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Solvent Dock Area Former Lockheed Martin French Road Facility, Utica, New York Order on Consent Index No. CO6-20080321-5

March 2011

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Former Northern Perimeter Ditch Supplemental Investigation Report

Solvent Dock Area Former Lockheed Martin French Road Facility, Utica, New York Order on Consent Index No. CO6-20080321-5

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Our Ref.: NJ001020.0001

Date: March 2011

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Acronyms

1,1,-DCA	1,1-dichloroethane
1,1-DCE	1,1-dichloroethene
1,2-DCE	1,2-dichloroethene
1,1,1-TCA	1,1,1-trichloroethane
AOC	"Areas of Concern"
ASP	analytical services protocol
BBL	Blasland, Bouck, & Lee, Inc.
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylene
cis-1,2-DCE	cis-1,2-dichloroethene
CMIP	<i>Corrective Measures Implementation Plan</i>
CMS	<i>Corrective Measures Study</i>
ConMed	ConMed Corporation
CVOCs	chlorinated volatile organic compounds
DSITMS	direct-sampling ion-trap mass spectrometry
DUSR	data-usability summary reports
EPA	United States Environmental Protection Agency
FNPD	Former Northern Perimeter Ditch
GCTS	groundwater collection and treatment system
GE	General Electric Company
HDPE	high-density polyethylene
ICM	interim corrective measure
MMC	Martin Marietta Corporation
MW	monitoring well
NAD	North American Datum
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OCIDA	Oneida County Industrial Development Agency
PCE	tetrachloroethene
PID	photo-ionization detector
ppm	parts per million
PZ	piezometer
QAPP	<i>Quality Assurance Project Plan</i>
QA/QC	quality control/quality assurance
SCO	soil-cleanup objective
SGV	standards and guidance values
SPDES	"State Pollutant Discharge Elimination System"
SSDS	sub-slab depressurization system
TCE	trichloroethene
TICS	tentatively identified compounds
TOGS	<i>Technical and Operational Guidance Series</i>
USEPA	U.S. Environmental Protection Agency
VOCS	volatile organic compounds

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1. Introduction

Lockheed Martin Corporation (Lockheed Martin) has completed a supplemental investigation of the former northern perimeter ditch (FNPD) at the former Lockheed Martin French Road facility in Utica, New York (herein, the site). The FNPD is associated with the Solvent Dock Area at the site. This work was completed as part of the *Corrective Measures Implementation Plan* (CMIP) required by the October 3, 2008 "Order on Consent" (herein, the Order) issued by the New York State Department of Environmental Conservation (NYSDEC) (CO6-20080321-5). The *Corrective Measures Study Report (CMS Report)* (ARCADIS 2009) presents the findings of the corrective measures study (CMS) pursuant to the *CMIP* and recommends a corrective measures alternative for remediation of the facility.

The Former Northern Perimeter Ditch Work Plan (FNPD Work Plan) (ARCADIS 2010), approved by NYSDEC in a letter dated May 3, 2010, presents the work scope to further evaluate the following site "Areas of Concern" (AOCs):

- AOC 1—Groundwater
- AOC 2—Soil-Vapor Migration/Indoor Air
- AOC 3—Soil
- AOC 4—Existing Remedial System

The supplemental investigation of these AOCs was completed in accordance with the FNPD Work Plan. Significant findings from the FNPD investigation for each AOC are presented in this report. These findings have been supplemented with findings from the CMS Report, where noted. As such, this report should be considered an addendum to the CMS Report.

2. Site History

In the early 1950s, General Electric Company (GE) acquired approximately 55 acres of undeveloped land on French Road in Utica, New York and built a 500,000-square-foot manufacturing facility. Figure 1 presents a site location map. GE production operations included manufacturing, assembling, and testing electrical components for the defense and aerospace industries. GE operations continued until April 1993, when the facility was acquired by Martin Marietta Corporation (MMC). In March 1995, MMC merged with

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Lockheed Corporation to form Lockheed Martin Corporation (Lockheed Martin). In March 1996, Lockheed Martin sold the property to Pinnacle Park, Inc., which subsequently transferred the property to and leased it back from the Oneida County Industrial Development Agency (OCIDA). ConMed Corporation (ConMed), a medical supplies manufacturer and distributor, now occupies the facility under a lease with OCIDA. Although Lockheed Martin no longer owns the property, the corporation retains responsibility for environmental cleanup related to past releases at the Solvent Dock Area.

Groundwater in the northeast portion of the main manufacturing building, an area known as the Solvent Dock and in an area along the former northern-perimeter ditch has been adversely affected by volatile organic compounds (VOCs). The former Solvent Dock and immediate vicinity (referred to as the Solvent Dock Area) once included a 275-gallon fiberglass overflow-retention tank. This tank stored spent-solvents waste, which were periodically sampled, pumped from the tank, and disposed of by waste haulers. The tank was removed in June 1990, at which time the tank was observed to be dented and leaking fluid. The former northern-perimeter ditch (along the northern property boundary) was an open-drainage swale which received storm-water from the area north of the manufacturing building and conveyed the water, along with storm water from the western portion of the property, to a manhole before discharge to the municipal storm sewer.

GE, MMC, and Lockheed Martin have investigated groundwater in these areas since 1991. In November 1994, Blasland, Bouck, & Lee, Inc. (BBL) investigated the facility storm sewer in the Solvent Dock Area. This investigation determined that VOCs detected in the storm sewer were attributable to the discharge of VOC-contaminated groundwater into the former northern-perimeter ditch and infiltration of VOC-contaminated groundwater from the Solvent Dock Area into the storm sewer beneath the building. In May 1995, BBL completed a *Storm Sewer Investigation Report*, which recommended that the contaminated portion of the storm-sewer flow be collected, treated, and discharged to meet proposed "State Pollutant Discharge Elimination System" (SPDES) VOC-effluent limitations.

BBL [in accordance with New York State Department of Environmental Conservation (NYSDEC) recommendations] evaluated remedial design alternatives to address the source of VOCs entering the storm sewer that would remedy the contaminated groundwater. This evaluation was presented in the *Storm Sewer Basis of Design Report* (BBL, 1995). BBL completed the final design of the French Road Facility ground-water collection and treatment system (GCTS) in October 1995 based on the *Storm Sewer Basis of Design Report* (BBL, 1995), and construction of the system was completed in June 1996.

The GCTS collects groundwater from the Solvent Dock Area and the former northern-perimeter ditch area via two under-drains, conveys the collected groundwater to a

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treatment building where a low-profile air stripper removes the VOCs, and then discharges the treated effluent to the municipal storm-water system. After the system was installed and the ditch replaced with a 24-inch high-density polyethylene (HDPE) pipe, groundwater no longer discharged into the northern-perimeter ditch. The pipe conveys storm-water that formerly flowed in the ditch. The area of the ditch was filled and contoured to match the existing grade.

A hydraulic- and chemical-oriented groundwater-monitoring program was developed for the Solvent Dock Area to evaluate the effectiveness of the GCTS. This program, as presented in the *Ground-Water Sampling and Analysis Work Plan* (BBL, 1998), has since been modified through monthly and quarterly correspondence with NYSDEC to accommodate changing conditions over the life of the project. Lockheed Martin voluntarily installed and operated the GCTS and began an investigation of soil-vapor and indoor-air quality in response to observed groundwater contamination at the site (as described above).

A sub-slab depressurization system (SSDS) was installed in selected areas of the site as an interim corrective measure (ICM) in July 2008 in response to the results of several soil-vapor and indoor-air quality studies. The SSDS is designed to mitigate elevated chlorinated volatile organic compound (CVOC) vapors detected below the concrete slab of the northeast corner of the main ConMed Corporation (ConMed) manufacturing building. The primary objective of the SSDS is to maintain a negative pressure (i.e., a vacuum) below the building slab relative to the air pressure in the building above the slab, thus reducing the potential migration (intrusion) of vapors into the building. To achieve an effective negative gradient across the concrete slab, soil-vapors are extracted from the subsurface and conveyed through carbon treatment outside the building. This minimizes the potential migration of VOCs from sub-slab soil gas to indoor air.

Lockheed Martin and NYSDEC entered into an Order on Consent, effective October 3, 2008 (CO6-20080321-5). The Order identifies site AOCs, including soil and groundwater quality. Each of these specific AOCs required further investigation and identification of corrective actions. Investigations of these AOCs were completed as part of the CMS and presented in the *CMS Report*. However, Lockheed Martin determined that supplemental investigations of specific areas of the site were warranted to fully characterize the extent of contamination and confirm the effectiveness of the remedial actions recommended in the *CMS Report*. An initial supplemental investigation was completed in late-2009 and its findings summarized in the *Supplemental Investigation Report* (ARCADIS, 2010). This report confirmed the presence of VOC-contaminated groundwater near the FNPD and recommended further investigation into soil, groundwater, and soil-vapor quality, as well as groundwater flow.

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3. Objectives

This FNPD supplemental investigation further evaluates groundwater and soil quality at the site. Soil-vapor was also sampled to determine if off-site migration is a pathway of concern. Finally, groundwater elevations near the FNPD were monitored to confirm whether the existing GCTS (specifically the FNPD under-drain) is capturing contaminated groundwater.

4. Technical Overview and Findings

In accordance with the approved *FNPD Work Plan* and as required by the Order, the supplemental investigation further evaluated groundwater quality, soil-vapor migration, soil quality, and the existing remedial system (GCTS), specifically in the FNPD area . A summary of the evaluations for each AOC appears in sections 4.2 through 4.5 below. The investigations methods are provided in the *FNPD Work Plan*, and, in most cases, are identical to those of the CMS.

4.1 Geology and Hydrogeology

This section presents the technical overview and findings of the site geology and hydrogeology at the FNPD area as derived from Lockheed Martin investigations of the site's soil (AOC 3) and groundwater (AOC 1) and an evaluation of the GCTS (AOC 4), pursuant to the *FNPD Work Plan* and the Order. Geologic and hydrogeologic characterization activities (described in the *FNPD Work Plan*) included:

- installation of soil borings and piezometers
- collection of groundwater elevation measurements

The following figures, tables, and appendices describe the site geology and hydrogeology:

- "Facility Map"—Figure 2
- "Investigation Location Plan"—Figure 3
- "Hydrogeologic Cross-Section A-A'—Figure 4
- "Hydrogeologic Cross-Section B-B'—Figure 5
- "Groundwater Elevation Map for the Overburden"—Figure 6

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- "Groundwater Elevation Map for Bedrock"—Figure 7
- "Monitoring Well and Piezometer Construction Details"—Table 1
- "Groundwater Elevation Measurements"—Table 2
- "Soil-Boring and Piezometer Construction Logs"—Appendix A
 - 4.1.1 Technical Overview

Data from soil samples, rock cores, drilling information, and grain-size tests from the test-pit and soil-boring programs collected during the CMS was used to define the site's stratigraphy. In addition, groundwater data, including water-level measurements and hydraulic-conductivity testing from the monitoring well and piezometer programs, were used in combination with the site-stratigraphy characterization to define site hydrogeology. These data, supported with information from previous investigations, were previously reported in the *CMS Report*.

Additional soil borings were drilled, piezometers installed, and water-level measurements collected, in accordance with the *FNPD Work Plan*, as part of this FNPD supplemental investigation. These data further define site stratigraphy and hydrogeology near the FNPD. Figure 3 presents an investigation location plan for this FNPD supplemental investigation.

4.1.2 Geologic Findings

Site geology near the FNPD is represented as geologic cross-sections (see Figures 4 and 5). The geology is similar to that previously defined as part of the CMS. Soil-boring logs are provided in Appendix A. The units encountered during the FNPD supplemental investigation are summarized below:

- fill (approximately 3–7 feet (ft) thick)
- till consisting of dark-gray clay and dense gray-brown silty clay with fine sand and gravel (approximately 15–17 ft thick where the bottom of till was determined)

A dark gray clay lens was observed in the till at most locations. Clay thickness varied from 1–5.5 ft, and was observed at 26 of 32 boring locations. The clay lens is believed to be semi-continuous throughout the FNPD area, as it has not been observed in other parts of the Solvent Dock Area. The top of clay, where encountered, ranges from 5–18 ft below

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ground surface (bgs). The surface of the clay unit mirrors the ground-surface topography and that of the observed top of the till unit. The absence of clay and variations in surface pattern may be associated with localized erosion. The northern perimeter groundwater-under-drain overlies the clay layer at most boring locations and is predominantly in the till. The shallower storm-water line is also in the fill, at the western portion of the site and intersecting with the till unit toward the eastern portion of the site.

4.1.3 Hydrogeologic Findings

This section discusses groundwater occurrence observed during the FNPD supplemental investigation, water-elevation data, and the influence of the GCTS on groundwater levels.

4.1.3.1 Groundwater Occurrence

The *CMS Report* findings indicate that groundwater occurs in the overburden and bedrock. Groundwater in the overburden is unconfined. The dense till overlying the bedrock acts as a leaky confining layer that allows groundwater to "leak" from the overburden through the till unit into the bedrock. Data collected as part of the FNPD investigation have not revised these findings. Mapping of the clay lens near the FNPD area, coupled with water elevation measurements and water quality data (as further described in this report), indicate that the clay, where present, impedes groundwater migration from the upper to the lower till. Groundwater exhibits a downward gradient at the site based on water-level measurements collected at clustered well locations (till/overburden and bedrock well clusters). Available water-level data indicate that the till provides strong resistance to vertical flow, and that little water moves through the till into bedrock.

4.1.3.2 Water-Elevation Data

Water-elevation data collected during the groundwater-sampling round (see section 4.2.1.1) are presented in Table 2. Water elevation data for the fill, undifferentiated overburden (identified in the southern portion of the site on Figure 4), and till show a complex array of water levels. Consistent with previous data sets, the water-table elevation decreases toward the south and water-table elevations measured near the GCTS (specifically those near the FNPD) are depressed in some wells in response to the continued operation of the system.

The GCTS consists of a horizontal subsurface under-drain installed below the water table. A horizontal subsurface drain (northern perimeter under-drain) is on the northern property boundary at a depth of approximately 6–8 ft bgs. A second east-west trending drain is just north of the manufacturing building at a depth of approximately 15 ft bgs, between monitoring

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wells MW-4/MW-5 and MW-1/MW-2/MW-3, beneath the loading dock area. The GCTS (specifically the northern perimeter under-drain) and its effect on groundwater are evaluated more fully in section 4.5.

Groundwater elevations for the overburden and bedrock measured in June 2010 are shown in Figures 6 and 7, respectively. The complexity of the groundwater elevations, due to the presence of the GCTS as well as the facility building, utility corridors, and natural conditions, makes contouring groundwater elevations difficult and inconclusive. The CMS found that the inferred general direction of groundwater flow in both the overburden and bedrock is toward the south. The FNPD investigation confirms this. Near the FNPD under-drain (along the northern perimeter of the property, as shown on Figure 2), groundwater-elevation and groundwater-quality data suggest that contaminated groundwater is being captured (as further discussed in section 4.5). Captured groundwater is processed through the GCTS.

4.2 AOC 1—Groundwater

This section presents the technical overview and findings of the supplemental investigation of AOC 1 conducted by Lockheed Martin, pursuant to the *FNPD Work Plan* and the Order. Information in this section derives from the following scope of work, conducted in May–June 2010:

- piezometers installation and development
- groundwater elevation measurements
- groundwater sampling from piezometers

The figures, tables, and appendices related to the investigation of AOC 1 and groundwater quality are as follows:

- "Facility Map"—Figure 2
- "Investigation Location Plan"—Figure 3
- "Hydrogeologic Cross-Section A-A""—Figure 4
- "Hydrogeologic Cross-Section B-B"—Figure 5
- "Groundwater Elevation Map for the Overburden"—Figure 6

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- "Groundwater Elevation Map for Bedrock"—Figure 7
- "AOC 1—Groundwater Quality"—Figure 8
- "Monitoring Well and Piezometer Construction Details"—Table 1
- "Groundwater Elevation Measurements"—Table 2
- "Sampling and Analysis Program for Soil and Groundwater"—Table 3
- "AOC 1—Volatile Organic Compound Results for Groundwater Samples"—Table 4
- "Tentatively Identified Compounds Detected in Groundwater Samples"—Table 5
- "Soil-Boring and Piezometer Construction Logs"—Appendix A
- "Laboratory Analytical-Data Packages"—Appendix C
 - 4.2.1 AOC 1—Technical Overview of Groundwater Sampling

Twenty-nine piezometers were installed in May–June 2010 as part of the FNPD supplemental investigation. The piezometers were generally installed in and across the fill and upper till units, except for one piezometer (PZ-23) that was installed in the lower till to evaluate groundwater quality beneath the clay lens. All piezometers constructed in the fill/upper till were designed to straddle the water-table. Table 1 summarizes monitoring well (existing) and piezometer (existing and new) construction. Piezometer-construction logs are provided in Appendix A.

As described in section 4.4.1, direct-sampling ion-trap mass spectrometry (DSITMS) borings were also completed at the site, consisting of continuous real-time monitoring of VOCs in soil samples collected from soil borings as they were introduced into an ion-trap mass-spectrometer. Soil samples were collected at one-foot intervals and analyzed for VOCs using the on-site DSITMS technology. The DSITMS analysis defined the locations and screen intervals for permanent piezometer installations targeting those zones where maximum soil contamination had been identified.



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The piezometers were located as follows:

- Six (PZ-22, PZ-23, PZ-24, PZ-25, PZ-26, and PZ-27) were installed north of the northern perimeter under-drain, but on the facility property. These piezometers were used to evaluate possible off-site migration of constituents in groundwater, as well as to evaluate the under-drain's hydraulic control. These wells were located to provide spatial distribution north of the under-drain, from the west end of the Maintenance Building toward the GCTS building. Each included a 10-ft well screen, except for piezometer PZ-23, which included a 2-ft well screen. As identified above, PZ-23 was constructed to monitor groundwater in the till below the clay lens.
- Six piezometers (PZ-28, PZ-29, PZ-30, PZ-31, PZ-32, and PZ-33) were installed south
 of the under-drain and north of the out-buildings adjacent to borings where earlier
 DSITMS analyses had been performed. Similarly, two piezometers (A1-PZ1 and
 A1-PZ2) were installed adjacent to the west end of the Maintenance Building and eight
 (A2-PZ-1, A2-PZ-2, A2-PZ-3, A2-PZ-4, A2-PZ-5, A2-PZ-6, A2-PZ-7, and A2-PZ-8) were
 installed in an area northeast of the Storage Building. These piezometers were used to
 evaluate the presence of constituents in groundwater in areas of potential source
 material.
- Per the FNPD Work Plan, six piezometers were proposed in three north-south transects (two piezometers per transect) between the south end of the Maintenance and Storage Buildings and the northern-side of the main plant facility. However, utility clearance results prohibited installation of two of the piezometers (PZ-37 and PZ-38). As a result, only four piezometers (PZ-34, PZ-35, PZ-36, and PZ-39) were installed between the Maintenance and Storage Buildings and the main plant facility. The piezometers were designed to provide hydraulic information relating the northern perimeter under-drain to the rest of the Solvent Dock Area. The piezometers were installed with 10-ft well screens, except for PZ-34 that was installed with a 9-ft well screen.
- Two piezometers (PZ-40 and PZ-41) were installed in the Maintenance Building and one (PZ-42) in the Storage Building. These locations were designed to evaluate possible soil and groundwater contamination beneath structures that are in a possibly contaminated area. A piezometer with a 10-foot well screen was installed in the completed test boring at each location.

Piezometers were installed in accordance with the methods identified in the *Revised Work Plan for Soil and Groundwater Investigation* (ARCADIS, 2008). Following installation, each piezometer was developed by pumping and surging to remove fine-grained materials. Piezometers were surveyed to the nearest 0.01-foot horizontally relative to the North American Datum (NAD) 1983. Piezometer measuring-point elevations were surveyed to the nearest 0.01-foot relative to a site vertical benchmark.

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Groundwater samples were collected from existing monitoring wells MW-6 and MW-9, existing piezometers PZ-2 and PZ-4, and from each newly installed piezometer (except for piezometer PZ-33) during the June 2010 sampling event. Piezometer PZ-33 was not sampled due to insufficient water in the well. In accordance with the *Quality Assurance Project Plan* (QAPP, ARCADIS 2009), groundwater samples were collected using disposable polyethylene bailers with disposable polypropylene rope. Samples were collected following three purged well volumes or sufficient recharge following well dewatering. Water generated as part of groundwater sampling was collected and processed through the GCTS.

Collected groundwater samples were submitted to an analytical laboratory (TestAmerica of Amherst, New York) for analysis of VOCs by EPA Method 8260. Quality control/quality assurance (QA/QC) samples were collected in accordance with the QAPP. New York State (NYS) analytical services protocol (ASP) Category B/EPA Level IV data deliverables were provided by the laboratory for all samples submitted. In addition to groundwater sampling, the groundwater elevation of all accessible piezometers and monitoring wells at the site were gauged. Groundwater gauging included probing each well for the possible presence of non-aqueous-phase liquids, and was performed concurrent to groundwater sampling so that a synoptic depiction of groundwater elevations in the network could be assembled.

4.2.2 AOC 1—Findings

Groundwater quality was assessed by comparing the analytical results to the *NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values* (SGVs). The predominant constituents detected at concentrations greater than the SGVs include chlorinated volatile organic compounds (CVOCs). In addition, ethylbenzene exceeds the SGV at a single location. Non-aqueous-phase liquids were not detected in any wells during the well-gauging event. The constituents detected in the area of the FNPD are similar to those previously identified at the site. However, the reported concentrations of these constituents (specifically in the area defined as Area #2, or A2) are greater than those reported in the CMS.

Concentrations were generally low to non-detected north of the perimeter under-drain, between the perimeter under-drain and Maintenance Building, and beneath the Maintenance Building. The highest concentrations were detected northeast of the Storage Building. The findings for each area investigated are summarized below.

North of Northern Perimeter Under-Drain

Samples from locations north of the northern perimeter under-drain (PZ-22, PZ-23, PZ-24, PZ-25, PZ-26, and PZ-27) show no VOCs (except for one acetone detection



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below the SGV). These data indicate that on-site constituents in groundwater are not migrating off-site at the northern property line.

South of Northern Perimeter Under-Drain and North of Out-Buildings

Sampling results from piezometers south of the northern perimeter under-drain and north of the out-buildings (PZ-28, PZ-29, PZ-30, PZ-31, and PZ-32) document VOCs at concentrations greater than SGVs at three locations: PZ-28, PZ-29, and PZ-32. Constituents exceeding SGVs at one or more of these three locations include tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), 1,2-dichloroethene (1,2-DCE, or total DCE), vinyl chloride, 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethene (1,1-DCE), and 1,1-dichloroethane (1,1-DCA). Results from piezometers PZ-30 and PZ-31 (north of the Maintenance Building) are less than SGVs.

West of Maintenance Building

Sampling results from piezometers west of the Maintenance Building (A1-PZ-1 and A1-PZ-2) show VOCs at concentrations greater than the SGVs at both piezometer locations. Constituents exceeding SGVs at one or more locations include cis-1,2-DCE, 1,2-DCE, and vinyl chloride. Although PZ-34 is south of the Maintenance Building (as described below), the constituents and concentrations detected at this location are similar to those detected in Area #1 (west of the Maintenance Building).

Northeast of Storage Building

Sampling results from piezometers northeast of the Storage Building (A2-PZ-1, A2-PZ-2, A2-PZ-3, A2-PZ-4, A2-PZ-5, A2-PZ-6, A2-PZ-7, and A2-PZ-8) document VOCs at concentrations greater than the SGVs at five locations: A2-PZ-1, A2-PZ-2, A2-PZ-6, A2-PZ-7, and A2-PZ-8. Constituents exceeding SGVs at one or more locations include PCE, TCE, cis-1,2-DCE, trans-1,2-dichloroethene (trans-1,2-DCE), 1,2-DCE, vinyl chloride, 1,1-DCE, 1,1-DCA, 1,2-dichloroethane (1,2-DCA), and ethylbenzene. Results from piezometers A2-PZ-4 and A2-PZ-5 are less than SGVs.

South of Maintenance and Storage Buildings and North of Main Plant

Sampling results from piezometers south of the Maintenance and Storage Buildings and the north of the main plant facility (PZ-34, PZ-35, PZ-36, and PZ-39) document VOCs at concentrations greater than SGVs at all locations. Constituents exceeding SGVs at one or more locations include PCE, TCE, cis-1,2-DCE, 1,2-DCE, vinyl chloride, 1,1,1-TCA, 1,1-DCE and 1,1-DCA. Of these four piezometers, PZ-34 indicates concentrations significantly greater (by an order of magnitude) than other piezometers in this group. Concentrations of VOCs in PZ-34 were greater than those detected at nearby piezometer location PZ-2 (which has been sampled periodically since 1995).

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Beneath Maintenance Building

Sampling results from piezometers in the Maintenance Building (PZ-40 and PZ-41) document that VOCs do not exceed SGVs at these locations. Acetone and carbon disulfide are the only constituents detected above laboratory detection limits.

Beneath Storage Building

Sampling results from the piezometer in the Storage Building (PZ-42) document VOCs at concentrations greater than the SGVs. Constituents exceeding SGVs include TCE, cis-1,2-DCE, 1,2-DCE, and 1,1-DCE.

As identified above, the highest concentrations of constituents noted in groundwater are toward the eastern end of the investigation area (the area defined above as "South of Northern Perimeter Under-Drain and North of Out-Buildings"). CVOCs detected in this area, and specifically in piezometers installed in Area #2 (A2), exhibit concentrations of total VOCs greater than one part per million (ppm). Other investigation areas (such as west of the maintenance building and south of the Maintenance and Storage Buildings) also exhibit total VOC concentrations greater than SGVs, but at lesser concentrations (approximately 0.5 ppm total VOCs or lower). The exception is piezometer PZ-34, which (based on the analytical results) suggests that contamination noted at this location is similar to and likely related to that reported for Area #1. These data suggest that Areas #1 (extending south to include the area of piezometer PZ-34) and Area #2 are likely focal areas for any additional remedial activities at the site (to be identified as part of a feasibility study for the FNPD, as discussed further below).

In addition to the analytical results presented above, tentatively identified compounds (TICs) are also reported for groundwater samples collected as part of this investigation. The results of the TIC analysis are provided in Table 5. TICs are reported in six samples, however, these samples also contain target VOCs. Concentrations of target VOCs were greater than NYSDEC guidance values. Therefore, the presence of the TICs does not represent unique impacts to groundwater and does not modify the extent of groundwater contamination, nor will it affect the remediation/site closure approach. As this TIC analysis was being conducted by Lockheed Martin as a screening mechanism for additional compounds, NYS ASP Category B deliverables were not generated.

4.2.3 AOC 1-Exposure Pathway Assessment

Under current conditions, no complete direct-contact exposure-pathways via groundwater exist. Groundwater is not used for potable purposes, or for commercial, agricultural, or industrial purposes at or near the site, nor is such uses planned. The city of Utica and town of New Hartford get their public drinking water from surface water sources (i.e., Hinckley



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Reservoir) more than 20 miles north of the site. Local and county agencies require that groundwater used for any purpose be cleared by one or more of these agencies (including the Oneida County Department of Health, Mohawk Valley Water Authority, and local municipal engineering departments).

Indirect contact with groundwater is possible via the vapor-intrusion pathway. Groundwater may be a potential source of contaminants in soil vapor along the northern site perimeter (as discussed in section 4.3). The potential exists for a complete human-exposure pathway (i.e., facility workers), based on measured concentrations of TCE in soil vapor. Soil-vapor migration and indoor air are discussed in further in section 4.3.

Under future exposure scenarios, potential human receptors include on-site construction workers and on-site utility workers. Workers involved in excavations could come in contact with site groundwater due to the depth to groundwater. Complete exposure pathways for construction and utility workers include dermal contact with groundwater, incidental ingestion of groundwater, and inhalation of vapors from groundwater.

4.3 AOC 2—Soil-Vapor Migration and Indoor Air

This section presents the technical overview and findings for the supplemental investigation of AOC 2 conducted by Lockheed Martin pursuant to the *FNPD Work Plan* and the Order. The information in this section derives from the following scope of work, conducted in March–October 2010:

- installation of soil-vapor probes
- sampling of soil-vapor probes
- sampling of indoor air at former guard house

The figures, tables, and appendices associated with the investigation of AOC 2, soil-vapor migration, and indoor-air quality are as follows:

- "Investigation Location Plan"—Figure 3
- "AOC 2—Soil Vapor Quality"—Figure 9
- "AOC 2—Volatile Organic Compound Results for Soil Vapor Samples"—Table 6



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- "Summary of Indoor Air, Ambient Air, and Sub-slab Soil Gas Sample Results at the Former Guard House" —Table 7
- "Laboratory Analytical Data Packages"—Appendix C
 - 4.3.1 AOC 2-Technical Overview
 - 4.3.1.1 FNPD Soil-Vapor Monitoring

Soil vapor quality along the FNPD was investigated as part of an ongoing response to NYSDEC and the New York State Department of Health (NYSDOH) concerns regarding the potential for soil-vapor to migrate off-site (specifically, toward the north and east). ARCADIS managed the installation of six permanent soil-vapor probes (SG-22 through SG-27) along the northern property boundary (north of the FNPD collection drain and along the fence line indicating the extent of the former Lockheed Martin facility). An additional location (SG-7) was installed east of the former guardhouse (at the edge of the eastern parking lot). Soil-vapor probe locations are provided in Figure 3.

Soil-vapor probes were installed and completed in accordance with NYSDOH guidance (2006). Each soil-vapor probe was installed to a depth not greater than one foot above the water table. Following installation of the soil-vapor probes and in advance of soil-vapor sampling, helium tracer-gas testing was completed at select locations to confirm that the samples would not be diluted by ambient air. This testing, done in accordance with NYSDOH guidance, confirmed the integrity of the sampling locations. Soil-vapor-probe construction logs are included in Appendix B.

On August 18, 2010, ARCADIS sampled each of the newly installed soil-vapor probes. Soil-vapor samples were collected over a two-hour period using one-liter Summa[®] canisters. All samples were submitted to Centek Laboratories of East Syracuse and analyzed for VOCs by U.S. Environmental Protection Agency (USEPA) Method TO-15. One ambient (outdoor) air sample was collected at the eastern end of the investigation area, at a point near the former guardhouse. This location was chosen as an area representative of ambient air quality for the investigation based on weather conditions and wind direction noted that day (i.e., upwind).

Following receipt of the analytical data from the August sampling event (as presented in section 4.3.2), Lockheed Martin discussed the results with NYSDEC and NYSDOH and subsequently collected a second round of soil-gas samples to confirm the detections noted in that data set. This second round of sampling occurred on October 7, 2010. Similar to the first round, samples were collected from each of the soil-vapor probes, except for sampling

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locations SG-7, SG-23, and SG-25. Probes at these locations were observed to contain water, thus preventing sample collection. The presence of water in the soil-vapor probes (not initially noted during installation nor during the first round of soil-vapor sampling) was attributed to heavy rainfall in late September and early October 2010, which elevated the water table in those areas.

Several subsequent attempts at re-collecting samples from those locations were unsuccessful. One ambient (outdoor) air sample was collected at the western end of the investigation area, at a point adjacent to the Maintenance Building. This location was chosen as an area representative of ambient air quality for the investigation based on weather conditions and wind direction noted that day, (i.e., upwind).

4.3.1.2 Former Guard House Soil-Vapor Monitoring

In addition to the work described above, a single sub-slab soil-vapor probe was installed and sampled in the former guard house on March 17, 2010. This work, which was proposed as part of the *FNPD Work Plan*, was expedited to allow completion of the sampling in advance of the end of the heating season. Sampling of this location was consistent with the methods described above. An indoor air sample and ambient (outdoor) air sample were collected simultaneously to assist in evaluating the data.

4.3.2 AOC 2-Findings

Soil vapor quality was assessed by comparing the analytical results to USEPA target shallow- and deep-soil-gas screening levels, as appropriate. Results of the soil vapor sampling are provided in Table 6, including a comparison to these screening values. As shown in Table 6, selected VOCs are present in soil vapor at concentrations greater than USEPA target shallow- and deep-soil-gas screening levels (which protect residential receptors).

