soil that was determined to be suitable for re-use was used as backfill material. Prior to backfilling, samples of this material were collected for chemical analysis. Analytical results for these samples are presented in Appendix L.

Approximately 26,900 tons of fill material were imported for use in backfilling the excavations. Imported fill materials used for this project included drain rock (3/4-inch), Item 4 aggregate base, and stone sand procured by Op-Tech from Tilcon Industries of New Hamburg, New York; general fill procured by Op-Tech from Red Wing Sand and Gravel of Lagrangeville, New York; and topsoil procured by Op-Tech from Black Top Maintenance of Washington, New York.

Prior to utilizing imported backfill materials, Geomatrix inspected backfill material sources, reviewed existing analytical data from backfill samples, if available, and collected additional chemical analysis data from samples of imported backfill material. Inspections of off-site backfill material sources and associated sample collection and analysis are described in Appendix Q. The analytical results for these samples are presented in Appendix L. Based on the results of backfill material source inspections and sampling and analysis, material used to backfill the excavations during IRM implementation did not contain site-related chemicals of concern (COCs) above the recommended cleanup levels published in Technical and Administrative Guidance Memorandum (TAGM) 4046.

In addition to the samples analyzed for site-related COCs, the topsoil was analyzed for additional constituents prior to use in the off-site excavation area. Two topsoil samples were analyzed. Black Top Maintenance provided analytical results for a topsoil sample analyzed for volatile organic compounds (VOCs) by EPA Method 8260, semi-volatile organic compounds (SVOCs) by EPA Method 8270C, metals by EPA Method 6010B, organochlorine pesticides by EPA Method 8081A, polychlorinated biphenyls (PCBs) by EPA Method 8082, mercury by EPA Method 7471A, and herbicides by EPA Method 8151. In addition, Geomatrix submitted a



separate sample of the topsoil for analysis for organochlorine pesticides by EPA Method 8081A and PCBs by EPA Method 8082.

No VOCs, SVOCs, organochlorine pesticides, PCBs, mercury or herbicides were detected. Some metals were detected and the results are provided in Table 11. With the exception of magnesium and zinc, concentrations of metals detected in the sample were within the range of background concentrations published in TAGM 4046. Zinc and magnesium were within the range of background concentrations published for soils in the United States (Shacklette and Boerngnen, 1984), and zinc concentrations were also below soil cleanup objectives for brownfields sites (NYSDOH and NYSDEC, 2006). Magnesium is an essential nutrient with very low toxicity; thus, risk-based soil cleanup objectives have not been developed for magnesium.

The analytical results for the backfill samples confirm that the soils used to backfill the excavations and restore the off-site excavation area are suitable for unrestricted use.

4.10.2 Oxygen Release Compound Application

To enhance biodegradation of petroleum hydrocarbons in the subsurface, Oxygen Release Compound was added to the backfill material. The Oxygen Release Compound gradually releases oxygen into the subsurface and stimulates naturally occurring aerobic bacteria. The added oxygen will enhance aerobic degradation of remaining dissolved-phase petroleum hydrocarbons in groundwater.

A 16.7% (by weight) solution of Oxygen Release Compound was prepared and applied to the backfill material by Op-Tech utilizing a submersible pump and garden hose. Oxygen Release Compound solution was applied at a rate of 1 gallon of solution per 20 square feet of surface area on top of the first two 1-foot-thick lifts of backfill material, and 1 gallon of solution per 45 square feet of surface area on top of the remaining 1-foot-thick lifts of backfill material, until the backfill level reached the water table (approximately 3 to 6 feet bgs).

4.10.3 Backfilling and Compaction

4.10.3.1 Off-site Excavation Area

Off-site backfill activities began on January 11, 2006 and were completed on February 1, 2006. The off-site backfill consisted of approved excavated soils, general fill, Item 4 aggregate base, stone sand, and topsoil. A non-woven geotextile fabric (LINQ Industrial Fabrics, Inc., 140EX Drainage Geotextile) was placed on the base of the completed off-site excavation.

Approximately 2 feet of Item 4 aggregate base was then placed and compacted on the


geotextile fabric. General fill was placed and compacted on the aggregate base up to prerestoration elevations (approximately 1 foot below final grade). Stone sand was mixed into the top 1 foot of the general fill to increase the strength of the general fill.

The off-site excavation was backfilled in approximately 1-foot lifts and compacted by Op-Tech using an excavator bucket to the extent practicable. The off-site excavation area's anticipated use is as a vegetated child play area, with no expected vehicular or structural loads, and therefore, no compaction testing of the off-site excavation backfill was performed.

Topsoil was placed during final off-site restoration activities. Restoration activities are presented in detail in Section 4.11 of this report.

4.10.3.2 On-site Excavation Area

On-site backfill activities began on February 7, 2006, and were completed on May 2, 2006. Drain rock was placed in completed portions of the excavation and extended approximately 0 to 2 feet above the level of standing groundwater. The thickness of drain rock layer added to the completed excavation ranged between 6 and 9 feet. A non-woven geotextile fabric (LINQ Industrial Fabrics, Inc., 140EX Drainage Geotextile) was placed over the drain rock, and Item 4 aggregate base was placed and compacted up to pavement subgrade elevations.

The on-site excavation was backfilled in approximately 1-foot lifts and compacted using a vibrating roller compactor. Item 4 aggregate base was compacted to at least 95% of the maximum dry standard Proctor density. Op-Tech retained QCQA Labs, Inc. (QCQA), of Schenectady, New York to perform backfill compaction testing using a nuclear density gauge. Each lift was tested by QCQA in at least three separate locations, and the compacted material met the specified level of compaction. Compaction test results are included in Appendix R.

4.11 SITE RESTORATION ACTIVITIES

Restoration activities performed by Op-Tech included restoration of both the off-site and onsite excavation areas.

4.11.1 Off-site Excavation Area Restoration

Straw matting was placed on the backfilled off-site excavation to prevent erosion prior to completing off-site restoration activities. Off-site restoration activities performed by Op-Tech were completed between May 1 and June 12, 2006. These activities included:

• placing and compacting approximately 1 foot of topsoil,



- grading,
- removing all interim erosion control measures, and
- installing new property boundary fencing.

All off-site restoration activities performed by Op-Tech were completed to the satisfaction of Ms. Valerie Andrews, owner of the child care facility. The child care facility retained contractors directly to perform additional site restoration activities, including:

- planting grass and trees, and
- installing new playground equipment and other amenities.

4.11.2 On-site Restoration

Op-Tech completed on-site restoration activities between May 2 and June 13, 2006. On-site restoration activities included:

- repaying and re-striping the site,
- repairing a storm drain catch basin in the soil stockpile area that was damaged during the work,
- reinstalling light poles removed to facilitate excavation, and
- installing groundwater monitoring wells (described below) to replace wells removed during the IRM excavation.

5.0 GROUNDWATER MONITORING

At the completion of the IRM implementation, four quarters of groundwater monitoring will commence to assess the effectiveness of the interim remedial measure. Thirteen monitoring wells were associated with the site, including 9 on-site monitoring wells and 4 off-site monitoring wells. Two new on-site wells, MW-201 and MW-203, were installed at the locations shown on Figure 2 to replace the 8 wells destroyed during the IRM implementation (Section 5.1). One of the on-site wells, MW-102, was damaged during excavation activities and was destroyed and replaced with a new well, MW-202, located approximately 3 feet west of the original well MW-102. Currently, 15 wells are associated with the site, including 11 on-site wells and 4 off-site wells.



The proposed effectiveness groundwater monitoring program was described in a letter to the NYSDEC dated May 11, 2006. The NYSDEC approved the monitoring program in a letter dated May 30, 2006. The approved monitoring program is provided as Appendix S. The first quarterly groundwater monitoring event was conducted in June 2006, shortly after monitoring well installation and development. Analytical results of groundwater samples and disposal of investigation-derived waste (soil cuttings and purged water) were provided in a groundwater monitoring report submitted under separate cover (Geomatrix, 2006b).

5.1 MONITORING WELL INSTALLATION

Three groundwater monitoring wells (MW-201, MW-202, and MW-203) were installed by Martin Geo-Environmental of Belchertown, Massachusetts on June 13, 2006 using a hollowstem-auger-equipped Mobile B-61 drill rig. One well was installed near the former Drive & Park, Inc. UST tank area (MW-203), one was installed 3 feet east of well MW-102 to replace well MW-102 (MW-202), and one was installed near the southern property line adjacent to the child care property (MW-201) (Figure 2). Prior to monitoring well installation, DigSafely New York was notified to clear the borings. Permits were not required.

The borings were advanced using 8¹/₄-inch-outer-diameter hollow-stem augers. A Geomatrix geologist screened recovered soil core for organic vapors using a MiniRAE 2000 organic vapor meter field calibrated using a 100 ppm isobutylene standard. The soil cores were described using the American Society for Testing and Materials Standard D2488-90, which is based on the Unified Soil Classification System, for guidance. Soil samples were also examined for indications of petroleum hydrocarbons, i.e., petroleum odor and/or staining/discoloration. Copies of the boring logs showing well construction details are included in Appendix T.

Well casing and annular materials were installed through the hollow-stem augers. Each well was constructed using 2-inch-diameter, Schedule 40 polyvinyl chloride (PVC) flush thread casing. A screen consisting of factory-slotted PVC casing with 0.010-inch slot size was installed in each well. Each well was screened across the water table. Well construction details are summarized in Table 14.

A sand filter pack consisting of No. 2 sand was placed from the bottom of the screened interval to approximately 1 foot above the screen. An approximately 1-foot-thick layer of 3/8-inch-diameter bentonite chips was placed above the sand filter pack and hydrated to provide a seal. Following placement of the bentonite seal, the remaining annulus was filled with cement/bentonite grout to the surface. A watertight, expandable well cap was used to seal the



top of the casing at each well. The wells were completed at the surface with traffic-rated well boxes installed flush with the existing grade.

Morris and Associates, a New York-licensed surveyor, surveyed the final horizontal position (within submeter accuracy) and vertical elevation (to the nearest 0.01 foot) of each completed well.

5.2 WELL DEVELOPMENT

Geomatrix developed monitoring wells MW-201, MW-202, and MW-203 on June 14, 2006. Development consisted of a combination of surging with a surge block and pumping with a submersible pump. Development continued at each well until the temperature, pH, conductivity, and turbidity measurements of the purged groundwater stabilized and the purged groundwater was visually clear to the satisfaction of a Geomatrix field geologist. Well development logs are provided in Appendix U.

5.3 WELL DECOMMISSIONING

Existing monitoring well MW-102 was damaged beyond repair during the excavation activities; consequently, well MW-102 was decommissioned by Geomatrix on June 13, 2006. The 2-inch-diameter PVC casing was removed and the well was overdrilled to 13 feet bgs using 8¹/₄-inch-outer-diameter hollow-stem augers. The borehole was tremie grouted with cement-bentonite grout from total depth to the ground surface.



6.0 **REFERENCES**

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SUMMARY OF HISTORICAL WATER LEVEL ELEVATION DATA

Former Drive & Park, Inc. Site 28 IBM Road

Well Identification	Gauging Date	Measuring Point Elevation ¹ (feet NGVD)	Free-Phase Product Thickness (feet)	Depth to Groundwater (feet below measuring point)	Water Level Elevation (feet NGVD)	References
MW-1	01/31/91	99.29	NA ²	8.25	91.04	NETC, 1991
	08/26/92	99.29	NA	8.46	90.83	NETC, 1992
	03/18/03	99.29	NP ³	7.06	92.23	MFG, 2003
	04/15/03	99.29	NP	7.28	92.01	MFG, 2003
	04/24/03	99.29	NP	7.51	91.78	MFG, 2003
	05/01/03	99.29	NP	7.68	91.61	MFG, 2003
	05/13/03	99.29	NP	7.72	91.57	MFG, 2003
	06/26/03	99.29	NP	7.65	91.64	MFG, 2003
	07/30/03	99.29	NP	8.20	91.09	MFG, 2003
	08/13/03	99.29	NP	8.10	91.19	MFG, 2003
	09/24/03	99.29	NP	8.10	91.19	MFG, 2003
	11/24/03	99.29	NP	7.71	91.58	Geomatrix, 2004
	09/07/05	99.29	NP	8.97	90.32	Geomatrix, 2005
MW-2	01/31/91	98.35	NA	7.39	90.96	NETC, 1991
	08/26/92	98.35	NA	7.75	90.60	NETC, 1992
	03/18/03	98.35	NA ⁴	6.75	91.60	MFG, 2003
	04/15/03	98.35	0.07	6.13	92.22	MFG, 2003
	04/24/03	98.35	0.13	6.75	91.60	MFG, 2003
	05/01/03	98.35	0.08	6.88	91.47	MFG, 2003
	05/13/03	98.35	0.05	6.91	91.44	MFG, 2003
	06/26/03	98.35	NP	2.00	96.35	MFG, 2003
	07/30/03	98.35	0.12	7.35	91.00	MFG, 2003
	08/13/03	98.35	0.03	7.20	91.15	MFG, 2003
	09/24/03	98.35	NP	7.35	91.00	MFG, 2003
	11/24/03	98.35	NP	6.94	91.41	Geomatrix, 2004
	09/07/05	98.35	0.01	8.20	90.15	Geomatrix, 2005
MW-3	01/31/91	98.34	NA	6.80	91.54	NETC, 1991
	08/26/92	98.34	NA	7.10	91.24	NETC, 1992
	03/18/03	98.34	NP	5.91	92.43	MFG, 2003
	04/15/03	98.34	NP	5.67	92.67	MFG, 2003
	04/24/03	98.34	NP	5.99	92.35	MFG, 2003
	05/01/03	98.34	NP	6.20	92.14	MFG, 2003
	05/13/03	98.34	NP	6.29	92.05	MFG, 2003
	06/26/03	98.34	NP	6.18	92.16	MFG, 2003
	07/30/03	98.34	NP	6.84	91.50	MFG, 2003
	08/13/03	98.34	NP	6.65	91.69	MFG, 2003
	09/24/03	98.34	NP	6.70	91.64	MFG, 2003
	11/24/03	98.34	NP	6.35	91.99	Geomatrix, 2004
	09/07/05	98.34	NP	7.86	90.48	Geomatrix, 2005