In general, concentrations were observed to decrease between the first and second sampling events at the locations sampled. Although concentrations for some VOCs remain above screening levels, they are limited and very close to the screening levels. Lower concentrations in the second round may be attributable to higher water content in site soils (as supported by several sampling locations observed to contain water). A brief summary of sampling results for each location is provided below:

 SG-7—Concentrations of benzene, chloroform, and PCE were detected above the USEPA target shallow-soil-gas screening levels in the first sample collected at this



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location. A second sample could not be collected from this location due to high groundwater table conditions.

- SG-22—Concentrations of benzene, chloroform, PCE and TCE were detected above USEPA target shallow-soil-gas screening levels in the first sample collected at this location. In the second sampling round, only benzene and chloroform were detected at concentrations above screening values, although all concentrations were lower than those noted in the first sampling round. PCE and TCE were detected in the second round samples, but at concentrations lower than in the first round and below screening levels.
- SG-23—Concentrations of 1,2,4-trimethylbenzene and benzene were detected above USEPA target shallow-soil-gas screening levels in the first sample collected at this location. A second sample could not be collected from this location due to high groundwater table conditions.
- SG-24—Concentrations of PCE and TCE were detected above USEPA target deepsoil-gas screening levels in the first sample collected at this location. No constituents were detected above screening levels in the second sampling round.
- SG-25—Concentrations of 1,2,4-trimethylbenzene, benzene, and PCE were detected above USEPA target shallow-soil-gas screening levels in the first sample collected at this location. A second sample could not be collected from this location due to high groundwater table conditions.
- SG-26—No constituents were detected above USEPA target deep-soil-gas screening levels in any samples collected during the first or second round events.
- SG-27—No constituents were detected above USEPA target deep-soil-gas screening levels in any samples collected during the first or second round events.

Results from sub-slab soil-vapor sampling at the former guard house indicate that cis-1,2-DCE exceeds the USEPA Base Background guidance value, and that TCE exceeds the NYSDOH Air GL for indoor air. The sub-slab results from beneath the former guard house, however, indicate that concentrations for these two constituents are non-detect for cis-1,2-DCE and low (0.87 ug/m³) for TCE, indicating that soil-vapor does not affect indoor air.

4.3.3 AOC 2-Exposure Pathway Assessment

The vapor-intrusion exposure pathway (groundwater to soil-vapor) possibly exists for several constituents, including TCE and PCE. TCE and PCE were detected in soil gas at concentrations above screening levels in a few samples. These results are consistent with

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dissolved-phase results, which indicate that TCE and PCE are in groundwater at total VOC concentrations as high as 1 ppm. Although benzene and chloroform were also detected above screening levels in soil-vapor samples, these constituents have not been detected in groundwater and are typical background interferences. As a result, benzene and chloroform do not warrant further consideration with regard to possible exposure scenarios.

A closer evaluation of TCE results for soil vapor indicates that TCE was only detected above screening levels in two out of 11 samples, both in the August sampling event. Resampling these locations in October resulted in much lower soil gas results, all of which were below screening levels. PCE was detected above screening levels in four out of 11 samples; however, only one sample (SG-24 in August) exceeds the PCE indoor air guideline of 100 micrograms per cubic meter. Neither PCE nor TCE exceeded soil vapor screening levels in the October 2010 sampling event.

Overall the data results indicate that very low levels of TCE and PCE are in soil vapor, likely due to the presence of TCE and PCE in groundwater. In addition, all soil vapor concentrations are low and most do not exceed screening levels. Modeling completed by Lilian Abreu on behalf of USEPA confirms that shallow source areas and soil gas results (as observed at the FNPD) will migrate preferentially to ambient air rather then move laterally (and potentially toward and under a building). At the FNPD, the closest off-site building is approximately 100 ft from the detected soil gas results. Therefore, the concentrations of soil-vapor detected as part of the FNPD investigation, although present at or slightly above screening levels set to protect residential receptors, are unlikely to adversely affect off-site structures.

The potential for off-site migration of soil gas from the Solvent Dock area was previously assessed (see Addendum to the Vapor Intrusion Study Report for the Solvent Dock Area (VI Addendum). This assessment included sampling sub-slab soil gas and indoor air in three out-buildings north of the manufacturing building (identified, from east to west, as the Guard House, Pole Barn, and Maintenance Stock Room). Sampling data generated as part of the VI Addendum indicates that soil gas at these locations does not require mitigation.

Evaluation of the data collected within the former guard house indicates that vapor intrusion is not occurring, that is, there is no impact to indoor air attributable to migration of impacted soil-vapor into the former guard house. This evaluation is consistent with the data and conclusions related to past sampling associated with the *CMS Report*. This summary was previously provided to NYSDEC and NYSDOH in an e-mail dated May 19, 2010. Data for the former guard house sampling are included in Table 7.

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4.4 AOC 3—Soil

This section presents the technical overview and findings for the supplemental investigation of AOC 3 conducted by Lockheed Martin pursuant to the *FNPD Work Plan* and the Order. The information in this section derives from the following scope of work, conducted in May–June 2010:

- Completing soil borings near the FNPD
- Collecting soil samples from test borings for VOC analysis by DSITMS
- Collecting one soil sample from each soil boring for VOC analysis

The figures, tables, and appendices that provide information on the investigation of AOC 3 and soil quality are as follows:

- "Facility Map"—Figure 2
- "Investigation Location Plan"—Figure 3
- "Hydrogeologic Cross-Section A-A"—Figure 4
- "Hydrogeologic Cross-Section B-B"—Figure 5
- "AOC 3—Soil Quality"—Figure 10
- "Volatile Organic Compound Results for Soil Samples"—Table 8
- "Soil Boring and Piezometer-Construction Logs"—Appendix A
- "Laboratory Analytical Data Packages"—Appendix C
- "DSITMS Data"—Appendix D

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4.4.1 AOC 3—Technical Overview

Test Boring and DSITMS Program

A test-boring program was completed in May–June 2010 to evaluate possible sources of groundwater contamination. This program completed 18 soil borings using direct-push drilling methods. Twelve were located at focus areas west of the Maintenance Building (A1 series borings) and northeast of the Storage Building (A2 series borings). Another six borings were completed between the northern perimeter under-drain and the out-buildings (PZ series borings). Test boring locations are shown in Figure 3.

Continuous soil-cores were collected at each location. Soils were logged and screened for the presence of VOCs using a photo-ionization detector (PID) in accordance with the techniques described in the *Revised Work Plan for Soil and Groundwater Investigation*. Additionally, in accordance with the *FNPD Work Plan*, soil samples were collected at one-foot intervals from these borings and field analyzed for VOCs by means of DSITMS (which uses an ion-trap mass-spectrometer). The results of the DSITMS analysis (as presented below) defined the locations and screen-interval depths for permanent piezometer installations (as presented in section 4.2.1.). Permanent piezometers were subsequently installed at 16 of the 18 DSITMS boring locations.

Piezometer Installation Program

In addition to the test borings and piezometer installations associated with the DSITMS program, soil borings were drilled at additional locations to install 13 additional piezometers by means of direct-push drilling methods. Six of the soil borings were drilled north of the northern perimeter drainage ditch to install piezometers to assess possible off-site migration of constituents in groundwater and evaluate the under-drain's hydraulic control. Four of the soil borings were drilled south of the Maintenance and Storage Buildings and north of the main plant facility to install piezometers to provide additional hydraulic information. The remaining three soil borings were drilled in the Maintenance and Storage Buildings to evaluate possible soil and groundwater contamination beneath the structures. Continuous soil cores were collected at each location. Soils were logged and screened for the presence of VOCs using a PID according to the techniques described in the *Revised Work Plan for Soil and Groundwater Investigation*.

Laboratory Analysis Program

One soil sample from each soil boring was collected and submitted to TestAmerica Laboratories of Amherst, New York for laboratory analysis for VOCs using EPA Method 8260 under a one-week turnaround time. Samples from each boring were biased to those samples showing evidence of contamination, such as odors or elevated PID readings. The selection of soil samples for laboratory analysis also considered the overall distribution



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of sampling depths to evaluate different exposure potentials, including possible exposure to near-surface soil. QA/QC samples were collected in accordance with the site-specific QAPP. NYS ASP Category B/EPA Level IV data deliverables were provided by the laboratory for all samples submitted.

4.4.2 AOC 3—Findings

Soil quality was assessed by comparing the analytical results to NYSDEC "Restricted Use—Industrial Soil-Cleanup Objectives" (SCOs) set forth in 6 *New York Codes, Rules, and Regulations* Part 375. Concentrations detected in soil samples at all locations were less than the SCOs. Concentrations were generally low to non-detected at sampling locations north of the perimeter under-drain, between the under-drain and out-buildings, west of the Maintenance Building, in the Maintenance and Storage Buildings, and between the out-buildings and main plant facility. The highest concentrations, which were still less than SCOs, were detected in the area northeast of the Storage Building. The predominant constituents detected in this area include CVOCs and low detections of BTEX- (benzene, toluene, ethylbenzene and xylenes) related compounds.

DSITMS analysis indicates distinct zones or intervals of higher VOC concentrations in soils at several borings. Although analytical samples collected as part of this investigation are below SCOs, DSITMS analysis provides data supporting the presence of actual or residual soil contamination at depth that may contribute to persistent concentrations of CVOCs in groundwater along the FNPD. These zones are typically at or below the water table, although concentrations of CVOCs in shallower intervals have also been noted. The raw DSITMS data are in Appendix D. A brief summary of locations indicating relatively higher concentration of CVOCs is provided below:

- PZ-29 5-7'
- PZ-32 3-4'
- A1-B1 4-5'
- A2-B1 7-11'
- A2-B2 11-14'
- A2-B7 0-5'



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- A2-B8 4-10'
- A2-B9 8-13'

As indicated, the DSITMS data (in conjunction with visual observations and PID readings) defined the screen intervals for the installed piezometers.

4.4.3 AOC 3—Exposure-Pathway Assessment

None of the soils tested during this subsurface investigation exceed the applicable standards. Under current conditions, no potential human receptors exist, as no complete exposure pathway associated with site subsurface-soils has been identified. The area of potential concern is primarily covered by the out-buildings, asphalt paving or grass. Under these conditions, site workers will not be exposed to any subsurface soils. In the future, however, construction and/or utility workers could contact surface and sub-surface soils during excavation activities. Complete exposure pathways for construction and utility workers include dermal contact with soil, incidental ingestion of soil, and inhalation of vapors and particulates from soil.

4.5 AOC 4—Existing Remedial System (GCTS)

This section presents the technical overview and findings for the investigation of AOC 4 conducted by Lockheed Martin pursuant to the *FNPD Work Plan* and the Order. The information in this section derives from the following scope of work, conducted in July 2010:

- shut-down testing of the GCTS
- continuous logging of the water table at six piezometer locations during the shut-down and restart periods
- manual measurements of the water table at 27 piezometer locations during the shut-down period

The figures, tables, and appendices that provide information on the investigation of AOC 4 and the GCTS include:

- "Facility Map"—Figure 2
- "Investigation Location Plan"—Figure 3

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- "Hydrogeologic Cross-Section A-A"—Figure 4
- "Hydrogeologic Cross-Section B-B"—Figure 5
- "Groundwater Elevation Map for the Overburden"—Figure 6
- "Groundwater Elevation Map for Bedrock"—Figure 7
- "AOC 4—Continuous Water-Level Monitoring Graph for the GCTS"—Figure 11
- AOC 4—Manual Water-Level Monitoring Graph for the GCTS"—Figure 12
- "Soil Boring and Piezometer Construction Logs"—Appendix A
 - 4.5.1 AOC 4—Technical Overview

The GCTS, which has been operated as an ICM since 1996, was further evaluated to confirm that the northern perimeter under-drain is capturing contaminated groundwater. The evaluation consisted of an initial round of groundwater elevation measurements from piezometers and monitoring wells near the under-drain to establish the groundwater configuration during system operation. After these data were collected, manhole MH-1 of the GCTS was shut down to evaluate groundwater recovery during equilibration of the water table.

Continuous groundwater elevation measurements were collected at six monitoring locations using installed data loggers over a pre-determined recovery period of 96 hours. Four rounds of manual groundwater elevation monitoring were conducted during the first 36 hours of the test (in addition to continuous data-logger monitoring). After 96 hours (i.e., four days) of continuous data-logger monitoring, a fifth round of manual groundwater elevation monitoring was conducted, after which time the system was restarted.

The system was restarted following the 96-hour shutdown period. The data-logger monitoring continued for a period of 24 hours following system restart. The evaluation continued for five days (120 hours).

4.5.2 AOC 4—Findings

Evaluation of water-table elevations during the GCTS shut-down restart periods shows that the northern perimeter under-drain hydraulically captures groundwater near piezometers

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A2-PZ-7, PZ-24, PZ-27, and PZ-30. This is confirmed by a rising water-table elevation (rebound) during the shut-down period followed by a decreasing water-table elevation (drawdown) after system restart. The piezometers are along the under-drain near the central and eastern portions of the under-drain. An influence on water-table elevations was not observed at piezometers A1-PZ-2 and PZ-28 during the evaluation. These two piezometers are along the under-drain at the far western side of the investigation area.

Manual water-level measurements were collected only during the shut-down period; therefore, results are less conclusive without the benefit of observing elevations during system restart. However, several trends were identified that show an increasing water-level elevation following system shut-down. In general, the greatest influence observed by operation of the GCTS is along the under-drain near the central and eastern portions of the investigation area. Relatively little influence was observed near the western end of the under-drain, except at piezometer PZ-2. Hydraulic influence from shut-down of the system was not observed at any locations south of the Maintenance and Storage Buildings.

As presented in section 4.1.2, the northern perimeter groundwater under-drain is in the till unit, below the shallower storm-water line. A trench was excavated to facilitate installation of the under-drain, and subsequently backfilled with gravel. Under these conditions, groundwater in the permeable material above the till will be captured by the under-drain. Some groundwater in the till will infiltrate into the trench/under-drain and thus be captured, but at a significantly slower rate as compared to groundwater in the permeable material above the till. This limits the amount of drawdown observed, since a minimal amount of groundwater infiltrates the trench from the till unit. Thus, contaminated groundwater is being captured, as indicated by the measured concentrations of VOCs in influent samples to the GCTS from this under-drain.

4.5.3 AOC 4—Exposure Pathway Assessment

Pathways specifically mapped to AOC 4 that warrant corrective measures include the infiltration of groundwater through the storm drain and discharge to surface water. Pathways potentially mapped to AOC 4 are addressed under AOCs 1, 2, and 3 ("Groundwater, Soil-Vapor Migration and Indoor Air, and Soil"). These pathways are discussed in previous sections.

The primary exposure pathway potentially related to this AOC ("Existing Remedial System—Groundwater Collection and Treatment System") is the potential for discharge to surface water. This would occur by means of contaminated storm-water (via contaminants in site groundwater) flowing through the storm-water system and downstream to Nail Creek. Utility workers could be exposed to water associated with the GCTS while working in, or



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repairing, the storm drainage system, or working on components of the GCTS itself. The routes of entry and contact include dermal and ingestion, with consideration that works in a catch basin is classified as confined-space work.

4.6 Data Validation

Analyses were performed according to USEPA SW-846 Method 8260B. Data were reviewed in accordance with USEPA *National Functional Guidelines* of October 1999 and January 2005. Data packages were provided by a New York State-certified laboratory and prepared as NYS ASP Category B deliverables (with the exception of the TIC analyses, as indicated above). The review was conducted as a Tier III evaluation and included a review of data-package completeness. Field documentation was not included in this review, but the validation-annotated sampling-result sheets and chain of custody documentation were. Data-usability summary reports (DUSRs) were completed in accordance with NYSDEC DER-10 (*Technical Guidance for Site Investigation and Remediation* [May 2010]).

Data review evaluates data technically rather than simply determining contract compliance. As such, the standards against which the data are weighed may differ from those specified in the contractually-stipulated analytical method. The data package is thus presumed to represent the best efforts of the laboratory, and the data are likewise presumed to have been subjected to adequate and sufficient quality review before submission. During data review, laboratory-qualified and -unqualified data are verified against the supporting documentation. The data reviewer may add, delete, or modify qualifier codes. The NYSDEC ASP Category-B-deliverable data review includes checks of:

- chain-of-custody forms
- holding times
- GC/MS instrument performance-checks
- instrument calibration
- trip and/or laboratory (method) blank-detected constituents
- surrogate-spike recoveries
- matrix-spike/-spike-duplicate precision and accuracy



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- internal standards
- checking for transcriptions between quantitation reports and Form "I"s
- blind-duplicate precision

The data validator performed final validation of data obtained during field sampling and analysis. Laboratory deliverables were reviewed for accuracy, precision, completeness, and overall data quality. All laboratory data were reviewed for adherence to method-specific QA/QC guidelines and to the data-validation guidelines described above.

Data Usability

The review classified the data as valid, usable, or unusable. Valid data are data for which all QA/QC review criteria have been met and that are acceptable (as per details outlined in the preceding section). Data were characterized as usable when QA/QC parameters were marginally outside acceptable limits (example: sample holding times had been slightly exceeded), such that the data may be questionable, but still usable with limitations. Unusable data are data observed to have gross errors or analytical interference that would render them invalid for any purpose. DUSRs are prepared in accordance with NYSDEC guidance and are included as Appendix E. Data qualifications resulting from validation are included in the data tables. All data reviewed are considered usable based on the validation as described above.

5. Conclusions and Recommendations

The conclusions and recommendations for groundwater, soil-vapor, soil quality, and the GCTS, based on the FNPD supplemental investigation findings, are provided in the following sections.

5.1 Groundwater

The supplemental investigation findings lead to the following conclusions regarding groundwater at the FNPD:

• Off-site migration of constituents in groundwater toward the northern property boundary is not occurring. Piezometers north of the under-drain show that groundwater concentrations are either non-detected or less than the SGVs. Water-elevation data, which infer that the local groundwater flow is toward the south/southeast, support the observed contaminant distribution in groundwater. Furthermore, the under-drain is capturing groundwater near the FNPD, which mitigates the potential for groundwater flow to the north of the under-drain.



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- Residual source material may be present northeast of the Storage Building based on elevated concentrations of CVOCs detected in groundwater samples and in soil samples collected as part of the DSITMS analysis. Laboratory-submitted soilsample analytical results from this area are also elevated (but below SCOs), which support the possible presence of residual source material.
- Elevated concentrations in groundwater were found west and southwest of the Maintenance Building. However, constituents detected in soil samples were reported at relatively low concentrations and do not indicate residual source material at these locations.
- Concentrations at the remaining locations are comparable to the findings in the CMS Report.

The following recommendations regarding groundwater are based on these conclusions:

- A focused corrective-measures alternatives-analysis should be conducted to develop an appropriate remedial response to the groundwater quality conditions identified in the FNPD supplemental investigation. This analysis would be part of a feasibility study to evaluate the technical feasibility of remedial alternatives selected to remedy CVOCcontaminated groundwater in the FNPD area.
- The GCTS should continue its operations, with possible modifications (pending the results of an FNPD feasibility study).

5.2 Soil-Vapor Migration and Indoor Air

The supplemental investigation findings lead to the following conclusions regarding soilvapor migration and indoor air at the FNPD site:

- Soil-vapor concentrations at or slightly greater than screening levels were detected during the FNPD supplemental investigation.
- Vapor intrusion is not occurring at the former guard shack.

The following recommendations are based on these conclusions:

 We suggest further evaluation of soil-vapor along the northern perimeter of the site based on preliminary discussions with NYSDEC and NYSDOH, based on the soil-vapor data developed as part of this investigation. A summary of proposed ongoing activities is as follows:



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- Lockheed Martin (with NYSDOH assistance) will contact the owner of property north of the former Lockheed Martin facility (Indium Corporation) and try to gain access to the property solely to install and sample soil-vapor probes north of the current investigation limits. Lockheed Martin will also provide Indium Corporation with a copy of this report and a synopsis of potential concerns or issues related to the migration of soil-gas toward that facility.
- Should Indium Corporation and Lockheed Martin agree to an access agreement, Lockheed Martin will install soil-vapor probes on Indium property and collect soil-vapor samples.
- Should Indium Corporation and Lockheed Martin not agree on an access agreement, or should Indium Corporation indicate that it understands the potential concerns or issues and declines Lockheed Martin's request to test soil-vapor on its property, Lockheed Martin will develop a monitoring program to periodically evaluate soil-vapor quality on-site, as appropriate.
- Following contact and negotiation with Indium Corporation, Lockheed Martin will communicate these efforts to NYSDEC and NYSDOH and develop an appropriately scoped work plan for further evaluation, pending the results of these negotiations.

5.3 Soil

- The supplemental investigation findings lead to the following conclusions regarding soil at the FNPD site:
- Soil concentrations greater than SCOs were not detected during the FNPD supplemental investigation.
- Elevated concentrations of VOCs in soil are present northeast of the Storage Building. Although they do not exceed SCOs, groundwater in this area is also contaminated, suggesting the possible presence of residual source material.
- VOC concentrations are either low or non-detected at all other locations.

These conclusions lead to the recommendation that a focused corrective-measures alternatives-analysis be conducted to develop an appropriate remedial response to address site soil-quality conditions in conjunction with addressing groundwater contamination identified during the FNPD supplemental investigation.

5.4 Existing Remedial System (GCTS)

The supplemental investigation findings lead to the following conclusions regarding the GCTS at the FNPD site:

• Off-site migration of constituents is not occurring at the northern property boundary. The under-drain at the northern perimeter is capturing contaminated groundwater from the permeable material above the till as well as from groundwater in the till (though at a



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significantly slower rate). Analytical results and evaluation of water-table elevations near contaminated areas along the under-drain support this conclusion.

 Hydraulic control decreases at the western extent of the under-drain, based on the water-table elevation data from the GCTS evaluation. Hydraulic control from the under-drain also decreases south of the Maintenance and Storage Buildings, indicating that the under-drains' limited radius of influence on groundwater control in this area. These conclusions lead to the recommendation that operation of the GCTS continue (subject to the findings of the feasibility study).

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Tables

Table 1. Monitoring Well and Piezometer Construction Details, Former Northern Perimeter Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

			Ground	Top of PVC	Well	Screen Depth		Borehole			
Monitoring Well	Diameter/Material	Screen	Surface	Riser	Depth	(ft bgs)	Elev	ation	Hydrogeologic Unit Monitored	Date	Consultant
Ū		Length	Elevation	Elevation	(ft bgs)	From To (Top) (Bottom)	Тор	Bottom	, , ,	Installed	Name
MW - 1	4" PVC	10	507.53	506.80	17.20	7.00 17.00	500.5	490.5	Fill/Till	1991	O'Brien & Gere
MW - 2	4" PVC	15	504.98	504.69	16.50	1.50 16.50	503.5	488.5	Fill/Till	1991	O'Brien & Gere
MW - 3	2" PVC	10	506.90	509.30	13.00	3.00 13.00	503.9	493.9	Fill/Till	1991	O'Brien & Gere
MW - 4	2" PVC	10	506.98	506.73	14.00	4.00 14.00	503.0	493.0	Fill/Till	1991	O'Brien & Gere
MW - 5	2" PVC	10	504.56	504.46	14.00	4.00 14.00	500.6	490.6	Fill/Till	1991	O'Brien & Gere
MW - 6	2" PVC	10	505.95	508.58	15.00	5.00 15.00	501.0	491.0	Fill/Till		O'Brien & Gere
MW - 7	2" PVC	15	507.44	506.94	21.00	6.00 21.00	501.4	486.4	Fill/Till	1993	O'Brien & Gere
MW - 8	2" PVC	10	505.76	505.76	14.50	4.50 14.50	501.3	491.3	Fill/Till	1993	O'Brien & Gere
MW - 9	2" PVC	10	505.26	505.15	13.50	3.50 13.50	501.8	491.8	Fill/Till	1993	O'Brien & Gere
MW - 10	2" PVC	10	504.83	504.48	14.00	4.00 14.00	500.8	490.8	Fill/Till	1993	O'Brien & Gere
MW - 11	2" PVC	20	507.26	507.03	25.00	5.00 25.00	502.3	482.3	Fill/Till	1993	O'Brien & Gere
MW - 12	2" PVC	10	508.59	508.34	23.36	13.00 23.00	495.6	485.6	Fill/Till		
MW - 13S	2" PVC	5	506.27	506.03	7.00	2.00 7.00	504.3	499.3	Fill	2008	ARCADIS
MW - 13T	2" PVC	10	506.11	505.68	20.00	10.00 20.00	496.1	486.1	Till	2008	ARCADIS
MW - 13BR	2" PVC	10	506.48	506.28	45.00	35.00 45.00	471.5	461.5	Bedrock	2008	ARCADIS
MW - 14S	2" PVC	10	508.22	507.85	16.00	6.00 16.00	502.2	492.2	Undifferentiated Overburden	2008	ARCADIS
MW - 14BR	2" PVC	10	508.20	507.95	67.20	57.20 67.20	451.0	441.0	Bedrock	2008	ARCADIS
MW - 15S	2" PVC	10	507.66	507.46	20.00	10.00 20.00	497.7	487.7	Undifferentiated Overburden	2008	ARCADIS
MW - 15BR	2" PVC	10	507.54	507.29	67.60	57.60 67.60	449.9	439.9	Bedrock	2008	ARCADIS
PZ - 2	1.5" PVC	5	509.19	508.95	10.25	5.00 10.00	504.2	499.2	Fill/Till		
PZ - 4	1.5" PVC	5	505.50	505.51	14.29	9.00 14.00	496.5	491.5	Fill/Till		
PZ - 5	1.5" PVC	5	508.44	508.29	10.72	5.70 10.70	502.7	497.7	Till		
PZ - 6	1.5" PVC	5	508.52	508.37	10.35	5.40 10.40	503.1	498.1	Till		
PZ - 7	1.5" PVC	5	508.51	508.36	10.20	5.00 10.00	503.5	498.5	Till		
PZ - 8	1.5" PVC	10	508.43	508.23	16.00	6.00 16.00	502.4	492.4	Till	2008	ARCADIS
PZ - 9	1.5" PVC	5	508.55	508.08	10.00	5.00 10.00	503.6	498.6	Till	2008	ARCADIS
PZ - 10	1.5" PVC	5	508.44	508.14	12.00	7.00 12.00	501.4	496.4	Fill	2008	ARCADIS
PZ - 11	1.5" PVC	2	505.93	505.82	8.50	6.50 8.50	499.4	497.4	Fill	2008	ARCADIS
PZ - 12	1.5" PVC	5	505.94	505.84	10.50	5.50 10.50	500.4	495.4	Fill	2008	ARCADIS
PZ - 13	1.5" PVC	2	504.08	503.85	8.50	6.50 8.50	497.6	495.6	Fill	2008	ARCADIS
PZ - 14	1.5" PVC	5	504.13	504.05	9.00	4.00 9.00	500.1	495.1	Fill	2008	ARCADIS
PZ - 15	1.5" PVC	2	504.72	504.43	8.50	6.50 8.50	498.2	496.2	Fill	2008	ARCADIS
PZ - 16	1.5" PVC	5	504.74	504.53	9.50	4.50 9.50	500.2	495.2	Fill	2009	ARCADIS
PZ - 17	1.5" PVC	5	504.35	504.05	8.50	3.50 8.50	500.9	495.9	Fill	2009	ARCADIS
PZ - 18	1.5" PVC	5	504.15	504.85	9.00	4.00 9.00	500.2	495.2	Fill	2009	ARCADIS
PZ - 19	1.5" PVC	5	504.90	504.60	8.50	3.50 8.50	501.4	496.4	Fill	2009	ARCADIS
PZ - 20	1.5" PVC	5	504.10	503.85	8.00	3.00 8.00	501.1	496.1	Fill	2009	ARCADIS
PZ - 21	1.5" PVC	5	506.00	505.70	9.50	3.00 9.50	503.0	496.5	Fill	2009	ARCADIS

Table 1. Monitoring Well and Piezometer Construction Details, Former Northern Perimeter Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

Monitoring Well	Diameter/Material	Screen	Ground Surface	Top of PVC Riser	Well Depth	Screen Depth (ft bgs)		Borehole ation	Hydrogeologic Unit Monitored	Date	Consultant
Monitoring wen	Diameter/Material	Length	Elevation	Elevation	(ft bgs)	From To (Top) (Bottom)	Тор	Bottom	Hydrogeologic onit monitored	Installed	Name
PZ - 22	1" PVC	10	505.54	508.57	11.9	1.5 11.5	504.1	494.1	Fill/Till	2010	ARCADIS
PZ - 23	1" PVC	2	507.05	510.07	20.5	18.1 20.1	489.0	487.0	Till	2010	ARCADIS
PZ - 24	1" PVC	10	504.77	507.83	14.5	4.1 14.1	500.7	490.7	Fill/Till	2010	ARCADIS
PZ - 25	1" PVC	10	507.54	510.62	20.1	9.7 19.7	497.9	487.9	Fill/Till	2010	ARCADIS
PZ - 26	1" PVC	10	507.80	510.95	19.8	9.4 19.4	498.4	488.4	Fill/Till	2010	ARCADIS
PZ - 27	1" PVC	10	507.08	510.13	15.5	5.1 15.1	502.0	492.0	Fill/Till	2010	ARCADIS
PZ - 28	1" PVC	10	504.39	504.12	12.5	2.1 12.1	502.3	492.3	Fill/Till	2010	ARCADIS
PZ - 29	1" PVC	10	504.06	503.84	12.7	2.3 12.3	501.8	491.8	Fill/Till	2010	ARCADIS
PZ - 30	1" PVC	8	505.08	504.72	10.4	2.0 10.0	503.1	495.1	Fill/Till	2010	ARCADIS
PZ - 31	1" PVC	8	505.56	505.17	10.5	2.1 10.1	503.5	495.5	Fill/Till	2010	ARCADIS
PZ - 32	1" PVC	9	505.29	504.90	11.4	2.0 11.0	503.3	494.3	Fill/Till	2010	ARCADIS
PZ - 33	1" PVC	4.3	510.27	510.00	6.6	2.0 6.3	508.3	504.0	Fill/Till	2010	ARCADIS
PZ - 34	1" PVC	9	504.12	503.88	11.4	2.0 11.0	502.1	493.1	Fill/Till	2010	ARCADIS
PZ - 35	1" PVC	10	504.18	503.98	12.7	2.3 12.3	501.9	491.9	Fill/Till	2010	ARCADIS
PZ - 36	1" PVC	10	504.23	504.04	12.1	1.7 11.7	502.5	492.5	Fill/Till	2010	ARCADIS
PZ - 39	1" PVC	10	504.71	504.51	11.9	1.5 11.5	503.2	493.2	Fill/Till	2010	ARCADIS
PZ - 40	1" PVC	10	506.68	506.46	11.7	1.3 11.3	505.4	495.4	Fill/Till	2010	ARCADIS
PZ - 41	1" PVC	10	506.55	506.27	11.8	1.4 11.4	505.2	495.2	Fill/Till	2010	ARCADIS
PZ - 42	1" PVC	10	505.45	505.18	11.5	1.1 11.1	504.4	494.4	Fill/Till	2010	ARCADIS
A1-PZ1	1" PVC	10	503.96	503.77	12.6	2.4 12.4	501.5	491.5	Fill/Till	2010	ARCADIS
A1-PZ2	1" PVC	10	503.25	503.00	12.5	2.1 12.1	501.2	491.2	Fill/Till	2010	ARCADIS
A2-PZ1	1" PVC	10	510.04	509.74	15.2	4.8 14.8	505.3	495.3	Fill/Till	2010	ARCADIS
A2-PZ2	1" PVC	10	509.90	509.46	15.3	4.9 14.9	505.0	495.0	Fill/Till	2010	ARCADIS
A2-PZ3	1" PVC	10	509.67	509.46	12.3	1.9 11.9	507.8	497.8	Fill/Till	2010	ARCADIS
A2-PZ4	1" PVC	12	509.56	509.40	15.0	2.6 14.6	507.0	495.0	Fill/Till	2010	ARCADIS
A2-PZ5	1" PVC	10	510.24	510.03	12.6	2.2 12.2	508.1	498.1	Fill/Till	2010	ARCADIS
A2-PZ6	1" PVC	12	509.92	509.74	14.3	1.9 13.9	508.0	496.0	Fill/Till	2010	ARCADIS
A2-PZ7	1" PVC	12.4	509.74	509.59	15.0	2.6 15.0	507.2	494.8	Fill/Till	2010	ARCADIS
A2-PZ8	1" PVC	12	509.91	509.70	15.0	2.6 14.6	507.3	495.3	Fill/Till	2010	ARCADIS

All elevations are reported as feet mean sea level (ft msl)

Construction details for MW-1, MW-6, PZ-2, and PZ-4 through PZ-7 estimated based on field measurements

-- = Unknown detail

Top of PVC pipe elevations for PZ-11 through PZ-16 are applicable to groundwater levels collected in December 2008.

Survey data is referenced horizontally to the NAD83 and projected on the New York State Plane Coordinate System (Central Zone)

The reference vertical benchmark is the finished floor elevation of the southeasterly corner of the Boiler House Building (Elevation 506.50 feet)

 Table 2. Groundwater Elevation Measurements, Former Northern Perimeter Ditch Supplemental Investigation Report,

 Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

Monitoring Well	Hydrogeologic Unit Monitored	Top of PVC Riser Elevation	Depth to water (from top of PVC riser)	Groundwater Elevation (ft)
			6/23	s/2010
MW - 1	Fill/Till	506.80	7.67	499.1
MW - 2	Fill/Till	504.69	5.52	499.2
MW - 3	Fill/Till	509.30	10.58	498.7
MW - 4	Fill/Till	506.73	10.90	495.8
MW - 5	Fill/Till	504.46	3.50	501.0
MW - 6	Fill/Till	508.58	6.63	502.0
MW - 7	Fill/Till	506.94	7.77	499.2
MW - 8	Fill/Till	505.76	7.27	498.5
MW - 9	Fill/Till	505.15	2.66	502.5
MW - 10	Fill/Till	504.48	4.61	499.9
MW - 11	Fill/Till	507.03	7.80	499.2
MW - 12	Fill/Till	508.34	12.10	496.2
MW - 13S	Fill	506.03	6.91	499.1
MW - 13T	Till	505.68	6.49	499.2
MW - 13BR	Bedrock	506.28	9.54	496.7
MW - 14S	Undifferentiated Overburden	507.85	10.61	497.2
MW - 14BR	Bedrock	507.95	36.91	471.0
MW - 15S	Undifferentiated Overburden	507.46	9.74	497.7
MW - 15BR	Bedrock	507.29	38.49	468.8
PZ - 2	Fill	508.95	1.93	507.0
PZ - 4	Fill	505.51	1.83	503.7
PZ - 5	Till	508.29	9.10	499.2
PZ - 6	Till	508.37	9.34	499.0
PZ - 7	Till	508.36	9.12	499.2
PZ - 8	Till	508.23	8.92	499.3
PZ - 9	Till	508.08	8.21	499.9
PZ - 10	Fill	508.14	9.04	499.1
PZ - 11	Fill	505.82	6.92	498.9
PZ - 12	Fill	505.84	6.81	499.0
PZ - 13	Fill	503.85	6.92	496.9
PZ - 14	Fill	504.05	6.83	497.2
PZ - 15	Fill	504.43	6.95	497.5
PZ - 16	Fill	504.53	6.94	497.6
PZ - 17	Fill	504.05	5.97	498.1
PZ - 18	Fill	504.85	6.49	498.4
PZ - 19	Fill	504.60	6.87	497.7
PZ - 20	Fill	503.85	6.52	497.3
PZ - 21	Fill	505.70	DRY	
PZ - 22	Fill/Till	508.57	7.91	500.7
PZ - 23	Till	510.07	6.88	503.2
PZ - 24	Fill/Till	507.83	10.98	496.9
PZ - 25	Fill/Till	510.62	6.75	503.9
PZ - 26	Fill/Till	510.02	9.21	501.7
PZ - 27	Fill/Till	510.93	11.03	499.1
PZ - 28	Fill/Till	504.12	3.81	500.3
PZ - 29	Fill/Till	503.84	2.23	501.6
PZ - 30	Fill/Till	503.84	4.25	500.5
PZ - 31	Fill/Till	504.72	0.68	500.5
PZ - 32	Fill/Till	505.17	1.77	503.1
PZ - 32 PZ - 33	Fill/Till	510.00	DRY	
PZ - 33 PZ - 34	Fill/Till	510.00	2.71	501.2
PZ - 35	Fill/Till	503.98	1.83	502.2

 Table 2. Groundwater Elevation Measurements, Former Northern Perimeter Ditch Supplemental Investigation Report,

 Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

Monitoring Well	Hydrogeologic Unit Monitored	Top of PVC Riser Elevation	Depth to water (from top of PVC riser)	Groundwater Elevation (ft)
			6/23/2010	
PZ - 36	Fill/Till	504.04	1.15	502.9
PZ - 39	Fill/Till	504.51	2.76	501.8
PZ - 40	Fill/Till	506.46	4.82	501.6
PZ - 41	Fill/Till	506.27	6.20	500.1
PZ - 42	Fill/Till	505.18	0.36	504.8
A1-PZ1	Fill/Till	503.77	2.27	501.5
A1-PZ2	Fill/Till	503.00	2.12	500.9
A2-PZ1	Fill/Till	509.74	4.92	504.8
A2-PZ2	Fill/Till	509.46	6.67	502.8
A2-PZ3	Fill/Till	509.46	2.93	506.5
A2-PZ4	Fill/Till	509.40	1.89	507.5
A2-PZ5	Fill/Till	510.03	8.07	502.0
A2-PZ6	Fill/Till	509.74	2.45	507.3
A2-PZ7	Fill/Till	509.59	6.61	503.0
A2-PZ8	Fill/Till	509.70	5.61	504.1

All elevations are reported as feet mean sea level (ft msl)

Survey data is referenced horizontally to the NAD83 and projected on the New York State Plane Coordinate System (Central Zone)

The reference vertical benchmark is the finished floor elevation of the southeasterly corner of the Boiler House Building (Elevation 506.50 feet)

 Table 3.
 Sampling and Analysis Program for Soils and Groundwater, Former Northern Perimeter Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

INVESTIGATION PR	ROGRAM				
			TEST BORING	PIEZOMETER / MONITORING WELL SAMPLING Groundwater Analysis VOCs - Laboratory	
Boring /	Sample	Soil Sample / Well Screen Interval	<u>Soil A</u> VOCs - DSITMS		
Location	Туре	(ft bgs)	(Field Screening)	VOCs - Laboratory (EPA Method 8260)	(EPA Method 8260)
Location: South of th	ne Under-Drain a	and North of the Out Bui	Idings		
PZ-28	DSITMS	5 - 22	Х		
PZ-28	S	15 - 16		Х	
PZ-28	GW	2.1 - 12.1			X
PZ-29	DSITMS	5 - 21	Х		
PZ-29	S	6 - 7		X	
PZ-29	GW	2.3 - 12.3	X		X
PZ-30	DSITMS	5 - 21	Х	N N	
PZ-30	S	10 - 11		X	
PZ-30 PZ-31	GW DSITMS	2 - 10	V		X
PZ-31 PZ-31	S	5 - 20 17.5 - 18.5	Х	Х	
PZ-31 PZ-31	GW	2.1 - 10.1		^	X
PZ-31 PZ-32	DSITMS	3 - 21	Х		^
PZ-32 PZ-32	S	13 - 14	^	X	
PZ-32	GW	2 - 11		~	X
PZ-33	DSITMS	5 - 15	Х		A
PZ-33	S	10 - 11	Λ	Х	
PZ-33	GW	2 - 6.3			NS
Location: West End	of the Maintena	nce Building			
A1-PZ1/A1-B1	DSITMS	3 - 26	Х		
A1-PZ1/A1-B1	S	5 - 6		Х	
A1-PZ1	GW	2.4 - 12.4			X
A1-PZ2/A1-B2	DSITMS	5 - 22	Х		
A1-PZ2/A1-B2	S	18 - 19		Х	
A1-PZ2	GW	2.1 - 12.1			X
A1-B3	DSITMS	5 - 20	Х		
A1-B3	S	5 - 6		X	
1 () (
Location: Northeast			V		
A2-PZ1/A2-B1	DSITIMS	5 - 21 7 - 8	Х	Х	
A2-PZ1/A2-B1 A2-PZ1	GW	4.8 - 14.8		Λ	X
A2-PZ1 A2-PZ2/A2-B2	DSITIMS	4.8 - 14.8	Х		^
A2-PZ2/A2-B2 A2-PZ2/A2-B2	S	5 - 20	۸	X	
A2-PZ2/A2-B2 A2-PZ2	GW	4.9 - 14.9		^	X
A2-PZ3/A2-B3	DSITIMS	3 - 15	Х		<u>^</u>
A2-PZ3/A2-B3	S	6 - 7	~ ~	Х	
A2-PZ3	GW	1.9 - 11.9		~~~~~	X
A2-B4	DSITIMS	0 - 6	Х		
A2-B4	S	5 - 6		Х	
A2-PZ4/A2-B5	DSITIMS	4 - 16	Х		
A2-PZ4/A2-B5	S	8 - 9		Х	
A2-PZ4	GW	2.6 - 14.6			X
A2-PZ5/A2-B6	DSITIMS	3 - 14	Х		
A2-PZ5/A2-B6	S	7 - 8		Х	
A2-PZ5	GW	2.2 - 12.2			X
A2-PZ6/A2-B8	DSITIMS	4 - 18	Х		
A2-PZ6/A2-B8	S	9 - 10		Х	
A2-PZ6	GW	1.9 - 13.9			X
A2-PZ7/A2-B9	DSITIMS	3 - 20	Х		
A2-PZ7/A2-B9	S	10 - 11		Х	
A2-PZ7	GW	2.6 - 15			X
A2-PZ8/A2-B10	DSITIMS	4 - 15	Х		
A2-PZ8/A2-B10	S	9 - 10		Х	
A2-PZ8	GW	2.6 - 14.6			X

Table 3. Sampling and Analysis Program for Soils and Groundwater, Former Northern Perimeter Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

			TEST BORING	G AND DSITMS	PIEZOMETER / MONITORIN WELL SAMPLING	
Boring / Location	Sample	Soil Sample / Well Screen Interval (ft bqs)	<u>Soil A</u> VOCs - DSITMS (Field Screening)	Groundwater Analysis VOCs - Laboratory		
Location	Туре	(ti ugs)	(Field Screening)	(EPA Method 8260)	(EPA Method 8260)	
ocation: North of N						
PZ-22	S	19 - 20		X		
PZ-22	GW	1.5 - 11.5			X	
PZ-23	S	6 - 7		Х		
PZ-23	GW	19.1 - 20.1			X	
PZ-24	S	10 - 11		Х		
PZ-24	GW	4.1 - 14.1			X	
PZ-25	S	7 - 8		Х		
PZ-25	GW	9.7 - 19.7			X	
PZ-26	S	8 - 9		X		
PZ-26	GW	9.4 - 19.4			Х	
PZ-27	S	9 - 10		X		
PZ-27	GW	5.1 - 15.1			X	
Location: South En	d of Maintonona	e Building and Storage A	r00			
PZ-34	<u>s or maintenanc</u>	6 - 7	ilea	Х		
PZ-34	GW	2 - 11		~	X	
PZ-34 PZ-35	S	5 - 6		Х	× *	
PZ-35 PZ-35	GW	2.3 - 12.3		×	X	
				Х	×	
PZ-36	S	11 - 12		X	X	
PZ-36	GW	1.7 - 11.7			X	
PZ-39	S	15 - 16		Х		
PZ-39	GW	1.5 - 11.5			X	
Location: Within the	Maintenance E	Buildina				
PZ-40	S	10 - 10.5		X	X	
PZ-40	GW	1.3 - 11.3				
PZ-41	S	5 - 6		Х	X	
PZ-41	GW	1.4 - 11.4				
Loootion, Mithin the	Stanana Dullati	~				
Location: Within the				V	Y	
PZ-42 PZ-42	GW	6 - 7 1.1 - 11.1		X	X	
ocation: Various -		ample Collection at Previo	ously Installed Piezomete	ers / Monitoring Wells		
	GW	5 - 10			X	
		0 14			Х	
PZ-4	GW	9 - 14				
PZ-2 PZ-4 MW-6	GW GW	9 - 14 5 - 15			X	

ft bgs - Feet below ground surface

VOC - Volatile Organic Compounds

DSITMS - Direct Sampling Ion Trap Mass Spectrometry S - Soil GW - Groundwater PZ - Piezometer MW - Monitoring Well X - Sample Collected NS - Not sampled, insufficient water in well for sample collection.

Notes: DSITMS analyses were continuous at 1-foot intervals PZ-37 and PW-38 were not installed.

Table 4. AOC 1 - Volatile Organic Compounds for Groundwater Samples, Former Northern Perimeter Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

	NYSDEC	A1-PZ1	A1-PZ2	A2-PZ1	A2-PZ2	A2-PZ3
CONSTITUENT	GW STANDARDS	6/28/2010	6/28/2010	6/25/2010	6/25/2010	6/25/2010
1,1,2-Trichlorotrifluoroethane	NS	ND J	ND J	740 DJ	ND	ND
Bromodichloromethane	50	ND J	ND J	ND	ND J	ND
Bromoform	50	ND J	ND J	ND	ND	ND
Bromomethane	5	ND	ND	ND	ND	ND
Carbon disulfide	NS	ND J	ND J	0.6 J	ND	ND
Carbon Tetrachloride	5	ND J	ND J	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND
Chlorodibromomethane	NS	ND J	ND J	ND	ND	ND
Chloroethane	5	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	820 D	9.5 J	ND
Chloromethane	ŇŠ	ND J	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	32	140	7900 D	140	0.89 J
cis-1,3-Dichloropropene	0.4	ND J	ND J	ND	ND	ND
Cyclohexane	NS	ND J	ND J	ND	ND	ND
Dichlorodifluoromethane	5	ND J	ND	ND	ND	ND
1,1-Dichloroethene	0.7	ND	ND	14	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND
Methyl Acetate	NS	ND J	ND J	ND J	ND	ND
Methyl tert-Butyl Ether	NS	ND J	ND J	ND	ND	ND
Methylcyclohexane	NS	ND J	ND J	ND	ND	ND
Methylene Chloride	5	ND	ND	4.6	ND	ND
Styrene	5	ND	ND	ND	ND	ND
Tetrachloroethene	5	ND	ND	0.69 J	740	1.1
Toluene	5	ND J	ND J	0.89 J	ND	ND
trans-1,2-Dichloroethene	5	ND	ND	7.5	ND	ND
trans-1,3-Dichloropropene	0.4	ND J	ND J	ND	ND	ND
Trichloroethene	5	ND	ND	1100 D	300	1.7
Trichlorofluoromethane	5	ND J	ND J	ND	ND	ND
Vinyl chloride	2	ND	21	590 D	12	ND
Xylenes, total	5	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	5	ND J	ND J	ND	ND	ND
1,2-Dibromo-3-chloropropane	0.04	ND J	ND J	ND J	ND	ND
1,2-Dibromoethane (EDB)	NS	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6	ND	ND	1.8	ND	ND
1,2-Dichloroethene, Total	5	32	140	7900 D	140	0.89 J
1,1,1-Trichloroethane	5	ND J	ND J	ND	ND	ND
1,2-Dichloropropane	1	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	ND	ND	ND	ND	ND
2-Hexanone	50	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	ND	0.78 J	ND	ND
4-Methyl-2-pentanone (MIBK)	NS	ND	ND	3.9 J	ND	ND
Acetone	50	ND J	ND J	7.5 J	ND	ND
Benzene	1	ND	ND	ND	ND	ND

Notes:

Data compared to TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values

NS - No Standard

All units are ug/L unless otherwise noted bgs - below ground surface

Exceedences noted in **bold** and highlighted.

J - Estimated Value

Table 4. AOC 1 - Volatile Organic Compounds for Groundwater Samples, Former Northern Perimeter Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

	NYSDEC	A2-PZ4	A2-PZ5	A2-PZ6	A2-PZ7	A2-PZ8
CONSTITUENT	GW STANDARDS	6/25/2010	6/25/2010	6/25/2010	6/25/2010	6/25/2010
1.1.2-Trichlorotrifluoroethane	NS	ND	ND	6.0 J	ND	ND
Bromodichloromethane	50	ND	ND	ND	ND	ND
Bromoform	50	ND	ND	ND	ND	ND
Bromomethane	5	ND	ND	ND	ND	ND
Carbon disulfide	NS	ND	ND	ND	ND	ND
Carbon Tetrachloride	5	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND
Chlorodibromomethane	NS	ND	ND	ND	ND	ND
		ND	ND			ND
Chloroethane	5			0.64 J	ND	
Chloroform	7	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	88	66	ND
Chloromethane	NS	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	ND	ND	670 D	870 D	6.6
cis-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND
Cyclohexane	NS	ND	ND	ND	ND	ND
Dichlorodifluoromethane	5	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.7	ND	ND	ND	6.5	ND
Ethylbenzene	5	ND	ND	ND	7.1	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND
Methyl Acetate	NS	ND	ND	ND	ND	ND
Methyl tert-Butyl Ether	NS	ND	ND	ND	ND	ND
Methylcyclohexane	NS	ND	ND	ND	ND	ND
Methylene Chloride	5	ND	ND	2.2	ND	ND
Styrene	5	ND	ND	ND	ND	ND
Tetrachloroethene	5	ND	ND	2.1	2400 D	ND
Toluene	5	ND	ND	ND	2.2	ND
trans-1,2-Dichloroethene	5	ND	ND	1.1	5.4	ND
trans-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND
Trichloroethene	5	ND	ND	79	2700 D	ND
Trichlorofluoromethane	5	ND	ND	ND	ND	ND
Vinyl chloride	2	ND	ND	37	42	ND
Xylenes, total	5	ND	ND	ND	2.5	ND
1,2,4-Trichlorobenzene	5	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	0.04	ND J				
1,2-Dibromoethane (EDB)	NS	ND	ND	ND 3	ND	ND J
1,2-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6	ND	ND	ND	ND	ND
1,2-Dichloroethene, Total	5	ND	ND	670 D	870 D	6.6
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND
1,2-Dichloropropane	1	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	ND	ND	7.0 J	ND	ND
2-Hexanone	50	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	NS	ND	ND	2.7 J	ND	ND
Acetone	50	3.2 J	ND J	26 J	ND J	ND J
Benzene	1	ND	ND	ND	ND	ND

Notes:

Data compared to TOGS 1.1.1 Ambient Water Quality NS - No Standard

All units are ug/L unless otherwise noted bgs - below ground surface

Exceedences noted in **bold** and highlighted.

J - Estimated Value

 Table 4. AOC 1 - Volatile Organic Compounds for Groundwater Samples, Former Northern Perimeter Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

	NYSDEC	PZ-2	PZ-4	PZ-22	PZ-23	PZ-24
	GW				0	
CONSTITUENT	STANDARDS	6/24/2010	6/28/2010	6/28/2010	6/28/2010	6/25/410
1,1,2-Trichlorotrifluoroethane	NS	ND	ND J	ND J	ND J	ND
Bromodichloromethane	50	ND	ND J	ND J	ND J	ND
Bromoform	50	ND	ND J	ND J	ND J	ND
Bromomethane	5	ND	ND	ND	ND	ND
Carbon disulfide	NS	ND	ND J	ND J	ND J	ND
Carbon Tetrachloride	5	ND	ND J	ND J	ND J	ND
Chlorobenzene	5	ND	ND	ND	ND	ND
Chlorodibromomethane	NS	ND	ND J	ND J	ND J	ND
Chloroethane	5	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND	ND
Chloromethane	NS	ND	ND J	ND J	ND J	ND
cis-1,2-Dichloroethene	5	1.7	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.4	ND	ND J	ND J	ND J	ND
Cyclohexane	NS	ND	ND J	ND J	ND J	ND
Dichlorodifluoromethane	5	ND	ND J	ND J	ND J	ND
1,1-Dichloroethene	0.7	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND
Methyl Acetate	NS	ND J	ND J	ND J	ND J	ND
2	NS	ND	ND J	ND J	ND J	ND
Methyl tert-Butyl Ether	NS	ND	ND J	ND J	ND J	ND
Methylcyclohexane		ND	ND	ND	ND J	ND
Methylene Chloride	5 5	ND				
Styrene	5 5		ND	ND	ND	ND
Tetrachloroethene		ND	ND	ND	ND	ND
Toluene	5	ND	ND J	ND J	ND J	ND
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	ND	ND J	ND J	ND J	ND
Trichloroethene	5	ND	ND	ND	ND	ND
Trichlorofluoromethane	5	ND	ND J	ND J	ND J	ND
Vinyl chloride	2	1.1	ND	ND	ND	ND
Xylenes, total	5	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	5	ND	ND J	ND J	ND J	ND
1,2-Dibromo-3-chloropropane	0.04	ND J	ND J	ND J	ND J	ND J
1,2-Dibromoethane (EDB)	NS	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	3	0.87 J	ND	ND	ND	ND
1,2-Dichloroethane	0.6	ND	ND	ND	ND	ND
1,2-Dichloroethene, Total	5	1.7 J	ND	ND	ND	ND
1,1,1-Trichloroethane	5	ND	ND J	ND J	ND J	ND
1,2-Dichloropropane	1	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	ND	ND	ND	ND	ND
2-Hexanone	50	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	NS	ND	ND	ND	ND	ND
Acetone	50	5.1 J	ND J	8.5 J	ND J	ND J
Benzene	1	ND	ND	ND	ND	ND G

Notes:

Data compared to TOGS 1.1.1 Ambient Water Quality

NS - No Standard

All units are ug/L unless otherwise noted bgs - below ground surface

Exceedences noted in **bold** and highlighted.

J - Estimated Value

Table 4. AOC 1 - Volatile Organic Compounds for Groundwater Samples, Former Northern Perimeter Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

	NYSDEC	PZ-25	PZ-26	PZ-27	PZ-28	PZ-29
CONSTITUENT	GW STANDARDS	6/25/2010	6/25/2010	6/25/2010	6/25/2010	6/28/2010
1,1,2-Trichlorotrifluoroethane	NS	ND	ND J	ND J	ND	ND J
Bromodichloromethane	50	ND	ND J	ND J	ND	ND J
Bromoform	50 50	ND	ND J	ND J	ND	ND J
	5	ND	ND J			ND J ND
Bromomethane				ND	ND	
Carbon disulfide	NS	ND	ND J	ND J	ND	ND J
Carbon Tetrachloride	5	ND	ND J	ND J	ND	ND J
Chlorobenzene	5	ND	ND	ND	ND	ND
Chlorodibromomethane	NS	ND	ND J	ND J	ND	ND J
Chloroethane	5	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND	ND
Chloromethane	NS	ND	ND J	ND J	ND	ND J
cis-1,2-Dichloroethene	5	ND	ND	ND	6.6	4.8
cis-1,3-Dichloropropene	0.4	ND	ND J	ND J	ND	ND J
Cyclohexane	NS	ND	ND J	ND J	ND	ND J
Dichlorodifluoromethane	5	ND	ND J	ND J	ND	ND J
1,1-Dichloroethene	0.7	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND
Methyl Acetate	NS	ND	ND J	ND J	ND	ND J
Methyl tert-Butyl Ether	NS	ND	ND J	ND J	ND	ND J
Methylcyclohexane	NS	ND	ND J	ND J	ND	ND J
Methylene Chloride	5	ND	ND	ND	ND	ND
Styrene	5	ND	ND	ND	ND	ND
Tetrachloroethene	5	ND	ND	ND	ND	5.8
Toluene	5	ND	ND J	ND J	ND	ND J
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	ND	ND J	ND J	ND	ND J
Trichloroethene	5	ND	ND	ND	ND	0.84 J
Trichlorofluoromethane	5	ND	ND J	ND J	ND	ND J
Vinyl chloride	2	ND	ND	ND	ND	12 J
Xylenes, total	5	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	5	ND	ND	ND	ND	ND J
1,2-Dibromo-3-chloropropane	0.04	ND J				
1,2-Dibromoethane (EDB)	NS	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6	ND	ND	ND	ND	ND
1,2-Dichloroethene, Total	5	ND	ND	ND	6.6	4.8
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND J
1,2-Dichloropropane	1	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	ND	ND	ND	ND	ND
2-Hexanone	50	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	NS	ND	ND	ND	ND	ND
Acetone	50	ND J				
Benzene	1	ND 3	ND	ND	ND	ND J
	I	ND			ND	

Notes:

Data compared to TOGS 1.1.1 Ambient Water Quality NS - No Standard

All units are ug/L unless otherwise noted bgs - below ground surface

Exceedences noted in **bold** and highlighted.

J - Estimated Value

Table 4. AOC 1 - Volatile Organic Compounds for Groundwater Samples, Former Northern Perimeter Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

	NYSDEC	PZ-30	PZ-31	PZ-32	PZ-34	PZ-35
	GW	PZ-30	P2-31	PZ-32	PZ-34	FZ-33
CONSTITUENT	STANDARDS	6/25/2010	6/25/2010	6/25/2010	6/24/2010	6/24/2010
1,1,2-Trichlorotrifluoroethane	NS	ND	ND J	34 J	ND	ND
Bromodichloromethane	50	ND	ND J	ND	ND	ND
Bromoform	50	ND	ND J	ND	ND	ND
Bromomethane	5	ND	ND	ND	ND	ND
Carbon disulfide	NS	ND	ND J	ND	ND	ND
Carbon Tetrachloride	5	ND	ND J	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND
Chlorodibromomethane	NS	ND	ND J	ND	ND	ND
Chloroethane	5	ND	3.8	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	2.8	16	ND	2.0 J
Chloromethane	NS	ND	ND J	ND	ND	ND
cis-1,2-Dichloroethene	5	ND	ND	8.5	370	10 J
cis-1,3-Dichloropropene	0.4	ND	ND J	ND	ND	ND
Cyclohexane	NS	ND	ND J	ND	ND	ND
Dichlorodifluoromethane	5	ND	ND J	ND	ND	ND
1.1-Dichloroethene	0.7	ND	ND	6.9	ND	0.73 J
Ethylbenzene	5	ND	ND	ND	ND	ND J
Isopropylbenzene	5	ND	ND	ND	ND	ND
Methyl Acetate	NS	ND	ND J	ND	ND J	ND J
Methyl tert-Butyl Ether	NS	ND	ND J	1.4	ND	ND
Methylcyclohexane	NS	ND	ND J	ND	ND	ND
Methylene Chloride	5	ND	ND	ND	ND	ND
Styrene	5	ND	ND	ND	ND	ND
Tetrachloroethene	5	ND	ND	43	ND	0.77
Toluene	5	ND	ND J	ND	ND	ND
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	ND	ND J	ND	ND	ND
Trichloroethene	5	ND	ND	49	12	7.1 J
Trichlorofluoromethane	5	ND	ND J	ND	ND	ND
Vinyl chloride	2	ND	ND	ND	130	2.9
Xylenes, total	5	ND	ND	ND	ND	ND J
1,2,4-Trichlorobenzene	5	ND	ND J	ND	ND	ND
1,2-Dibromo-3-chloropropane	0.04	ND J	ND J	ND J	ND J	ND J
1,2-Dibromoethane (EDB)	NS	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6	ND	ND	ND	ND	ND
1,2-Dichloroethene, Total	5	ND	ND	8.5	370	11
1,1,1-Trichloroethane	5	ND	ND J	11	ND	ND
1,2-Dichloropropane	1	ND	ND	ND	ND	ND
1.3-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	ND	ND	ND	ND	ND
2-Butanone (MEK) 2-Hexanone	50 50	ND	ND	ND	ND	ND
	50	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NS	ND	ND	ND		ND ND
4-Methyl-2-pentanone (MIBK)	50	ND J	ND J		ND	ND ND
Acetone	50 1	ND J ND	ND J ND	ND J ND	ND ND	ND ND J
Benzene		IND	ND	IND	שאו	IND J

Notes:

Data compared to TOGS 1.1.1 Ambient Water Quality NS - No Standard

All units are ug/L unless otherwise noted bgs - below ground surface

Exceedences noted in **bold** and highlighted.

J - Estimated Value

Table 4. AOC 1 - Volatile Organic Compounds for Groundwater Samples, Former Northern Perimeter Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

	NYSDEC	PZ-36	PZ-39	PZ-40	PZ-41	PZ-42
	GW	0/0//00/0	0/0//00/0	0/0//00/0	0/0//00/0	
	STANDARDS	6/24/2010	6/24/2010	6/24/2010	6/24/2010	6/24/2010
1,1,2-Trichlorotrifluoroethane	NS	ND	ND	ND	ND	ND
Bromodichloromethane	50	ND	ND	ND	ND	ND
Bromoform	50	ND	ND	ND	ND	ND
Bromomethane	5	ND	ND	ND	ND	ND
Carbon disulfide	NS	ND	ND	0.62 J	ND	ND
Carbon Tetrachloride	5	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND
Chlorodibromomethane	NS	ND	ND	ND	ND	ND
Chloroethane	5	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	1.9	1.0	ND	ND	21
Chloromethane	NS	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	6.3	3.0	ND	ND	31
cis-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND
Cyclohexane	NS	ND	ND	ND	ND	ND
Dichlorodifluoromethane	5	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.7	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND
Methyl Acetate	NS	ND J				
Methyl tert-Butyl Ether	NS	ND	ND	ND	ND	ND
Methylcyclohexane	NS	ND	ND	ND	ND	ND
Methylene Chloride	5	ND	ND	ND	ND	ND
Styrene	5	ND	ND	ND	ND	ND
Tetrachloroethene	5	ND	7.4	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND
Trichloroethene	5	1.2	6.5	ND	ND	18
Trichlorofluoromethane	5	ND	ND	ND	ND	ND
Vinyl chloride	2	ND	3.6	ND	ND	ND
Xylenes, total	5	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	5	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	0.04	ND J				
1,2-Dibromoethane (EDB)	0.04 NS	ND	ND	ND	ND	ND J ND
1,2-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6	ND	ND	ND	ND	ND
1,2-Dichloroethene, Total	5	6.3	3.0	ND	ND	31
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND
1,2-Dichloropropane	1	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	3	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	ND	ND	ND	ND	ND
2-Hexanone	50	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	NS	ND	ND	ND	ND	ND
Acetone	50	4.2 J	3.3 J	7.5 J	ND	ND
Benzene	1	ND	ND	ND	ND	ND

Notes:

Data compared to TOGS 1.1.1 Ambient Water Quality NS - No Standard

All units are ug/L unless otherwise noted bgs - below ground surface

Exceedences noted in **bold** and highlighted.

J - Estimated Value

Table 4. AOC 1 - Volatile Organic Compounds for Groundwater Samples, Former Northern Perimeter Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

	NYSDEC	MW-6	MW-9
	GW	11111-0	11111-5
CONSTITUENT	STANDARDS	6/30/2010	6/24/2010
1,1,2-Trichlorotrifluoroethane	NS	ND J	ND J
Bromodichloromethane	50	ND J	ND
Bromoform	50	ND J	ND
Bromomethane	5	ND	ND
Carbon disulfide	NS	ND J	ND
Carbon Tetrachloride	5	ND J	ND
Chlorobenzene	5	ND	ND
Chlorodibromomethane	NS	ND J	ND
Chloroethane	5	ND	ND
Chloroform	7	ND	ND
1,1-Dichloroethane	5	ND	0.62
Chloromethane	NS	ND J	ND
cis-1,2-Dichloroethene	5	ND	ND
cis-1,3-Dichloropropene	0.4	ND J	ND
Cyclohexane	NS	ND J	ND
Dichlorodifluoromethane	5	ND J	ND
1,1-Dichloroethene	0.7	ND	ND
Ethylbenzene	5	ND	ND
Isopropylbenzene	5	ND	ND
Methyl Acetate	NS	ND J	ND J
Methyl tert-Butyl Ether	NS	ND J	ND J
Methylcyclohexane	NS	ND J	ND
Methylene Chloride	5	ND	ND
Styrene	5	ND	ND
Tetrachloroethene	5	ND	ND
Toluene	5	ND J	ND
trans-1,2-Dichloroethene	5	ND	ND
trans-1,3-Dichloropropene	0.4	ND J	ND
Trichloroethene	5	ND	ND
Trichlorofluoromethane	5	ND J	ND
Vinyl chloride	2	ND	ND
Xylenes, total	5	ND	ND
1,2,4-Trichlorobenzene	5	ND J	ND
1,2-Dibromo-3-chloropropane	0.04	ND J	ND
1,2-Dibromoethane (EDB)	NS	ND	ND
1,2-Dichlorobenzene	3	ND	ND
1,2-Dichloroethane	0.6	ND	ND
1,2-Dichloroethene, Total	5	ND	ND
1,1,1-Trichloroethane	5	ND J	ND
1,2-Dichloropropane	1	ND	ND
1,3-Dichlorobenzene	3	ND	ND
1,4-Dichlorobenzene	3	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND
2-Butanone (MEK)	50	3.2 J	ND
2-Hexanone	50	ND	ND
1,1,2-Trichloroethane	1	ND	ND
4-Methyl-2-pentanone (MIBK)	NS	ND	ND
Acetone	50	5.5 J	26
Benzene	1	ND	ND

Notes:

Data compared to TOGS 1.1.1 Ambient Water Quality NS - No Standard All units are ug/L unless otherwise noted bgs - below ground surface

Exceedences noted in **bold** and highlighted.