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Well Identification	Gauging Date	Measuring Point Elevation ¹ (feet NGVD)	Free-Phase Product Thickness (feet)	Depth to Groundwater (feet below measuring point)	Water Level Elevation (feet NGVD)	References
MW-4	01/31/91	96.38	NA	5.66	90.72	NETC, 1991
	08/26/92	96.38	NA	6.34	90.04	NETC, 1992
	03/18/03	96.38	NP	5.15	91.23	MFG, 2003
	04/15/03	96.38	NP	5.24	91.14	MFG, 2003
	04/24/03	96.38	NP	5.37	91.01	MFG, 2003
	05/01/03	96.38	NP	5.59	90.79	MFG, 2003
	05/13/03	96.38	NP	5.61	90.77	MFG, 2003
	06/26/03	96.38	NP	5.51	90.87	MFG, 2003
	07/30/03	96.38	NP	6.21	90.17	MFG, 2003
	08/13/03	96.38	NP	5.72	90.66	MFG, 2003
	09/24/03	96.38	NP	5.71	90.67	MFG, 2003
	11/24/03	96.38	NP	5.51	90.87	Geomatrix, 2004
	09/07/05	96.38	NP	7.39	88.99	Geomatrix, 2005
MW-5	08/26/92	95.1	NA	5.01	90.09	NETC, 1992
	09/24/03	95.1	NP	4.10	91.00	MFG, 2003
	11/24/03	NM ⁵	NM	NM	NM	Geomatrix, 2004
	Well des	stroyed November	20, 2003.			
MW-6	08/26/92	98.56	NA	8.13	90.43	NETC, 1992
	03/18/03	98.56	NP	7.75	91.05	MFG, 2003
	04/15/03	98.56	NP	7.51	91.05	MFG, 2003
	04/24/03	98.56	NP	7.89	90.67	MFG, 2003
	05/01/03	98.56	NP	7.99	90.57	MFG, 2003
	05/13/03	98.56	NP	8.03	90.53	MFG, 2003
	06/26/03	98.56	NP	8.21	90.35	MFG, 2003
	07/30/03	98.56	NP	8.92	89.64	MFG, 2003
	08/13/03	98.56	NP	8.89	89.67	MFG, 2003
	09/24/03	98.56	NP	8.91	89.65	MFG, 2003
	11/24/03	98.56	NP	7.91	90.65	Geomatrix, 2004
	09/07/05	98.56	NP	9.95	88.61	Geomatrix, 2005
MW-7	08/26/92	99.21	NA	8.94	90.27	NETC, 1992
	03/18/03	99.21	NP	8.02	91.19	MFG, 2003
	04/15/03	99.21	NP	7.80	91.41	MFG, 2003
	04/24/03	99.21	NP	8.08	91.13	MFG, 2003
	05/01/03	99.21	NP	8.23	90.98	MFG, 2003
	05/13/03	99.21	NP	8.26	90.95	MFG, 2003
	06/26/03	99.21	NP	8.37	90.84	MFG, 2003
	07/30/03	99.21	NP	8.90	90.31	MFG, 2003
	08/13/03	99.21	NP	8.91	90.30	MFG, 2003
	09/24/03	99.21	NP	8.92	90.29	MFG, 2003
	11/24/03	99.21	NP	8.22	90.99	Geomatrix, 2004
	09/07/05	99.21	NP	10.11	89.10	Geomatrix, 2005



SUMMARY OF HISTORICAL WATER LEVEL ELEVATION DATA

Former Drive & Park, Inc. Site 28 IBM Road

Well Identification	Gauging Date	Measuring Point Elevation ¹ (feet NGVD)	Free-Phase Product Thickness (feet)	Depth to Groundwater (feet below measuring point)	Water Level Elevation (feet NGVD)	References
MW-8	08/26/92	99.66	NA	9.44	90.22	NETC, 1992
	03/18/03	99.66	NP	8.56	91.10	MFG, 2003
	04/15/03	99.66	NP	8.58	91.08	MFG, 2003
	04/24/03	99.66	NP	8.92	90.74	MFG, 2003
	05/01/03	99.66	NP	9.06	90.60	MFG, 2003
	05/13/03	99.66	NP	9.10	90.56	MFG, 2003
	06/26/03	99.66	NP	8.32	91.34	MFG, 2003
	07/30/03	99.66	NP	9.30	90.36	MFG, 2003
	08/13/03	99.66	NP	9.30	90.36	MFG, 2003
	09/24/03	99.66	NP	9.30	90.36	MFG, 2003
	11/24/03	99.66	NP	8.88	90.78	Geomatrix, 2004
	09/07/05	99.66	NP	9.94	89.72	Geomatrix, 2005
MW-9	08/26/92	95.04	NA	4.90	90.14	NETC, 1992
	03/18/03	95.04	NP	2.79	92.25	MFG, 2003
	04/15/03	95.04	NP	4.07	90.97	MFG, 2003
	04/24/03	95.04	NP	4.43	90.61	MFG, 2003
	05/01/03	95.04	NP	4.61	90.43	MFG, 2003
	05/13/03	95.04	NP	4.66	90.38	MFG, 2003
	06/26/03	95.04	NP	4.20	90.84	MFG, 2003
	07/30/03	95.04	NP	4.30	90.74	MFG, 2003
	08/13/03	95.04	NP	4.22	90.82	MFG, 2003
	09/24/03	95.04	NA	NM	NA	MFG, 2003
	11/24/03	95.04	NP	3.30	91.74	Geomatrix, 2004
	09/07/05	95.04	NP	5.39	89.65	Geomatrix, 2005
MW-10	08/26/92	95.69	NA	4.05	91.64	NETC, 1992
	11/24/03	95.69	NP	3.11	92.58	Geomatrix, 2004
	09/07/05	95.69	NP	6.92	88.77	Geomatrix, 2005
MW-11	08/26/92	92.02	NA	2.65	89.37	NETC, 1992
	03/18/03	92.02	NP	1.22	90.80	MFG, 2003
	11/24/03	92.02	NP	1.56	90.46	Geomatrix, 2004
	09/07/05	92.02	NP	4.15	87.87	Geomatrix, 2005
MW-12	08/26/92	92.64	NA	4.47	88.17	NETC, 1992
	03/18/03	92.64	NP	3.25	89.39	MFG, 2003
	11/24/03	92.64	NP	3.49	89.15	Geomatrix, 2004
NOV 12	09/07/05	92.64	NP	5.57	87.07	Geomatrix, 2005
MW-13	08/26/92	90.84	NA	4.00	86.84	NEIC, 1992
	03/18/03	90.84	NP	3.02	87.82	MFG, 2003
	11/24/03	90.84	NP	3.15	87.69	Geomatrix, 2004
	09/07/05	90.84	NP	4.93	85.91	Geomatrix, 2005



SUMMARY OF HISTORICAL WATER LEVEL ELEVATION DATA

Former Drive & Park, Inc. Site 28 IBM Road

Well Identification	Gauging Date	Measuring Point Elevation ¹ (feet NGVD)	Free-Phase Product Thickness (feet)	Depth to Groundwater (feet below measuring point)	Water Level Elevation (feet NGVD)	References
DP-1	08/26/92	97.92	NA	7.06	90.86	NETC, 1992
	03/18/03	97.92	NP	5.58	92.34	MFG, 2003
	04/15/03	97.92	NP	5.26	92.66	MFG, 2003
	04/24/03	97.92	NP	5.65	92.27	MFG, 2003
	05/01/03	97.92	NP	5.86	92.06	MFG, 2003
	05/13/03	97.92	NP	5.94	91.98	MFG, 2003
	06/26/03	97.92	NP	5.91	92.01	MFG, 2003
	07/30/03	97.92	NP	6.51	91.41	MFG, 2003
	08/13/03	97.92	NP	6.30	91.62	MFG, 2003
	09/24/03	97.92	NP	6.35	91.57	MFG, 2003
	11/24/03	97.92	NP	6.00	91.92	Geomatrix, 2004
	09/07/05	97.92	NP	7.54	90.38	Geomatrix, 2005
DP-2	08/26/92	97.92	NA	7.01	90.91	NETC, 1992
	03/18/03	97.92	NP	5.45	92.47	MFG, 2003
	04/15/03	97.92	NP	5.26	92.66	MFG, 2003
	04/24/03	97.92	NP	5.60	92.32	MFG, 2003
	05/01/03	97.92	NP	5.81	92.11	MFG, 2003
	05/13/03	97.92	NP	5.85	92.07	MFG, 2003
	06/26/03	97.92	NP	5.72	92.20	MFG, 2003
	07/30/03	97.92	NP	NM	NA	MFG, 2003
	08/13/03	97.92	NP	NM	NA	MFG, 2003
	09/24/03	97.92	NP	NM	NA	MFG, 2003
	11/24/03	97.92	NP	NM	NA	Geomatrix, 2004
	09/07/05	97.92	NP	NM	dry	Geomatrix, 2005
DP-3	08/26/92	98.14	NA	6.94	91.20	NETC, 1992
	03/18/03	98.14	NP	5.45	92.69	MFG, 2003
	04/15/03	98.14	NP	5.66	92.48	MFG, 2003
	04/24/03	98.14	NP	5.60	92.54	MFG, 2003
	05/01/03	98.14	NP	5.81	92.33	MFG, 2003
	05/13/03	98.14	NP	NM	NA	MFG, 2003
	06/26/03	98.14	NP	5.83	92.31	MFG, 2003
	07/30/03	98.14	NP	NM	NA	MFG, 2003
	08/13/03	98.14	NP	NM	NA	MFG, 2003
	09/24/03	98.14	NP	NM	NA	MFG, 2003
	11/24/03	98.14	NP	5.51	92.63	Geomatrix, 2004
	09/07/05	98.14	NP	NM	dry	Geomatrix, 2005
MW-101	11/24/03	96.95	NP	5.22	91.73	Geomatrix, 2004
	09/07/05	96.95	sheen	8.02	88.93	Geomatrix, 2005
MW-102	11/24/03	95.02	NP	3.69	91.33	Geomatrix, 2004
	09/07/05	95.02	NP	5.51	89.51	Geomatrix, 2005
MW-103	11/24/03	98.86	NP	8.08	90.79	Geomatrix, 2004
	09/07/05	98.86	NP	8.85	90.01	Geomatrix, 2005



SUMMARY OF HISTORICAL WATER LEVEL ELEVATION DATA

Former Drive & Park, Inc. Site 28 IBM Road

Poughkeepsie, New York

Well Identification	Gauging Date	Measuring Point Elevation ¹ (feet NGVD)	Free-Phase Product Thickness (feet)	Depth to Groundwater (feet below measuring point)	Water Level Elevation (feet NGVD)	References
MW-104	11/24/03	98.23	NP	5.65	90.79	Geomatrix, 2004
	09/07/05	98.23	NP	7.44	90.79	Geomatrix, 2005
MW-110	09/07/05	95.24	NP	6.11	89.13	Geomatrix, 2005
MW-111	09/07/05	89.05	NP	4.15	84.90	Geomatrix, 2005

Notes:

¹ Measuring point elevation is the surveyed elevation of a reference mark at the top of each well casing. Measuring point elevations were surveyed on September 15, 1992, September 29, 2005, and August 27, 2006 by Morris and Associates of Poughkeepsie, New York. Prior to 2006, measurements provided from a relative datum. After 2006, measurements were surveyed to the NGVD of 1929. The current datum is 7.73 feet below the assumed datum used prior to August 2006.

 2 NA = not available.

 3 NP = no measurable product observed in well.

⁴ Product observed when purging the well, but thickness was not estimated.

⁵ NM = not measured.



SUMMARY OF HISTORICAL SOIL ANALYTICAL RESULTS FOR BTEX¹ AND OXYGENATES^{2,3,4}

Former Drive & Park, Inc. Site

28 IBM Road

Poughkeepsie, New York

Concentrations in milligrams per kilogram (mg/kg)

Sample ID	Sample Location	Date Collected	Sample Depth (feet bgs)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Methyl-tert Butyl Ether	Di- isopropyl ether	Ethyl tertiary- butyl ether	Tert butyl alcohol	Tertiary- amyl methyl ether
Hollow Stem Auger	Borings	contenta	(1000 595)	Demonit	Toruche	Semene	10000 11910105	Duty i Dutei		sugi collei	uiconoi	
PK-1	PK-1	12/19/1990	4-6	<25	<25	<25	<25					
PK-2	PK-2	12/19/1990	4-6	<25	<25	<25	<25					
PK-3 ²	PK-3	12/19/1990	7.5-9.5	17	225	76	368					
PK-4 ²	PK-4	12/19/1990	7-9	3.1	3.9	5.1	50					
PK-6	PK-6	12/19/1990	6-8	<25	<25	<25	<25					
PK-7	PK-7	12/19/1990	6-8	<125	<125	<125	<125					
Monitoring Well Bor	ings	•	-									
MW-11 (0-3")	MW-11	8/12/1992	0-0.25	ND	ND	ND	ND					
MW-11 (24-30")	MW-11	8/12/1992	2.0-2.5	ND	140	140	1300					
MW-12 (0-3")	MW-12	8/12/1992	0-0.25	ND	ND	ND	ND					
MW-12 (6-12")	MW-12	8/12/1992	0.5-1.0	49	970	370	2200					
MW-13 (0-3")	MW-13	8/12/1992	0-0.25	ND	ND	ND	0.034					
MW-13 (6-12")	MW-13	8/12/1992	0.5-1.0	ND	0.02	0.008	0.04					
MW-101 0204	MW-101	11/19/03	2-4	0.232	0.938	3.78	24	< 0.0539				
MW-101 0406	MW-101	11/19/03	4-6	< 0.0504	< 0.0504	0.156	0.816	< 0.0504				
MW-102 0002	MW-102	11/20/03	0-2	< 0.0383	< 0.0383	< 0.0383	< 0.0767	< 0.0383				
MW-103 0607 ³	MW-103	11/20/03	6-7	< 0.0435	< 0.0435	< 0.0435	< 0.0871	< 0.0435				
MW-104 0405	MW-104	11/20/03	4-5	< 0.0441	< 0.0441	< 0.0441	< 0.0882	< 0.0441				
Surface Samples												
#1	#1	4/25/2003	0-0.5	< 0.0457	< 0.0457	< 0.0457	< 0.0914	< 0.0457				
#2	#2	4/25/2003	0-0.5	< 0.0675	< 0.0675	< 0.0675	< 0.135	< 0.0675				
#3	#3	4/25/2003	0-0.5	< 0.0738	< 0.0738	< 0.0738	< 0.148	< 0.0738				
#4	#4	4/25/2003	0-0.5	0.119	< 0.0843	< 0.0843	0.437	< 0.0843				



SUMMARY OF HISTORICAL SOIL ANALYTICAL RESULTS FOR BTEX¹ AND OXYGENATES^{2,3,4}

Former Drive & Park, Inc. Site

28 IBM Road

Poughkeepsie, New York

Concentrations in milligrams per kilogram (mg/kg)

Sample ID	Sample Location	Date Collected	Sample Depth (feet bgs)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Methyl-tert Butyl Ether	Di- isopropyl ether	Ethyl tertiary- butyl ether	Tert butyl alcohol	Tertiary- amyl methyl ether
Piezometer Borings												
PZ-1 0204	PZ-1	11/19/03	2-4	0.857	1.43	1.48	4.55	0.0704				
PZ-3 0204	PZ-3	11/19/03	2-4	1.41	2.57	1.53	8.15	0.0545				
PZ-3 0406	PZ-3	11/19/03	4-6	12.6	86.8	55.1	325	0.106				
PZ-4 0204	PZ-4	11/19/03	2-4	< 0.0431	< 0.0431	< 0.0431	0.16	0.0539				
PZ-5 0204	PZ-5	11/19/03	2-4	< 0.043	< 0.043	< 0.043	< 0.0859	< 0.043				
PZ-6 0406	PZ-6	11/19/03	4-6	0.0983	0.865	1.19	5.44	< 0.0468				
PZ-7 0204	PZ-7	11/19/03	2-4	2.67	12.6	5.92	34.3	0.243				
PZ-8 0204	PZ-8	11/19/03	2-4	< 0.0346	< 0.0346	0.0592	0.162	< 0.0346				
PZ-8 0406	PZ-8	11/19/03	4-6	< 0.043	< 0.043	0.0775	0.347	< 0.043				
PZ-10 0607 ³	PZ-10	11/20/03	6-7	< 0.0445	< 0.0445	< 0.0445	< 0.089	< 0.0445				
PZ-11 0607 ³	PZ-11	11/20/03	6-7	< 0.0433	< 0.0433	< 0.0433	< 0.0867	< 0.0433				
PZ-12 0708 ³	PZ-12	11/20/03	7-8	< 0.0458	< 0.0458	< 0.0458	< 0.0916	< 0.0458				
PZ-13 0204	PZ-13	11/20/03	2-4	0.0563	0.0634	0.973	5.03	< 0.0477				
DUP-1 ⁵	DUP-1	11/20/03	2-4	0.0908	0.0823	1.47	7.41	< 0.0499				
Geoprobe Borings												
MIP-B-13W-6.5	MIP-B-13W	7/6/05	6-6.5	0.775	0.669	0.335	1.76	0.12	< 0.0595	< 0.0595	<1.20 UJ	< 0.0595
MIP-B-13W-8.5	MIP-B-13W	7/6/05	8-8.5	0.316	< 0.0783	< 0.0783	0.204 J	< 0.0783	< 0.0783	< 0.0783	<1.30	< 0.0783
MIP-B-13W-12.5	MIP-B-13W	7/6/05	12-12.5									
MIP-B-14E-6.0	MIP-B-14E	7/6/05	5.5-6	2.36	12.1	49	397	< 0.0674	< 0.0674	< 0.0674	<1.10	< 0.0674
MIP-B-14E-8.5	MIP-B-14E	7/6/05	8-8.5									
MIP-B-14E-9.0	MIP-B-14E	7/6/05	8.5-9	1.13	3.03	18.7	82.8	< 0.0635	< 0.0635	< 0.0635	<5.30	< 0.0635
MIP-B-14E-13.0	MIP-B-14E	7/6/05	12.5-13									
MIP-B-14E-14.0	MIP-B-14E	7/6/05	13.5-14	<379	< 0.379	< 0.379	<1.14	< 0.379	< 0.379	< 0.379	<2.60	< 0.379
MIP-B-14E-14.4	MIP-B-14E	7/6/05	14-14.4									
MIP-B-16N-3.0	MIP-B-16N	7/6/05	2.5-3.0									
MIP-B-16N-6.0	MIP-B-16N	7/6/05	5.5-6.0									
MIP-B-16N-6.3	MIP-B-16N	7/6/05	6.0-6.3	50.2	348	128	672	< 0.0584	< 0.0584	< 0.0584	<5.40	< 0.0584
MIP-B-16N-8.5	MIP-B-16N	7/6/05	8-8.5									
MIP-B-16N-10.0	MIP-B-16N	7/6/05	9.5-10	10.9	0.316	< 0.239	0.383 J	0.268	< 0.239	< 0.239	<2.00	< 0.239
MIP-B-16N-12.0	MIP-B-16N	7/6/05	11.5-12									
MIP-B-16N-13.0	MIP-B-16N	7/6/05	12.5-13	0.362	0.0882	0.3	1.26	< 0.0678	< 0.0678	< 0.0678	<4.90	< 0.0678



SUMMARY OF HISTORICAL SOIL ANALYTICAL RESULTS FOR BTEX^1 AND OXYGENATES 2,3,4

Former Drive & Park, Inc. Site

28 IBM Road

Poughkeepsie, New York

Concentrations in milligrams per kilogram (mg/kg)

Sample ID	Sample Location	Date Collected	Sample Depth (feet bgs)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Methyl-tert Butyl Ether	Di- isopropyl ether	Ethyl tertiary- butyl ether	Tert butyl alcohol	Tertiary- amyl methyl ether
Geoprobe Borings co	on't											
MIP-B-20-6.5	MIP-B-20	6/30/05	6-6.5	18.2	395	206	1170	< 0.0575	< 0.0575	< 0.0575	<5.20 UJ	< 0.0575
MIP-B-20-8.5	MIP-B-20	6/30/05	8-8.5									
MIP-B-20-9.5	MIP-B-20	6/30/05	9-9.5	2.84	3.24	1.95	8.67	< 0.0675	< 0.0675	< 0.0675	<1.10 UJ	< 0.0675
MIP-B-20-10.3	MIP-B-20	6/30/05	10-10.3									
MIP-B-20-11.0	MIP-B-20	6/30/05	10.5-11.0	1.6	0.129	0.32	0.357	0.092	< 0.0511	< 0.0511	<1.00 UJ	< 0.0511
MIP-B-20-13.0	MIP-B-20	6/30/05	12.5-13	2.04	0.465	0.55	1.37	0.0929	< 0.0553	< 0.0553	<1.00 UJ	< 0.0553
MIP-B-20-15.0	MIP-B-20	6/30/05	14.5-15	0.0951 J	0.589 J	0.25 J	1.39 J	2.99 J	<0.061 UJ	<0.061 UJ	<1.10 UJ	<0.061 UJ
MIP-B-20-17.0	MIP-B-20	6/30/05	16.5-17	<0.0612 UJ	<0.0612 UJ	<0.0612 UJ	<0.183 UJ	0.0759 J	<0.0612 UJ	<0.0612 UJ	<1.10 UJ	<0.0612 UJ
Hand Auger Borings												
HA-GP-1	HA-GP-1	9/8/05	3.5	11.4 J	221	76.1	524	<2.08	< 0.417	< 0.417	< 0.417	<417
HA-GP-2	HA-GP-2	9/8/05	2	3.08 J	74.4	53.8	463	<2.48	< 0.497	< 0.497	< 0.497	<497
HA-GP-3	HA-GP-3	9/8/05	2.8	0.234 J	< 0.0484	0.167	0.174	0.0165 J	< 0.484	< 0.484	< 0.484	<484
HA-GP-4	HA-GP-4	9/8/05	2.5	2.69 J	7.16	47.7	238	<1.4	< 0.560	< 0.560	< 0.560	<560

Abbreviations:

feet bgs = feet below ground surface

ND = Not detected

"BOLD" = Detected concentration

< = Not detected at or above the reporting limit shown

UJ = Result not detected at or above the reporting limit shown and considered an estimate

J = Resuls considered an estimate

"--" = Not analyzed

Notes:

¹ BTEX = benzene, toluene, ethylbenzene, and xylenes.

² PK-3 and PK-4 were also anaylzed for Total Petroleum Hydrocarbons as gasoline (TPHg) by EPA Method 418.1; the results were 410 mg/kg and 500 mg/kg, respectively.

³ PZ-10, PZ-11, PZ-12 and MW-103 0607 were analyzed for gasoline range organics (GRO), diesel range organics (DRO), and TPHg by EPA Method 8015M. Constituents were not detected at or above the laboratory reporting limit.

⁴ BTEX and oxygenates analyzed in 1992 performed using EPA Method 602 and BTEX and oxygenates analyzed in 2003 and 2005 performed using EPA Method 8260. Method of analysis for samples collected in 1990 not documented.

⁵ DUP-1 duplicate of PZ-13 0204.

SUMMARY OF HISTORICAL SOIL ANALYTICAL RESULTS FOR ADDITIONAL VOLATILE ORGANIC COMPOUNDS 1,2,3

Former Drive & Park, Inc., Site 28 IBM Road

Poughkeepsie, New York

Concentrations in milligrams per kilogram (mg/kg)

			1,2,4 -		1,3,5 -								cis-1,2-						Tetra-	Trichloro-	
Course D	Sample	Date Callested	Trimethyl-	1,2-Dichloro-	Trimethyl-	1 D-4	1,3-Dichloro-	1,4-Dichloro-	4-Isopropyl-		Chloro-	Chloro-	Dichloro-	Isopropyl-	n-Propyl-	Naphth-	n-Butyl-	sec-Butyl-	chloroethen	fluoro-	Trichloro-
Sample ID	Location	Confected	benzene	benzene	benzene	2-Butanone	benzene	benzene	toluene	Acetone	benzene	methane	etnene	benzene	benzene	alene	benzene	benzene	e	metnane	etnene
Monitoring Well	Borings	1	1	1	n	1	1	n	1	1		n	1	1	1	1	r	1	1		1
MW-101 0204	MW-101	11/19/03	21.6	< 0.0539	8.01				0.453					0.777	2.82	3.84		0.6			< 0.0539
MW-101 0406	MW-101	11/19/03	0.65	< 0.0504	0.182				< 0.0504					< 0.0504	0.0852	0.186		< 0.0504			< 0.0504
MW-102 0002	MW-102	11/20/03	< 0.0383	< 0.0383	< 0.0383				< 0.0383					< 0.0383	< 0.0383	< 0.0383		< 0.0383			< 0.0383
MW-103 0607	MW-103	11/20/03	< 0.0435	< 0.0435	< 0.0435				< 0.0435					< 0.0435	< 0.0435	< 0.0435		< 0.0435			< 0.0435
MW-104 0405	MW-104	11/20/03	< 0.0441	< 0.0441	< 0.0441				< 0.0441					< 0.0441	< 0.0441	< 0.0441		< 0.0441			0.0829
Surface Samples																					
#1	#1	4/25/2003	< 0.0457	< 0.0457	< 0.0457				< 0.0457					< 0.0457	< 0.0457	< 0.0457		< 0.0457			< 0.0457
#2	#2	4/25/2003	< 0.0675	< 0.0675	< 0.0675				< 0.0675					< 0.0675	< 0.0675	< 0.0675		< 0.0675			< 0.0675
#3	#3	4/25/2003	< 0.0738	< 0.0738	< 0.0738				< 0.0738					< 0.0738	< 0.0738	< 0.0738		< 0.0738			< 0.0738
#4	#4	4/25/2003	0.617	< 0.0843	0.169				< 0.0843					< 0.0843	< 0.0843	0.344		< 0.0843			< 0.0843
Piezometer Borin	igs																				
PZ-1 0204	PZ-1	11/19/03	1.41	< 0.046	0.586				< 0.046					0.11	0.38	0.435		< 0.046			< 0.046
PZ-3 0204	PZ-3	11/19/03	2.79	< 0.0447	0.94				< 0.0447					0.141	0.449	0.589		0.0652			< 0.0447
PZ-3 0406	PZ-3	11/19/03	149	< 0.0448	58.2				3.07					7.55	25.4	0.712		3.56			< 0.0448
PZ-4 0204	PZ-4	11/19/03	0.132	< 0.0431	< 0.0431				< 0.0431					< 0.0431	< 0.0431	< 0.0431		< 0.0431			< 0.0431
PZ-5 0204	PZ-5	11/19/03	< 0.043	< 0.043	< 0.043				< 0.043					< 0.043	< 0.043	< 0.043		< 0.043			< 0.043
PZ-6 0406	PZ-6	11/19/03	6.15	0.104	1.95				0.132					0.205	0.821	1.88		0.165			< 0.0468
PZ-7 0204	PZ-7	11/19/03	14.1	< 0.0502	4.83				0.255					0.659	2.08	2.53		0.356			< 0.0502
PZ-8 0204	PZ-8	11/19/03	0.243	< 0.0346	0.0492				< 0.0346					< 0.0346	0.0374	0.123		< 0.0346			< 0.0346
PZ-8 0406	PZ-8	11/19/03	0.261	< 0.043	0.0551				< 0.043					< 0.043	< 0.043	0.205		< 0.043			< 0.043
PZ-10 0607	PZ-10	11/20/03	< 0.0445	< 0.0445	< 0.0445				< 0.0445					< 0.0445	< 0.0445	< 0.0445		< 0.0445			< 0.0445
PZ-11 0607	PZ-11	11/20/03	< 0.0433	< 0.0433	< 0.0433				< 0.0433					< 0.0433	< 0.0433	< 0.0433		< 0.0433			< 0.0433
PZ-12 0708	PZ-12	11/20/03	< 0.0458	< 0.0458	< 0.0458				< 0.0458					< 0.0458	< 0.0458	< 0.0458		< 0.0458			< 0.0458
PZ-13 0204	PZ-13	11/20/03	2.77	< 0.0477	0.991				< 0.0477					0.109	0.422	0.609		0.0668			< 0.0477
DUP-1 ⁴	DUP-1	11/20/03	3.83	< 0.0499	1.37				0.0604					0.159	0.601	0.83		0.0883			< 0.0499
Hand-Auger Bor	ings																				
HA-GP-1	HA-GP-1	9/8/05	234	<2.08	74.2	<52.1	<2.08	<2.08	4.38	<52.1	<2.08	<2.08	<2.08	10.4	35.7	26.3	17.7	4.54	<2.08	<2.08	
HA-GP-2	HA-GP-2	9/8/05	189	<2.48	64	<62.1	<2.48	<2.48	1.89 J	<62.1	<2.48	<2.48	<2.48	8.29	28.2	22	<2.48	3.82	<2.48	<2.48	
HA-GP-3	HA-GP-3	9/8/05	1.68	< 0.0484	0.529	<1.21	< 0.0484	< 0.0484	0.268	<1.21	< 0.0484	< 0.0484	< 0.0484	0.0629	0.283	0.224	< 0.0484	0.0474J	< 0.0484	< 0.0484	
HA-GP-4	HA-GP-4	9/8/05	190	<1.4	64.7	<35	<1.4	<1.4	5.88	<35	<1.4	<1.4	<1.4	7.95	30.4	22	<1.4	6.69	<1.4	<1.4	

Abbreviations:

feet bgs = feet below ground surface

"--" = Not analyzed

"BOLD" = Detected concentration

< = Not detected at or above the reporting limit shown

J = Result considered an estimate

Notes:

¹ Polynuclear aromatic hydrocarbon (PAH) results listed in Table 4.

² Only samples collected after 2003 were analyzed for the compounds listed; volatile organic compounds analyzed in 2003 and 2005 performed using EPA Method 8260B.

³ Other volatile organic compounds that are not listed in this table were not detected at or above their respective laboratory reporting limits.

 4 DUP-1 = duplicate of PZ-13 0204.



SUMMARY OF HISTORICAL SOIL ANALYTICAL RESULTS FOR POLYNUCLEAR AROMATIC HYDROCARBONS ^{1,2,3}

Former Drive & Park, Inc., Site

28 IBM Road

Poughkeepsie, New York

Concentrations in micrograms per kilogram (µg/kg)

					Polyaromatic Hydrocarbons													
Sample ID	Sample Location	Date Collected	Sample Depth (feet bgs)	Acenaphthylene	Anthracene	Benzo(a)- anthracene	Benzo(a)- pyrene	Benzo(b)- fluoranthene	Benzo(g,h,i)pery lene	Benzo(k)- fluoranthene	Chrysene	Dibenzo(a,h)Ant hracene	Fluoranthene	Indeno(1,2,3- cd)Pyrene	Napthalene	Phenanthrene	Pyrene	Reference
#1	#1	04/25/03	0-0.5	17.4	<12.9	60	73.5	146	141	56.1	69.7	52.9	127	150	104	56.8	91.6	MFG, 2003
#2	#2	04/25/03	0-0.5	<10.6	14.9	120	132	180	96.6	95	132	44.6	293	105	<10.6	88.1	196	MFG, 2003
#3	#3	04/25/03	0-0.5	<15.7	22.8	150	161	214	135	146	164	59.8	355	143	<15.7	118	251	MFG, 2003
#4	#4	04/25/03	0-0.5	<13.2	40.3	289	340	418	297	221	328	133	659	297	<13.2	202	473	MFG, 2003

Abbreviations:

feet bgs = feet below ground surface

"<" = not detected at or above the reporting limit shown

"BOLD" = Detected concentration

Notes:

¹Polynuclear aromatic hydrocarbons (PAHs) analyzed by EPA Method 8270C.

² Temperature of cooler containing soil samples was 18.9°C upon arrival at the laboratory.