J - Estimated Value

Table 5. Tentatively Indentified Compounds Detected in Groundwater Samples, Former Northern Perimeter Ditch Supplemental Investigation Report, Former Lockheed Martin Facility, Utica, New York

							A1-PZ1	A1-PZ2 [DUP 2]	A2-PZ1	A2-PZ2	A2-PZ3	A2-PZ4	A2-PZ5	A2-PZ6	A2-PZ7	A2-PZ8
						Sample Date	6/28/2010	6/28/2010	6/25/2010	6/25/2010	6/25/2010	6/25/2010	6/25/2010	6/25/2010	6/25/2010	6/25/2010
Tentatively Identified Compound (TIC)	CAS No.	Synonyms	USEPA Tapwater RSL (ug/L)	NYSDEC Part 703 Standard (ug/L)	NYSDEC Ambient Water Quality Standard (ug/L)	Notes			(1)					(2)	(2)	
Cyclopentane	287-92-3		NA	NS	NS											
1,2-Dichloro-1,1,2-trifluoroethane	354-23-4	CFC 123a	NA	NS	See note (3)				1400 D08					20	200 D08	
cis-1,3-Dimethylcyclohexane	638-04-0		NA	NS	NS											
1,4-Dimethylcyclohexane	589-90-2		NA	NS	See note (4)											
Hexane	110-54-3	n-Hexane	880	NS	See note (5)											
2-Methylbutane	78-78-4	Isopentane	NA	NS	NS											
Methylcyclopentane	96-37-7		NA	NS	See note (5)											
2-Methylpentane	107-83-5	Isohexane	NA	NS	NS											
3-Methylpentane	96-14-0		NA	NS	NS											
Pentane	109-66-0	n-Pentane	2100	NS	NS											
1,2,4-Trimethylbenzene	95-63-6		15	5	5											
Unknown Compound														25 D08		
No TICs Found							Х	Х		X D08	Х	Х	Х		Х	Х

Notes:

All values in micrograms per liter (ug/L).

NA = value not available

NS = no standard

RSL = Regional Screening Level

USEPA = US Environmental Protection Agency

NYSDEC = New York State Department of Environmental Conservation

D08 = Dilution required due to high concentration of target analyte(s)

D03 = Dilution required due to excessive foaming

T11 = This compound is a calibrated analyte and therefore is qualitatively and quantitatively reported compared to a known standard that is in control

(1) An analyte or analytes were reported twice, with and without dilution. Only the dilution result is given.

(2) Two or more results were reported, one or more without dilution and one with dilution. All results are given and the dilution result is qualified. If a qualifier was not provided in the laboratory data output, ARCADIS has added an

asterisk (*) where necessary to denote the dilution. (3) This compound falls under Principal Organic Contaminant (POC) Class 1 for groundwater, halogenated alkanes. The applicable standard is 5 ug/L (NYSDEC 1998).

(4) Trans- isomer listed in Table 3 of NYSDEC (1998); not subject to POC groundwater standard. (5) Listed in Table 3 of NYSDEC (1998); not subject to POC groundwater standard.

Table 5. Tentatively Indentified Compounds Detected in Groundwater Samples, Former Northern Perimeter Ditch Supplemental Investigation Report, Former Lockheed Martin Facility, Utica, New York

						MW-6	MW-9	PZ-2	PZ-22	PZ-23	PZ-24	PZ-25	PZ-26	PZ-27	PZ-28
						6/28/2010	6/25/2010	6/24/2010	6/28/2010	6/28/2010	6/25/2010	6/25/2010	6/25/2010	6/25/2010	6/25/2010
Tentatively Identified Compound (TIC)	CAS No.	Synonyms	USEPA Tapwater RSL (ug/L)	NYSDEC Part 703 Standard (ug/L)	NYSDEC Ambient Water Quality Standard (ug/L)										
Cyclopentane	287-92-3		NA	NS	NS										
1,2-Dichloro-1,1,2-trifluoroethane	354-23-4	CFC 123a	NA	NS	See note (3)										
cis-1,3-Dimethylcyclohexane	638-04-0		NA	NS	NS										
1,4-Dimethylcyclohexane	589-90-2		NA	NS	See note (4)										
Hexane	110-54-3	n-Hexane	880	NS	See note (5)										
2-Methylbutane	78-78-4	Isopentane	NA	NS	NS										
Methylcyclopentane	96-37-7		NA	NS	See note (5)										
2-Methylpentane	107-83-5	Isohexane	NA	NS	NS										
3-Methylpentane	96-14-0		NA	NS	NS										
Pentane	109-66-0	n-Pentane	2100	NS	NS										
1,2,4-Trimethylbenzene	95-63-6		15	5	5										
Unknown Compound								3.4							
No TICs Found						Х	Х		Х	Х	Х	Х	Х	Х	Х

Notes:

All values in micrograms per liter (ug/L).

NA = value not available

NS = no standard

RSL = Regional Screening Level

USEPA = US Environmental Protection Agency

NYSDEC = New York State Department of Environmental Conservation

D08 = Dilution required due to high concentration of target analyte(s)

D03 = Dilution required due to excessive foaming

T11 = This compound is a calibrated analyte and therefore is qualitatively and quantitatively reported compared to a known standard that is in control

(1) An analyte or analytes were reported twice, with and without dilution. Only the dilution result is given.

(2) Two or more results were reported, one or more without dilution and one with dilution. All results are given and the dilution result is qualified. If a qualifier was not provided in the laboratory data output, ARCADIS has added an

asterisk (*) where necessary to denote the dilution. (3) This compound falls under Principal Organic Contaminant (POC) Class 1 for groundwater, halogenated alkanes. The applicable standard is 5 ug/L (NYSDEC 1998).

(4) Trans- isomer listed in Table 3 of NYSDEC (1998); not subject to POC groundwater standard.

(5) Listed in Table 3 of NYSDEC (1998); not subject to POC groundwater standard.

Table 5. Tentatively Indentified Compounds Detected in Groundwater Samples, Former Northern Perimeter Ditch Supplemental Investigation Report, Former Lockheed Martin Facility, Utica, New York

							PZ-30	PZ-31	PZ-32	PZ-34	PZ-35	PZ-36	PZ-39 [DUP]	PZ-4	PZ-40	PZ-41	PZ-42
						6/28/2010	6/25/2010	6/25/2010	6/25/2010	6/24/2010	6/24/2010	6/24/2010	6/24/2010	6/28/2010	6/24/2010	6/24/2010	6/24/2010
Tentatively Identified Compound (TIC)	CAS No.	Synonyms	USEPA Tapwater RSL (ug/L)		NYSDEC Ambient Water Quality Standard (ug/L)												
Cyclopentane	287-92-3		NA	NS	NS												
1,2-Dichloro-1,1,2-trifluoroethane	354-23-4	CFC 123a	NA	NS	See note (3)				14		17						
cis-1,3-Dimethylcyclohexane	638-04-0		NA	NS	NS												
1,4-Dimethylcyclohexane	589-90-2		NA	NS	See note (4)												
Hexane	110-54-3	n-Hexane	880	NS	See note (5)												
2-Methylbutane	78-78-4	Isopentane	NA	NS	NS												
Methylcyclopentane	96-37-7		NA	NS	See note (5)												
2-Methylpentane	107-83-5	Isohexane	NA	NS	NS												
3-Methylpentane	96-14-0		NA	NS	NS												
Pentane	109-66-0	n-Pentane	2100	NS	NS												
1,2,4-Trimethylbenzene	95-63-6		15	5	5												
Unknown Compound																	
No TICs Found						Х	Х	Х		X D03		Х	Х	Х	Х	Х	X D03

Notes:

All values in micrograms per liter (ug/L).

NA = value not available

NS = no standard

RSL = Regional Screening Level

USEPA = US Environmental Protection Agency

NYSDEC = New York State Department of Environmental Conservation

D08 = Dilution required due to high concentration of target analyte(s)

D03 = Dilution required due to excessive foaming

T11 = This compound is a calibrated analyte and therefore is qualitatively and quantitatively reported compared to a known standard that is in control

(1) An analyte or analytes were reported twice, with and without dilution. Only the dilution result is given.

(2) Two or more results were reported, one or more without dilution and one with dilution. All results are given and the

dilution result is qualified. If a qualifier was not provided in the laboratory data output, ARCADIS has added an asterisk (*) where necessary to denote the dilution.

(3) This compound falls under Principal Organic Contaminant (POC) Class 1 for groundwater, halogenated alkanes. The applicable standard is 5 ug/L (NYSDEC 1998).

(4) Trans- isomer listed in Table 3 of NYSDEC (1998); not subject to POC groundwater standard.

(5) Listed in Table 3 of NYSDEC (1998); not subject to POC groundwater standard.

Table 6. AOC 2 - Volatile Organic Compound Results for Soil Vapor Samples, Former Northern Perimeter Ditch Supplemental Investigation Report, Former Lockheed Martin Facility, Utica, New York

		NYSDOH	USEPA Target	USEPA Target	Sample ID:	AMB-081810	AMB-100710	SG-7	SG-22
CAS #	Constituent	VI Guidance (Indoor Air)	Shallow Soil Gas < 5' bgs	Deep Soil Gas > 5' bgs	Lab ID: Sample Date:	C1008052-001A 08/18/10	10/07/10	C1008052-003A 08/18/10	C1008052-004A 08/18/10
0/10 //	oonstituent		1x10 ⁻⁶ Risk Level	1x10 ⁻⁶ Risk Level		3' ags	3' ags	3 - 3.5' bgs	3.5 - 4' bgs
		µg/m³	μg/m³	µg/m³	Units:	µg/m ³	µg/m ³	µg/m³	µg/m ³
71-55-6	1,1,1-Trichloroethane		22,000	220,000		0.83 U	0.83 U	0.83 U	3.5
79-34-5	1,1,2,2-Tetrachloroethane		0.4	4		1 U	1 U	1 U	1 U
79-00-5	1,1,2-Trichloroethane		1.5 5,000	15		0.83 U	0.83 U	0.83 U	0.83 U
75-34-3 75-35-4	1,1-Dichloroethane 1,1-Dichloroethene		2,000	50,000 20,000		0.62 U 0.6 U	0.62 U 0.6 U	0.62 U 0.6 U	12 0.6 U
120-82-1	1,2,4-Trichlorobenzene		2,000	20,000		1.1 U	1.1 U	1.1 U	1.1 U
95-63-6	1,2,4-Trimethylbenzene		60	600		5.5 J	1.4	25 J	57
106-93-4	1,2-Dibromoethane		0.1	1		1.2 U	1.2 U	1.2 U	1.2 U
95-50-1	1,2-Dichlorobenzene		2,000	20,000		0.92 U	0.92 U	0.92 U	0.92 U
107-06-2	1,2-Dichloroethane		0.9	9		0.62 U	0.62 U	0.62 U	0.62 U
78-87-5	1,2-Dichloropropane		40	400		0.7 U	0.7 U	0.7 U	0.7 U
108-67-8	1,3,5-Trimethylbenzene		60	600		3	0.55 J	11 J	14
106-99-0 541-73-1	1,3-butadiene 1,3-Dichlorobenzene		0.1 1,100	1 11,000		0.34 U 0.92 U	0.34 U 0.92 U	0.34 U 18 J	0.34 U 12
106-46-7	1,4-Dichlorobenzene		8,000	80,000		1.2	0.92 U	0.92 U	0.92 U
123-91-1	1,4-Dioxane		0,000			1.2 1.1 U	1.1 U	1.1 U	1.1 U
540-84-1	2,2,4-trimethylpentane					0.71 U	0.71 U	20 J	6.5
622-96-8	4-ethyltoluene					2.2	0.75 U	5.5 J	16
67-64-1	Acetone		3,500	35,000		54	24 J	660 J	180
107-05-1	Allyl chloride					0.48 U	0.48 U	0.48 U	0.48 U
71-43-2	Benzene		3.1	31		0.78	0.49 U	9.1 J	7.1
100-44-7	Benzyl chloride		0.5	5		0.88 U	0.88 U	0.88 U	0.88 U
75-27-4 75-25-2	Bromodichloromethane Bromoform		1.4 22	14 220		1 U 1.6 U	1 U 1.6 U	1 U 1.6 U	1 U 1.6 U
74-83-9	Bromomethane		50	500		0.59 U	0.59 U	0.59 U	0.59 U
75-15-0	Carbon disulfide		7,000	70,000		0.6	0.44 J	0.33 O	5.3
56-23-5	Carbon tetrachloride		1.6	16		0.7 J	0.45 J	0.96 U	0.96 U
108-90-7	Chlorobenzene		600	6,000		0.7 U	0.7 U	0.47 J	0.7 U
75-00-3	Chloroethane		100,000	1,000,000		0.4 U	0.4 U	0.4 U	0.4 U
67-66-3	Chloroform		1.1	11		0.6 J	0.74 U	5 J	19
74-87-3	Chloromethane		24	240		1.6	0.59	0.31 U	0.31 U
156-59-2 10061-01-	cis-1,2-Dichloroethene cis-1,3-Dichloropropene		350 6.1 (a)	3,500		4.3 0.69 U	0.6 U 0.69 U	0.6 U 0.69 U	20 0.69 U
110-82-7	Cyclohexane		0.1 (a)	61 (a)		0.52 UJ	0.52 U	0.09 U 19 J	0.52 UJ
124-48-1	Dibromochloromethane		1.0	10		1.3 U	1.3 U	1.3 U	1.3 U
141-78-6	Ethyl acetate		32,000	320,000		9.1	0.92 U	23 J	10
100-41-4	Ethylbenzene		22	220		1.2	0.66 UJ	8 J	15
75-69-4	Freon 11		7,000	70,000		1.9	1.2	2.1 J	7.5
76-13-1	Freon 113		300,000	3,000,000		1.2 U	1.2 U	1.2 U	400
76-14-2	Freon 114					1.1 U	1.1 U	1.1 U	1.1 U
75-71-8 142-82-5	Freon 12 Heptane		2,000	20,000		2.8 2.3	2.4 0.42 J	0.75 U 8.7 J	0.75 U 6.2
87-68-3	Hexachloro-1,3-butadiene		1.1	11		2.3 1.6 U	1.6 U	1.6 U	1.6 U
110-54-3	Hexane		2,000	20,000		0.54 U	0.54 U	15 J	0.54 U
67-63-0	Isopropyl alcohol					26 J	0.37 U	200 J	130
179601-23	m&p-Xylene		70,000	700,000		2.6 J	1.2 J	15 J	45
591-78-6	Methyl Butyl Ketone					1.2 U	1.2 U	2.7 J	1.2 U
78-93-3	Methyl Ethyl Ketone		10,000	100,000		3.3	0.9 U	24 J	5.7 J
108-10-1	Methyl Isobutyl Ketone		800	8,000		2.2 J	1.2 U 0.55 U	44 J 49 J	37 2.6
1634-04-4 75-09-2	Methyl tert-butyl ether Methylene chloride	60	30,000 52	300,000 520		0.55 U 1.7	0.55 U 0.53 U	49 J 0.53 U	2.6 0.53 U
95-47-6	o-Xylene		70,000	700,000		1.8 J	0.57 J	9.7 J	28
115-07-1	Propylene					0.26 U	0.26 U	0.26 U	0.26 U
100-42-5	Styrene		10,000	100,000		1.6	0.65 UJ	0.65 U	0.65 U
127-18-4	Tetrachloroethylene	100	8.1	81		1.7	1 U	8.5 J	14
109-99-9	Tetrahydrofuran					0.45 U	0.45 U	0.45 U	0.45 U
108-88-3	Toluene		4,000	40,000		8	1.5	16 J	52
156-60-5	trans-1,2-Dichloroethene		700	7,000		0.6 U	0.6 U	0.6 U	6.2
10061-02-0 79-01-6	trans-1,3-Dichloropropene Trichloroethene	 5	6.1 (a)	61 (a) 120 (b)		0.69 U 9.8	0.69 U 0.27 J	0.69 U 2.2 J	0.69 U
108-05-4	Vinyl acetate	5 	12 (b) 2,000	20,000		9.8 0.54 U	0.27 J 0.54 U	0.54 U	36 0.54 U
	Vinyl Bromide		2,000			0.67 U	0.67 U	0.67 U	0.67 U
75-01-4	Vinyl chloride		2.8	28		0.42	0.39 U	0.39 U	0.39 U
Notes:					•				

Notes:

 $\begin{array}{l} \mbox{Notes.} \\ \mbox{$\mu g/m^3$} & \mbox{Micrograms per cubic meter} \\ \mbox{$USEPA - United States Environmental Protection Agency} \\ \mbox{$NYSDOH - New York State Department of Health} \\ \mbox{$SG - Soil Gas} \\ \mbox{$G - Soil Gas} \\ \mbox{$Micrograms per cubic meter} \\ \mbox{$Microgram per cubic meter} \\ \mbox{$Micrograms per meter$

AMB - Ambient Air

(a) 1,3-Dichloropropene used as a surrogate
 (b) Calculated from Regional Screening Level for resident air using an attenuation factor of 0.1 and 0.01, respectively.
 - Value not available

U - Constituent not detected at reporting limit

J - Constituent concentration estimated

J - Constituent concentration estimated All screening values protective of a residential receptor. Samples collected < 5' bgs were compared to shallow soil gas screening levels Samples collected > 5' bgs were compared to deep soil gas screening levels Exceedances of a USEPA screening value were shaded

Table 6. AOC 2 - Volatile Organic Compound Results for Soil Vapor Samples, Former Northern Perimeter Ditch Supplemental Investigation Report, Former Lockheed Martin Facility, Utica, New York

CAS #	Constituent	NYSDOH VI Guidance (Indoor Air)	USEPA Target Shallow Soil Gas < 5' bgs	USEPA Target Deep Soil Gas > 5' bgs	Sample ID: Lab ID: Sample Date:	SG-22 C1010020-001A 10/07/10	SG-23 C1008052-005A 08/18/10	SG-24 C1008052-006A 08/18/10	SG-24 C1010020-002A 10/07/10
		µg/m³	1x10 ⁻⁶ Risk Level µg/m ³	1x10 ⁻⁶ Risk Level µg/m ³	Sample Depth: Units:	3.5 - 4' bgs μg/m ³	1.8 - 2.4' bgs μg/m³	6.5 - 7' bgs μg/m ³	6.5 - 7' bgs μg/m ³
71-55-6	1,1,1-Trichloroethane		22,000	220,000		1.4	0.61 J	4.4	1.1
79-34-5	1,1,2,2-Tetrachloroethane		0.4	4		1 U	1 U	1 U	1 U
79-00-5	1,1,2-Trichloroethane		1.5	15		0.83 U	0.83 U	0.83 U	0.83 U
75-34-3	1,1-Dichloroethane		5,000	50,000		4	0.62 U	30	8.3
75-35-4 120-82-1	1,1-Dichloroethene 1,2,4-Trichlorobenzene		2,000 2,000	20,000 20,000		0.6 U 1.1 U	0.6 U 1.1 U	0.6 U 1.1 U	0.6 U 1.1 U
95-63-6	1,2,4-Trimethylbenzene		60	600		12	110 J	67	9.5
106-93-4	1,2-Dibromoethane		0.1	1		1.2 U	1.2 U	1.2 U	1.2 U
95-50-1	1,2-Dichlorobenzene		2,000	20,000		0.92 U	0.92 U	0.92 U	0.92 U
107-06-2	1,2-Dichloroethane		0.9	9		0.62 U	0.62 U	0.62 U	0.62 U
78-87-5	1,2-Dichloropropane		40	400		0.7 U	0.7 U	0.7 U	0.7 U
108-67-8	1,3,5-Trimethylbenzene		60	600		6 J	25 J	15	4.5 J
106-99-0	1,3-butadiene		0.1	1		0.34 U	0.34 U	0.34 U	0.34 U
541-73-1	1,3-Dichlorobenzene		1,100	11,000		17	17 J	19	11
106-46-7	1,4-Dichlorobenzene		8,000	80,000		0.79 J	0.92 U	0.92 U	0.67 J
123-91-1	1,4-Dioxane					1.1 U	1.1 U	1.1 U	1.1 U
540-84-1 622-96-8	2,2,4-trimethylpentane 4-ethyltoluene					4 4.6	3.6 J 27 J	3.6 15	2.8 3.1 J
67-64-1	Acetone		3,500	35,000		4.0 35 J	420 J	180	110 J
107-05-1	Allyl chloride		3,300			0.48 U	0.48 U	0.48 U	0.48 U
71-43-2	Benzene		3.1	31		5.7	26 J	9.1	0.49 U
100-44-7	Benzyl chloride		0.5	5		0.88 U	0.88 U	0.88 U	0.88 U
75-27-4	Bromodichloromethane		1.4	14		1 U	1 U	1 U	1 U
75-25-2	Bromoform		22	220		1.6 U	1.6 U	1.6 U	1.6 U
74-83-9	Bromomethane		50	500		0.59 U	0.59 U	0.59 U	0.59 U
75-15-0	Carbon disulfide		7,000	70,000		0.47 U	2.7 J	11	1.3
56-23-5	Carbon tetrachloride		1.6	16		0.38 J	0.96 U	0.96 U	0.45 J
108-90-7	Chlorobenzene		600	6,000		0.7 U	0.7 U	0.7 U	0.7 U
75-00-3	Chloroethane		100,000	1,000,000		0.4 U	0.4 U	0.4 U 10	0.4 U
67-66-3 74-87-3	Chloroform Chloromethane		1.1 24	11 240		7.1 0.52	0.74 U 0.31 U	0.31 U	2.8 0.44
156-59-2	cis-1,2-Dichloroethene		350	3,500		3.7	0.6 U	64	14
10061-01-	cis-1,3-Dichloropropene		6.1 (a)	61 (a)		0.69 U	0.69 U	0.69 U	0.69 U
110-82-7	Cyclohexane					4.9	0.52 UJ	8.3 J	3.3
124-48-1	Dibromochloromethane		1.0	10		1.3 U	1.3 U	1.3 U	1.3 U
141-78-6	Ethyl acetate		32,000	320,000		9.5	43 J	16	16
100-41-4	Ethylbenzene		22	220		8.8 J	12 J	13	6.9 J
75-69-4	Freon 11		7,000	70,000		3.4	1.8 J	8.3	4.8
76-13-1	Freon 113		300,000	3,000,000		810	1.5 J	860	360
76-14-2	Freon 114					1.1 U	1.1 U	1.1 U	1.1 U
75-71-8	Freon 12		2,000	20,000		0.75 U	0.75 U	0.75 U	1
142-82-5 87-68-3	Heptane Hexachloro-1,3-butadiene		1.1	 11		6.6 1.6 U	8.7 J 1.6 U	6.2 1.6 U	3.2 1.6 U
110-54-3	Hexane		2,000	20,000		2.3	0.54 U	0.54 U	2.3
67-63-0	Isopropyl alcohol		2,000			91 J	450 J	190 J	130
	m&p-Xylene		70,000	700,000		29 J	45 J	41 J	15 J
591-78-6	Methyl Butyl Ketone					1.2 U	1.2 U	1.2 U	1.2 U
78-93-3	Methyl Ethyl Ketone		10,000	100,000		4.5	14 J	4.5 J	5.8
108-10-1	Methyl Isobutyl Ketone		800	8,000		1.7 J	68 J	42 J	2.5 J
1634-04-4	Methyl tert-butyl ether		30,000	300,000		0.55 J	0.55 U	1.8 J	0.55 U
75-09-2	Methylene chloride	60	52	520		0.53 U	0.42 J	0.53 U	0.67
95-47-6	o-Xylene		70,000	700,000		8.8 J	31 J	28 J	9 J
115-07-1 100-42-5	Propylene		10.000	 100.000		0.26 U 7.4 J	0.26 U 0.65 U	0.26 U 0.65 U	0.26 U
100-42-5 127-18-4	Styrene Tetrachloroethylene	100	10,000 8.1	100,000		7.4 J 2.4	0.65 U 1 U	320	3.5 J 8.3 J
127-18-4	Tetrahydrofuran		0.1			0.45 U	0.45 U	0.45 U	0.45 U
109-99-9	Toluene		4,000	40,000		69	0.45 U 33 J	32	28
156-60-5	trans-1,2-Dichloroethene		700	7,000		1.9	0.6 U	0.6 U	0.93
10061-02-6	trans-1,3-Dichloropropene		6.1 (a)	61 (a)		0.69 U	0.69 U	0.69 U	0.69 U
79-01-6	Trichloroethene	5	12 (b)	120 (b)		9.1	2 J	200	9.3
108-05-4	Vinyl acetate		2,000	20,000		0.54 U	0.54 U	0.54 U	0.54 U
593-60-02	Vinyl Bromide					0.67 U	0.67 U	0.67 U	0.67 U
75-01-4	Vinyl chloride		2.8	28		0.39 U	0.39 U	0.39 U	0.39 U

Notes:

 $\begin{array}{l} \mbox{Notes.} \\ \mbox{$\mu g/m^3$} & \mbox{Micrograms per cubic meter} \\ \mbox{$USEPA - United States Environmental Protection Agency} \\ \mbox{$NYSDOH - New York State Department of Health} \\ \mbox{$SG - Soil Gas} \\ \mbox{$G - Soil Gas} \\ \mbox{$Micrograms per cubic meter} \\ \mbox{$Microgram per cubic meter} \\ \mbox{$Micrograms per meter$

AMB - Ambient Air

(a) 1,3-Dichloropropene used as a surrogate
 (b) Calculated from Regional Screening Level for resident air using an attenuation factor of 0.1 and 0.01, respect
 -- Value not available

U - Constituent not detected at reporting limit

J - Constituent concentration estimated

J - Constituent concentration estimated All screening values protective of a residential receptor. Samples collected < 5' bgs were compared to shallow soil gas screening levels Samples collected > 5' bgs were compared to deep soil gas screening levels Exceedances of a USEPA screening value were shaded

Table 6. AOC 2 - Volatile Organic Compound Results for Soil Vapor Samples, Former Northern Perimeter Ditch Supplemental Investigation Report, Former Lockheed Martin Facility, Utica, New York

		NYSDOH	USEPA Target	USEPA Target	Sample ID:	SG-25	SG-26	SG-26
CAC #	O-mailturent	VI Guidance	Shallow Soil Gas	Deep Soil Gas	Lab ID:	C1008052-007A	C1008052-008A	C1010020-003A
CAS #	Constituent	(Indoor Air)	< 5' bgs 1x10 ⁻⁶ Risk Level	> 5' bgs 1x10 ⁻⁶ Risk Level	Sample Date: Sample Depth:	08/18/10 2.3 - 2.9' bgs	08/18/10 5 - 5.5' bgs	10/07/10 5 - 5.5' bgs
		µg/m³	µg/m ³	µg/m ³	Units:	μg/m ³	μg/m ³	μg/m ³
71-55-6	1,1,1-Trichloroethane		22,000	220,000		4	0.83 U	0.83 U
79-34-5	1,1,2,2-Tetrachloroethane		0.4	4		1 U	1 U	1 U
79-00-5	1,1,2-Trichloroethane		1.5	15		0.83 U	0.83 U	0.83 U
75-34-3 75-35-4	1,1-Dichloroethane 1,1-Dichloroethene		5,000 2.000	50,000 20.000		0.62 U 0.6 U	0.62 U 0.6 U	0.62 U 0.6 U
75-35-4 120-82-1	1,2,4-Trichlorobenzene		2,000	20,000		1.1 U	1.1 U	0.6 U 1.1 U
95-63-6	1,2,4-Trimethylbenzene		60	600		62	48	11
106-93-4	1,2-Dibromoethane		0.1	1		1.2 U	1.2 U	1.2 U
95-50-1	1,2-Dichlorobenzene		2,000	20,000		0.92 U	0.92 U	0.92 U
	1,2-Dichloroethane		0.9	9		0.62 U	0.62 U	0.62 U
78-87-5	1,2-Dichloropropane		40	400		0.7 U	0.7 U	0.7 U
108-67-8	1,3,5-Trimethylbenzene		60	600		16	15	4.8 J
106-99-0 541-73-1	1,3-butadiene 1,3-Dichlorobenzene		0.1 1,100	1 11,000		0.34 U 25	0.34 U 20	0.34 U 16 J
106-46-7	1,4-Dichlorobenzene		8,000	80,000		0.92 U	0.92 U	0.67 J
123-91-1	1,4-Dioxane					1.1 U	1.1 U	1.1 U
540-84-1	2,2,4-trimethylpentane					5.7	38	7
622-96-8	4-ethyltoluene					12	12 J	3.3 J
67-64-1	Acetone		3,500	35,000		500	86	83 J
107-05-1	Allyl chloride					0.48 U	0.48 U	0.48 U
71-43-2	Benzene Benzul ebleride		3.1	31		7.8	4.2	0.49 U
100-44-7 75-27-4	Benzyl chloride Bromodichloromethane		0.5 1.4	5 14		0.88 U 1 U	0.88 U 1 U	0.88 U 1 U
75-27-4	Bromoform		22	220		1.6 U	1.6 U	1.6 U
74-83-9	Bromomethane		50	500		0.59 U	0.59 U	0.59 U
75-15-0	Carbon disulfide		7,000	70,000		180	150	2.8 J
56-23-5	Carbon tetrachloride		1.6	16		0.96 U	0.96 U	0.38 J
108-90-7	Chlorobenzene		600	6,000		0.7 U	0.7 U	0.7 U
75-00-3	Chloroethane		100,000	1,000,000		0.4 U	0.4 U	0.4 U
67-66-3 74-87-3	Chloroform Chloromethane		1.1 24	11 240		1.1 0.31 U	2.4 0.31 U	0.5 J 0.65
156-59-2	cis-1,2-Dichloroethene		350	3,500		2.2	0.6	0.03 0.44 J
	cis-1,3-Dichloropropene		6.1 (a)	61 (a)		0.69 U	0.69 U	0.69 U
110-82-7	Cyclohexane					25 J	22 J	6.4 J
124-48-1	Dibromochloromethane		1.0	10		1.3 U	1.3 U	1.3 U
141-78-6	Ethyl acetate		32,000	320,000		13	8	13
100-41-4	Ethylbenzene		22	220		9.7	8.4	8.8 J
75-69-4 76-13-1	Freon 11 Freon 113		7,000 300,000	70,000 3,000,000		2.2 16	1.6 22 J	0.86 U 4.3
76-14-2	Freon 114					1.1 U	1.1 U	1.1 U
75-71-8	Freon 12		2,000	20,000		3.3	0.75 U	0.8
	Heptane					9.4	3.7	5.2 J
87-68-3	Hexachloro-1,3-butadiene		1.1	11		1.6 U	1.6 U	1.6 U
110-54-3	Hexane		2,000	20,000		7.1	9.9	2.7
67-63-0	Isopropyl alcohol		70,000	 700,000		300 J 31 J	0.37 U 23 J	150 J 24 J
591-78-6	m&p-Xylene Methyl Butyl Ketone		70,000	700,000		1.2 U	23 J 1.2 U	24 J 1.2 U
78-93-3	Methyl Ethyl Ketone		10,000	100,000		8.4 J	7	9
108-10-1	Methyl Isobutyl Ketone		800	8,000		340 J	23 J	3 J
	Methyl tert-butyl ether		30,000	300,000		0.55 U	14 J	0.55 U
75-09-2	Methylene chloride	60	52	520		0.6	0.53 U	0.53
95-47-6	o-Xylene		70,000	700,000		21 J	15 J	8.4 J
115-07-1	Propylene		 10,000			0.26 U	0.26 U	0.26 U
100-42-5 127-18-4	Styrene Tetrachloroethylene	100	10,000 8.1	100,000 81		0.65 U 76	0.65 U 4.6	4 J 1 U
109-99-9	Tetrahydrofuran					0.45 U	0.45 U	0.45 U
108-88-3	Toluene		4,000	40,000		28	15	51 J
156-60-5	trans-1,2-Dichloroethene		700	7,000		0.6 U	0.6 U	0.6 U
	trans-1,3-Dichloropropene		6.1 (a)	61 (a)		0.69 U	0.69 U	0.69 U
79-01-6	Trichloroethene	5	12 (b)	120 (b)		10	1.8	0.76 J
108-05-4	Vinyl acetate		2,000	20,000		0.54 U	0.54 U	0.54 U
593-60-02 75-01-4	Vinyl Bromide Vinyl chloride		 2.8	 28		0.67 U 0.39 U	0.67 U 0.39 U	0.67 U 0.39 U
10-01-4	vinyi chionae		2.0	∠0		0.39 0	0.39 U	0.39 U

Notes:

ug/m³ - Micrograms per cubic meter USEPA - United States Environmental Protection Agency NYSDOH - New York State Department of Health

SG - Soil Gas

AMB - Ambient Air

(a) 1,3-Dichloropropene used as a surrogate
 (b) Calculated from Regional Screening Level for resident air using an attenuation factor of 0.1 and 0.01, respect
 -- Value not available

U - Constituent not detected at reporting limit

J - Constituent concentration estimated

All screening values protective of a residential receptor. Samples collected < 5' bgs were compared to shallow soil gas screening levels Samples collected > 5' bgs were compared to deep soil gas screening levels Exceedances of a USEPA screening value were shaded

Table 6. AOC 2 - Volatile Organic Compound Results for Soil Vapor Samples, Former Northern Perimeter Ditch Supplemental Investigation Report, Former Lockheed Martin Facility, Utica, New York

		NYSDOH	USEPA Target	USEPA Target	Sample ID:	SG-27	SG-27
CAS #	Constituent	VI Guidance (Indoor Air)	Shallow Soil Gas < 5' bgs	Deep Soil Gas > 5' bgs	Lab ID: Sample Date:	C1008052-009A 08/18/10	C1010020-004A 10/07/10
		(1x10 ⁻⁶ Risk Level	1x10 ⁻⁶ Risk Level		6.5 - 7' bgs	6.5 - 7' bgs
		µg/m³	µg/m³	µg/m³	Units:	µg/m³	µg/m³
71-55-6	1,1,1-Trichloroethane		22,000	220,000		1.1	0.83 U
79-34-5	1,1,2,2-Tetrachloroethane		0.4	4		1 U	1 U
79-00-5	1,1,2-Trichloroethane		1.5	15		0.83 U	0.83 U
75-34-3 75-35-4	1,1-Dichloroethane		5,000 2,000	50,000		0.62 U	0.62 U 0.6 U
75-35-4 120-82-1	1,1-Dichloroethene 1,2,4-Trichlorobenzene		2,000	20,000 20,000		0.6 U 1.1 U	0.6 U 1.1 U
95-63-6	1,2,4-Trimethylbenzene		2,000	600		120 J	6.5 J
106-93-4	1,2-Dibromoethane		0.1	1		1.2 U	1.2 U
95-50-1	1,2-Dichlorobenzene		2,000	20,000		0.92 U	0.92 U
107-06-2	1,2-Dichloroethane		0.9	20,000		0.62 U	0.62 U
78-87-5	1,2-Dichloropropane		40	400		0.02 U	0.02 U
108-67-8	1,3,5-Trimethylbenzene		60	600		22 J	3 J
106-99-0	1,3-butadiene		0.1	1		0.34 U	0.34 U
541-73-1	1,3-Dichlorobenzene		1.100	11.000		28 J	9.2
106-46-7	1,4-Dichlorobenzene		8,000	80,000		0.92 U	0.92 U
123-91-1	1,4-Dioxane					1.1 U	1.1 U
540-84-1	2,2,4-trimethylpentane					4.1	3.9 J
622-96-8	4-ethyltoluene					22 J	1.8 J
67-64-1	Acetone		3,500	35,000		180	100 J
107-05-1	Allyl chloride					0.48 U	0.48 U
71-43-2	Benzene		3.1	31		4.5	0.49 U
100-44-7	Benzyl chloride		0.5	5		0.88 U	0.88 U
75-27-4	Bromodichloromethane		1.4	14		1 U	1 U
75-25-2	Bromoform		22	220		1.6 U	1.6 U
74-83-9	Bromomethane		50	500		0.59 U	0.59 U
75-15-0	Carbon disulfide		7,000	70,000		12 J	0.95
56-23-5	Carbon tetrachloride		1.6	16		0.96 U	0.32 J
108-90-7	Chlorobenzene		600	6,000		0.7 U	0.7 U
75-00-3	Chloroethane		100,000	1,000,000		0.4 U	0.4 U
67-66-3	Chloroform		1.1	11		0.99	0.65 J
74-87-3	Chloromethane		24	240		0.31 U	0.67
156-59-2	cis-1,2-Dichloroethene		350	3,500		0.6 U	0.4 J
	cis-1,3-Dichloropropene		6.1 (a)	61 (a)		0.69 U	0.69 U
110-82-7	Cyclohexane					23 J	3.4 J
124-48-1	Dibromochloromethane		1.0	10		1.3 U	1.3 U
141-78-6	Ethyl acetate		32,000	320,000		8.4 J	8.4 J
100-41-4	Ethylbenzene		22	220		16 J	5.1 J
75-69-4	Freon 11		7,000	70,000		2.5	1.4
76-13-1	Freon 113		300,000	3,000,000		6.8	3
76-14-2	Freon 114					1.1 U	1.1 U
75-71-8	Freon 12		2,000	20,000		3.1	1.7
142-82-5	Heptane Hexachloro-1,3-butadiene		1.1	11		0.62 U	2.7 J 1.6 U
87-68-3 110-54-3	Hexacilloro-1,5-butadiene		2,000	20,000		1.6 U 0.54 U	2.4
67-63-0	Isopropyl alcohol		2,000	20,000		0.54 U 110 J	2.4 150
	m&p-Xylene		70,000	700,000		51 J	130 11 J
591-78-6	Methyl Butyl Ketone		70,000	700,000		9.6	1.2 U
78-93-3	Methyl Ethyl Ketone		10,000	100,000		9.0 14 J	5
108-10-1	Methyl Isobutyl Ketone		800	8,000		57 J	1.2 J
1634-04-4			30,000	300,000		0.55 U	0.55 U
75-09-2	Methylene chloride	60	52	520		0.53 U	0.49 J
95-47-6	o-Xylene		70,000	700,000		37 J	6.2 J
115-07-1	Propylene					0.26 U	0.26 U
100-42-5	Styrene		10,000	100,000		0.65 U	2.8 J
127-18-4	Tetrachloroethylene	100	8.1	81		61 J	1 J
109-99-9	Tetrahydrofuran					0.45 U	0.45 U
108-88-3	Toluene		4,000	40,000		30 J	27
156-60-5	trans-1,2-Dichloroethene		700	7,000		0.6 U	0.6 U
10061-02-			6.1 (a)	61 (a)		0.69 U	0.69 U
79-01-6	Trichloroethene	5	12 (b)	120 (b)		2	0.87 J
108-05-4	Vinyl acetate		2,000	20,000		0.54 U	0.54 U
	Vinyl Bromide					0.67 U	0.67 U
75-01-4	Vinyl chloride		2.8	28		0.39 U	0.39 U

Notes:

 $\begin{array}{l} \mbox{Notes.} \\ \mbox{$\mu g/m^3$} & \mbox{Micrograms per cubic meter} \\ \mbox{$USEPA - United States Environmental Protection Agency} \\ \mbox{$NYSDOH - New York State Department of Health} \\ \mbox{$SG - Soil Gas} \\ \mbox{$G - Soil Gas} \\ \mbox{$Micrograms per cubic meter} \\ \mbox{$Microgram per cubic meter} \\ \mbox{$Micrograms per meter$

AMB - Ambient Air

(a) 1,3-Dichloropropene used as a surrogate
 (b) Calculated from Regional Screening Level for resident air using an attenuation factor of 0.1 and 0.01, respect
 -- Value not available

U - Constituent not detected at reporting limit

J - Constituent concentration estimated

J - Constituent concentration estimated All screening values protective of a residential receptor. Samples collected < 5' bgs were compared to shallow soil gas screening levels Samples collected > 5' bgs were compared to deep soil gas screening levels Exceedances of a USEPA screening value were shaded

Table 7. Summary of Indoor Air, Ambient Air, and Sub-slab Soil Gas Sample Results at the Former Guard House, Former Northern Perimeter Ditch Supplemental Investigation Report, Former Lockheed Martin French Road Facility, Utica, New York.

Media Array Area PEL BASE Indeor Air Ambern Air Substab Soil Gas 1.1,1-Trichtorostnane 20.6 0.83 U 0.83 U 0.83 U 0.83 U 1.0 U 1.0 U 1.1,2.7 trichtorostnane 3.5 1.2 U 1		NYSDOH	OSHA	USEPA			
Date Collected: Guideline of the general sectors of the	Location ID: Media:				I-AMB	O-AMB Ambient Air	SG-GH-1 Sub-slab Soil Gas
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Heptane 2,000,000 0.62 U 0.62 U 0.46 J Hexachlorobutadiene <6.8							
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trans-1,3-Dichloropropene <1.3 0.69 U 0.69 U 0.69 U Trichloroethene 5 537,000 N/A 9.9 0.49 0.87 Trichlorofluoromethane 5,600,000 18.1 1.7 5.3 1.7 Vinyl Acetate 0.54 U 0.54 U 0.54 U Vinyl Bromide 0.67 U 0.67 U 0.67 U			754,000	43	1.6	1.4	
Trichloroethene 5 537,000 N/A 9.9 0.49 0.87 Trichlorofluoromethane 5,600,000 18.1 1.7 5.3 1.7 Vinyl Acetate 0.54 U 0.54 U 0.54 U Vinyl Bromide 0.67 U 0.67 U 0.67 U			790,000				
Trichlorofluoromethane 5,600,000 18.1 1.7 5.3 1.7 Vinyl Acetate 0.54 U 0.54 U 0.54 U Vinyl Bromide 0.67 U 0.67 U 0.67 U							
Vinyl Acetate 0.54 U 0.54 U 0.54 U Vinyl Bromide 0.67 U 0.67 U 0.67 U		-					
Vinyl Bromide 0.67 U 0.67 U 0.67 U			5,600,000				
	Vinyl Chloride			<1.9	0.10 U	0.10 U	0.39 U

Notes:

(a) New York State Department of Health (NYSDOH) Air Guideline values

(b) Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PELs)

(c) Occupational Safety and Realth Administration (CSRA) Permissible Exposure Limits (PELS)
 (c) 90th percentile of U.S. Environmental Protection Agency (USEPA) 2001 Building Assessment and Survey Evaluation (BASE) indoor air concentrations
 (d) Sub-slab soil gas and ambient air results for use in comparison to indoor air only; results not compared to guidelines, PELs, or background values
 (e) Indoor air results exceeding NYSDOH air guideline are shaded gray
 (f) Indoor air results exceeding the USEPA background value are boldfaced

--- - Value not established

J - Result qualified as estimated value due to detection at or below quantitiation limit, or due to results of Data Usability Summary Report

N/A - Not applicable

U - Not detected above the reporting limit

ug/m³ - Micrograms per cubic meter

Table 8. AOC 3 - Volatile Organic Compound Results for Soil Samples, Former Northern Perimeter Drainage Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

Solvent Dock Area, I onner Loc	Sample ID:	-	PZ-23 (6-7)	PZ-24 (10-11)	PZ-25 (7-8)	PZ-26 (8-9)
	Sample Date:	5/19/2010	5/18/2010	5/18/2010	5/17/2010	5/17/2010
	Unit:	SILT	SILT	CLAY	SILT	SILT
	PID Reading:	0.0	0.0	0.0	0.0	0.0
	<u>.</u>	010	0.0		0.0	0.0
<u>Soil</u>	Cleanup Objective					
ANALYTE (ug/kg)						
1,1,2-Trichlorotrifluoroethane		ND	ND	ND	ND	ND
Bromodichloromethane		ND J	ND J	ND J	ND J	ND J
Bromoform		ND J	ND J	ND J	ND J	ND J
Bromomethane		ND J	ND J	ND J	ND J	ND J
Carbon disulfide		ND J	ND J	ND J	ND J	ND J
Carbon Tetrachloride	44000	ND J	ND J	ND J	ND J	ND J
Chlorobenzene	1000000	ND	ND	ND	ND	ND
Chlorodibromomethane		ND J	ND J	ND J	ND J	ND J
Chloroethane		ND J	ND J	ND J	ND J	ND J
Chloroform	700000	ND	ND	ND	ND	ND
1,1-Dichloroethane	480000	ND	ND	ND	ND	ND
Chloromethane		ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1000000	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene		ND J	ND J	ND J	ND J	ND J
Cyclohexane		ND	5.3 UB	6.0 UB	ND	5.3 UB
Dichlorodifluoromethane		ND	ND	ND	ND	ND
1,1-Dichloroethene	1000000	ND	ND	ND	ND	ND
Ethylbenzene	780000	ND	ND	ND	ND	ND
Isopropylbenzene		ND	ND	ND	ND	ND
Methyl Acetate		ND	ND	ND	ND	ND
Methyl tert-Butyl Ether	1000000	ND	ND	ND	ND	ND
Methylcyclohexane		ND	ND	ND	ND	ND
Methylene Chloride	1000000	5.4 UBJ	5.3 UB	6.0 UB	5.0 UB	5.6 UBJ
Styrene		ND	ND	ND	ND	ND
Tetrachloroethene	300000	ND	ND	ND	ND	ND
Toluene	1000000	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1000000	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene		ND J	ND J	ND J	ND J	ND J
Trichloroethene	400000	ND	ND	ND	ND	ND
Trichlorofluoromethane		ND	ND	ND	ND	ND
Vinyl chloride	27000	ND	ND	ND	ND	ND
Xylenes, total	1000000	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene		ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane		ND	ND	ND	ND	ND
1,2-Dibromoethane (EDB)		ND	ND	ND	ND	ND
1,2-Dichlorobenzene	1000000	ND	ND	ND	ND	ND
1,2-Dichloroethane	60000	ND	ND	ND	ND	ND
1,2-Dichloroethene, Total	1000000	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	1000000	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND
1,3-Dichlorobenzene	560000	ND	ND	ND	ND	ND
1,4-Dichlorobenzene		ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane		ND	ND	ND	ND	ND
2-Butanone (MEK)	100000	ND	ND	ND	ND	ND
2-Hexanone		ND	ND	ND	ND	ND
1,1,2-Trichloroethane		ND J	ND J	ND J	ND J	ND J
4-Methyl-2-pentanone (MIBK)		ND	ND	ND	ND	ND
Acetone	1000000	ND J	ND J	ND J	ND J	ND J
Benzene	89000	ND J ND	ND 3	ND 3	ND 3	ND J
	03000	שאו	שא	IND	שא	טא

ug/kg - Micrograms per kilogram PID - Photo-ionization detector Note: Samples depths reported in feet below

ground surface. J - estimated value

U - Not Detected above laboratory detection limits

B - Detected in laboratory blank

Table 8. AOC 3 - Volatile Organic Compound Results for Soil Samples, Former Northern Perimeter Drainage Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

Solvent Dock Alea, I offiel Loci	Sample ID:	PZ-27 (9-10)	PZ-28 (15-16)	PZ-29 (6-7)	PZ-30 (10-11)	PZ-31 (17.5-18.5)
	Sample Date:	5/17/2010	5/25/2010	5/25/2010	5/25/2010	5/26/2010
	Unit:	CLAY	CLAY	SILT	CLAY	SILT
	PID Reading:	0.0	0.1	5.2	0.5	0.4
			•	0.2	0.0	••••
<u>Soil</u>	Cleanup Objective					
ANALYTE (ug/kg)						
1,1,2-Trichlorotrifluoroethane		ND	ND	ND	ND	ND
Bromodichloromethane		ND J	ND J	ND J	ND J	ND J
Bromoform		ND J	ND J	ND J	ND J	ND J
Bromomethane		ND J	ND	ND	ND	ND
Carbon disulfide		ND J	ND J	ND J	ND J	ND J
Carbon Tetrachloride	44000	ND J	ND J	ND J	ND J	ND J
Chlorobenzene	1000000	ND	ND	ND	ND	ND
Chlorodibromomethane		ND J	ND J	ND J	ND J	ND J
Chloroethane		ND J	ND	13	ND	ND
Chloroform	700000	ND	ND	ND	ND	ND
1,1-Dichloroethane	480000	ND	ND	ND	ND	ND
Chloromethane		ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1000000	ND	ND	59	ND	ND
cis-1,3-Dichloropropene		ND J	ND J	ND J	ND J	ND J
Cyclohexane		5.3 UB	ND	ND	ND	ND
Dichlorodifluoromethane		ND	ND	ND	ND	ND
1,1-Dichloroethene	1000000	ND	ND	ND	ND	ND
Ethylbenzene	780000	ND	ND	ND	ND	ND
Isopropylbenzene		ND	ND	ND	ND	ND
Methyl Acetate		ND	ND	ND	ND	ND
Methyl tert-Butyl Ether	1000000	ND	ND	ND	ND	ND
Methylcyclohexane		ND	ND	ND	ND	ND
Methylene Chloride	1000000	5.3 UBJ	33 UBJ	44 UBJ	51 UBJ	9.7 UBJ
Styrene		ND	ND	ND	ND	ND
Tetrachloroethene	300000	ND	ND	ND	ND	ND
Toluene	1000000	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1000000	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene		ND J	ND J	ND J	ND J	ND J
Trichloroethene	400000	ND	ND	ND	ND	ND
Trichlorofluoromethane		ND	ND	ND	ND	ND
Vinyl chloride	27000	ND	ND	140	ND	ND
Xylenes, total	1000000	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene 1,2-Dibromo-3-chloropropane		ND ND	ND ND	ND ND	ND ND	ND ND
· · · · · · · · · · · · · · · · · · ·		ND ND	ND	ND ND	ND	ND
1,2-Dibromoethane (EDB) 1,2-Dichlorobenzene	 1000000	ND ND	ND ND	ND ND	ND	ND ND
1,2-Dichloroethane	60000	ND ND	ND	ND ND	ND	ND
,	100000	ND ND	ND	59	ND	ND
1,2-Dichloroethene, Total						
1,1,1-Trichloroethane 1,2-Dichloropropane	1000000	ND ND	ND ND	ND ND	ND ND	ND ND
1,2-Dichloropropane	560000	ND ND	ND ND	ND ND	ND ND	ND
1,4-Dichlorobenzene		ND ND	ND	ND ND	ND	ND
1,1,2,2-Tetrachloroethane		ND ND	ND	ND ND	ND	ND
2-Butanone (MEK)	100000	ND	ND	ND	ND	ND
2-Butanone (MEK) 2-Hexanone		ND ND	ND	ND ND	ND	ND
1,1,2-Trichloroethane		ND J	ND	ND ND	ND	ND
4-Methyl-2-pentanone (MIBK)		ND J	ND	ND ND	ND	ND
Acetone	1000000	26 UBJ	3 UB	26 UB	42 UB	26 UB
Benzene	89000	ND	30B 33	ND	ND	ND 20 UB
	03000	IND		IND		

ug/kg - Micrograms per kilogram PID - Photo-ionization detector Note: Samples depths reported in feet below

ground surface. J - estimated value

U - Not Detected above laboratory detection limits

B - Detected in laboratory blank

Table 8. AOC 3 - Volatile Organic Compound Results for Soil Samples, Former Northern Perimeter Drainage Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

	Sample ID:	PZ-32 (13-14)	PZ-33 (10-11)	PZ-34 (6-7)	PZ-35 (5-6)	PZ-36 (11-12)
	Sample Date:	5/26/2010	5/26/2010	5/20/2010	5/20/2010	5/21/2010
	Unit:	CLAY	SAND	SILT	SILT	SILT
	PID Reading:	0.7	0.8	2.6	0.2	0.1
Soil	Cleanup Objective					
ANALYTE (ug/kg)						
1,1,2-Trichlorotrifluoroethane		ND	ND	ND	ND	ND J
Bromodichloromethane		ND J	ND J	ND	ND J	ND J
Bromoform		ND J	ND J	ND J	ND J	ND J
Bromomethane		ND	ND	ND J	ND J	ND J
Carbon disulfide		ND J	ND J	ND J	ND J	ND J
Carbon Tetrachloride	44000	ND J	ND J	ND J	ND J	ND J
Chlorobenzene	100000	ND	ND	ND	ND	ND J
Chlorodibromomethane		ND J	ND J	ND J	ND J	ND J
Chloroethane		ND	ND	ND J	ND J	ND J
Chloroform	700000	ND	ND	ND	ND	ND J
1,1-Dichloroethane	480000	ND	ND	ND	ND	ND J
Chloromethane		ND	ND	ND	ND	ND 3
cis-1,2-Dichloroethene	100000	ND	ND	2.4 J	ND	ND J
cis-1,3-Dichloropropene		ND J	ND J	ND J	ND J	ND J
Cyclohexane		ND	ND	ND	5.4 UBJ	5.4 UBJ
Dichlorodifluoromethane		ND	ND J	ND	ND	000 ND
1,1-Dichloroethene	100000	ND	ND J ND	ND ND	ND	ND J
Ethylbenzene	780000	ND	ND	ND	ND	ND J
		ND ND	ND	ND	ND	ND J
Isopropylbenzene		ND ND	ND	ND ND		ND J
Methyl Acetate					ND	-
Methyl tert-Butyl Ether	1000000	ND	ND	ND ND	ND	ND
Methylcyclohexane		ND	ND		ND	ND J
Methylene Chloride	1000000	32 UBJ	14 UBJ	5.2 UBJ	6.9 UBJ	5.4 UBJ
Styrene	300000	ND	ND	ND	ND ND	ND J
Tetrachloroethene	100000	ND	ND	ND ND	ND ND	ND J ND J
Toluene		ND	ND			
trans-1,2-Dichloroethene	1000000	ND	ND	ND	ND	ND J
trans-1,3-Dichloropropene		ND J	ND J	ND J	ND J	ND J
Trichloroethene	400000	ND	ND	ND	ND	ND J
Trichlorofluoromethane		ND	ND	ND	ND	ND J
Vinyl chloride	27000	ND	ND	ND	ND	ND J
Xylenes, total	100000	ND	ND	ND	ND	ND J
1,2,4-Trichlorobenzene		ND	ND	ND ND	ND	ND R
1,2-Dibromo-3-chloropropane		ND	ND		ND	ND J
1,2-Dibromoethane (EDB)		ND	ND	ND	ND	ND J
1,2-Dichlorobenzene	100000	ND	ND	ND	ND	ND J
1,2-Dichloroethane	60000	ND	ND	ND	ND	ND J
1,2-Dichloroethene, Total	1000000	ND	ND	ND	ND	ND J
1,1,1-Trichloroethane	100000	ND	ND	ND	ND	ND J
1,2-Dichloropropane		ND	ND	ND	ND	ND J
1,3-Dichlorobenzene	560000	ND	ND	ND	ND	ND J
1,4-Dichlorobenzene		ND	ND	ND	ND	ND J
1,1,2,2-Tetrachloroethane		ND	ND	ND	ND	ND J
2-Butanone (MEK)	100000	ND	ND	ND	ND	ND J
2-Hexanone		ND	ND	ND	ND	ND J
1,1,2-Trichloroethane		ND	ND	ND J	ND J	ND J
4-Methyl-2-pentanone (MIBK)		ND	ND	ND	ND	ND J
Acetone	1000000	30 UB	25 UB	ND J	27 UBJ	27 UBJ
Benzene	89000	ND	ND	ND	ND	ND J

ug/kg - Micrograms per kilogram PID - Photo-ionization detector Note: Samples depths reported in feet below

ground surface. J - estimated value

U - Not Detected above laboratory detection limits

B - Detected in laboratory blank

Table 8. AOC 3 - Volatile Organic Compound Results for Soil Samples, Former Northern Perimeter Drainage Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

Solveni Dock Area, i onner Loc	Sample ID:	-	PZ-40 (10-10.5)	PZ-41 (5-6)	PZ-42 (6-7)	A1-B1 (5-6)
	Sample Date:	5/24/2010	5/25/2010	5/25/2010	5/25/2010	5/27/2010
	Unit:	SILT	SILT	SILT	SILT	SILT
	PID Reading:	0.4	0.4	0.5	2.1	1.6
	<u>.</u>	•••	••••	0.0		
Soil	Cleanup Objective					
ANALYTE (ug/kg)						
1,1,2-Trichlorotrifluoroethane		ND	ND	ND	ND	ND
Bromodichloromethane		ND J	ND J	ND J	ND J	ND J
Bromoform		ND J	ND J	ND J	ND J	ND J
Bromomethane		ND	ND	ND	ND	ND
Carbon disulfide		ND J	ND J	ND J	ND J	ND J
Carbon Tetrachloride	44000	ND J	ND J	ND J	ND J	ND J
Chlorobenzene	1000000	ND	ND	ND	ND	ND
Chlorodibromomethane		ND J	ND J	ND J	ND J	ND J
Chloroethane		ND	ND	ND	ND	ND
Chloroform	700000	ND	ND	ND	ND	ND
1,1-Dichloroethane	480000	ND	ND	ND	ND	ND
Chloromethane		ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1000000	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene		ND J	ND	ND J	ND J	ND J
Cyclohexane		ND	ND	ND	ND	ND
Dichlorodifluoromethane		ND	ND	ND	ND	ND
1,1-Dichloroethene	1000000	ND	ND	ND	ND	ND
Ethylbenzene	780000	ND	ND	ND	ND	ND
Isopropylbenzene		ND	ND	ND	ND	ND
Methyl Acetate		ND	ND	ND	ND	ND
Methyl tert-Butyl Ether	1000000	ND	ND	ND	ND	ND
Methylcyclohexane		ND	ND	ND	ND	ND
Methylene Chloride	1000000	50 UBJ	65 UBJ	44 UBJ	51 UBJ	31 UBJ
Styrene		ND	ND	ND	ND	ND
Tetrachloroethene	300000	ND	ND	ND	ND	ND
Toluene	1000000	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1000000	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene		ND J	ND J	ND J	ND J	ND J
Trichloroethene	400000	ND	ND	ND	ND	ND
Trichlorofluoromethane		ND	ND	ND	ND	ND
Vinyl chloride	27000	ND	ND	ND	ND	19
Xylenes, total	1000000	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene		ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane		ND	ND	ND	ND	ND
1,2-Dibromoethane (EDB)		ND	ND	ND	ND	ND
1,2-Dichlorobenzene	1000000	ND	ND	ND	ND	ND
1,2-Dichloroethane	60000	ND	ND	ND	ND	ND
1,2-Dichloroethene, Total	100000	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	1000000	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND
1,3-Dichlorobenzene	560000	ND	ND	ND	ND	ND
1,4-Dichlorobenzene		ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane		ND	ND	ND	ND	ND
2-Butanone (MEK)	100000	ND	23 J	3.0 J	ND	ND
2-Hexanone		ND	ND ND		ND	ND
1,1,2-Trichloroethane		ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)		ND	ND	ND	ND	ND
Acetone	1000000	26 UB	170	41 UB	31 UB	27 UB
Benzene	89000	ND	ND	ND	ND	ND
Belizene	03000	ND	UND .	ND	שא	טא

ug/kg - Micrograms per kilogram PID - Photo-ionization detector Note: Samples depths reported in feet below

ground surface. J - estimated value

U - Not Detected above laboratory detection limits

B - Detected in laboratory blank

Table 8. AOC 3 - Volatile Organic Compound Results for Soil Samples, Former Northern Perimeter Drainage Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

Solvent Dock Area, I onner Loc		A1-B2 (18-19)	A1-B3 (5-6)	A2-B1 (7-8)	A2-B2 (11-12)	A2-B3 (6-7)
	Sample Date:	5/27/2010	5/27/2010	5/26/2010	5/26/2010	5/27/2010
	Unit:	SILT	SILT	SILT	CLAY	SILT
	PID Reading:	0.2	1.7	75.2	109.2	0.3
	<u>.</u>	•				0.0
Soil	Cleanup Objective					
ANALYTE (ug/kg)						
1,1,2-Trichlorotrifluoroethane		ND	ND	29 J	ND	ND
Bromodichloromethane		ND J	ND J	ND J	ND J	ND
Bromoform		ND J	ND J	ND J	ND J	ND J
Bromomethane		ND	ND	ND	ND	ND J
Carbon disulfide		ND J	ND J	6.6 J	ND J	ND J
Carbon Tetrachloride	44000	ND J	ND J	ND J	ND J	ND J
Chlorobenzene	1000000	ND	ND	ND	ND	ND
Chlorodibromomethane		ND J	ND J	ND J	ND J	ND J
Chloroethane		ND	ND	ND	ND	ND
Chloroform	700000	ND	ND	ND	ND	ND
1,1-Dichloroethane	480000	ND	ND	890 D	35	ND
Chloromethane		ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1000000	ND	ND	6100	3400 D	ND
cis-1,3-Dichloropropene		ND J	ND J	ND J	ND J	ND J
Cyclohexane		ND	ND	ND	ND	ND
Dichlorodifluoromethane		ND	ND	ND	ND	ND
1,1-Dichloroethene	1000000	ND	ND	ND	3.9 J	ND
Ethylbenzene	780000	ND	ND	ND J	12	ND
Isopropylbenzene		ND	ND	ND	ND	ND
Methyl Acetate		ND	ND	ND	ND	ND
Methyl tert-Butyl Ether	1000000	ND	ND	ND	ND	ND
Methylcyclohexane		ND	ND	ND	ND	ND
Methylene Chloride	1000000	33 UBJ	31	36 UBJ	29 UBJ	31 UBJ
Styrene		ND	ND	ND	ND	ND
Tetrachloroethene	300000	ND	ND	4.8 J	210000 D	ND
Toluene	1000000	ND	ND	ND J	5.1 UB	ND
trans-1,2-Dichloroethene	1000000	ND	ND	ND J	ND	ND
trans-1,3-Dichloropropene		ND J	ND J	ND J	ND J	ND J
Trichloroethene	400000	ND	ND	58 J	36000 D	ND
Trichlorofluoromethane		ND	ND	ND J	ND	ND
Vinyl chloride	27000	ND	22	9.8	28	ND
Xylenes, total	1000000	ND	ND	ND J	ND	ND
1,2,4-Trichlorobenzene		ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane		ND	ND	ND	ND	ND
1,2-Dibromoethane (EDB)		ND	ND	ND	ND	ND
1.2-Dichlorobenzene	1000000	ND	ND	ND J	ND	ND
1,2-Dichloroethane	60000	ND	ND	ND J	ND	ND
1,2-Dichloroethene, Total	1000000	ND	ND	6100 D	390	ND
1,1,1-Trichloroethane	1000000	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND
1.3-Dichlorobenzene	560000	ND	ND	ND	ND	ND
1,4-Dichlorobenzene		ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane		ND	ND	ND	ND	ND
2-Butanone (MEK)	1000000	ND	ND	ND	ND	ND
2-Hexanone		ND	ND	ND	ND	ND
1,1,2-Trichloroethane		ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)		ND	ND	ND	ND	ND
Acetone	1000000	26 UB	27 UB	27 UB	25 UB	30 UB
Benzene	89000	ND	ND	ND J	ND 25 0B	ND
Benzene	03000	UNI	UND	IND J	ND	ND

ug/kg - Micrograms per kilogram PID - Photo-ionization detector Note: Samples depths reported in feet below

ground surface. J - estimated value

U - Not Detected above laboratory detection limits

B - Detected in laboratory blank

Table 8. AOC 3 - Volatile Organic Compound Results for Soil Samples, Former Northern Perimeter Drainage Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

Solvent Dock Area, Former Lock	Sample ID:	A2-B4 (5-6)	A2-B5 (8-9)	A2-B6 (7-8)	A2-B8 (9-10)	A2-B9 (10-11)
	Sample Date:	6/2/2010	6/2/2010	6/2/2010	6/2/2010	6/2/2010
	Unit:	SILT	SILT	CLAY	SILT	SILT
	PID Reading:	1.0	6.3	0.8	346.5	145.2
	Cleanup Objective					
ANALYTE (ug/kg)		ND	ND	ND	4000	ND
1,1,2-Trichlorotrifluoroethane		ND	ND ND J	ND ND J	1200 ND J	ND ND J
Bromodichloromethane		ND J	-		-	-
Bromoform		ND J	ND J ND J	ND J ND	ND J ND	ND J ND J
Bromomethane		ND J	-			-
Carbon disulfide Carbon Tetrachloride		ND J	ND J	ND J	ND J	ND J
	44000	ND J	ND J ND J	ND J ND	ND J ND	ND J ND
Chlorobenzene	1000000	ND				
Chlorodibromomethane		ND J ND	ND J ND	ND J ND	ND J ND	ND J ND
Chloroethane						
Chloroform	700000	ND	ND	ND	ND 270	ND 12
1,1-Dichloroethane	480000	ND	ND J	ND	270	12 ND
Chloromethane		ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1000000	ND	ND J	ND	2600	200
cis-1,3-Dichloropropene		ND J	ND J	ND J	ND J	ND
Cyclohexane		ND	ND	ND	ND	ND
Dichlorodifluoromethane		ND	ND	ND	ND	ND
1,1-Dichloroethene	1000000	ND	ND	ND	ND	ND
Ethylbenzene	780000	ND	ND J	ND	ND	8.5
Isopropylbenzene		ND	ND	ND	ND	ND
Methyl Acetate		ND	ND	ND	ND J	ND
Methyl tert-Butyl Ether	1000000	ND	ND	ND	ND	ND
Methylcyclohexane		ND	ND	ND	ND	ND
Methylene Chloride	1000000	13 UBJ	13 UBJ	8.8 UBJ	110 UBJ	11 UBJ
Styrene		ND	ND	ND	ND	ND
Tetrachloroethene	300000	ND	ND J	ND	3300	110000 D
Toluene	1000000	ND	ND J	ND	110 UBJ	5.8
trans-1,2-Dichloroethene	1000000	ND	ND J	ND	ND	ND
trans-1,3-Dichloropropene		ND J	ND J	ND J	ND J	ND J
Trichloroethene	400000	ND	ND J	ND	26000 D	19000 D
Trichlorofluoromethane		ND	ND	ND	ND	ND
Vinyl chloride	27000	ND	ND	ND	ND	3.3
Xylenes, total	1000000	ND	ND J	ND	ND	2.4
1,2,4-Trichlorobenzene		ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane		ND J	ND J	ND J	ND J	ND J
1,2-Dibromoethane (EDB)		ND	ND	ND	ND	ND
1,2-Dichlorobenzene	1000000	ND	ND J	ND	ND	ND
1,2-Dichloroethane	60000	ND	ND J	ND	ND	ND
1,2-Dichloroethene, Total	1000000	ND	ND	ND	2600	200
1,1,1-Trichloroethane	1000000	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND
1,3-Dichlorobenzene	560000	ND	ND	ND	ND	ND
1,4-Dichlorobenzene		ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane		ND	ND	ND	ND	ND
2-Butanone (MEK)	1000000	ND	ND	ND	ND J	ND
2-Hexanone		ND	ND	ND	ND J	ND
1,1,2-Trichloroethane		ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)		ND	ND	ND	ND J	ND
Acetone	1000000	27 UB	27 UBJ	32 UBJ	ND	26 UB

ug/kg - Micrograms per kilogram PID - Photo-ionization detector Note: Samples depths reported in feet below

ground surface. J - estimated value

U - Not Detected above laboratory detection limits

B - Detected in laboratory blank

Table 8. AOC 3 - Volatile Organic Compound Results for Soil Samples, Former Northern Perimeter Drainage Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.