³ Other PAHs that are not listed in this table were not detected at or above their respective laboratory reporting limits.





SUMMARY OF HISTORICAL (1992) SOIL VAPOR ANALYTICAL RESULTS

Former Drive & Park, Inc., Site

28 IBM Road

Poughkeepsie, New York

Concentrations in parts per million (ppm)¹

Sample ID	Date Collected	Soil Vapor Measurement ²	Background Measurement ²	Denotes multiplier by which soil vapor measurement exceeds background measurement ³	Notes
1	1992	1.2	0.2	6.0	
2	1992	0.3	0.2	1.5	
3	1992	0.2	0.2	1.0	
4	1992	200	0.2	1000.0	Gasoline odor
4	1992	200.0	0.2	1000.0	Time Control location ⁴ ; Gasoline odor
5	1992	220.0	0.8	275	Gasoline odor
5	1992	54.0	0.4	135	Time Control location ⁴ ; Gasoline odor
6	1992	162.0	0.6	270.0	Gasoline odor
6	1992	161.0	0.6	268.3	Time Control location ⁴ ; Gasoline odor
7	1992	1.4	0.8	1.8	
8	1992	1.8	0.6	3.0	
9	1992	1.6	0.3	5.3	
10	1992	225.0	0.4	562.5	Gasoline odor
10	1992	220.0	0.8	275.0	Time Control location ⁴ ; Gasoline odor
11	1992	118.0	0.8	147.5	Gasoline odor
11	1992	174.0	1.0	174.0	Time Control location ⁴ ; Gasoline odor
12	1992	200.0	0.8	250.0	Gasoline odor
12	1992	188.0	0.8	235.0	Time Control location ⁴ ; Gasoline odor
13	1992	1.8	0.8	2.3	
14	1992	1.4	0.6	2.3	
15	1992	1.6	0.6	2.7	
16	1992	4.8	0.4	12.0	
16	1992	2.4	0.8	3.0	Time Control location ⁴
17	1992	1.8	0.4	4.5	
17	1992	1.8	0.6	3.0	Time Control location ⁴
18	1992	5.4	0.4	13.5	
18	1992	3.6	0.4	9.0	Time Control location ⁴
19	1992	1	0.3	3.3	
20	1992	0.6	0.3	2.0	
21	1992	1	0.3	3.3	
22	1992	0.6	0.3	2.0	
23	1992	2.4	0.3	8.0	
24	1992	42	0.3	140	
25	1992	0.6	0.3	2.0	
26	1992	0.6	0.3	2.0	
27	1992	0.9	0.3	3.0	
28	1992	0.8	0.3	2.7	
29	1992	0.4	0.3	1.5	
21	1992	0.3	0.3	1.0	
22	1992	0.4	0.3	1.5	
32	1992	0.0	0.3	2.0	
33	1992	0.3	0.3	1.0	
34	1992	0.5	0.3	2.0	
36	1992	0.5	0.4	13	
50		0.5	0.4	1.J	



SUMMARY OF HISTORICAL (1992) SOIL VAPOR ANALYTICAL RESULTS

Former Drive & Park, Inc., Site

28 IBM Road

Poughkeepsie, New York

Notes:

- ¹ Soil vapor readings collected with a photoionization detector (HNU Systems, Inc., Model PI-101) utilizing a 10.2 electron Volt (eV) utraviolet lamp.
- 2 Data reference: NETC, 1992, Final Phase II Hydrogeological Investigation .
- 3 Values exceeding a multiplier of 5 are in bold and are shaded in Figure 7.
- ⁴ NETC extended the sample grid 40 feet east, installed additional probes, and left them undisturbed 2 hours prior to sampling. Probes 4 through 6, 10 through 12, and 16 through 18 were recapped as time control measurement locations. NETC surmised that measurements from the time control probes were similar to the initial readings; therefore, the time undisturbed factor was not relevant.



SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR BTEX AND OXYGENATES

Former Drive & Park, Inc., Site

28 IBM Road

Sample Location ID	Sample	Bonzono	Toluono	Ethyl bonzono	Total Vylanas	Methyl tert-Butyl Ethor	Di-isopropyl-	Ethyl tertiary-	Tert butyl	Tertiary-amyl methy
Monitoring Wells	Date	Delizene	Tolucile	Ethyl-belizelle	Total Aylenes	Ether	etilei	butyrether	alcochoi	etilei
MW-1	01/31/91	12	2.5	ND	20					
	11/14/91	10	2.8	6.4	8.7					
	02/20/92	637	1028	170	920					
	05/21/92	926	3000	950	5,300					
	08/26/92	990	3800	830	4,200					
	11/18/92	150	33	ND	110					
	12/03/97	230	77	220	3,300					
	03/19/03	79	27.8	182	1,600	13				
	11/25/03	50.5	4.71	81.8	902	13.1	<1			<1
	09/09/05	22.1	1.6	11.2	38.1	20.1	<1.00	<1.00	<25.0	<1.00
MW-2	01/31/91	33,000	23,000	1,100	7,500					
	11/14/91	4,880	14,200	1,420	7,190					
	02/20/92	2,900	2,900	430	6,500					
	05/21/92	10,000	26,000	<5000	27,000					
	08/26/92	5,400	14,000	1,800	9,700					
	11/18/92	8,700	17,000	2,500	11,000					
	12/03/97	3,000	14,000	2,400	19,500					
	03/19/03	1,190	6,860	2,050	22,100	100				
	11/25/03	433	5,820	2,650	12,600	17.5	<1			<1
MW-3	01/31/91	660	1320	110	560					
	11/14/91	1600	4060	374	1,820					
	02/20/92	850	1700	260	1,200					
	05/21/92	3600	4800	28	2,600					
	08/26/92	2100	1400	140	650					
	11/18/92	1400	1500	101	480					
	12/03/97	260	110	48	390					
	03/19/03	693	83.9	172	1,040					
	11/25/03	328	83.9	180	962	21.1	<1			<1
MW-4	01/31/91	150	90	ND	110					
	11/14/91	1,170	1,510	330	1,570					
	02/20/92	2,100	2,900	ND 25	1,900					
	05/21/92	3,200	0,900	35	4,400					
	11/18/02	4,000	9,500	1,100	3,900					
	12/02/07	2 400	5 200	570	380					
	02/10/02	2,400	6 600	1 160	4,000	197				
	11/25/03	1,150	1,160	517	2,880	77.4	3.34			<1
MW-5	11/14/91	2,660	3,840	449	3,620					
	02/20/92	2,100	1,700	32	2,300					
	05/21/92	7,700	12.000	1.200	9,300					
	08/26/92	5,900	12,000	1,300	7,800					
	11/18/92	8,100	7,800	1,400	5,300					
	12/03/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/19/03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/25/033	NE	NC	NC	NE	NC	NC	NE	NS	NC
MW 6	11/23/03	ND	ND	ND	ND	IND	IND	185	IND	115
141 44 -0	02/20/02	110	220		300					
	05/21/02	ND	220 ND	ND	ND					
	03/21/92	ND	ND	ND	ND					
	11/18/02	2	2	3	4					
	12/03/97	NS	NS	NS	• NS					
	03/19/03	ND	ND	ND	ND	30.2				
	11/24/03	<1	<1	<1	<1	154	<1			<1
	09/08/05	22.9	0.2.J	0.7.1	<3.0	182	<1.00	<1.00	3270 J	0.91.J



SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR BTEX AND OXYGENATES

Former Drive & Park, Inc., Site

28 IBM Road Poughkeepsie, New York

-	 -r,	

Sample Location ID	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Methyl tert-Butyl Ether	Di-isopropyl- ether	Ethyl tertiary- butyl ether	Tert butyl alcochol	Tertiary-amyl methy ether
MW-7	11/14/91	3.4	5.1	0.7	5.5					
	02/20/92	8	13	0.8	13					
	05/21/92	ND	ND	ND	ND					
	08/26/92	ND	ND	ND	ND					
	11/18/92	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/03/97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/19/03	ND	ND	ND	ND	404				
	11/24/03	<1	<1	<1	<1	645 540	<1			9.45
MIN 0	09/07/05	<1.0	<1.0	<1.0	<3.0	549	<1.00	<1.00	139	2.33
IVI W -8	02/20/02	4.0	15 ND	1.0 ND	8.4					
	02/20/92	ND	ND	ND	0.5					
	08/21/92	ND	ND	ND	ND					
	11/18/02	ND	ND	ND	ND					
	12/02/07	ND	ND <1.0	ND <1.0	ND <2.0					
	03/18/03	ND	ND	ND	~2.0 ND	78				
	11/24/03	<1	<1	<1	<1	40.4	<1			<1
	09/07/05	<1 0	<1.0	<1.0	<3.0	86.5	<1.00	<1.00	<25.0	0.72.1
MW-9	11/14/91	ND	ND	ND	ND					
	02/20/92	ND	0.6	ND	0.7					
	05/21/92	ND	ND	ND	ND					
	08/26/92	ND	ND	ND	ND					
	11/18/92	ND	ND	ND	ND					
	12/03/97	<1.0	<1.0	<1.0	<2.0					
	03/18/03	ND	ND	ND	ND	1.09				
	11/24/03	<1	<1	<1	<1	1.3	<1			<1
	09/08/05	<1.0	<1.0	<1.0	<3.0	1.3	<1.00	<1.00	<25.0	<1.00
MW-10	08/26/92	ND	ND	ND	ND					
	11/18/92	ND	ND	ND	ND					
	12/03/97	<1.0	<1.0	<1.0	<2.0					
	03/18/03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/24/03	<1	<1	<1	<1	24	<1		-	<1
	09/08/05	<1.0	<1.0	<1.0	<3.0	16.3	<1.00	<1.00	<25.0	0.32J
MW-10-DUP	09/08/05	<1.0	<1.0	<1.0	<3.0	11.5	<1.00	<1.00	<25.0	<1.0
MW-11	08/26/92	5,800	23,000	1,200	10,000					
	11/18/92	9,300	30,100	<1000	11,000					
	03/18/03	994	9,690	1,740	9,240	19.5				
	11/24/03	1,180	14,600	2,830	15,800	<100	<100			<100
	09/09/05	2,190	586	1860	3450	209	<1.00	<1.00	308	<1.00
MW-12	08/26/92	860	620	150	1,700					
	11/18/92	1,400	350	204	1,100					
	03/19/03	492	268	301	1,490	8.22				
	11/24/03	861	189	976	2,970	9.7 J	<10			<10
	09/09/05	410	49.4	231	924	13.4	<10.0	<10.0	<250	<10.0
MW-13	08/26/92	ND	ND	ND	ND					
	11/18/92	ND	1	ND	ND					
	03/18/03	ND	ND	ND	ND	1.33				
	11/25/03	<1	<1	<1	<1	1.31	<1			<1
DP 1	09/09/05	<1.0	<1.0	<1.0	< 3.0	1.4	<1.00	<1.00	<23.0	<1.00
DP-1	7/20/88	0000 11000	21000		15900					
DF-2	7/20/88	11000	3000		5430 17000					
DP-4	7/20/004	21000	33000		11000					
Dr-4 MW 101	11/25/02	1 (20	4 520	1.020	10.000		<100			
WW-101	11/25/03	1,030	4,520	1,000	10,000	221	<100			<100
DUP-2	11/25/03	1,650	4,620	1,880	11,000	206	<100		3100	<100
MW-101	09/08/05	3,340	9,010	3,610	19,200	134	<100	<10	3180	<10
MW-102	11/24/03	<1	<1	<1	0.32 J	1.12	<1			<1
	09/08/05	0.4J	<1	<1	<3	2.3	<1.00	<1.00	<25.0	<1.00
MW-202 ⁶	09/08/05	0.4J	<1.0	<1.0	<3.0	2.2	<1.00	<1.00	<25.0	<1.00
MW-103	11/24/03	<1	<1	<1	<1	6.35	<1			<1



SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR BTEX AND OXYGENATES

Former Drive & Park, Inc., Site

28 IBM Road

Poughkeepsie, New York

Sample Location ID	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Methyl tert-Butyl Ether	Di-isopropyl- ether	Ethyl tertiary- butyl ether	Tert butyl alcochol	Tertiary-amyl methy ether
MW-104	11/24/03	<1	<1	<1	<2	9.77	<1			<1
MW-110	07/08/05	<1	<1	<1	<3	<1	<1	<1	<25	<1
	09/08/05	<1.0	<1.0	<1.0	<3.0	<1.0	<1.00	<1.00	<25.0	<1.00
MW-111	07/08/05	<1	<1	<1	<3	2.6	<1	<1	<25	<1
	09/08/05	<1.0	<1.0	<1.0	<3.0	11.2	0.43J	<1.00	41.1	<1.00
Grab Groundwate	r				-					-
HA-1	11/24/03	<1	<1	<1	<2	<1	<1			<1
HA-2	11/24/03	<100	112	630	2890	<100	<100			<100
HA-3	11/24/03	<1	<1	<1	<2	<1	<1			<1
HA-4	11/24/03	<1	<1	<1	<2	<1	<1			<1
HA-5	11/25/03	<1	<1	<1	<2	<1	<1			<1
HA-6	11/25/03	<1	<1	<1	<2	<1	<1			<1
HA-7	11/25/03	<1	<1	<1	<2	<1	<1			<1
HA-101	07/07/05	<1.0	<1.0	<1.0	<3.0	2.9	<1	<1	<25	<1
HA-102	07/07/05	<1.0	<1.0	<1.0	<3.0	3.3	<1	<1	<25	<1
HA-103	07/08/05	<1.0	<1.0	<1.0	<3.0	41.4	<1	<1	<25	<1
GP-9-10.5-14 ⁷	07/12/06	<1.0	<1.0	<1.0	<3.0	3.3	<1.0	<1.0	96.1	<1.0
GP-10-10.5-147	07/12/06	<1.0	<1.0	<1.0	<3.0	1.8	<1.00	<1.00	<25.0	<1.00
GP-10-15-187	07/12/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.00	<1.00	<25.0	<1.00
GP-11-11-14 ⁷	07/12/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.00	<1.00	<25.0	<1.00
GP-12-7.5-11 ⁷	07/17/06	<1.0	<1.0	<1.0	<3.0	21.1	<1.00	<1.00	<25.0	<1.00
GP-12-11-14 ⁷	07/17/06	<1.0	<1.0	<1.0	<3.0	28.9	<1.00	<1.00	<25.0	<1.00
GP-12-14.5-187	07/17/06	<1.0	<1.0	<1.0	<3.0	48.6	<1.00	<1.00	<25.0	1.10
GP-13-7-10.57	07/17/06	<1.0	<1.0	<1.0	<3.0	39.7	<1.00	<1.00	<25.0	<1.00
GP-13-11-14 ⁷	07/17/06	<1.0	<1.0	<1.0	<3.0	86.8	<1.00	<1.00	<25.0	1.19
GP-13-15-18 ⁷	07/17/06	<1.0	<1.0	<1.0	<3.0	16.2	<1.00	<1.00	<25.0	<1.00
GP-14-7-10.5 ⁷	07/17/06	<1.0	<1.0	<1.0	<3.0	23.7	<1.00	<1.00	<25.0	<1.00
GP-14-11-14 ⁷	07/17/06	<1.0	<1.0	<1.0	<3.0	32.5	<1.00	<1.00	<25.0	1.16
GP-14-15-187	07/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.00	<1.00	<25.0	<1.00

Concentrations in micrograms per liter (µg/L)

Abbreviations:

"BOLD" = Detected concentration

"<" = not detected at or above the reporting limit shown

J = Result considered an estimate.