	Sample ID:	A2-B10 (9-10)
	Sample Date:	6/2/2010
	Unit:	SILT
	PID Reading:	3.0
	i ib itouuiigi	010
Soil	Cleanup Objective	
ANALYTE (ug/kg)		
1,1,2-Trichlorotrifluoroethane		ND
Bromodichloromethane		ND J
Bromoform		ND J
Bromomethane		ND
Carbon disulfide		ND J
Carbon Tetrachloride	44000	ND J
Chlorobenzene	1000000	ND
Chlorodibromomethane		ND J
Chloroethane		ND
Chloroform	700000	ND
1,1-Dichloroethane	480000	ND
Chloromethane		ND
cis-1,2-Dichloroethene	1000000	4.3 J
cis-1,3-Dichloropropene		ND J
Cyclohexane		ND
Dichlorodifluoromethane		ND
1,1-Dichloroethene	1000000	ND
Ethylbenzene	780000	ND
Isopropylbenzene		ND
Methyl Acetate		ND
Methyl tert-Butyl Ether	1000000	ND
Methylcyclohexane		ND
Methylene Chloride	1000000	8.1 UBJ
Styrene		ND
Tetrachloroethene	300000	33
Toluene	100000	ND
trans-1,2-Dichloroethene	100000	ND
trans-1,3-Dichloropropene		ND J
Trichloroethene	400000	31
Trichlorofluoromethane		ND
Vinyl chloride	27000	ND
Xylenes, total	100000	ND
1,2,4-Trichlorobenzene		ND ND
1,2-Dibromo-3-chloropropane		
1,2-Dibromoethane (EDB)		ND
1,2-Dichlorobenzene	100000	ND
1,2-Dichloroethane	60000 1000000	ND
1,2-Dichloroethene, Total		4.3 J
1,1,1-Trichloroethane	1000000	ND
1,2-Dichloropropane	 560000	ND ND
1,3-Dichlorobenzene 1,4-Dichlorobenzene	500000	ND
1,1,2,2-Tetrachloroethane		ND
2-Butanone (MEK)	100000	ND
2-Butarione (MEK) 2-Hexanone		ND
1,1,2-Trichloroethane		ND
4-Methyl-2-pentanone (MIBK)		ND
Acetone	1000000	ND
Benzene	89000	ND
2012010	00000	

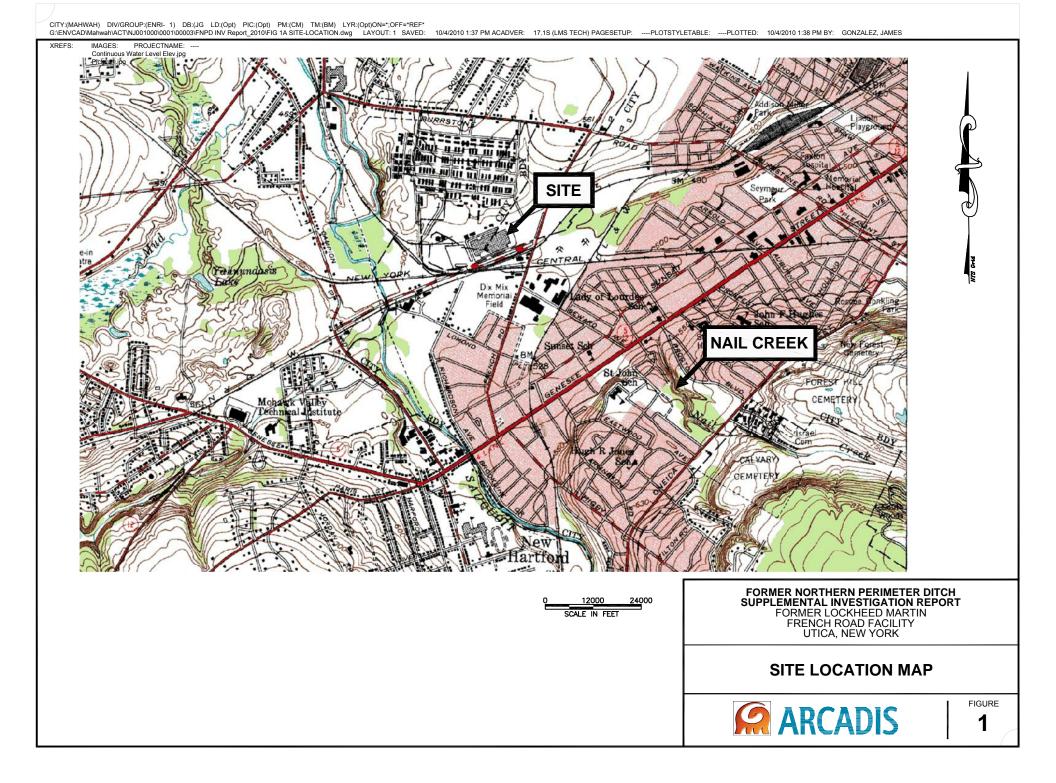
ug/kg - Micrograms per kilogram PID - Photo-ionization detector Note: Samples depths reported in feet below

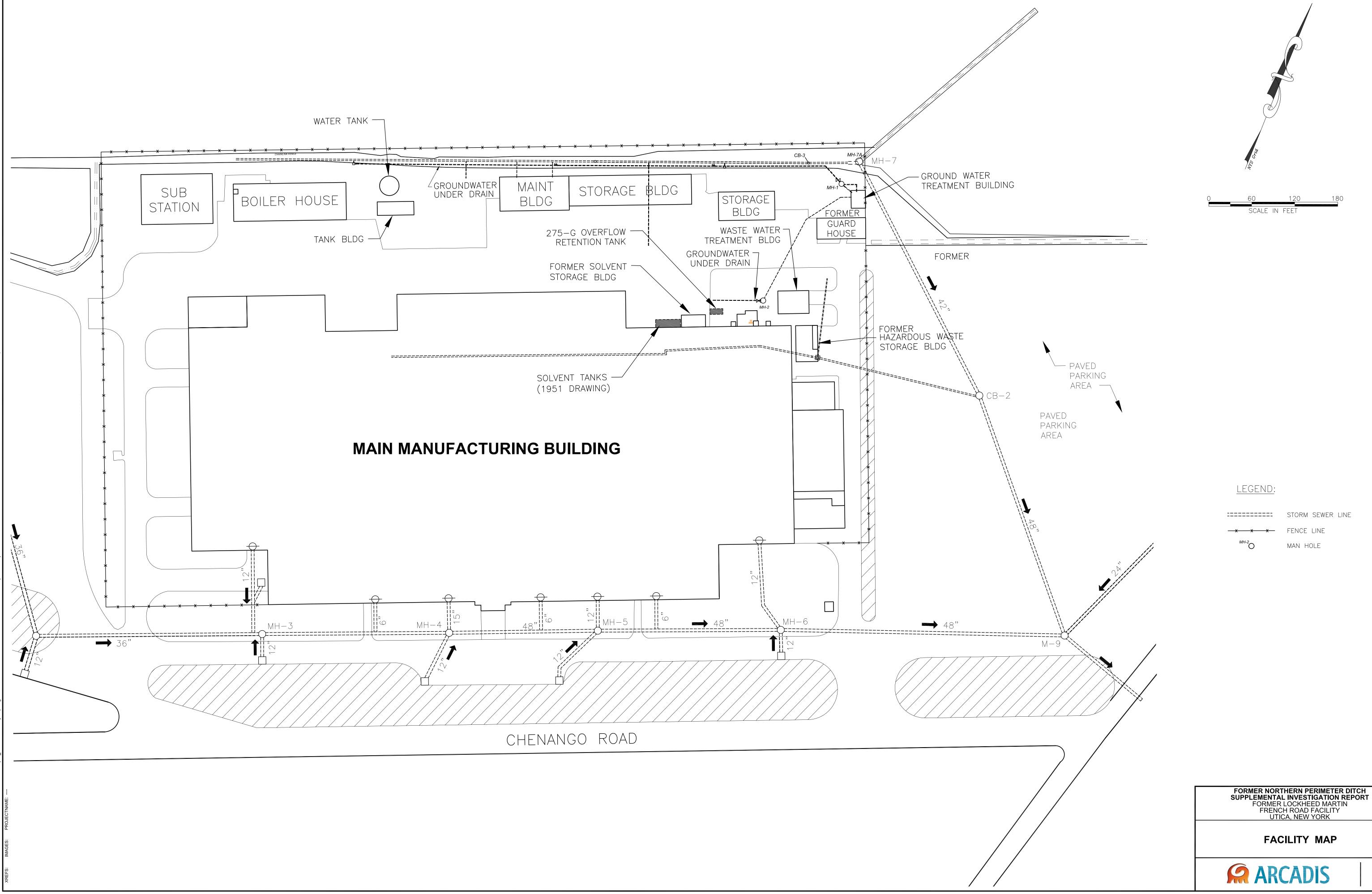
ground surface. J - estimated value

U - Not Detected above laboratory detection limits

B - Detected in laboratory blank

Figures





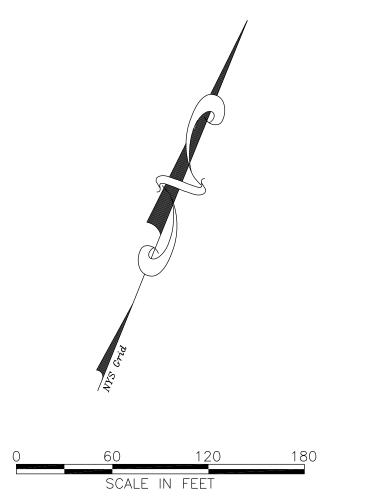
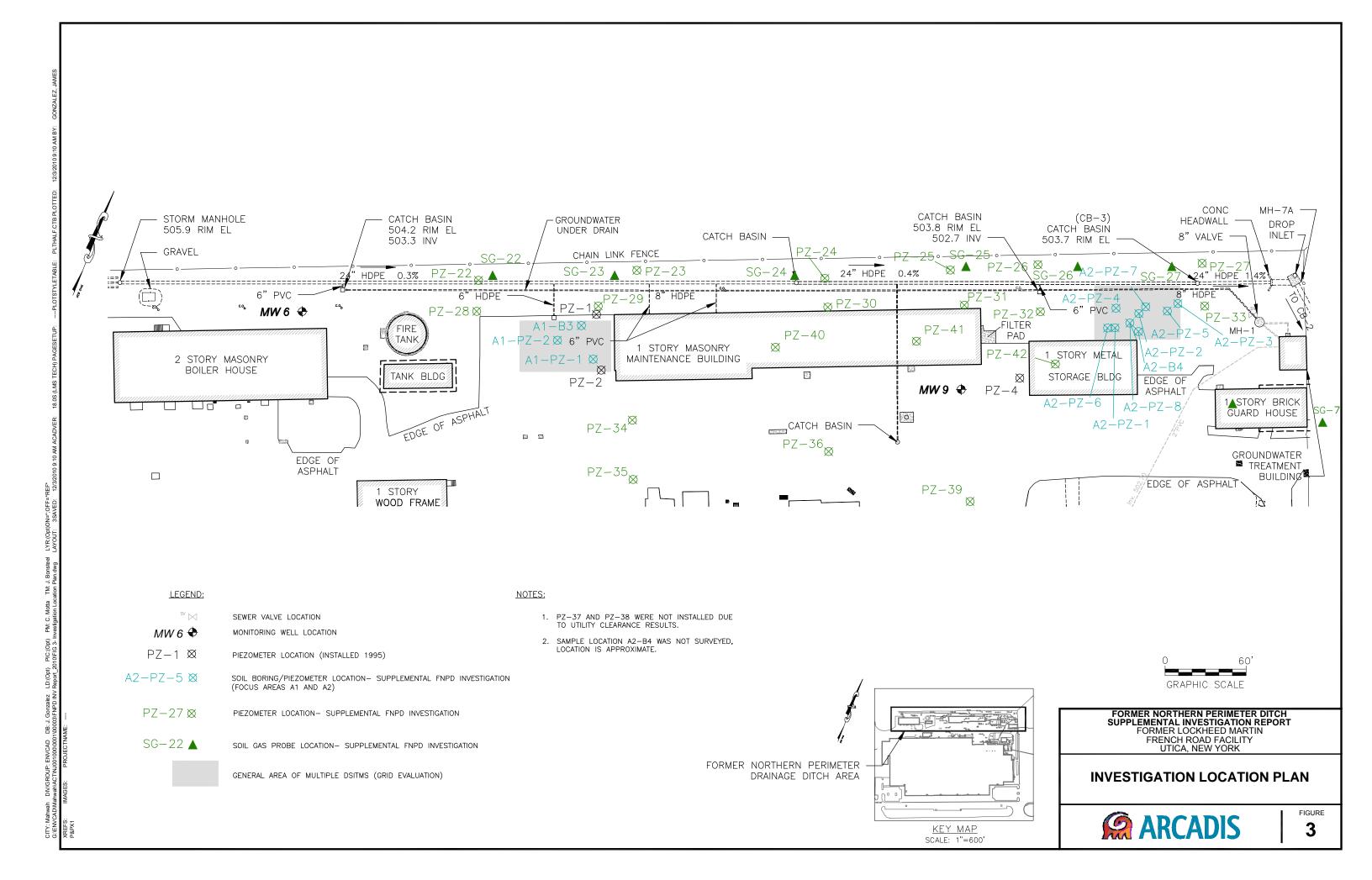
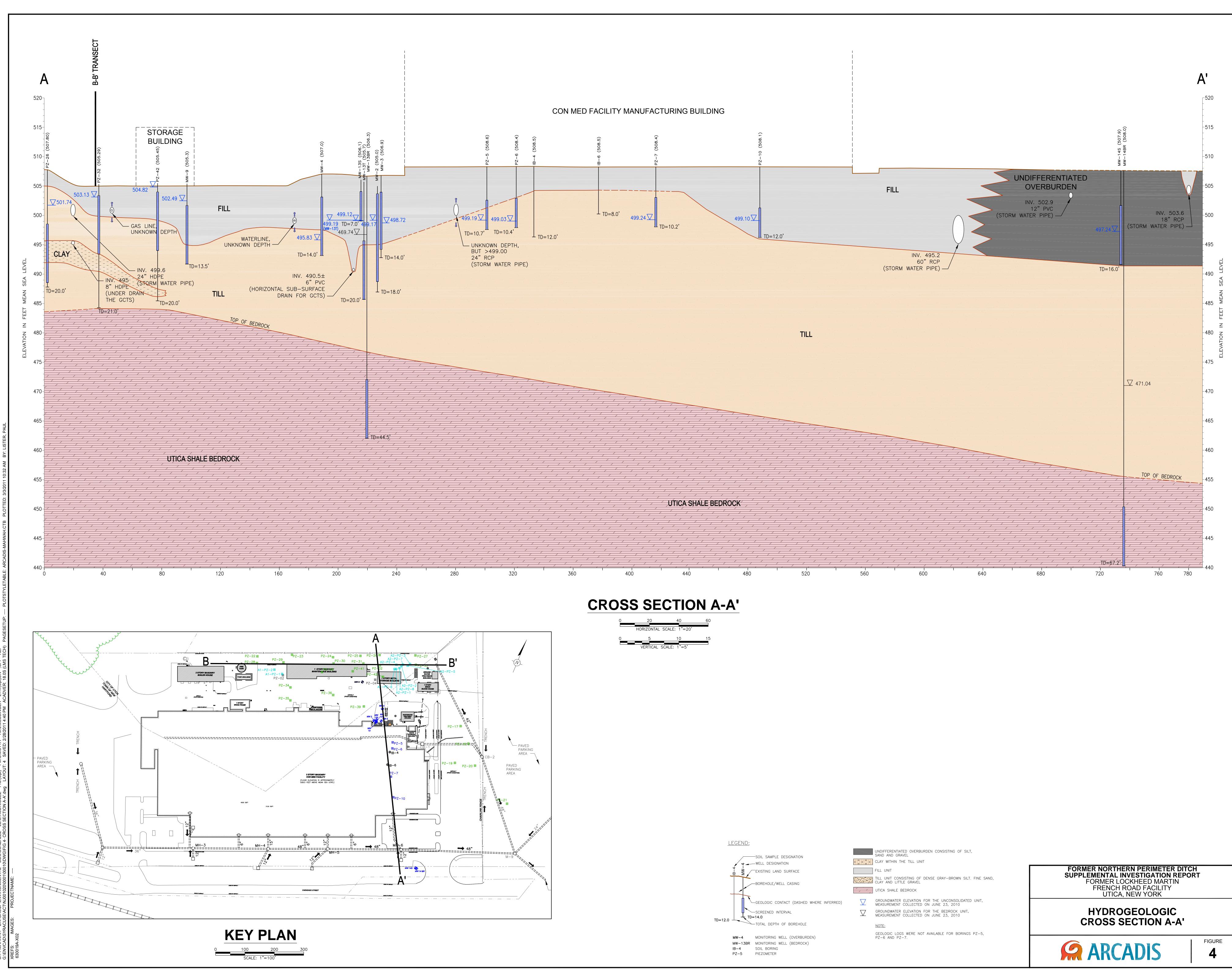
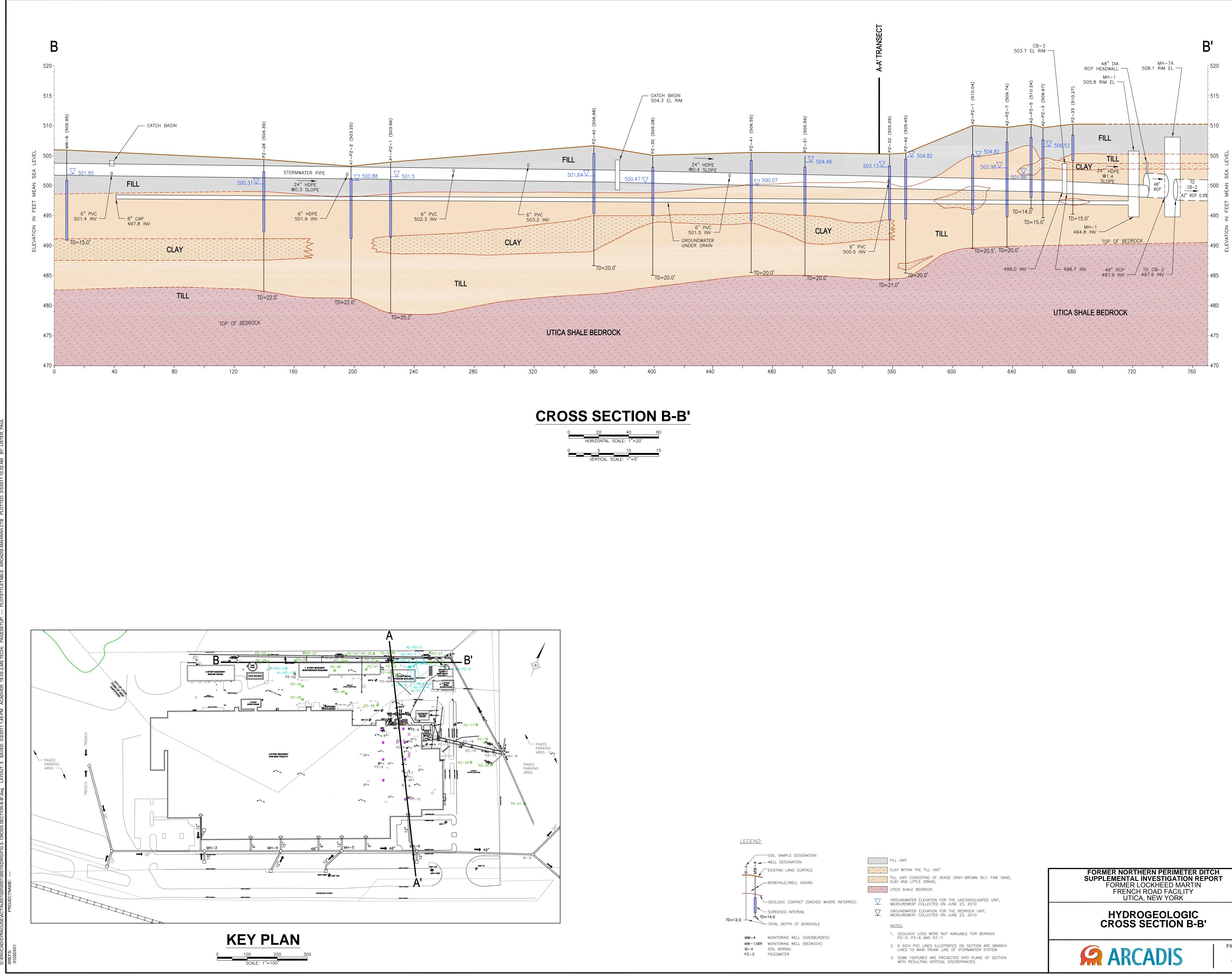


FIGURE 2

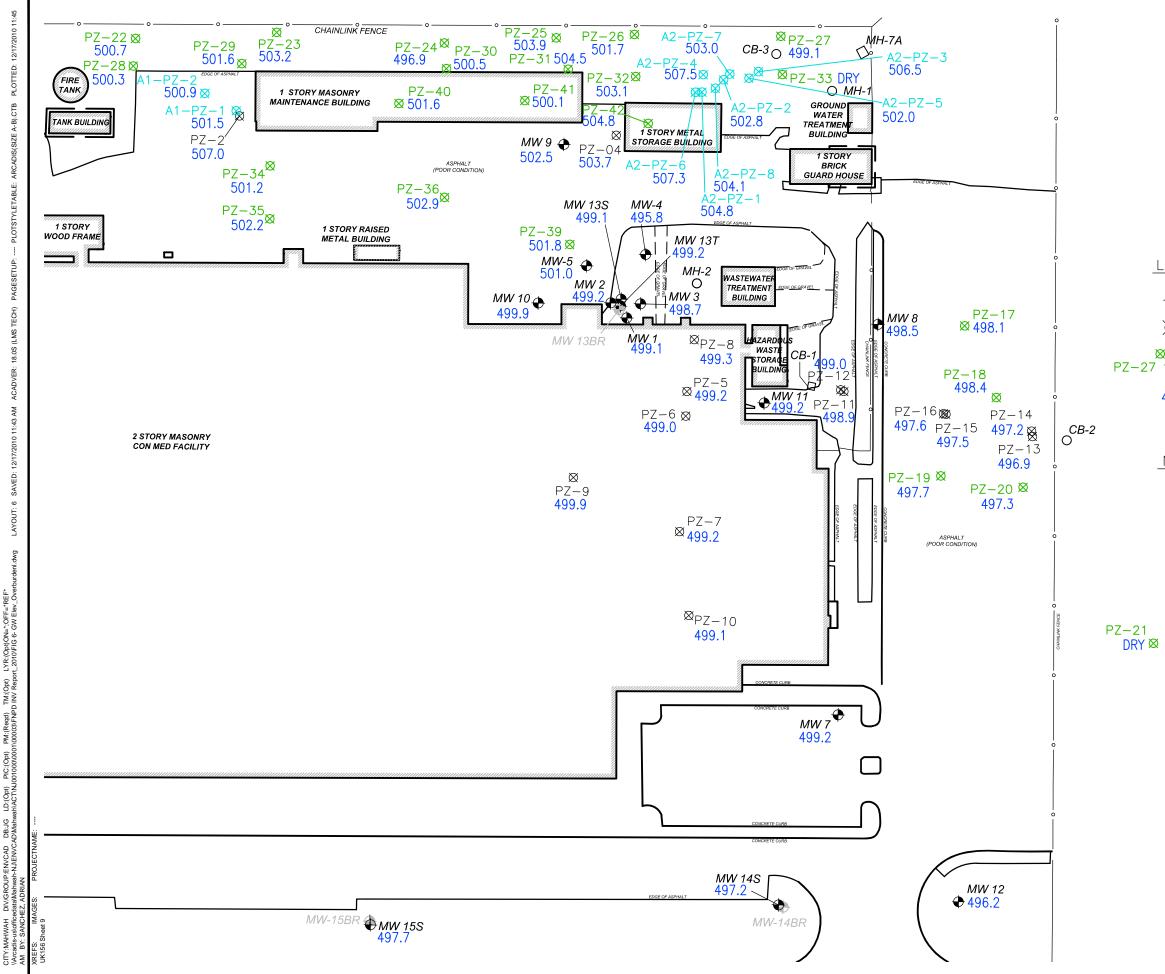






L	EGEND
_	

FIGURE 5



PM:(Reqd)

PIC:(Opt) 001000/0001

LD:(Opt)

DB:JG

ENVCAD

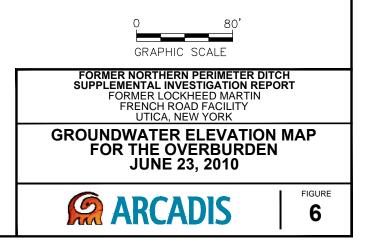


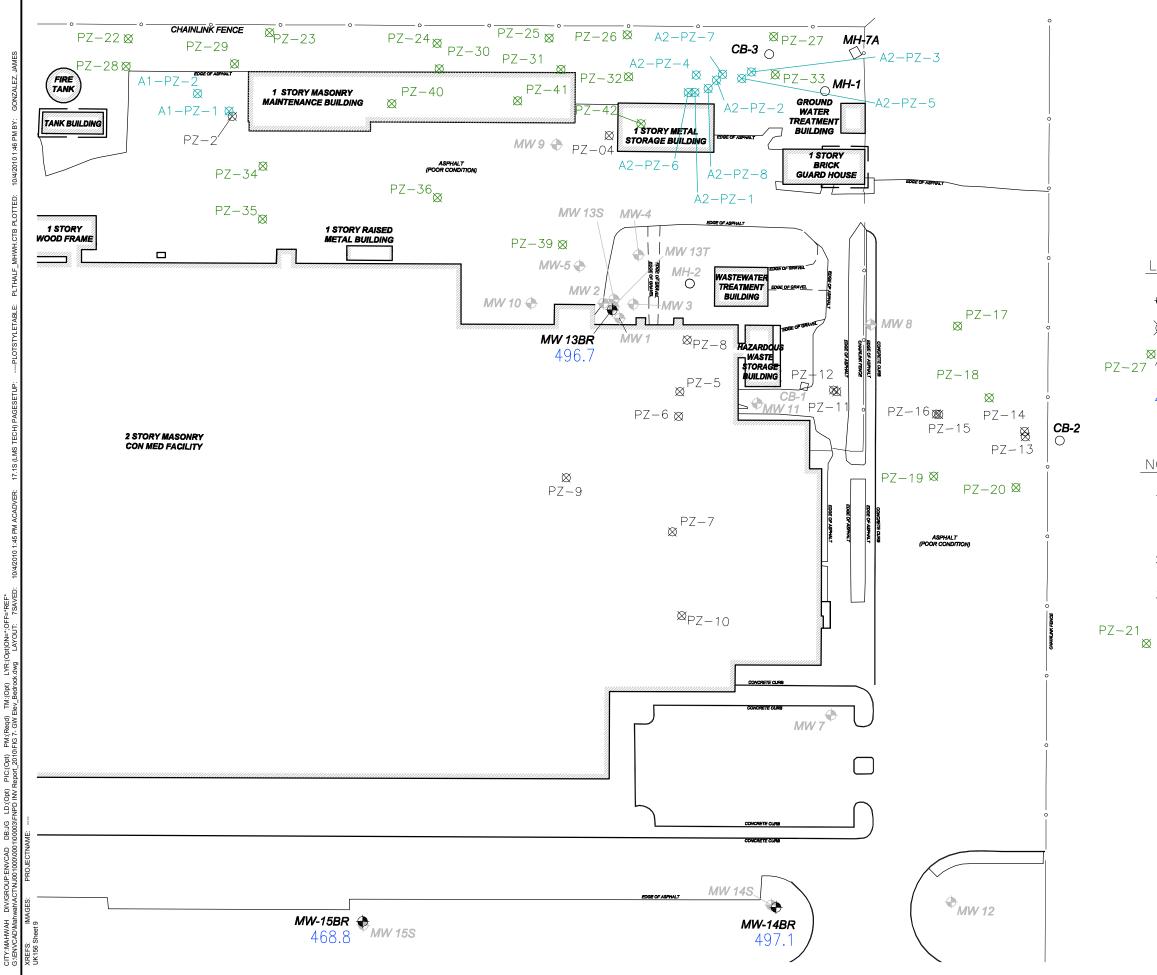
LEGEND:

🕂 MW 10	MONITORING WELL LOCATION
₩ PZ-9	PIEZOMETER LOCATION
⊗/⊗ A2-PZ-5	PIEZOMETER LOCATION- SUPPLEMENTAL FNPD INVESTIGATION
496.9	GROUNDWATER ELEVATION

NOTE:

- 1. LOCATIONS SURVEYED HORIZONTALLY TO THE NORTH AMERICAN DATUM OF 1983 (NAD 83), VERTICAL SURVEY CONTROL IS AN ON-SITE BENCHMARK AT THE SOUTHEAST CORNER OF THE BOILER HOUSE.
- 2. DEPTH TO WATER MEASUREMENTS COLLECTED ON JUNE 23, 2010.
- 3. GCTS UNDER OPERATION DURING WELL GAUGING EVENT.



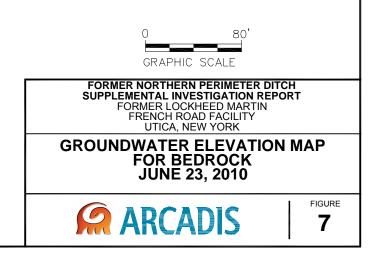




LEGEND:

🕀 MW 13BR	MONITORING WELL LOCATION
X PZ-9	PIEZOMETER LOCATION
⊠/⊠ A2-PZ-5	PIEZOMETER LOCATION- SUPPLEMENTAL FNPD INVESTIGATION
496.7	GROUNDWATER ELEVATION

- NOTE:
- LOCATIONS SURVEYED HORIZONTALLY TO THE NORTH AMERICAN DATUM OF 1983 (NAD 83), VERTICAL SURVEY CONTROL IS AN ON-SITE BENCHMARK AT THE SOUTHEAST CORNER OF THE BOILER HOUSE.
- 2. DEPTH TO WATER MEASUREMENTS COLLECTED ON JUNE 23, 2010.
- 3. GCTS UNDER OPERATION DURING WELL GAUGING EVENT.



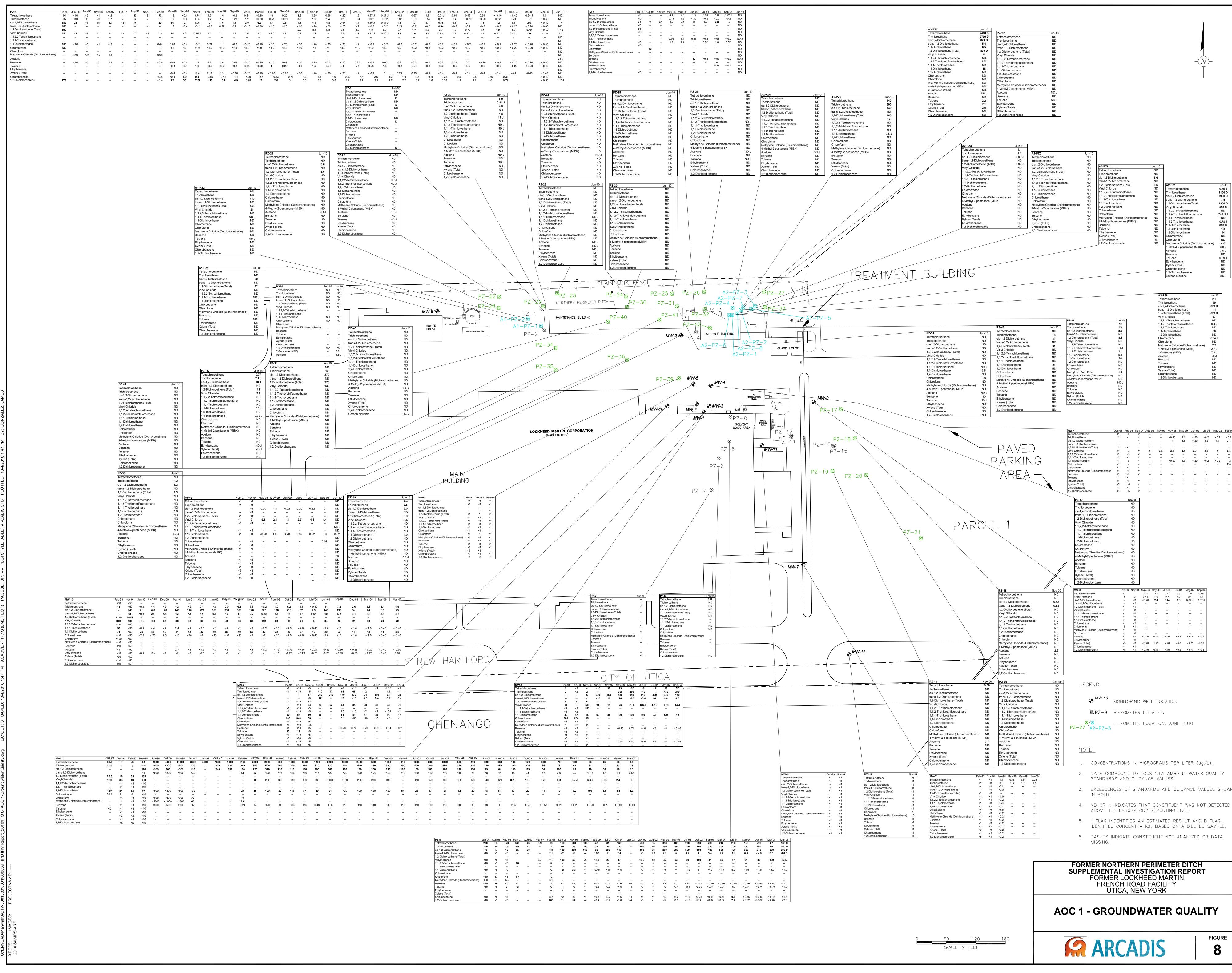


FIGURE 8

FORMER NORTHERN PERIMETER DITCH SUPPLEMENTAL INVESTIGATION REPORT

- 6. DASHES INDICATE CONSTITUENT NOT ANALYZED OR DATA
- 5. J FLAG INDENTIFIES AN ESTIMATED RESULT AND D FLAG IDENTIFIES CONCENTRATION BASED ON A DILUTED SAMPLE.
- ABOVE THE LABORATORY REPORTING LIMIT.
- 2. DATA COMPOUND TO TOGS 1.1.1 AMBIENT WATER QUALITY 3. EXCEEDENCES OF STANDARDS AND GUIDANCE VALUES SHOWN
- 1. CONCENTRATIONS IN MICROGRAMS PER LITER (ug/L).
- Ø∕Ø PIEZOMETER LOCATION, JUNE 2010

N-4	Dec-91	Feb-	02 No.	/-94 Auc	~ 06	Nov 07	May 08	May 00	lun (00 Jul-0	1 May 02	
trachloroethene	<1	-reb- <1	95 NON <		g-96	Nov-97	May-98	May-99	Jun-0	JU JUI-(01 May-02	
chloroethene	<1	<1	<				<0.20	1.1	<.20		2 <0.2	
-1,2-Dichloroethene			<				1	3.6	<.20			
ns-1,2-Dichloroethene			<	1 -								
2-Dichloroethene (Total)	<1	<1	<	1 -								
nyl Chloride	<1	2	<		4	3.5	3.5	4.1	2.7	3.5	4	
,2,2-Tetrachloroethane	<1	<1	<									
I,1-Trichloroethane	<1	<1	<									
l-Dichloroethane Ioroethane	<1 <1	3 <1	<				<0.20	1.3	<.20	0.2 0.2	2 <0.2	
loroform	4	<1	<									
ethylene Chloride (Dichloromethane)	- <1	<1	<		-							
nzene	<1	<1	<									
luene	<1	<1	<	1 -								
nylbenzene	<1	<1	<	1 -								
lene (Total)	<3	<3	<	1 -								
lorobenzene	<1	<1	<									
2-Dichlorobenzene	<5	<5	<	1 -								
PZ-17		N	ov-09									
Tetrachloroethene			ND									
Trichloroethene			ND									
cis-1,2-Dichloroethene			ND									
trans-1,2-Dichloroethene			ND									
1,2-Dichloroethene (Total)			ND									
Vinyl Chloride			ND									
1,1,2,2-Tetrachloroethane			ND									
1,1,2-Trichlorotrifluoroethane			ND									
1,1,1-Trichloroethane			ND									
1,1-Dichloroethane			ND									
1,2-Dichloroethane			ND									
Chloroethane			ND									
Chloroform			ND									
Methylene Chloride (Dichloror	nethane	e)	ND									
4-Methyl-2-pentanone (MIBK)			ND									
Acetone			ND									
Benzene			ND									
Toluene			ND									
Ethylbenzene			ND									
Xylene (Total)			ND									
Chlorobenzene			ND									
1,2-Dichlorobenzene			ND									
<u> </u>				_								
MW-8		eb-93	Nov-94			/			ay-02	Sep-04		
Tetrachloroethene		<1	1	0.35				3.3	1.6	0.78		
Trichloroethene cis-1,2-Dichloroethene		1	2 <1	0.43				4.2	2.1	1.1		
trans-1,2-Dichloroethene			<1	<0.20		.4 (0.44	1.6 0 	.37 J 	0.37 J 		
1,2-Dichloroethene (Total)		<1	<1									
Vinyl Chloride		<1	<1									
1,1,2,2-Tetrachloroethane		<1	<1									
1,1,1-Trichloroethane		<1	<1									
1,1-Dichloroethane		<1	<1									
Chloroethane		<1	<1		-							
Chloroform		2	<1		-							
Methylene Chloride (Dichlorometh		<1	<1									
Benzene		<1	<1									
Toluene		<1	<1	<0.20	0.	24 ·	<.20	<0.5	< 0.2	< 0.2		
Ethylbenzene Xylene (Total)		<1 <3	<1 <1	 <0.20		 93 ·	<.20	<0.8	< 0.2	< 0.2		
Chlorobenzene		<ວ <1	<1	~0.20	1.		20	-0.0 *	- 0.2	~ 0.2		

		_
-32	Jun-10	
trachloroethene	43	
chloroethene	49	
-1,2-Dichloroethene	8.5	
ns-1,2-Dichloroethene	ND	
2-Dichloroethene (Total)	8.5	
nyl Chloride	ND	
,2,2-Tetrachloroethane	ND	
,2-Trichlorotrifluoroethane	34 J	
,1-Trichloroethane	11	
-Dichloroethene	6.9	
-Dichloroethane	16	
2-Dichloroethane	ND	
loroethane	ND	
loroform	ND	
ethyl tert-Butyl Ether	1.4	
ethylene Chloride (Dichloromethane)	ND	
Methyl-2-pentanone (MIBK)	ND	
etone	ND J	
nzene	ND	
luene	ND	
lylbenzene	ND	
lana (Tatal)	ND	

cis-1,2-Dichloroethene	
us-1,2-Dichioloculelle	670 D
trans-1,2-Dichloroethene	1.1
1,2-Dichloroethene (Total)	670 D
Vinyl Chloride	37
1,1,2,2-Tetrachloroethane	ND
1,1,2-Trichlorotrifluoroethane	6.0 J
1,1,1-Trichloroethane	ND
1,1-Dichloroethane	88
1,2-Dichloroethane	ND
Chloroethane	0.64 J
Chloroform	ND
Methylene Chloride (Dichloromethane)	2.2
4-Methyl-2-pentanone (MIBK)	2.7 J
2-Butanone (MEK)	7.0 J
Acetone	26 J
Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylene (Total)	ND
Chlorobenzene	ND
	ND

Tetrachloroethene cis-1.2-Dichloroethene 7.5 7900 D 590 D trans-1.2-Dichloroethene 1,2-Dichloroethene (Total) Vinyl Chloride ND 740 D J ,1,2,2-Tetrachloroethane 1.1.2-Trichlorotrifluoroethane 1.1-Trichloroethane ND 0.78 J 1.1.2-Trichloroethane 820 D I-Dichloroethane 1.2-Dichloroethane 1.8 I-Dichloroethene 14 Methylene Chloride (Dichloromethane) 4-Methyl-2-pentanone (MIBK) 0.89 J ND ND



ND

Jun-10

LYR:(Opt)ON=*;OFF=*REF*
TM:(Opt)
PM:(Reqd)
PIC:(Opt)
LD:(Opt)
DB:JG
DIV/GROUP:ENVCAD
HWAH

CITY:MAH G:\ENVCAI

		E A
SG-		10 /7 /004/
Consituent	8/18/2010	10/7/2010
1,1,1-Trichloroethane	3.5	1.4
1,1-Dichloroethane	12	4
1,2,4-Trimethylbenzene	57	12
1,3,5-Trimethylbenzene	14	6 J
1,3-Dichlorobenzene	12	17
1,4-Dichlorobenzene	0.92 U	0.79 J
2,2,4-trimethylpentane	6.5	4
4-ethyltoluene	16	4.6
Acetone	180	35 J
Benzene	7.1	5.7
Carbon disulfide	5.3	0.47 U
Carbon tetrachloride	0.96 U	0.38 J
Chloroform	19	7.1
Chloromethane	0.31 U	0.52
cis-1,2-Dichloroethene	20	3.7
Cyclohexane	0.52 UJ	4.9
Ethyl acetate	10	9.5
Ethylbenzene	15	8.8 J
Freon 11	7.5	3.4
Freon 113	400	810
Heptane	6.2	6.6
Hexane	0.54 U	2.3
lsopropyl alcohol	130	91 J
m&p-Xylene	45	29 J
Methyl Ethyl Ketone	5.7 J	4.5
Methyl Isobutyl Ketone	37	1.7 J
Methyl tert-butyl ether	2.6	0.55 J
o-Xylene	28	8.8 J
Styrene	0.65 U	7.4 J
Tetrachloroethylene	14	2.4
Toluene	52	69
trans-1,2-Dichloroethene	6.2	1.9
Trichloroethene	36	9.1

– STORM MANHOLE 505.9 RIM EL

2 STORY MASONRY BOILER HOUSE

Ð

6" PVC -----

"• MW6 🕈 "•

— GRAVEL

TORY D FRAME	
AMB-1007201	0
Consituent	10/7/2010
1,2,4-Trimethylbenzene	1.4
1,3,5-Trimethylbenzene	0.55 J
Acetone	24 J
Carbon disulfide	0.44 J
Carbon tetrachloride	0.45 J
Chloromethane	0.59
Ethylbenzene	0.66 UJ
Freon 11	1.2
Freon 12	2.4
Heptane	0.42 J
m&p-Xylene	1.2 J
o-Xylene	0.57 J
Styrene	0.65 UJ
Toluene	1.5
Trichloroethene	0.27 J

μ		
	SG-	
	Consituent	8/18/2
	1,1,1-Trichloroethane	4.4
	1,1-Dichloroethane	30
	1,2,4-Trimethylbenzene	67
	1,3,5-Trimethylbenzene	15
	1,3-Dichlorobenzene	19
	1,4-Dichlorobenzene	0.92 U
	2,2,4-trimethylpentane	3.6
	4-ethyltoluene	15
	Acetone	180
	Benzene	9.1
	Carbon disulfide	11
	Carbon tetrachloride	0.96 U
	Chloroform	10
	Chloromethane	0.31 U
	cis-1,2-Dichloroethene	64
	Cyclohexane	8.3 J
	Ethyl acetate	16
	Ethylbenzene	13
	Freon 11	8.3
	Freon 113	860
	Freon 12	0.75 U
	Heptane	6.2
	Hexane	0.54 U
	lsopropyl alcohol	190 J
	m&p-Xylene	41 J
	Methyl Ethyl Ketone	4.5 J
	Methyl Isobutyl Ketone	42 J
	Methyl tert-butyl ether	1.8 J
	Methylene chloride	0.53 U
	o-Xylene	28 J
	Styrene	0.65 U
	Tetrachloroethylene	320
	Toluene	32
	trans-1,2-Dichloroethene	0.6 U
	Trichloroethene	200

sυ

130

130 15 J 5.8 2.5 J 0.55 U 0.67 9 J 3.5 J 8.3 J 28 0.93 9.3

SG-23	
Consituent	8/18/2010
,1,1—Trichloroethane	0.61 J
,2,4-Trimethylbenzene	110 J
,3,5-Trimethylbenzene	25 J
,3-Dichlorobenzene	17 J
2,2,4-trimethylpentane	3.6 J
-ethyltoluene	27 J
Acetone	420 J
Benzene	26 J
Carbon disulfide	2.7 J
Cyclohexane	0.52 U J
thyl acetate	43 J
thylbenzene	12 J
reon 11	1.8 J
reon 113	1.5 J
leptane	8.7 J
sopropyl alcohol	450 J
n&p-Xylene	45 J
lethyl Ethyl Ketone	14 J
lethyl Isobutyl Ketone	68 J
lethylene chloride	0.42 J
-Xylene	31 J
oluene	33 J
richloroethene	2 J

— CATCH BASIN 504.2 RIM EL 503.3 INV

(" HDPE 0.3% PZ-22_{××}

FIRE

TANK

TANK BLDG

EDGE OF .

PZ-28

GROUNDWATER

PZ-1&

PZ-2

PZ-34~

 $PZ-35_{XX}$

-2 🛛 🗌

61 63

1-PZ-1 \$

CHAIN, LINK FENCE

Ø PZ−23

072010

HDP

1 STORY MASONRY MAINTENANCE BUILDING

SG-25	
Consituent	8/18/2
1,1,1-Trichloroethane	4
1,2,4-Trimethylbenzene	62
1,3,5-Trimethylbenzene	16
1,3-Dichlorobenzene	25
2,2,4-trimethylpentane	5.7
4-ethyltoluene	12
Acetone	500
Benzene	7.8
Carbon disulfide	180
Chloroform	1.1
cis-1,2-Dichloroethene	2.2
Cyclohexane	25 J
Ethyl acetate	13
Ethylbenzene	9.7
Freon 11	2.2
Freon 113	16
Freon 12	3.3
Heptane	9.4
Hexane	7.1
lsopropyl alcohol	300 J
m&p-Xylene	31 J
Methyl Ethyl Ketone	8.4 J
Methyl Isobutyl Ketone	340 J
Methylene chloride	0.6
o-Xylene	21 J
Tetrachloroethylene	76
Toluene	28
Trichloroethene	10

CATCH BASIN —

סססס

					SG-		
				Consituent		8/18/2010	10/7/201
				1,1,1-Trichloroeth 1,2,4-Trimethylbe		1.1 120 J	0.83 U 6.5 J
SG-25		7		1,3,5-Trimethylb		22 J	3 J
	8/18/2010	1		1,3-Dichlorobenz		28 J	9.2
ethane	4			2,2,4-trimethylp	entane	4.1	3.9 J
ylbenzene	62	_		4-ethyltoluene		22 J	1.8 J
ylbenzene	16			Acetone		180	100 J
enzene doontano	25 5.7			Benzene Carbon disulfide		4.5 12 J	0.49 U 0.95
ylpentane	5.7	_		Carbon disulfide Carbon tetrachlo		12 J 0.96 U	0.95 0.32 J
,	500	—		Chloroform		0.99	0.52 J
	7.8	—		Chloromethane		0.31 U	0.67
de	180	_		cis-1,2-Dichloro		0.6 U	0.4 J
	1.1	_		Cyclohexane		23 J	3.4 J
oroethene	2.2			Ethyl acetate		8.4 J	8.4 J
	25 J			Ethylbenzene		16 J	5.1 J
	13	_		Freon 11		2.5	1.4
	9.7	_		Freen 113		6.8	3
	2.2 16			Freon 12		3.1 0.62 U	1.7 2.7 J
	3.3			Heptane Hexane		0.62 U 0.54 U	2.7 J 2.4
	9.4			Isopropyl alcohol		0.54 0 110 J	150
	7.1			m&p-Xylene		51 J	130 11 J
nol	300 J			Methyl Butyl Ket		9.6	1.2 U
	31 J			Methyl Ethyl Ket		14 J	5
letone	8.4 J			Methyl Isobutyl K	Cetone	57 J	1.2 J
l Ketone	340 J	_		Methylene chloric		0.53 U	0.49 J
oride	0.6	_		o-Xylene		37 J	6.2 J
Vonc	21 J	_		Styrene		0.65 U	2.8 J
ylene	76 28			Tetrachloroethyle Toluene		61 J 30 J	1 J 27
e	10	-		Trichloroethene		2	27 0.87 J
						-	0.07 0
		\backslash					
		\backslash					
		\backslash				0010	NUL 7
			CH BASIN	(CB-3)		CONC HEADWALL -	MH-7/
SIN —			RIM EL			8" VALVE -	
1	Z-24		02.7 INV	503.7 RIM EL			
		<u> </u>	PZ	-26 × SG-26		Ø _{PZ-2}	
SG-24	😠 24" HC	PE 0.4%	SG-25	-∠९∞ <u>/</u> A2-PZ-7	SG-27	24" HDPE	1 4%
/°=	~~~				5	B" HDPE	
	<u>⊗ PZ-3</u>)	PZ-31	A = 2 - P = 2 - 4 A = 2 - P = 2 - 4 $6^{"} PVC = 2$	X NE	XX	st
			. 2	$2-32 \otimes - 6^{\circ} \text{ PVC } \otimes$	a a	PZ-3	
°V9∕ PZ-	-40	PZ Ø	-41	PAD	A2-6		H-1
∕ ∞		×	P7.	-42 1 STORY METAL	A2-P		-PZ-3
		//////////////////////////////////////			A2-B4		
I				STORAGE BLDG	EDGE C	DF	
		MW	'9 🕈 PZ-		ASPHAL		
		1227		A2-PZ-6 A2	2-PZ-8		STORY BRI JARD HOUS
CAT	CH BASIN —			A2-PZ	-1 /a	5 - 4////	
P7-	-36	\mathbf{A}			/~	AN	/B-0 81 820
Γ Ζ Ξ	-36 _×			/	/		ROUNDWAT
				/	_		TREATME
	۵	רח	-39		EDGE	OF ASPHALT	BUILDI
	\$	٢Z	-39 Ø		1		A
I	I		~				
	04		1		00		
SG-	- 24 8/18/2010	10/7/2010		SG Consituent	-26 8/18/2	2010 10/7/	/2010
hane	4.4	1.1		1,2,4-Trimethylbenzene	48		2010
ine	30	8.3		1,3,5-Trimethylbenzene	15	4.8 J	
benzene	67	9.5		1,3–Dichlorobenzene	20	16 J	
benzene	15	4.5 J		1,4-Dichlorobenzene	0.92 U	0.67	J
zene	19	11		2,2,4-trimethylpentane	38	7	
zene	0.92 U	0.67 J		4-ethyltoluene	12 J	3.3 J	
pentane	3.6	2.8		Acetone	86	83 J	
	15	3.1 J		Benzene	4.2	0.49	
	180	110 J		Carbon disulfide	150	2.8 J	
	9.1	0.49 U 1.3		Carbon tetrachloride	0.96 U	0.38	J
oride	0.96.11	1.3 0.45 J		Chloroform Chloromethane	2.4 0.31 U	0.5 J 0.65	
oride	0.96 U 10	0.45 J 2.8		cis-1,2-Dichloroethene	0.31 0	0.65	
	0.31 U	0.44		Cyclohexane	22 J	6.4 J	
bethene	64	14		Ethyl acetate	8	13	
	8.3 J	3.3		Ethylbenzene	8.4	8.8 J	
	16	16		Freon 11	1.6	0.86	
	13	6.9 J		Freon 113	22 J	4.3	
	8.3	4.8		Freon 12	0.75 U	0.8	
	860	360		Heptane	3.7	5.2 J	
	0.75 U	1		Hexane	9.9	2.7	
	6.2	3.2		Isopropyl alcohol	0.37 U		
	0.54 U	2.3		m&p-Xylene	23 J	24 J	

15 J

0.65 U 4.6

15

1.8

24 J

 3
 J

 0.55
 U

 0.53
 8.4

 4
 J

 1
 U

51 J 0.76 J

Styrene Tetrachloroethylene Toluene Trichloroethene

Map-xylene23 0Methyl Ethyl Ketone7Methyl Isobutyl Ketone23 JMethyl tert-butyl ether14 JMethylene chloride0.53 U

o-Xylene

/18/2010 5 J 1 J 8 J 0 J .5 J 60 J .1 J
5 J 1 J 8 J 0 J .5 J 60 J .1 J
1 J 8 J 0 J .5 J 60 J .1 J
0 J .5 J 60 J .1 J
.5 J 60 J .1 J
60 J .1 J
.1 J
1 J
.47 J
J
9 J
3 J
J
.1 J
5.7 J
5 J
.00 J
5 J
.7 J
4 J
4 J
.9 J
.7 J
.5 J
6 J .2 J
)

	<u>г</u> . к. і	Π.
<u>EG</u>	<u>EN</u>	<u>U:</u>



SG-23 ▲ SOIL GAS PROBE LOCATION - SUPPLEMENTAL FNPD INVESTIGATION

<u>NOTES:</u>

AMB-0818201	0
Consituent	8/18/2010
1,2,4-Trimethylbenzene	5.5 J
1,3,5-Trimethylbenzene	3
1,4-Dichlorobenzene	1.2
4-ethyltoluene	2.2
Acetone	54
Benzene	0.78
Carbon disulfide	0.6
Carbon tetrachloride	0.7 J
Chloroform	0.6 J
Chloromethane	1.6
cis-1,2-Dichloroethene	4.3
Cyclohexane	0.52 UJ
Ethyl acetate	9.1
Ethylbenzene	1.2
Freon 11	1.9
Freon 12	2.8
Heptane	2.3
lsopropyl alcohol	26 J
m&p-Xylene	2.6 J
Methyl Ethyl Ketone	3.3
Methyl Isobutyl Ketone	2.2 J
Methylene chloride	1.7
o-Xylene	1.8 J
Styrene	1.6
Tetrachloroethylene	1.7
Toluene	8
Trichloroethene	9.8
Vinyl chloride	0.42

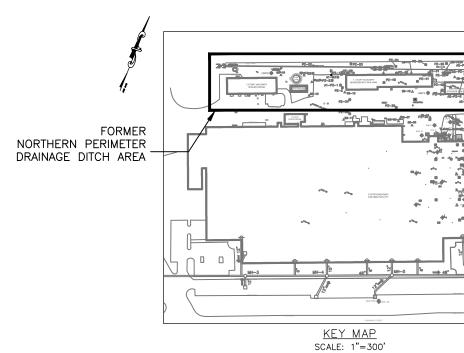




FIGURE 9





1. CONCENTRATIONS IN MICROGRAMS PER METER CUBED (ug/m^3) . 2. U FLAG IDENTIFIERS COMPOUND WAS NOT DETECTED ABOVE LABORATORY MDLS. 3. J FLAG INDICATES AN ESTIMATED VALUE.

(FOCUS AREAS A1 AND A2) PZ−27 Ø PIEZOMETER LOCATION− SUPPLEMENTAL FNPD INVESTIGATION

AREA OF MULTIPLE DSITMS (GRID EVALUATION)

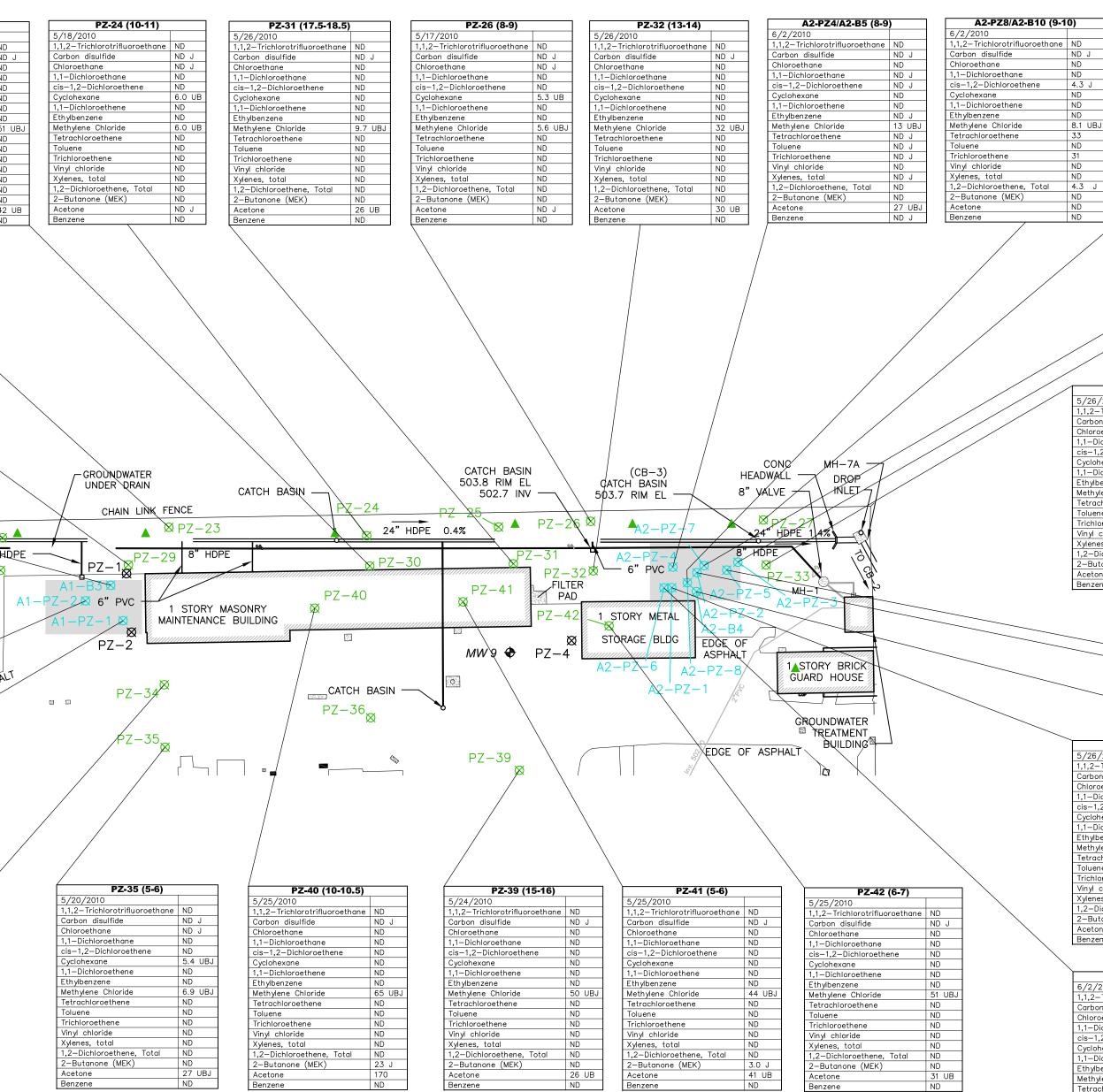
MW 6 🕀 MONITORING WELL LOCATION PIEZOMETER LOCATION (INSTALLED 1995) PIEZOMETER LOCATION- SUPPLEMENTAL FNPD INVESTIGATION

C C

PROJECTNAME:	c_11641126_12_07200_col_2003.sid	c_11641128_12_07200_col_2003.sid	c_11671126_12_07200_col_2003.sid	c_11671128_12_07200_col_2003.sid
IMAGES:	c_11641126	c_11641128	c_11671126	c_11671128
XREFS:	P&PX1			

LEGEND:		NOTES:	
sv 🖂	SEWER VALVE LOCATION	1.	PZ-37 AND
MW 6 🕈	MONITORING WELL LOCATION	2.	SAMPLE LOG
PZ−1 Ø	PIEZOMETER LOCATION (INSTALLED 1995)	3.	CONCENTRA
⊠ A2−PZ−5	PIEZOMETER LOCATION— SUPPLEMENTAL FNPD INVESTIGATION (FOCUS AREAS A1 AND A2)	4.	DATA COMP
×	PIEZOMETER LOCATION- SUPPLEMENTAL FNPD INVESTIGATION	5.	NO EXCEED
PZ-27	SOIL GAS PROBE LOCATION – SUPPLEMENTAL FNPD INVESTIGATION	6.	J FLAG IDEI ASSOCIATED
	AREA OF MULTIPLE DSITMS (GRID EVALUATION)	7.	ND INDICATE