"--" = Not analyzed

ND = Not detected

NS = Not sampled

Notes:

¹ Volatile organic compounds analyzed by EPA Method 602 in 1991 and 1992, by EPA Method 8021 in 1997,

and by EPA Method 8260B in 2003 and 2006. The samples collected in 2006 were also analyzed for gasoline

range organics by EPA Method 8015.

² Other volatile organic compounds that are not listed in this table are provided in Table 7.

³ Well decomissioned.

⁴ Well was not purged prior to sampling.

⁵ DUP-2 is duplicate of MW-101.

⁶ MW-202 is duplicate of MW-102.

⁷ Sample analyzed for gasoline range organics (GRO), but GRO was not detected at or above the laboratory reporting limit of 50 ug/L.

SUMMARY OF ADDITIONAL HISTORICAL GROUNDWATER ANALYTICAL RESULTS^{1,2}

Former Drive & Park, Inc., Site

28 IBM Road

Poughkeepsie, New York

Concentrations in micrograms per liter (µg/L)

		1,2,4 -	1,2-	1,2-	1,3,5 -									cis-1,2-								Trichloro
		Trimethy-	Dichloro-	Dichloroe	Trimethyl-		Carbon	1,3-Dichloro-	1,4-Dichloro-	4-Isopropyl-		Chloro-	Chloro-	Dichloro-	Isopropyl-	n-Propyl-	Naphth-	n-Butyl-	sec-Butyl-	tert-Butyl-	Tetra-	fluoro-
Sample ID	Sample Date	lbenzene	benzene	thane	benzene	2-Butanone	Disulfide	benzene	benzene	toluene	Acetone	benzene	methane	ethene	benzene	benzene	alene	benzene	benzene	benzene	chloroethene	methane
Monitoring Well	S																					
MW-1	12/03/97	2300			840					65						90	580	<1.0	14	210		
	03/19/03	606	<1	<1	194	<25	<1	<1	<1	3.35	<25	<1	<2	<1	26.4	48.7	144	<1	5.69	1.42	<1	<2
	11/25/03	520	0.72 J	<1	216	<25	<1	<1	<1	3.59	<25	<1	<2	<1	46.2	85.9	225	<1	<1	<1	<1	<2
	09/09/05	164E	1.3	<1	17.4	<25	<1	<1	<1	1.2	<25	<1	<2	<1	30.8	67.9	98.2	<1	6.5	<1	<1	<2
MW-2	12/03/97	3700			930					<50.0						320	1300	<50.0	<50.0	<50.0		
	03/19/03	4480	<100	<100	1290	<2500	<100	<100	<100	<100	<2500	<100	<200	<100	102	258	1210	<100	<100	<100	<100	<200
	11/25/03	2,130	3.81	5820	610	<25	<1	0.33 J	<1	6.64	<25	3.73	5.14	1.95	92	243	668	<1	<1	<1	<1	<2
MW-3	12/03/97	75			32					3						6	23	<1.0	<1.0	<1.0		
	03/19/03	209	4.54	<1	88.5	<25	<1	<1	<1	1.72	<25	1.25	<2	2.08	17.2	40.6	59	<1	2.64	<1	<1	<2
	11/25/03	189	2.24	<1	56.9	<25	<1	0.34 J	0.54 J	0.35 J	<25	1.55	<2	0.86 J	7.78	17.3	59.4	<1	<1	<1	<1	<2
MW-4	12/03/97	500			150					11						88	240	<1.0	4	<1.0		
	03/19/03	974	<10	<10	258	<250	<10	<10	<10	<10	<250	<10	<20	<10	54.9	118	248	<10	<10	<10	<10	<20
	11/25/03	537	0.54	1160	152	12.7 J	<1	<1	<1	1.6	34.3	0.84 J	<2	<1	29.7	50.4	194	<1	<1	<1	<1	<2
MW-5	$11/25/03^3$																					
MW-6	03/19/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
	11/24/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
	09/08/05	0.1J	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-7	03/19/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
	11/24/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
	09/07/05	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-8	12/03/97	<1.0			<1.0					<1.0						<1.0	<1.0	<1.0	<1.0	<1.0		
	03/18/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	2.71
	11/24/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	0.27 J	1.4 J
	09/07/05	<1	<1	1.2	<1	<25	<1	<1	<1	<1	<25	0.2J	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-9	12/03/97	<1.0			<1.0					<1.0						<1.0	<1.0	<1.0	<1.0	<1.0		
	03/18/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
	11/24/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
	09/08/05	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-10	12/03/97	<1.0			<1.0					<1.0						<1.0	<1.0	<1.0	<1.0	<1.0		
	11/24/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
	09/08/05	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-10-DUP	09/08/05	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-11	03/18/03	1170	<10	<10	480	<250	<10	<10	<10	<10	<250	<10	<20	<10	81.2	178	378	<10	10.2	<10	<10	<20
	11/24/03	1,630	<100	<100	485	<2500	<100	<100	<100	<100	<2500	<100	<200	<100	97 J	193	483	<100	<100	<100	<100	<200
2 4 4 2	09/09/05	1,020	<100	<100	270	<2500	<100	<100	<100	<100	<2500	<100	<200	<100	49.0J	101	249	<100	<100	<100	<100	<200
MW-12	03/19/03	374	<l< th=""><th><1</th><th>91</th><th><25</th><th><1</th><th><1</th><th><1</th><th><1</th><th><25</th><th><1</th><th><2</th><th><l< th=""><th>40.4</th><th>94.8</th><th>96</th><th><1</th><th>7.2</th><th>1.17</th><th><1</th><th><2</th></l<></th></l<>	<1	91	<25	<1	<1	<1	<1	<25	<1	<2	<l< th=""><th>40.4</th><th>94.8</th><th>96</th><th><1</th><th>7.2</th><th>1.17</th><th><1</th><th><2</th></l<>	40.4	94.8	96	<1	7.2	1.17	<1	<2
	11/24/03	844	<10	<10	218	<250	<10	<10	<10	4.2 J	<250	<10	<20	<10	65.7	130	326	<10	<10	<10	<10	<10
N 111 1 2	09/09/05	306	<10	<10	39.9	<250	<10	<10	<10	5.5J	<250	<10	<20	<10	62.5	154	250	15.6	10.6	<10	<10	<10
MW-13	03/18/03	<l< th=""><th><1</th><th><l< th=""><th><l< th=""><th><25</th><th><l< th=""><th><1</th><th><l< th=""><th><1</th><th><25</th><th><l< th=""><th><2</th><th><l< th=""><th><1</th><th><1</th><th><1</th><th><1</th><th><1</th><th><l< th=""><th><l< th=""><th><2</th></l<></th></l<></th></l<></th></l<></th></l<></th></l<></th></l<></th></l<></th></l<>	<1	<l< th=""><th><l< th=""><th><25</th><th><l< th=""><th><1</th><th><l< th=""><th><1</th><th><25</th><th><l< th=""><th><2</th><th><l< th=""><th><1</th><th><1</th><th><1</th><th><1</th><th><1</th><th><l< th=""><th><l< th=""><th><2</th></l<></th></l<></th></l<></th></l<></th></l<></th></l<></th></l<></th></l<>	<l< th=""><th><25</th><th><l< th=""><th><1</th><th><l< th=""><th><1</th><th><25</th><th><l< th=""><th><2</th><th><l< th=""><th><1</th><th><1</th><th><1</th><th><1</th><th><1</th><th><l< th=""><th><l< th=""><th><2</th></l<></th></l<></th></l<></th></l<></th></l<></th></l<></th></l<>	<25	<l< th=""><th><1</th><th><l< th=""><th><1</th><th><25</th><th><l< th=""><th><2</th><th><l< th=""><th><1</th><th><1</th><th><1</th><th><1</th><th><1</th><th><l< th=""><th><l< th=""><th><2</th></l<></th></l<></th></l<></th></l<></th></l<></th></l<>	<1	<l< th=""><th><1</th><th><25</th><th><l< th=""><th><2</th><th><l< th=""><th><1</th><th><1</th><th><1</th><th><1</th><th><1</th><th><l< th=""><th><l< th=""><th><2</th></l<></th></l<></th></l<></th></l<></th></l<>	<1	<25	<l< th=""><th><2</th><th><l< th=""><th><1</th><th><1</th><th><1</th><th><1</th><th><1</th><th><l< th=""><th><l< th=""><th><2</th></l<></th></l<></th></l<></th></l<>	<2	<l< th=""><th><1</th><th><1</th><th><1</th><th><1</th><th><1</th><th><l< th=""><th><l< th=""><th><2</th></l<></th></l<></th></l<>	<1	<1	<1	<1	<1	<l< th=""><th><l< th=""><th><2</th></l<></th></l<>	<l< th=""><th><2</th></l<>	<2
	11/25/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
	09/09/05	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2



SUMMARY OF ADDITIONAL HISTORICAL GROUNDWATER ANALYTICAL RESULTS^{1,2}

Former Drive & Park, Inc., Site

28 IBM Road

Poughkeepsie, New York

Concentrations in micrograms per liter (µg/L)

		1,2,4 -	1,2-	1,2-	1,3,5 -									cis-1,2-								Trichloro
		Trimethy-	Dichloro-	Dichloroe	Trimethyl-		Carbon	1,3-Dichloro-	1,4-Dichloro-	4-Isopropyl-		Chloro-	Chloro-	Dichloro	Isopropyl	n-Propyl-	Naphth-	n-Butyl-	sec-Butyl-	tert-Butyl-	Tetra-	fluoro-
Sample ID	Sample Date	Ibenzene	benzene	thane	benzene	2-Butanone	Disulfide	benzene	benzene	toluene	Acetone	benzene	methane	ethene	benzene	benzene	alene	benzene	benzene	benzene	chloroethene	methane
MW-101	11/25/03	1,600	<100	<100	506	<2500	<100	<100	<100	<100	<2500	<100	<200	<100	94 J	194	409	<100	<100	<100	<100	<200
DUP-2 ⁵	11/25/03	1,620	<100	<100	476	<2500	<100	<100	<100	<100	<2500	<100	<200	<100	96 J	201	404	<100	<100	<100	<100	<200
MW-101	09/08/05	2,870	<100	<100	786	<2500	<100	<100	<100	56	<2500	<100	<200	<100	150	393	603	<100	25J	<100	<100	<200
MW-102	11/24/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	0.29 J	<2	0.75 J	<1	<1	<1	<1	<1	<1	<1	<2
	09/08/05	<1	0.3J	<1	<1	<25	<1	<1	<1	<1	<25	0.4J	<2	3.4	<1	<1	<1	<1	<1	<1	<1	<2
MW-202 ⁶	09/08/05	<1	0.3J	<1	<1	<25	<1	0.3J	<1	<1	<25	0.4J	<2	3.3	<1	<1	<1	<1	<1	<1	<1	<2
MW-103	11/24/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	1.4 J
MW-104	11/24/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-110	07/08/05																					
	09/08/05	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
MW-111	07/08/05																					
	09/08/05	<1	<1	<1	<1	<25	0.7J	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
Grab Groundwa	ter			-	_	-															-	
HA-1	11/24/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	7.24 J	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
HA-2	11/24/03	2140	<100	<100	716	<2500	<100	<100	<100	<100	<2500	<100	<200	<100	118	307	314	<100	<100	<100	<100	<200
HA-3	11/24/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
HA-4	11/24/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
HA-5	11/25/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
HA-6	11/25/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
HA-7	11/25/03	<1	<1	<1	<1	<25	<1	<1	<1	<1	<25	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<2
HA-101	07/07/05																					
HA-102	07/07/05																					
HA-103	07/08/05																					

Abbreviations:

"BOLD" = Detected concentration

< = Not detected at or above the reporting limit shown

J = Result considered an estimate

"--" = Not analyzed

Notes:

¹ Only samples collected after 1997 were analyzed for the compounds listed; volatile organic compounds analyzed by EPA Method 8021 in 1997 and by EPA Method 8260B in 2003 and 2005.

² Other volatile organic compounds that are not listed in this table were not detected at or above their respective laboratory reporting limits.

Samples collected in 1997 from wells MW-1 through MW-4 and MW-8 through MW-10 also analyzed for semi-volatile organic compounds. Results were nondetect with the exception

of 2.1 μ g/L phenanthrene in well MW-2 (the reporting limit was 2.0 μ g/L).

³ Well destroyed.

⁴ Well was not purged prior to sampling.

⁵ DUP-2 is duplicate of MW-101.

⁶ MW-202 is duplicate of MW-102.





SUMMARY OF HISTORICAL SURFACE WATER ANALYTICAL RESULTS $^{\rm 1}$

Former Drive & Park, Inc. Site

28 IBM Road

Poughkeepsie, New York

Concentrations in micrograms per liter ($\mu g/L$)

Sample ID	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Reference ²
Stream Locations						
Upstream	08/19/92	<1	1	<1	<2	NETC, 1992
Midstream	08/19/92	<1	<1	<1	<2	NETC, 1992
Downstream	08/19/92	<1	<1	<1	<2	NETC, 1992

Abbreviations:

"BOLD" = Detected concentration

"<" = not detected at or above the reporting limit shown.

Notes:

¹ Analyzed by EPA Method 602.

² References listed in report text.

SUMMARY OF CONFIRMATION SOIL SAMPLE ANALYTICAL RESULTS¹

Former Drive & Park, Inc., Site 28 IBM Road Poughkeepsie, New York

Sample Type and Identification	Sample Location	Date Collected	Collection Depth (bgs)	Benzene	Toluene	Ethyl benzene	m,p-Xylenes	o-Xylene	TPHg	TPHd	МТВЕ	ТВА	ТАМЕ	Other
	NYSDEC TAGM 4046 in mg/l	<g:< th=""><th></th><th>0.08</th><th>1.5</th><th>5.5</th><th>1.2</th><th>1.2</th><th></th><th></th><th></th><th></th><th></th><th>Acetone 0.2 2-butanone 0.3 Methylene chloride 0.1</th></g:<>		0.08	1.5	5.5	1.2	1.2						Acetone 0.2 2-butanone 0.3 Methylene chloride 0.1
Sidewall Samples														
SW-G02-7.0-122605	Off Site sidewall, W Boundary	12/26/2005	7.0 feet	<0.03	<0.03	< 0.03	<0.03	<0.03	<12	<12	<0.03	<0.61	<0.061	Methylene chloride 0.034
SW-G05-7.5-122605	Off-site sidewall, W Boundary	12/26/2005	7.5 feet	<0.042	< 0.042	<0.042	<0.042	<0.042	<11	<11	<0.042	<0.84	<0.084	
SW-G07-3.0-122605	Off-site sidewall, SE corner	12/26/2005	3.0 feet	<0.039	<0.039	<0.039	<0.039	<0.039	<13	<13	<0.039	<0.79	<0.079	
SW-G09-5.0-122605	Off-site sidewall, SE corner	12/26/2005	5.0 feet	<0.053	<0.053	<0.053	0.084	<0.053	<14	<14	<0.053	<1.1	<0.11	
SW-E01-6.0-122705	Off-site sidewall, S boundary	12/27/2005	6.0 feet	<0.007	<0.007	<0.007	<0.007	<0.007	<13	<13	<0.007	<0.13	<0.013	
SW-E02-5.0-122705	Off-site sidewall, SW corner	12/27/2005	5.0 feet	<0.006	<0.006	<0.006	<0.006	<0.006	<13	<13	<0.006	<0.13	<013	
SW-E03-5.0-122705	Off-site sidewall, E boundary	12/27/2005	5.0 feet	<0.007	<0.007	0.014	0.026	<0.007	<13	<13	<0.007	<0.13	<013	
SW-E04-5.0-122705	Off-site sidewall, E boundary	12/28/2005	5.0 feet	0.016	<0.006	<0.006	<0.006	<0.006	<12	<12	<0.006	<0.12	0.012	
SW-E05-5.0-122805	Off-site sidewall, E boundary	12/28/2005	5.0 feet	<u>0.11</u>	< 0.006	0.033	0.16	<0.006	<13	<13	<0.006	<0.13	<0.013	
SW-E06-10.0-122805	Off-site sidewall, NW Corner	12/28/2005	10.0 feet	<0.32	<0.32	0.71	3.5	0.87	<13	<13	<0.32	<6.4	<0.64	
SW-E14-11.0-123005	Off-site sidewall, NW corner (S facing sidewall)	12/30/2005	11.0 feet	<0.006	<0.006	<0.006	<0.006	<0.006	<12 UJ	<12 UJ	<0.006	<0.12	<0.012	Methylene chloride 0.007
SW-E20-8.0-123005	Off-site sidewall, E boundary	12/30/2005	8.0 feet	0.045	< 0.006	<0.006	0.017	<0.006	<11 UJ	<11 UJ	<0.006	<0.11	<0.011	
SW-E21-10.0-123005	Off-site sidewall, NE Corner, adjacent to wetlands	12/30/2005	10.0 feet	<1.1	<u>15</u>	<u>7.8</u>	<u>37</u>	<u>13</u>	<13 UJ	<13 UJ	<1.1	<22	<2.2	
SW-E23-11.0-010206	Off-site sidewall, NW corner	1/2/2006	11.0 feet	0.038 J	<0.006	0.054 J	0.09 J	<0.006	<12 UJ	<12 UJ	0.024 J	<0.12	<0.021	
SW-E24-11.0-010206	Off-site sidewall, NW corner	1/2/2006	11.0 feet	0.021 J	<0.006	<0.006	<0.006	<0.006	<12 UJ	<12 UJ	0.022 J	0.13 J	<0.012	
SW-E30-3.0-012006	Off-site sidewall	1/20/2006	3.0 feet	<0.007	<0.007	<0.007	0.056	<0.007	<14	<14	<0.007	<0.14	<0.014	
SW-E38-8.0-020206	On-site sidewall	2/2/2006	8.0 feet	<0.006	<0.006	<0.006	<0.006	<0.006	<13	<13	0.013 J	<0.13	<0.013	Methylene chloride 0.016U Acetone 0.013UJ
SW-E39-8.0-020206	On-site sidewall	2/2/2006	8.0 feet	<0.007	<0.007	<0.007	<0.007	<0.007	<13	<13	<0.007	<0.13	<0.013	Methylene chloride 0.013J



SUMMARY OF CONFIRMATION SOIL SAMPLE ANALYTICAL RESULTS¹

Former Drive & Park, Inc., Site 28 IBM Road Poughkeepsie, New York

Sample Type and Identification	Sample Location	Date Collected	Collection Depth (bgs)	Benzene		Toluene		Ethyl benzene	1	m,p-Xylenes		o-Xylene		TPHg		TPHd	MTBE	ТВА	ТАМЕ	Other
	NYSDEC TAGM 4046 in mg/	kg:		0.08		1.5		5.5		1.2		1.2								Acetone 0.2 2-butanone 0.3 Methylene chloride 0.1
SW-ON-1-7.0-022406	On-site sidewall	2/24/2006	7.0 feet	< 0.006	UJ	< 0.006	UJ	< 0.006	UJ	< 0.006	UJ	< 0.006	UJ	<13		<13	<0.006 UJ	<0.13 UJ	<0.013 UJ	Acetone 0.018J
SW-ON-2-7.5-022406	On-site sidewall	2/24/2006	7.5 feet	0.021		< 0.006		< 0.006		0.012		< 0.006		<12		<12	<0.006 UJ	<0.12	<0.012	Acetone 0.015
SW-ON-3-7.0-030206	On-Site sidewall, SW area	3/2/2006	7.0 feet	<u>0.09</u>	J	0.11		0.098	J	0.44	J	0.17	J	<13		<13	< 0.006	<0.13	<0.013	Acetone 0.150J
SW-ON-4-7.0-030206	On-site sidewall, SW area	3/2/2006	7.0 feet	0.03	J	0.007		0.015	J	0.066	J	0.024	J	<11		<11	0.007	<0.11	<0.011	Acetone 0.013J
SW-ON-6-7.0-030706	On-site sidewall, NW area	3/7/2006	7.0 feet	0.011	J	< 0.006		0.016		0.054		0.012		<12		<12	<0.006	<0.12	<0.012	Acetone 0.022
SW-ON-8-7.0-030906	On-site sidewall, NE corner	3/9/2006	7.0 feet	< 0.006		< 0.006		< 0.006	UJ	0.011	J	< 0.006	UJ	<11		<11	0.008	<0.11	<0.011 UJ	Acetone 0.016
SW-ON-9-8.0-032106	On-site sidewall, N boundary	3/21/2006	8.0 feet	<u>0.25</u>		0.041		0.26	J	0.42		0.031		<13		<13	<0.013	<0.26	<0.026	Acetone 0.039J Methylene chloride 0.024
TP-1-032306	On-site test pit	2/23/2006	7.0 feet	< 0.005		< 0.005		< 0.005		< 0.005		< 0.005		<11		<11	< 0.005	<0.11	<0.011	
TP-2-032306	On-site test pit	2/23/2006	7.0 feet	< 0.005		< 0.005		< 0.005		< 0.005		0.008		<11		<11	< 0.005	<0.11	<0.011	Acetone 0.016J
TP-3-032306	On-site test pit	2/23/2006	7.0 feet	<0.006		<0.006		<0.006		<0.006		<0.006		<11		<11	<0.006	<0.11	<0.011	
Floor Samples																				
FL-E10-12.0-122905	Off-site floor, NW area	12/29/2005	12.0 feet	< 0.006	UJ	< 0.006	UJ	< 0.006	UJ	< 0.006	UJ	< 0.006	UJ	<12	UJ	<12 U	<0.006 UJ	<0.12 UJ	<0.012 UJ	Acetone 0.012
FL-E15-8.0-123005	Off-site floor, S-Central area	12/30/2005	8.0 feet	< 0.006		< 0.006		0.009		0.037		< 0.006		< 0.013	UJ	<0.013 U	<0.006	<0.13	<0.013	Methylene chloride 0.009
FL-E16-8.0-123005	Off-site floor, S-Central area	12/30/2005	8.0 feet	< 0.007		< 0.007		< 0.007		< 0.007		< 0.007		<14	UJ	<14 U	< 0.007	<0.14	< 0.014	Methylene chloride 0.010
FL-E17-8.0-123005	Off-site floor, S-Central area	12/30/2005	8.0 feet	< 0.007		< 0.007		0.027		0.160		0.018		<13	UJ	<13 U	< 0.007	<0.13	<0.013	Methylene chloride 0.008
FL-E19-8.0-123005	Off-site floor, S-Central area	12/30/2005	8.0 feet	0.011		<0.006		0.048		0.2		0.023		<12	UJ	<12 U	<0.006	<0.12	<0.012	Acetone 0.014
FL-E22-12.0-010206	Off-site floor, NE corner	1/2/2006	12.0 feet	< 0.006		0.008	J	< 0.006		0.022	J	0.008	J	<12	UJ	<12 U	<0.006	<0.12	<0.012	Methylene chloride 0.008J
FL-E26-12.0.010606	Floor, N-Central	1/6/2006	12.0 feet	<u>1.6</u>		0.086		< 0.062		< 0.062		< 0.062		<12		<12	< 0.062	<1.2	<0.12	
FL-E27-14.0-011706	Off-site floor	1/17/2006	14.0 feet	< 0.006		<0.006		<0.006		<0.006		<0.006		<12		<12	<0.006	<0.12	<0.012	Methylene chloride 0.012
FL-E28-14.0-011706	Off-site floor	1/17/2006	14.0 feet	0.53	J	0.06		0.400		0.5		0.012		<12		<12	0.036 J	<0.25	<0.025	Acetone 0.047J Methylene chloride 0.029



SUMMARY OF CONFIRMATION SOIL SAMPLE ANALYTICAL RESULTS¹

Former Drive & Park, Inc., Site 28 IBM Road Poughkeepsie, New York

Sample Type and Identification	Sample Location	Date Collected	Collection Depth (bgs)	Benzene		Toluene		Ethyl benzene	m,p-Xy	lenes		o-Xylene		TPHg	TPHd	MTBE	TBA	TAME	Other
	NYSDEC TAGM 4046 in mg/l	kg:		0.08		1.5		5.5	1.2	2		1.2							Acetone 0.2 2-butanone 0.3 Methylene chloride 0.1
FL-E29-14.0-011906	Off-site floor	1/19/2006	14.0 feet	<u>4.8</u>	J	<0.130		<0.130	<0.1	30		<0.130		<13	<13	<0.130	<2.6	<0.26	Methylene chloride 0.19 1, 2-Dichloroethane 0.16
FL-E30-14.0-011906	Off-site floor	1/19/2006	14.0 feet	<0.006		<0.006		<0.006	<0.0	06		< 0.006		<12	<12	<0.006	<0.12	<0.012	
FL-E35-15.0-012606	Off-site floor	1/26/2006	15.0 feet	< 0.006	UJ	<0.006	UJ	<0.006 UJ	<0.0	06	UJ	< 0.006	UJ	<13 UJ	<13 UJ	<0.006 UJ	1.5 J	<0.013 UJ	Acetone 0.053J
FL-E36-15.0-020106	On-site floor	2/1/2006	15.0 feet	< 0.013		<0.013		<0.013	<0.0	13		<0.013		<13	<13	0.24 J	<0.25	<0.025	
FL-E37-15.0-020206	On-site floor	2/2/2006	15.0 feet	< 0.006		<0.006		<0.006	<0.0	06		< 0.006		<12	<12	0.150 J	<0.12	<0.012	Methylene chloride 0.007UJ
FL-E40-15.0-020206	On-site floor	2/2/2006	15.0 feet	< 0.006		<0.006		<0.006	<0.0	06		< 0.006		<12	<12 UJ	<0.006	<0.12	<0.012	
FL-E41-15.0-020206	On-site floor	2/2/2006	15.0 feet	< 0.006		<0.006		<0.006	<0.0	06		< 0.006		<12	<12 UJ	<0.006	<0.12	<0.012	
FL-ON-1-13.0-021506	On-site floor	2/15/2006	13.0 feet	<0.006		<0.006		<0.006	<0.0	06		< 0.006		<11	<11	< 0.006	<0.11	<0.011	
FL-ON-2-13.0-021606	On-site floor	2/16/2006	13.0 feet	<0.006		<0.006		<0.006	0.00)8		0.006		<11	<11	<0.006	<0.11	<0.011	
FL-ON-3-13.0-021606	On-site floor	2/16/2006	13.0 feet	< 0.005		< 0.005		<0.005	<0.0	05		< 0.005		<11	<11	< 0.005	<0.11	<0.011	
FL-ON-4-13.0-022406	On-site floor	2/24/2006	13.0 feet	< 0.006	R	<0.006	R	<0.006 R	<0.0	06	R	< 0.006	R	<12	<12	<0.006 R	<0.12 R	<0.012 R	Acetone 0.014R
FL-ON-5-13.0-022406	On-site floor	2/24/2006	13.0 feet	<0.006	UJ	<0.006	UJ	<0.006 UJ	0.01	16	J	0.01	J	<12	<12	<0.006 UJ	<0.12 UJ	<0.012 UJ	Acetone 0.025J
FL-ON-6-13-022706	On-site floor, buried drum area	2/27/2006	13.0 feet	<0.006	UJ	<0.006	UJ	<0.006 UJ	0.00)7	J	< 0.006	UJ	<12	<12	<0.006 UJ	0.12 J	<0.012 UJ	Acetone 0.03J
FL-ON-8-13.0-030106	On-site floor, SW area	3/1/2006	13.0 feet	<0.006		<0.006		<0.006	<0.0	06		< 0.006		<13	<13	0.014	<0.13	<0.013	
FL-ON-9-13.0-030106	On-site floor, SW area	3/1/2006	13.0 feet	<u>0.38</u>		<0.031		<0.031	<0.0	31		< 0.031		<12	<12	0.15	<0.62	< 0.062	Methylene chloride 0.14J
FL-ON-10-13.0-030706	On-site floor, central area	3/7/2006	13.0 feet	<0.006		<0.006		<0.006	<0.0	06		< 0.006		<12	<12	<0.006	<0.12	< 0.012	Acetone 0.017
FL-ON-11-13.0-030806	On-site floor, NW area	3/8/2006	13.0 feet	0.061	J	<0.006	UJ	<0.006 UJ	<0.0	06	UJ	< 0.006	UJ	<12	<12	0.046 J	<0.12 UJ	<0.012 UJ	Acetone 0.016J
FL-ON-12-13.0-030906	On-site floor, N boundary	3/9/2008	13.0 feet	<0.006		<0.006		<0.006 UJ	<0.0	06	UJ	< 0.006	UJ	<11	<11	<0.006	<0.11	<0.011 UJ	



SUMMARY OF CONFIRMATION SOIL SAMPLE ANALYTICAL RESULTS¹

Former Drive & Park, Inc., Site 28 IBM Road Poughkeepsie, New York

All results in milligrams per kilogram of soil (mg/kg)

Sample Type and Identification	Sample Location	Date Collected	Collection Depth (bgs)	Benzene	Toluene	Ethyl benzene	m,p-Xylenes	o-Xylene	TPHg	TPHd	MTBE
	NYSDEC TAGM 4046 in mg/	kg:		0.08	1.5	5.5	1.2	1.2			

Trench Samples²

TR-1-011706	Utility trench	1/17/2006	2.0 feet	<0.006	<0.006	<0.006	<0.006	<0.006	<11	<11	<0.006
TR-2-011706	Utility trench	1/17/2006	2.0 feet	<0.006	<0.006	<0.006	<0.006	<0.006	<11	<11	<0.006
TR-3-011706	Utility trench	1/17/2006	2.0 feet	<0.006	<0.006	<0.006	0.024	0.009	<11	<11	<0.006
TR-4-011706	Utility trench	1/17/2006	2.0 feet	<0.005	< 0.005	<0.005	0.014	< 0.005	<11	<11	< 0.005

Abbreviations:

bgs = below ground surface

< = Not detected at or above the reporting limit shown

"BOLD" = Detected concentration

"UNDERLINED" = Detected concentration above TAGM 4046 recommended cleanup objective for volatile organic compounds in soil.

UJ = Result not detected at or above the reporting limit shown and considered an estimate

J = Result considered an estimate

R = Result were rejected because of laboratory quality assurance/quality control issues.

"--" = Not analyzed

SW = sidewall sample; TR = utility trench samples; TP = test pit; FL = floor sample

TPHg = total petroleum hydrocarbons quantified as gasoline

TPHd = total petroleum hydrocarbons quantified as diesel

Notes:

¹ Soil samples analyzed by Adirondack Environmental Services of Albany, New York. Volatile Organic compounds, including oxygenates, analyzed by EPA Method 8260B. Petroleum hydrocarbons TPHg and TPHd analyzed by EPA Method 8015.

Fuel Oxygenates = methyl tertiary-butyl ether (MTBE), tertiary-butyl alcohol (TBA), di-isopropyl ether (DIPE), tertiary-amyl methyl ether (TAME).

² Trench samples are not confirmation samples, but do provide analytical information on in-place soil.



TBA	TAME	Other
		Acetone 0.2 2-butanone 0.3 Methylene chloride 0.1
<0.11	<0.011	
<0.11	<0.011	Acetone 0.016
<0.11	<0.011	
<0.11	<0.011	



SUMMARY OF OFF-SITE REUSED OVERBURDEN ANALYTICAL RESULTS¹ Former Drive & Park, Inc., Site 28 IBM Road Poughkeepsie, New York

	All results in milligrams per kilogram of soil (mg/kg)													
Sample Identification	Date Collected	Collection Depth (bgs)	Benzene	Toluene	Ethyl benzene	m,p-Xylenes	o-Xylene	ТРНg	TPHd	MTBE	ТВА	TAME		
SP-G15-7.5-122605	12/26/2006	7.5 feet	< 0.045	< 0.045	<0.045	<0.045	<0.045	<12	<12	< 0.045	<0.910	<0.091		
SP-E11-5.0-122905	12/29/2006	5.0 feet	< 0.006	<0.006	< 0.006	<0.006	<0.006	<11 UJ	<11 UJ	<0.006	<0.110	<0.011		
SP-E12-6.0-122905	12/29/2006	6.0 feet	<0.006	<0.006	<0.006	<0.006	<0.006	<12 UJ	<12 UJ	<0.006	<0.120	<0.012		

Abbreviations:

bgs = below ground surface

< = Not detected at or above the reporting limit shown

UJ = Results not detected at or above the reporting limit shown and considered an estimate

TPHg = total petroleum hydrocarbons quantified as gasoline

TPHd = total petroleum hydrocarbons quantified as diesel

Notes:

¹ Soil samples analyzed by Adirondack Environmental Services of Albany, New York. Volatile Organic compounds, including oxygenates, analyzed by EPA Method 8260B. Petroleum hydrocarbons TPHg and TPHd analyzed by EPA Method 8015. Fuel Oxygenates = methyl tertiary-butyl ether (MTBE), tertiary-butyl alcohol (TBA), di-isopropyl ether (DIPE), ethyl tertiary-butyl ether (ETBE), tertiary-amyl methyl ether (TAME).

SUMMARY OF BACKFILL ANALYTICAL RESULTS¹

Former Drive & Park, Inc., Site 28 IBM Road Poughkeepsie, New York

Sample Identification	Sample Type	Date Collected	Benzene	Toluene	Ethyl benzene	m,p-Xylenes	o-Xylene	TPHg	TPHd	MTBE	ТВА	TAME	Metals
AB-1-122805	Import Agregate Base	12/28/2005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<10	<10	< 0.005	<0.100	<0.010	NS
AB-2-122805	Import Agregate Base	12/28/2005	< 0.005	<0.005	< 0.005	< 0.005	<0.005	<10	<10	< 0.005	<0.100	<0.010	NS
AB-3-122805	Import Agregate Base	12/28/2005	< 0.005	<0.005	< 0.005	< 0.005	<0.005	<10	<10	< 0.005	< 0.100	<0.010	NS
AB-4-122805	Import Agregate Base	12/28/2005	< 0.005	<0.005	< 0.005	< 0.005	<0.005	<11	<11	< 0.005	< 0.100	<0.010	NS
AB-5-122805	Import Agregate Base	12/28/2005	< 0.005	<0.005	< 0.005	< 0.005	<0.005	<10 UJ	<10 UJ	< 0.005	< 0.100	<0.010	NS
AB-6-122805	Import Agregate Base	12/28/2005	< 0.005	< 0.005	< 0.005	< 0.005	<0.005	<10	<10	< 0.005	< 0.100	< 0.010	NS
SF-01-122905	Select Fill	12/29/2005	<0.006	<0.006	< 0.006	< 0.006	<0.006	<12	<12	< 0.006	<0.120	<0.012	NS
SF-02-122905	Select Fill	12/29/2005	<0.006	<0.006	< 0.006	< 0.006	<0.006	<11	<11	< 0.006	<0.110	<0.011	NS
SF-03-122905	Select Fill	12/29/2005	<0.006	<0.006	< 0.006	< 0.006	<0.006	<11	<11	< 0.006	<0.110	<0.011	NS
SF-04-122905	Select Fill	12/29/2005	< 0.006	<0.006	< 0.006	< 0.006	<0.006	<11	<11	< 0.006	<0.110	<0.011	NS
SF-05-122905	Select Fill	12/29/2005	< 0.006	<0.006	< 0.006	< 0.006	<0.006	<11	<11	< 0.006	<0.110	<0.011	NS
SF-06-122905	Select Fill	12/29/2005	<0.006	<0.006	< 0.006	< 0.006	<0.006	<12	<12	< 0.006	<0.120	< 0.012	NS
SF-07-122905	Select Fill	12/29/2005	< 0.006	<0.006	< 0.006	< 0.006	<0.006	<11	<11	< 0.006	<0.110	<0.011	NS
SF-08-122905	Select Fill	12/29/2005	< 0.006	<0.006	< 0.006	< 0.006	<0.006	<11	<11	< 0.006	<0.110	<0.011	NS
SF-09-122905	Select Fill	12/29/2005	<0.006	<0.006	< 0.006	< 0.006	<0.006	<13	<13	< 0.006	<0.130	<0.013	NS
SF-10-122905	Select Fill	12/29/2005	<0.006	<0.006	< 0.006	<0.006	<0.006	<11	<11	< 0.006	<0.110	<0.011	NS



SUMMARY OF BACKFILL ANALYTICAL RESULTS¹

Former Drive & Park, Inc., Site 28 IBM Road Poughkeepsie, New York

All results in milligrams per kilogram of soil (mg/kg)

Sample Identification	Sample Type	Date Collected	Benzene	Toluene	Ethyl benzene	m,p-Xylenes	o-Xylene	TPHg	TPHd	МТВЕ	TBA	TAME	Metals
SF-11-122905	Select Fill	12/29/2005	<0.006	<0.006	<0.006	<0.006	<0.006	<12	<12	<0.006	<0.120	<0.012	NS
SF-12-122905	Select Fill	12/29/2005	<0.006	<0.006	<0.006	<0.006	<0.006	<12	<12	< 0.006	<0.120	<0.012	NS
Beacon-CVX-47 Top Soil ²	Top Soil	3/8/2006	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	NS	NS	NS	NS	NS	See Below ³
SOIL 1 ⁴	Top Soil	4/25/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Abbreviations:

< = Not detected at or above the reporting limit shown

"BOLD" = Detected concentration

UJ = Result not detected at or above the reporting limit shown and considered an estimate

AB = aggregate base sample

SF = select fill sample

TPHg = total petroleum hydrocarbons quantified as gasoline

TPHd = total petroleum hydrocarbons quantified as diesel

NS = not sampled

Notes:

¹ Samples analyzed by Adirondack Environmental Services (off-site laboratory), 314 North Pearl Street, Albany NY, 12207, except samples Beacon-CVX-47 Top Soil, analyzed by Severn Trent Laboratories, Inc (STL), 315 Fullerton Avenue, Newburgh, NY 12550 (her

² Analytical data provided to Geomatrix by topsoil source - sample not collected by Geomatrix. Sample was analyzed for volatile organic compounds by EPA Method 8260B, semi-volatile organic compounds by EPA Method 8270C, metals by EPA Method 6010B, organo

³ Metals concentrations in mg/kg: Silver: <2.2, Aluminum: 12,000, Arsenic: 7.0, Barium; 45, Berylium <1.1, Calcium: 20,000, Cadmium: <1.1, Cobalt: 13, Chromium: 13, Copper: 38, Iron: 27,000, Potassium: 1,200, Magnesium: 14,000, Manganese: 940, Sodium:

⁴ Sample analyzed for organochlorine pesticides by EPA Method 8081A and polychlorinated biphenyls by EPA Method 8082. No target analytes were detected at or above laboratory reporting limits.



SUMMARY OF WATER TREATMENT SYSTEM ANALYTICAL RESULTS¹

Former Drive & Park, Inc. Site 28 IBM Road Poughkeepsie, New York

Concentrations in micrograms per liter ($\mu g/L$)

Sample Location	Date	Time	Sample ID	Laboratory	Benzene	Toluene	Ethyl benzene	m,p-Xylenes	o-Xylene	TPHg	TPHd	MTBE	ETBE	ТВА	TAME	Comments
Influent	12/29/2005	11:40	inf-122905	SE	800	490	490	770	350	7600	4200	57	<20		25	Startup Sampling
Effluent	12/29/2005	11:45	eff-122905	SE	<2	<2	<2	<2	<2	<100	<200	<20	<20		<20	
Mid-stream	12/30/2005	12:00	mid-123005	SE	<2	<2	<2	<4	<2	<100	<200	<20	<20		<20	
Mid-stream	1/4/2005	13:30	mid-010405	AES	22	55	39	170	70	NA	NA	11		<100	<10	Flow rerouted to new LGAC on 1/9/06
Effluent	1/4/2005	13:25	eff-010405	AES	<0.7	<5.0	<5.0	<5.0	<5.0	NA	NA	<5.0		<100	<10	
Mid-stream	1/9/2006	13:05	mid-010906	AES	12	16	11	60	23	<1000 UJ	<1000	<5.0		<100	<10	Flow rerouted to new LGAC on 1/11/06
Effluent	1/9/2006	13:00	eff-010906	AES	<0.7	<5.0	<5.0	<5.0	<5.0	<1000 UJ	<1000	<5.0		<100	<10	
Influent	1/16/2006	10:40	inf-011606	AES	190	140	78	540	210	1000	1900	36 J		<200	<20	
Mid-stream	1/16/2006	10:45	mid-011606	AES	<0.7	<5.0	<5.0	<5.0	<5.0	<1000	<1000	<5.0		<100	<10	
Effluent	1/16/2006	10:50	eff-011606	AES	<0.7	<5.0	<5.0	<5.0	<5.0	<1000	<1000	<5.0		<100	<10	
Influent	1/24/2006	9:40	inf-012406	AES	350	390	180	890	360	2500 J	<1000	42		<500	<50	
Mid-stream	1/24/2006	9:45	mid-012406	AES	4.0	<5.0	<5.0	7.1	<5.0	<1000 R	<1000	<5.0		<100	<10	Flow rerouted to new LGAC on 2/3/06
Effluent	1/24/2006	9:50	eff-012406	AES	<0.7	<5.0	<5.0	<5.0	<5.0	<1000 R	<1000	<5.0		<100	<10	
Influent	1/31/2006	13:15	inf-013106	AES	680 J	790 J	300 J	1400 J	530 J	3600 J	<1000	80 J		<500	<50	
Mid-stream	1/31/2006	13:20	mid-013106	AES	15	13	5.5	25	12	<1000 R	<1000	23 J		<100	<10	Flow rerouted to new LGAC on 2/3/06
Effluent	1/31/2006	13:35	eff-013106	AES	<0.7	<5.0	<5.0	<5.0	<5.0	<1000 R	<1000	<5.0		<100	<10	



SUMMARY OF WATER TREATMENT SYSTEM ANALYTICAL RESULTS¹

Former Drive & Park, Inc. Site 28 IBM Road Poughkeepsie, New York

Concentrations in micrograms per liter (μ g/L)

Sample Ethyl Location Date Time Sample ID Laboratory Benzene Toluene m,p-Xylenes o-Xylene TPHg TPHd MTBE ETBE TBA benzene 2/16/2006 10:45 inf-021606 <1000 <250 <5000 Influent AES 680 4500 1900 9200 3800 25,000 --Mid-stream 2/16/2006 10:50 mid-021606 AES 12 50 23 99 51 <1000 <1000 13 J 120 --2/16/2006 11:20 eff-021606 AES < 0.7 < 5.0 < 5.0 < 5.0 < 5.0 < 5.0 Effluent <1000 <1000 <100 --2/27/2006 12:00 inf-022706 < 500 Influent AES 180 J 500 J 230 J 1000 J 690 J 2000 J <100 61 J -mid-022706 <5.0 UJ Mid-stream 2/27/2006 12:10 AES <0.7 UJ <5.0 UJ <5.0 UJ <5.0 UJ <100 R <100 9.1 J 150 J --2/27/2006 12:20 <0.7 UJ <5.0 UJ Effluent eff-022706 AES <5.0 UJ <5.0 UJ <5.0 UJ <100 R <100 < 5.0 <100 --Influent 3/8/2006 9:45 inf-030806 AES 430 1700 530 2800 1300 7300 J <1000 100 <1000 --Mid-stream 3/8/2006 9:50 mid-030806 AES 2.5 5.2 < 5.0 <100 R <100 23 160 7.9 5.3 --3/8/2006 9:55 eff-030806 < 0.7 < 5.0 < 5.0 < 5.0 < 5.0 Effluent AES < 5.0 <100 R <100 <100 --

Abbreviations:

BTEX = benzene, toluene, ethylbenzene, total xylenes

TPHg = total petroleum hydrocarbons quantified as gasoline, TPHd = total petroleum hydrocarbons quantified as diesel

Fuel Oxygenates = methyl tertiary-butyl ether (MTBE), ethyl tertiary-butyl ether (ETBE), tertiary-butyl alcohol (TBA), tertiary-amyl methyl ether (TAME)

SE = Stone Environmental Inc., (on-site mobile laboratory), 535 Stone Cutters Way - STE 3, Montpelier VT, 05602-3796

AES = Adirondack Environmental Services (off-site laboratory), 314 North Pearl Street, Albany NY, 12207

UJ = Result not detected at or above the reporting limit shown and considered an estimate

J = Results considered an estimate

 $\mathbf{R} = \mathbf{Results}$ rejected because of laboratory quality assurance issues.

"--" = Not analyzed

Notes

¹ Volatile organic compounds analyzed using EPA Method 8260B.



	TAME	Comments
)	<500	
	<10	Flow rerouted to new LGAC on 2/27/06
	<10	
	<50	
	<10	Flow rerouted to new LGAC on 3/2/06
	<10	
)	<100 R	
	<10	Flow rerouted to new LGAC on 3/10/06
	<10 R	

PERIMETER AIR SAMPLING - SUMMARY OF VOLATILE ORGANIC COMPOUND DATA^{1,2,3}

Former Drive & Park, Inc., Site 28 IBM Road Poughkeepsie, New York

Sample Identification	Sample Location	Date Collected	Collection Duration (hours)	Chloroform	1.1.1-Trichloroethane	1.1-Dichloroethane	1.2-Dichloroethane	Benzene	Trichloroethene	Tetrachloroethene	Vinyl Chloride	Methylene Chloride
N-021406	N = North of excavation	2/14/2006	8	0.016	0.021	<0.010	0.015	2.1	0.0043	<0.020	<0.0025	<0.12
F-021406	F = East of Excavation, near stockpiles	2/14/2006	8	<0.34	<0.48	<0.010	<0.060	7.7	<0.060	<0.48	<0.0025	<2.9
B-021406	B = South of excavation	2/14/2006	8	0.016	0.021	<0.010	0.012	0.66	0.0049	<0.020	<0.0025	<0.12
N-022206	N = North of excavation	2/22/2006	8	0.022	0.029	<0.010	0.013	0.83	0.011	0.13	<0.0025	<0.12
F-022206	F = East of Excavation, near stockpiles	2/22/2006	8	0.032	0.028	<0.24	0.027	3.0	0.011	0.050	<0.060	0.13
B-022206	B = South of excavation	2/22/2006	8	0.022	0.022	<0.010	0.012	0.49	0.0092	0.038	<0.0025	<0.12
S030606	S = East of Excavation, near stockpiles	3/6/2006	8	<0.20	<0.20	<0.20	<0.20	16	<0.20	<0.20	<0.20	<0.20
S030706	S = East of Excavation, near stockpiles	3/7/2006	8	<0.20	<0.20	<0.20	<0.20	11	<0.20	<0.20	<0.20	<0.20
S030806	S = East of Excavation, near stockpiles	3/8/2006	8	<0.028	<0.040	0.049	< 0.0050	5.6	0.014	0.043	0.0064	<0.24
S030906	S = East of Excavation, near stockpiles	3/9/2006	8	<0.028	<0.040	< 0.0050	<0.0050	3.5	<0.0050	<0.040	< 0.0050	<0.24
S031006	S = East of Excavation, near stockpiles	3/10/2006	8	<0.028	<0.040	0.016	< 0.0050	2.7	0.016	<0.040	< 0.0050	<0.24
F-031306	F = East of Excavation, near stockpiles	3/13/2006	8	0.033	<0.040	< 0.0050	0.032	2.8	0.058	0.16	< 0.0050	0.26
F-031406	F = East of Excavation, near stockpiles	3/14/2006	8	<0.028	<0.040	<0.0050	0.019	1.3	0.02	0.49	<0.0050	0.51
N-031506	N = North of excavation	3/15/2006	8	<0.028	<0.040	<0.0050	0.01	0.17	<0.0050	<0.040	<0.0050	<0.24
F-031506-1	F = East of Excavation, near stockpiles	3/15/2006	3	0.032	0.044	<0.0050	0.038	7.1	0.018	0.082	<0.0050	0.32
F-031506-2	F = East of Excavation, near stockpiles	3/15/2006	8	<0.053	<0.075	<0.0094	0.059	12	<0.0094	<0.075	<0.0094	<0.45
F-031606	F = East of Excavation, near stockpiles	3/16/2006	8	<0.028	<0.040	<0.0050	0.028	6.4	0.012	<0.040	< 0.0050	<0.24
F-031706	F = East of Excavation, near stockpiles	3/17/2006	8	0.014	0.023	<0.0025	0.016	1.8	0.0037	<0.020	<0.0025	<0.12
F-032006	F = East of Excavation, near stockpiles	3/20/2006	8	<0.014	0.036	<0.010	0.013	1.1	0.0075	<0.020	<0.0025	<0.12
F-032106-1	F = East of Excavation, near stockpiles	3/21/2006	3	<0.016	<0.023	<0.0029	0.012	0.43	0.0083	<0.023	< 0.0029	0.2

All results in parts per billion by volume (ppbv)



PERIMETER AIR SAMPLING - SUMMARY OF VOLATILE ORGANIC COMPOUND DATA^{1,2,3}

Former Drive & Park, Inc., Site 28 IBM Road Poughkeepsie, New York

	All results in parts per billion by volume (ppbv)													
Sample Identification	Sample Location	Date Collected	Collection Duration (hours)	Chloroform	1,1,1-Trichloroethane	1,1-Dichloroethane	1,2-Dichloroethane	Benzene	Trichloroethene	Tetrachloroethene	Vinyl Chloride	Methylene Chloride		
F-032106-2	F = East of Excavation, near stockpiles	3/21/2006	8	0.015	<0.020	<0.0025	0.011	0.56	0.0036	<0.020	<0.0025	<0.12		
N-032106	N = North of excavation	3/21/2006	8	0.016	0.021	<0.0025	0.011	0.27	0.0068	<0.020	<0.0025	<0.12		

Abbreviations:

< = Not detected at or above the reporting limit shown

"BOLD" = Detected concentration

Notes:

¹Samples analyzed by Severn Trent Laboratories, Inc. in Santa Ana, California using EPA Method TO-15.

² Only those compounds detected above the laboratory reporting limit are shown.

³ Minimal Risk Levels (MRLs) for benzene published by the Agency for Toxic Substances and Disease Registry include an acute MRL of 9 ppbv for exposures less than 14 days (based on a six-day exposure period in the referenced study) and an intermediate MRL of 6 ppbv for exposures between 15 and 365 days (based on a 20-day exposure period in the referenced study). Measured and estimated concentrations of benzene in air were below MRLs for the appropriate exposure periods.





WELL CONSTRUCTION DETAILS¹

Former Drive & Park, Inc. Site

28 IBM Road

Poughkeepsie, New York

							Filter Pa (fee	-	
Well Identification	Date Installed	Elevation of Measuring Point ² (feet NAVD88)	Depth of Well (feet bgs) ³	Diameter of Well	Screen Length (feet)	Screened Interval (feet bgs)	Depth to Top of Filter Pack	Depth to Base of Filter Pack	Reference
DP-1 ⁸	prior to 1988	90.19	9.91 ⁵	4	NA^4	NA - NA	NA	NA	NETC, 1991
DP-2 ⁸	prior to 1988	90.19	5.88 ⁵	4	NA	NA - NA	NA	NA	NETC, 1991
DP-3 ⁸	prior to 1988	90.41	5.68 ⁵	4	NA	NA - NA	NA	NA	NETC, 1991
DP-4 ⁶	prior to 1988	NA	NA	4	NA	NA - NA	NA	NA	NETC, 1991
MW-1	01/17/91	91.56	19.5	4	15	4 - 19	3	19.5	NETC, 1991
MW-2 ⁸	01/17/91	90.62	18.5	4	15	3 - 18	2	18.5	NETC, 1991
MW-3 ⁸	01/17/91	90.61	18.5	4	15	3 - 18	2	18.5	NETC, 1991
MW-4 ⁸	01/17/91	88.65	18.5	4	15	3 - 18	2	18.5	NETC, 1991
MW-5 ⁷	1991/1992	87.37	NA	4	NA	NA - NA	NA	NA	NA
MW-6	1991/1992	90.83	19.31 ⁵	4	NA	NA - NA	NA	NA	NA
MW-7	1991/1992	91.48	19.42 ⁵	4	NA	NA - NA	NA	NA	NA
MW-8	1991/1992	91.66	19.48 ⁵	4	NA	NA - NA	NA	NA	NA
MW-9	1991/1992	87.31	18.415	4	NA	NA - NA	NA	NA	NA
MW-10	08/12/92	87.31	18	4	15	2 - 17	1.5	18	NETC, 1992
MW-11 ⁸	08/11/92	84.29	12	4	10	1.5 - 11.5	1	12	NETC, 1992
MW-12	08/11/92	84.91	12	4	10	1.5 - 11.5	1	12	NETC, 1992
MW-13	08/11/92	83.11	12	4	10	1.5 - 11.5	1	12	NETC, 1992
MW-101 ⁸	11/20/03	89.22	14	2	10	4 - 14	3	14	Geomatrix, 2004
MW-102 ⁸	11/20/03	87.29	12	2	10	2 - 12	2	12	Geomatrix, 2004
MW-103	11/20/03	91.13	14	2	10	4 - 14	3	14	Geomatrix, 2004
MW-104	11/19/03	90.5	14	2	10	2 - 12	1.5	12	Geomatrix, 2004
MW-110	07/06/05	87.51	10.5	0.75	5	5.5 - 10.5	4	10.5	Geomatrix, 2006
MW-111	07/06/05	81.32	7	0.75	5	2 - 7	1.5	7	Geomatrix, 2006
MW-201	06/16/06	87.64	13.5	2	10	3 - 13	3	14	Geomatrix, 2006
MW-202	06/16/06	86.53	12.5	2	10	2 - 12	2	12.5	Geomatrix, 2006
MW-203	06/16/06	90.06	14.5	2	10	4 - 14	3	14.5	Geomatrix, 2006

Notes:

¹ Wells DP-1 through DP-4 were installed by a consultant of Drive & Park, Inc. Installation details are unavailable. Wells MW-1 through MW-13 were installed by NETC. Boring logs for wells MW-1 through MW-4 and MW-10 through MW-13 indicate these wells were constructed of four-inch-diameter, Schedule 40 polyvinyl chloride (PVC) well casing and 0.020-inch slotted PVC screen, with a filter pack consisting of Morie No. 1 well gravel. Wells MW-101 through MW-100, MW-110, MW-111, and MW-201 through MW-203 were installed by Geomatrix. Wells MW-101 through MW-104 were constructed of two-inch-diameter, Schedule 40 PVC well casing and 0.010-inch slotted PVC screen, with a filter pack consisting of #00N sand. Wells MW-110 and MW-111 were constructed of 0.75-inch-diameter, Schedule 40 PVC well casing and 0.010-inch slotted PVC screen , with a pre-packed filter pack consisting of 20/40 filter sand. Wells MW-203 were constructed of two-inch-diameter, Schedule 40 PVC well casing and 0.010-inch slotted PVC screen , schedule 40 PVC well casing and 0.010-inch slotted PVC screen , schedule 40 PVC well casing and 0.010-inch slotted PVC screen , with a pre-packed filter pack consisting of 20/40 filter sand. Wells MW-203 were constructed of two-inch-diameter, Schedule 40 PVC well casing and 0.010-inch slotted PVC screen , with a filter pack consisting of #2 sand.

Wells MW-2, MW-3, MW-4, MW-6, DP-1, DP-3, and MW-101 were destroyed during on-site and off-site interim remediation excavation activities in December 2005 and January 2006. Well MW-102 was damaged beyond repair during remediation activities and was destroyed on June 13, 2006 by removing the PVC casing, drilling out the filter pack and bentonite seal, then grouting the borehole from total depth to ground surface.

² Measuring point elevation is the surveyed elevation of a reference mark at the top of each well casing. Measuring point elevations were surveyed on September 15, 1992, September 29, 2005, and August 27, 2006 by Morris and Associates of Poughkeepsie, New York. Prior to 2006, measurements provided from a relative datum. After 2006, measurements were surveyed to the NGVD of 1929. The current datum is 7.73 feet below the assumed datum used prior to August 2006.

³ feet bgs = feet below ground surface.

⁴ NA = information not available.

⁵ Depth of well measured November 24, 2003; original depth from well log unavailable.

⁶ This monitoring well was installed by Drive & Park, Inc.'s consultant in or prior to 1988 and could not be located by NETC in 1991 (NETC, 1991).

⁷ Well destroyed November 24, 2003.

⁸ Well destroyed during IRM implementation (excavation) in 2005-2006.


FIGURES



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♦^{MW-13}

EXPLANATION

Α.

- Monitoring well location
- Monitoring well location (installed post-excavation 2006)
- ▼ Approximate hand augered soil sample location (September 2005)
- Approximate grab groundwater location (July 2005)
- Soil boring (July 2005)
- Membrane interface probe/electrical conductivity boring location (June - July 2005)
- Geoprobe boring location (July 2005 and July 2006)
- X Destroyed monitoring well location
- Geotechnical boring location (October 2005)

- ••• •• Site boundary
 - _____ Subsurface natural gas service
- Potential conduit (abandoned 2" steel line)
 - ▲^{A'}Cross section location
 - Extent of residual product in soil
 - Area of excavation
 - Approximate soil boring/temporary piezometer location (November 2003)
 - Approximate surface soil sample location (April 2003)
 - Approximate grab groundwater location (November 2003)
 - Approximate hollow stem auger soil sample location (December 1990)

By:

0 Scale i	n Feet	50 9			
SITE PLAN Former Drive & Park, Inc. Site 28 IBM Road Poughkeepsie, New York					
YTH Date: 30-MAR	-2007	Project No.	9328.000		
🚾 Geomatr	rix	Figure	2		









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East B'

Notes:

30'

- Well completion and lithologic logs unavaiable for MW-6 and MW-9. Data for this figure derived from Figure 9A of NETC's "Final Phase II Hydrogeological Investigation," October 15, 1992.
- 2. The continuity of geologic units shown between borings has been inferred.









To Eti Xy





S:\9300\9328\9328.000\task_10\07_0233_rirep_fig_08b.dgn RNT\\Splash_hold Q:\iplot\ctb\geomtrx.ctb Q:\iplot\pen\MAP. Explanation

- Approximate hand augered soil sample location (Sept. 2005)
- ▲ Approximate grab groundwater location (July 2005)
- Soil boring (July 2005)
- Membrane interface probe/electrical conductivity boring location (June - July 2005)
- Geoprobe boring location (July 2005 and July 2006)
- Approximate grab groundwater location (November 2003)
- Monitoring well location
- Monitoring well location (installed post-excavation 2006)
- Approximate soil boring/temporary piezometer location (November 2003)
- Approximate surface soil sample location (April 2003)
- Subsurface natural gas service
- · · · · · · Site boundary
- - - - Potential conduit (abandoned 2" steel line)

•		
MW-2	11/03	-
MTBE	17.5	
TAME	<1.0	
TBA	NS	

Boring number



MTBE = methyl-tert butyl ether TAME = tertiary-amyl methyl either TBA = tert butyl alcohol NS = not sampled J = Result considered an estimate

< = Analyte not detected at or above laboratory reporting limit indicated

Additional analytical results listed in Tables 6 and 7.



APPROXIMATE AERIAL DISTRIBUTION OF FUEL OXYGENATES IN GROUNDWATER Former Drive & Park, Inc. Site 28 IBM Road Poughkeepsie, New York By: YTH Date: 30-MAR-2007 Project No. 9328.000 Figure 8B



EXPLANATION

- Monitoring well location
- Monitoring well location (installed post-excavation 2006)
- Approximate hand augered soil sample location (September 2005)
- Approximate grab groundwater location (July 2005)
- Soil boring (July 2005)
- Membrane interface probe/electrical conductivity boring location (June - July 2005)
- Geoprobe boring location (July 2005 and July 2006)
- X Destroyed monitoring well location
- Geotechnical boring location (October 2005)

- ••• •• Site boundary
 - UG Subsurface natural gas service
 - - - Potential conduit (abandoned 2" steel line)
 - Approximate soil boring/temporary piezometer location (November 2003)
 - Approximate surface soil sample location (April 2003)
 - Approximate grab groundwater location (November 2003)
 - Approximate hollow stem auger soil sample location (December 1990)



Area of unknown potential conduit exploration











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٩	PRESSURE GAUGE
s	SAMPLE PORT
(IS)	INFLUENT SAMPLE PORT
MS	MIDSTREAM SAMPLE PORT
ES	EFFLUENT SAMPLE PORT
<u>]</u>	QUICK DISCONNECT HOSE COUPLING
	BALL VALVE
	BALL VALVE CLOSE
	BALL VALVE OPEN
FT	FLOWMETER
\bigcirc	PUMP
->	FLOW DIRECTION INDICATOR

LEGEND

NOTE: ALL TREATMENT SYSTEM PIPING, INSTRUMENTATION, AND EQUIPMENT PROVIDED BY CONTRACTOR.

WATER TREATMENT SYSTEM PROCESS AND INSTRUMENTATION DIAGRAM Former Drive & Park, Inc. Site 28 IBM Road Poughkeepsie, New York By: DTB Date: 30-MAR-2007 Project No. 9328.000

$//\sim$	Geomatrix	Figure	12







APPENDIXES Volumes 2 through 9 Included on attached CD