PZ-22 (19-20)		PZ-29 (6-7)		PZ-23 (6-7)		PZ-30 (10-11)
5/19/2010 1.1.2-Trichlorotrifluoroethar	ne ND	5/25/2010 1,1,2-Trichlorotrifluoroethan		5/18/2010 1,1,2-Trichlorotrifluoroethan	e ND	5/25/2010 1,1,2-Trichlorotrifluoroetho	ane ND
Carbon disulfide	ND J	Carbon disulfide	ND J	Carbon disulfide	ND J	Carbon disulfide	ND
Chloroethane	ND J	Chloroethane	13	Chloroethane	ND J	Chloroethane	ND
1,1-Dichloroethane	ND	1,1-Dichloroethane	ND	1,1-Dichloroethane	ND	1,1-Dichloroethane	ND
cis-1,2-Dichloroethene	ND	cis-1,2-Dichloroethene	59	cis-1,2-Dichloroethene	ND	cis-1,2-Dichloroethene	ND
Cyclohexane	ND	Cyclohexane	ND	Cyclohexane	5.3 UB	Cyclohexane	ND
1,1-Dichloroethene	ND ND	1,1-Dichloroethene Ethylbenzene	ND ND	1,1-Dichloroethene Ethylbenzene	ND ND	1,1-Dichloroethene	ND ND
Ethylbenzene Methylene Chloride	5.4 UBJ	Methylene Chloride	44 UBJ	Methylene Chloride	5.3 UB	Ethylbenzene Methylene Chloride	51 L
Tetrachloroethene	ND	Tetrachloroethene	ND	Tetrachloroethene	ND	Tetrachloroethene	ND
Toluene	ND	Toluene	ND	Toluene	ND	Toluene	ND
Trichloroethene	ND	Trichloroethene	ND	Trichloroethene	ND	Trichloroethene	ND
Vinyl chloride	ND	Vinyl chloride	140	Vinyl chloride	ND ND	Vinyl chloride	ND
Xylenes, total 1,2-Dichloroethene, Total	ND ND	Xylenes, total 1,2-Dichloroethene, Total	ND 59	Xylenes, total 1,2—Dichloroethene, Total	ND	Xylenes, total 1,2-Dichloroethene, Total	ND ND
2-Butanone (MEK)	ND	2-Butanone (MEK)	ND	2-Butanone (MEK)	ND	2-Butanone (MEK)	ND
Acetone	ND J	Acetone	26 UB	Acetone	ND J	Acetone	42
Benzene	ND	Benzene	ND	Benzene	ND	Benzene	ND
					\sim	、	
						\searrow	
			<			\sim	
A1-B3 (5-6)						\sim	
5/27/2010							
1,1,2-Trichlorotrifluoroethane ND						\sim	
Carbon disulfide ND	J				\sim	\backslash	<
Chloroethane ND					\sim	\	$\overline{\}$
1,1-Dichloroethane ND				\sim		\mathbf{i}	
sis—1,2—Dichloroethene ND Cyclohexane ND				\sim		\sim	
,1-Dichloroethene ND				\sim		\sim	
Ethylbenzene ND						\sim	
Methylene Chloride 31	\neg					\sim	
Tetrachloroethene ND Toluene ND	_				\sim	\sim	
Trichloroethene ND			L			$\langle \rangle$	
Vinyl chloride 22						Ň	
Xylenes, total ND		$\widehat{\boldsymbol{\rho}}$		STORM_MANHOLE		CATCH BASIN	
1,2-Dichloroethene, Total ND			/	505.9 RIM EL		/ 5Q4.2 RIM EL	-
2-Butanone (MEK) ND	10		/		_	/ 503.3 INV	
Acetone 27 L Benzene ND		J		GRAVEL			
		9					
			=∕			24" HDPE 0.3% PZ-	22
PZ-28 (15-16)	_	/ š =		6"F	VC		6″-HD
5/25/2010				00		~~	
,1,2-Trichlorotrifluoroethane ND		_	•	МИ	/6 🕀	PZ-	288_
Carbon disulfide ND J						FIRE	
Chloroethane ND			(<i>[]</i> ////////////////////////////////////		1	TANK	
,1-Dichloroethane ND is-1,2-Dichloroethene ND							
cyclohexane ND			l.	2 STORY MASONRY			1
,1-Dichloroethene ND				BOILER HOUSE		TANK BLDG	
thylbenzene ND							
ethylene Chloride 33 UI	31		<u> (,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>			\neg	
etrachloroethene ND oluene ND	_				L.		TINT
richloroethene ND				6		AE A	SPHIL
inyl chloride ND		/				EDGE OF A	
ylenes, total ND	_			0			
2-Dichloroethene, Total ND					EDGE OF		
-Butanone (MEK) ND cetone 3 UB	$+$ $^{\prime}$			/	ASPHAL		
enzene 33	\neg				ASI HALI		
						1 STORY	-
						WOOD FRAME	
		/	-				
							/
A1-PZ2/A1-B2 (18-19)	_	A1-PZ1/A1-B1	(5-6)	ſ		PZ-34 (6-7)	\neg
5/27/2010	_	5/27/2010	<u> </u>]	5/20,	/2010	
,1,2—Trichlorotrifluoroethane ND Carbon disulfide ND J		1,1,2-Trichlorotrifluoroeth		-		-Trichlorotrifluoroethane ND	_
hloroethane ND		Carbon disulfide	ND J	4		on disulfide ND J Dethane ND J	_
1-Dichloroethane ND		Chloroethane 1,1-Dichloroethane	ND ND	-		oethane ND J ichloroethane ND	_
s-1,2-Dichloroethene ND		cis-1,2-Dichloroethane	ND ND	-	,	,2–Dichloroethene 2.4 J	
vclohexane ND	_	Cyclohexane	ND	1		hexane ND	
1-Dichloroethene ND	_	1,1-Dichloroethene	ND]	1,1-D	ichloroethene ND	
thylbenzene ND ethylene Chloride 33 U	3.1	Ethylbenzene	ND	-		penzene ND	
trachloroethene ND		Methylene Chloride	31 UBJ	-		lene Chloride 5.2 UE chloroethene ND	3J
bluene ND		Tetrachloroethene Toluene	ND ND	-	Toluer		—
richloroethene ND		Trichloroethene	ND	1		oroethene ND	\neg
nyl chloride ND		Vinyl chloride	19	1		chloride ND	
ylenes, total ND							
	_	Xylenes, total	ND			es, total ND	
,2-Dichloroethene, Total ND		Xylenes, total 1,2—Dichloroethene, Tota	il ND	-	1,2-D	Dichloroethene, Total ND	
,2-Dichloroethene, Total ND 2-Butanone (MEK) ND	3	Xylenes, total 1,2-Dichloroethene, Tota 2-Butanone (MEK)	I ND ND		1,2-D 2-Bu	Vichloroethene, Total ND tanone (MEK) ND	
1,2-Dichloroethene, Total ND	3	Xylenes, total 1,2-Dichloroethene, Tota 2-Butanone (MEK) Acetone	II ND ND 27 UB	- - - - -	1,2-D 2-Bu Aceto	Vichloroethene, Total ND tanone (MEK) ND vne ND J	
,2—Dichloroethene, Total ND 2—Butanone (MEK) ND Acetone 26 U	3	Xylenes, total 1,2-Dichloroethene, Tota 2-Butanone (MEK)	I ND ND		1,2-D 2-Bu	Dichloroethene, Total ND tanone (MEK) ND one ND J	



ND PZ-38 WERE NOT INSTALLED DUE TO UTILITY CLEARANCE RESULTS.

OCATION A2-B4 WAS NOT SURVEYED, LOCATION IS APPROXIMATE.

RATIONS IN MILLIGRAMS PER KILOGRAM (mg/kg).

IPARED TO NYSDEC RESTRICTED USE - SOIL CLEANUP OBJECTIVES.

EDENCS OF SOIL CLEANUP OBJECTIVES WERE DETECTED.

DENTIFIES AN ESTIMATED RESULT, UB FLAG IDENTIFIES COMPOUND AS NON-DETECT DUE TO ED BLANK CONTAMINATION, AND D IDENTIFIES CONCENTRATION BASED ON A DILUTED SAMPLE. ATES THAT CONSTITUENT WAS NOT DETECTED ABOVE THE LABORATORY REPORTING LIMIT.

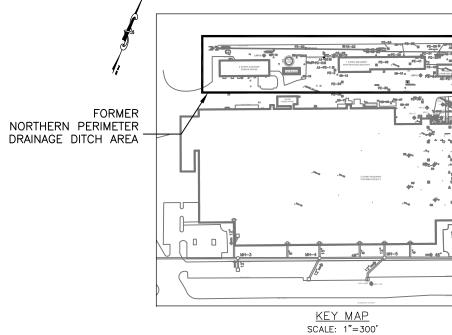




FIGURE 10

AOC 3 - SOIL QUALITY

FORMER NORTHERN PERIMETER DITCH FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY UTICA, NEW YORK

Acetone Benzene



HORIZONTAL SCALE

ne		
ene	ND J	Benzene
	110 0	
A2-B8 (9-10)]
2010		
-Trichlorotrifluoroethane	1200	
on disulfide	ND J	
oethane	ND	
lichloroethane	270	
,2-Dichloroethene	2600	
hexane	ND	
lichloroethene	ND	
penzene	ND	
lene Chloride	110 UBJ	
chloroethene	3300	
ne	110 UBJ	
oroethene	26000 D	
chloride	ND	
es, total	ND	
)ichloroethene, Total	2600	
tanone (MEK)	ND J	

	<i>'</i>]
5/26/2010	
1,1,2-Trichlorotrifluoroethane	29 J
Carbon disulfide	6.6 J
Chloroethane	ND
1,1-Dichloroethane	890 D
cis-1,2-Dichloroethene	6100
Cyclohexane	ND
1,1-Dichloroethene	ND
Ethylbenzene	ND J
Methylene Chloride	36 UBJ
Tetrachloroethene	4.8 J
Toluene	ND J
Trichloroethene	58 J
Vinyl chloride	9.8
Xylenes, total	ND J
1,2-Dichloroethene, Total	6100 D
2-Butanone (MEK)	ND
Acetone	27 UB
Benzene	ND J

A2-PZ1/A2-B1 (7-8)

_		
	A2-B4 (5-6)	
	6/2/2010	
	1,1,2-Trichlorotrifluoroethane	ND
	Carbon disulfide	ND J
	Chloroethane	ND
	1,1-Dichloroethane	ND
	cis-1,2-Dichloroethene	ND
	Cyclohexane	ND
	1,1-Dichloroethene	ND
	Ethylbenzene	ND
	Methylene Chloride	13 UBJ
	Tetrachloroethene	ND
	Toluene	ND
	Trichloroethene	ND
	Vinyl chloride	ND
	Xylenes, total	ND
	1,2-Dichloroethene, Total	ND
	2-Butanone (MEK)	ND
	Acetone	27 UB
	-	110

		5/26/2010	
		1,1,2-Trichlorotrifluoroethane	ND
ND		Carbon disulfide	ND J
ND J		Chloroethane	ND
ND		1,1-Dichloroethane	35
ND		cis-1,2-Dichloroethene	3400 D
ND		Cyclohexane	ND
ND		1,1-Dichloroethene	3.9 J
ND		Ethylbenzene	12
ND		Methylene Chloride	29 UBJ
13 UBJ		Tetrachloroethene	210000 D
ND		Toluene	5.1 UB
ND		Trichloroethene	36000 D
ND		Vinyl chloride	28
ND		Xylenes, total	ND
ND		1,2-Dichloroethene, Total	390
ND		2-Butanone (MEK)	ND
ND		Acetone	25 UB
27 UB		Benzene	ND
ND		*	
	ND J ND ND ND ND ND ND ND ND ND ND ND ND ND	ND J ND ND ND ND ND ND ND ND ND ND ND ND ND	NDNDNDCarbon disulfideNDNDND1,1-DichloroethaneNDCyclohexaneNDND1,1-DichloroetheneNDCyclohexaneNDND1,1-DichloroetheneND1,1-DichloroetheneNDNDTetrachloroetheneNDNDTrichloroetheneNDNDNDNDNDNDNDNDNDNDNDAcetone27 UBBenzene

A2-PZ2/A2-B2 (11-12)

PZ-33 (10-11)	
5/26/2010	
1,1,2-Trichlorotrifluoroethane	ND
Carbon disulfide	ND J
Chloroethane	ND
1,1-Dichloroethane	ND
cis-1,2-Dichloroethene	ND
Cyclohexane	ND
1,1-Dichloroethene	ND
Ethylbenzene	ND
Methylene Chloride	14 UBJ
Tetrachloroethene	ND
Toluene	ND
Trichloroethene	ND
Vinyl chloride	ND
Xylenes, total	ND
1,2-Dichloroethene, Total	ND
2-Butanone (MEK)	ND
Acetone	25 UB
Benzene	ND

	ND	Xylenes, total	2.4
	ND	1,2-Dichloroethene, Total	200
	ND	2-Butanone (MEK)	ND
	26 UBJ	Acetone	26 U
	ND	Benzene	ND
		A2-PZ3/A2-B3 (6-7))
/		5/27/2010	
		1,1,2-Trichlorotrifluoroethane	ND
/		Carbon disulfide	ND J
		Chloroethane	ND
		1,1-Dichloroethane	ND
		cis-1,2-Dichloroethene	ND
		Cyclohexane	ND
		1,1-Dichloroethene	ND
		Ethylbenzene	ND
		Methylene Chloride	31 U
		Tetrachloroethene	ND
		Toluene	ND
		Trichloroethene	ND
		Vinyl chloride	ND
		Xylenes, total	ND
		1,2-Dichloroethene, Total	ND
		2-Butanone (MEK)	ND
		Acetone	30 U
		Benzene	ND
		•	

A2-PZ5/A2-B6 (7-8)

-Trichlorotrifluoroethane

Carbon disulfide

-Dichloroethane

yclohexane 1-Dichloroethene

Ithylbenzene Methylene Chloride

oluene

Vinyl chloride

Acetone

enzene

Tetrachloroethene

richloroethene

sis-1,2-Dichloroethene

Xylenes, total 1,2-Dichloroethene, Total 2-Butanone (MEK)

loroethane

PZ-33 (10-11)	
5/26/2010	
1,1,2-Trichlorotrifluoroethane	ND
Carbon disulfide	ND J
Chloroethane	ND
1,1-Dichloroethane	ND
cis-1,2-Dichloroethene	ND
Cyclohexane	ND
1,1-Dichloroethene	ND
Ethylbenzene	ND
Methylene Chloride	14 UBJ
Tetrachloroethene	ND
Toluene	ND
Trichloroethene	ND
Vinyl chloride	ND

PZ-27 (9-10)

2-Trichlorotrifluoroethane

arbon disulfide

-Dichloroethane

-Dichloroethene

Methylene Chloride

etrachloroethene

s-1,2-Dichloroethene

Xylenes, total 1,2—Dichloroethene, Total

2—Butanone (MEK)

hloroethane

yclohexane

thylbenzene

richloroethene

Vinyl chloride

oluene

Acetone

Benzene

8.1 UB

 ND

 4.3
 J

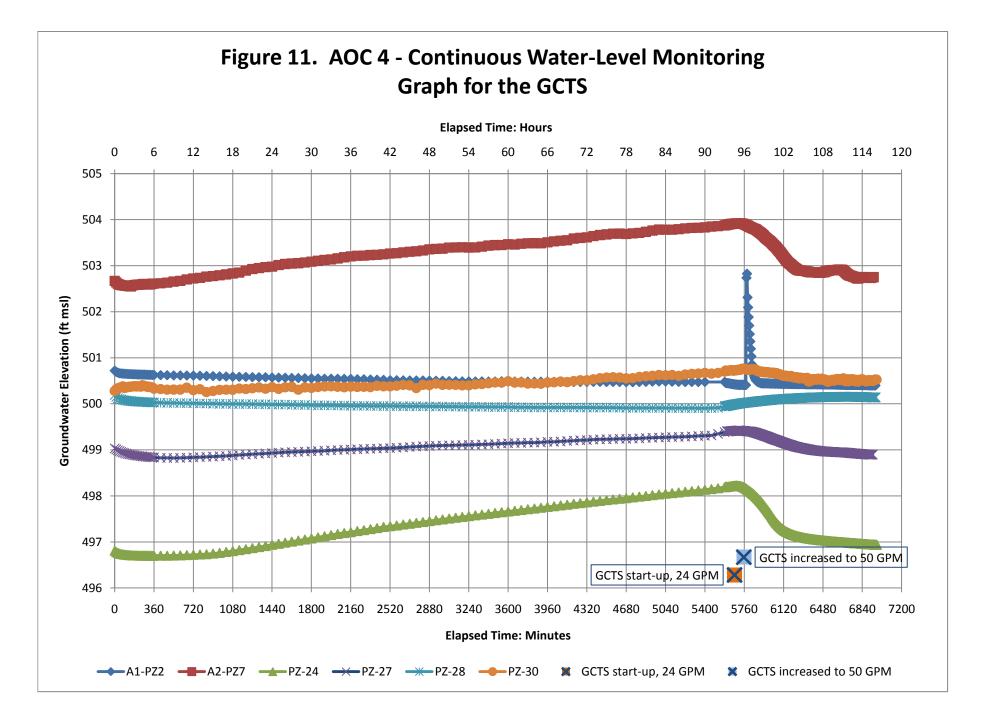
 ND
 ND

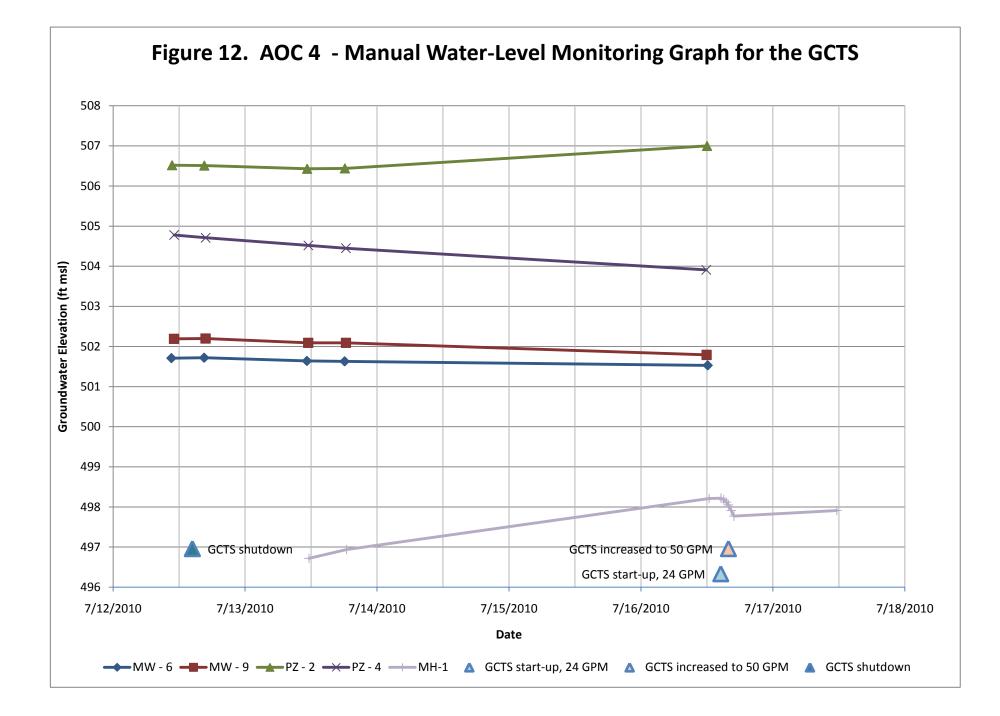
 ND
 ND

	,
6/2/2010	
1,1,2-Trichlorotrifluoroethane	ND
Carbon disulfide	ND J
Chloroethane	ND
1,1-Dichloroethane	12
cis-1,2-Dichloroethene	200
Cyclohexane	ND
1,1-Dichloroethene	ND
Ethylbenzene	8.5
Methylene Chloride	11 UBJ
Tetrachloroethene	110000
Toluene	5.8
Trichloroethene	19000 C
Vinyl chloride	3.3
Xylenes, total	2.4
1,2-Dichloroethene, Total	200

A2-PZ7/A2-B9 (10-11)

,2-Dichloroethene, Total	200
2-Butanone (MEK)	ND
Acetone	26 UB
Benzene	ND
A2-PZ3/A2-B3 (6-7))
5/27/2010	
,1,2-Trichlorotrifluoroethane	ND
Carbon disulfide	ND J
Chloroethane	ND
,1-Dichloroethane	ND
cis-1,2-Dichloroethene	ND
Cyclohexane	ND
,1-Dichloroethene	ND
Ethylbenzene	ND





ARCADIS

Appendix A

Soil Boring and Piezometer Construction Logs

Dri Dri Dri Sa	lling (ller's lling N mpling	Compa Name: /lethoo g Meth	sh: 5/ any: Z : Jon d: Dire aod: 2 k-Mou	ebra E Cewl ect Pus 2.5" by	Enviror sh 5' Ace	nmen etate	tal Liner		Borehole Dept	53.0 on: 503.77' AMSL h: 25.2' bgs ion: 503.96' AMSL		Well/Boring ID: A1-B1/A1-PZ1 Client: Lockheed Martin Corporation Location: 525 French Road Utica, New York				
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stratigraphic Description						Vell/Boring construction	
-	- 505 -														Steel flushmour cover Locking J-Plug	
-	_ _ 500 —	NA	NA	NA	NA			(0-5') Dar	k brown/gray SAND an	d CLAY with fine Gravel. (FILL	L)				Concrete Pad (0.5' bgs) Bentonite Pelle Seal (0.5-1' bgs #00 Silica Sand Pack (1-1.43' bgs) 1" Sch 40 PVC Riser (0.18'-2.4 bgs) #0 Silica Sand	et js) id 2 43'
- 5	- - 495 -	1	5-10	3.7	1.61 1.24 0.22	×		subround fine Sand (2.4-3.1') (3.1-3.7') subround	ed to subangular GRA stiff to very stiff, no pl Fractured LIMESTONE	E and SHALE, dry rock dust. (R and gray GRAVELY SILT and VEL, little coarse rounded Sand	d, trace v ROCK) d fine to n	ery fine to			Pack (1.43-8' bgs) ——— 1" Sch 40 PVC 0.010" Slot Screen (2.43- 12.43' bgs)	;
- 10	- - 490 -	2	10-15	5	0.21 0.49 0.32			subround fine Sand (2.15-5') [Sand, stif (0-0.2') D stiff, low t (0.2-3.2')	ed to subangular GRA stiff to very stiff, no pl Dark gray varved CLAY, moist, low to no plast ark gray varved CLAY, o no plasticity, moist. (I Dark gray SANDY SIL ⁻	/, trace coarse subrounded Sar icity. (CLAY) trace coarse subrounded Sand	and and ve some fine	ry fine Sand,			 Formation Collapse (8-25. bgs) 1" Sch 40 PVC Cap at base of Screen (12.43- 12.63' bgs) 	C f
			•Water				lings		arks: ags = abo Applicabl	ove ground surface; bg le/Available; AMSL = A hand cleared/air knifed	gs = be Above N	low ground Mean Sea Le	surface; N evel.	A = 1		ŗ

Well/Boring ID: A1-B1/A1-PZ1

Borehole Depth: 25.2' bgs

Site Location:

525 French Road Utica, New York

		4,	TOIK						
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
-	- 485 -	3	15-20	3.2	0.19			(TILL) (0.2-3.2') Dark gray SANDY SILT and very fine to fine SAND, some fine to medium subrounded to subangular Gravel, medium stiff, medium dense, no plasticity, wet. (TILL)	
- 20	-	4	20-25	3.8	0.15			(0-3.8') Dark gray SANDY SILT and very fine to fine SAND, some fine to medium subrounded to subangular Gravel, medium stiff, medium dense, no plasticity, wet. (TILL) Saturated (0.5-1') and (2-2.6').	× × × × × × × × × Collapse (8-25.2' × × × × × × × × × × × × × × × × × × ×
- - 25 -	480 -	5	25-25.2	0.2	0.11	-		Shale in tip of shoe, dry at (0.2'). (BEDROCK) (0-0.2') Dark gray SANDY SILT and very fine to fine SAND, some fine to medium subrounded to subangular Gravel, medium stiff, medium dense, no plasticity, wet. End of boring at 25.2' bgs.	
- 30	475 -								
-	-								
- 35	470 -							Remarks. ags = above ground surface; bgs = below ground s	surface; NA = Not
	nfrastr	ucture	Water	· Enviro	nment	·Build		Remarks: ags = above ground surface; bgs = below ground a Applicable/Available; AMSL = Above Mean Sea Le Location hand cleared/air knifed 0-5' bgs. Analytic VOCs.	evel. cal sample collected from 5-6' bgs for

Dri Dri Dri Sai	lling (ller's lling N npling	Compa Name Nethoo g Meth	sh: 5/ any: Z : Jon d: Dire nod: 2 k-Mou	ebra E Cewl ect Pus 2.5" by	Enviror sh ' 5' Ace	nmen etate	tal Liner	Easting: 1167223.1 Casing Elevation: 503.00' AMSL	g ID: A1-B2/A1-PZ2 scheed Martin Corporation 525 French Road Utica, New York				
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description		Well/Boring Construction			
-	- 505 - -									Steel flushmount cover Locking J-Plug			
-	- - 500 -	NA	NA	NA	NA		0000000000000	(0-5') Dark brown SAND, SILT and GRAVEL. (FILL)		Concrete Pad (0- 0.5' bgs) Bentonite Pellet Seal (0.35-0.8' bgs) #00 Silica Sand Pack (0.8-1.1' bgs) 1" Sch 40 PVC Riser (0.24'-2.10' bgs) #0 Silica Sand Pack (1.1-6' bgs)			
- 5	- 495 -	1	5-10	2.95	0.11		20000000000000000000000000000000000000	(5-2.95') Dark brown-gray GRAVELY SILT and fine to medium subrounde subangular GRAVEL, few coarse subangular Gravel, trace very fine Sand coarse subrounded to subangular Sand, very stiff, no plasticity, moist. (The provide the subangular Sand) of the subangular Sand set of the subangular Sa	id, trace	x x x x x x x x x x x x x x x x			
- 10	- - 490 - -	2	10-15	2.45	0.02			(0-0.9') Dark brown-gray GRAVELY SILT and fine to medium subrounded subangular GRAVEL, few coarse subangular Gravel, trace very fine Sant coarse subrounded to subangular Sand, very stiff, no plasticity, moist. (TI (0.9-2.95') Medium to dark gray SANDY SILT and very fine SAND, few fin medium subrounded to subangular Gravel, trace coarse subangular Grav plasticity, wet. (TILL) Saturated (0-1.9') and (1.45-2'). (0-3.45') Medium to dark gray SANDY SILT and very fine SAND, few fine subrounded to subangular Gravel, trace coarse subangular Gravel, trace subangular Gravel, trace coarse subangular Gravel, stiff, to plasticity, wet. (TILL)	d, trace IILL) ine to vel, stiff, no e to medium no	x x x x			
			•Water					Remarks: ags = above ground surface; bgs = belo Applicable/Available; AMSL = Above Mo Location hand cleared/air knifed 0-5' bg for VOCs.		surface; NA = Not vel.			

Well/Boring ID: A1-B2/A1-PZ2

Borehole Depth: 22' bgs

Site Location:

525 French Road Utica, New York

DEPTH ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
485 – 20	3	15-20	3.45	0.18		H H H H H H H H H H H H H H H H H H H	(0-3.45') Medium to dark gray SANDY SILT and very fine SAND, few fine to medium subrounded to subangular Gravel, trace coarse subangular Gravel, stiff, no plasticity, wet. (TILL) Saturated (0-1.9') and (1.45-2').	<pre></pre>
	4	20-22	2.05	0.06			(0-2.05') Medium to dark gray SANDY SILT and very fine SAND, few fine to medium subrounded to subangular Gravel, trace coarse subangular Gravel, stiff, no plasticity, wet. (TILL) Shale in tip of shoe at 2'. (BEDROCK)	
- 25	-							
475 - 30	-							

Dri Dri Dri Sar	Date Start/Finish: 5/27/2010 Drilling Company: Zebra Environmental Driller's Name: Jon Cewl Drilling Method: Direct Push Sampling Method: 2.5" by 5' Acetate Liner Rig Type: Track-Mounted Geoprobe Rig								Northing: 1127889 Easting: 1167235. Casing Elevation: Borehole Depth: 2 Surface Elevation: Descriptions By:	3 NA 20' bgs 503.4' AMSL		Well/Boring ID: A1-B3 Client: Lockheed Martin Corporation Location: 525 French Road Utica, New York				
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stratigrap	hic Description					ell/Boring	
-	- 505 -															
-	_ _ 500 _	NA	NA	NA	NA		00000000000000000000000000000000000000	(0-5') Dark g	ray-brown SAND, SILT a	nd GRAVEL. (FILL)				<u></u>	sur sur (0-	mpleted at face with rounding face material 0.3' bgs) ntonite Pellet al (0.3-8' bgs)
- 5	- - 495 -	1	5-10	1.3	1.7	\times	200000000	subangular (plasticity, mo	brown-gray GRAVELY S GRAVEL, some coarse s pist to wet. (TILL)	ubrounded Sand, trace v				× × × × × × × × × × × ×		
- 10 - - - 15	- - 490 - -	2	10-15	2.3	0.0	-		(0.25-1.5') D subangular ((1.5-2.3') Da Sand to fine loose, low pl Saturated 0- (0-4.3') Dark to fine subro low plasticity	brown-gray SANDY SIL unded to subangular Gra at Clay interval 1.5-1.7',	LAY, trace coarse Sand sticity, wet. (CLAY) ILT and very fine to fine S ar Gravel, trace Clay, tra 5-1.7' bgs, no plasticity, T and very fine to fine SA ivel, trace Clay, trace coa no plasticity, wet. (TILL)	SAND, frace coars wet. (TIL AND, few arse 2" F	ew coarse se 2" Pebbles, L) v coarse Sand ebbles, loose,	-	× × × × × × × × × × × × × × × × × × ×	ma bg:	llapsed terial (8-20' s)
			•Water					Rema	rks: ags = above Applicable/A Location han VOCs.	ground surface; bo vailable; AMSL = A Id cleared/air knifed				NA = No		-6' bgs for

Well/Boring ID: A1-B3

Borehole Depth: 20' bgs

Site Location:

525 French Road Utica. New York

DEPTH ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	3	15-20	4.3	0.29	4		(0-4.3') Dark brown-gray SANDY SILT and very fine to fine SAND, few coarse Sand to fine subrounded to subangular Gravel, trace Clay, trace coarse 2" Pebbles, loose, low plasticity at Clay interval 1.5-1.7' bgs, no plasticity, wet. (TILL) Saturated 0-3.6' bgs. Shale in tip of shoe at 4.3'. (BEDROCK) Refusal at 20' bgs. End of boring.	× × × × × × × × × × × × × × × ×
- 475 - 30 -								
470 - - 35 -		R	CA	DI	S		Remarks: ags = above ground surface; bgs = below ground surface; bgs = below ground surface; bgs = below ground sea Le Applicable/Available; AMSL = Above Mean Sea Le Location hand cleared/air knifed 0-5' bgs. Analytic VOCs.	evel.

Dril Dril Dril San	ling (ler's l ling N npling	Compa Name Nethoo g Meth	sh: 5/ any: Z : Jon d: Dire aod: 2 k-Mou	ebra E Cewl ect Pus 2.5" by	Enviror sh 5' Ace	nmen etate	Liner		Northing: 1 Easting: 11 Casing Elev Borehole D Surface Ele Description	67604.7 vation: 509 Depth: 20.5 evation: 51	i' bgs 0.04' AMSL		Well/Boring ID: A2-B1/A2-PZ1 Client: Lockheed Martin Corporation Location: 525 French Road Utica, New York				
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Str	ratigraphic [Description				Well/Boring Construction		
-	- - -															Steel flushmount cover Locking J-Plug Congente Red (0)	
-	-	NA	NA	NA	NA			(0-5') Med	ium brown SAND	ŊY SILT and me	edium to coarse GF	RAVEL. (FILL)			Concrete Pad (0- 0.5' bgs) Sand Drain (0.5- 1' bgs) Bentonite Pellet Seal (1-2.77' bgs) 1" Sch 40 PVC Riser (0.29'-4.77' bgs) #00 Silica Sand Pack (2.77-3.77' bgs)	
- 5	505 - - -	1	5-10	2.1	18.2	\times	20000000000	subangula			LT and fine to coa Sands, trace fractu					#0 Silica Sand Pack (3.77-10' bgs) 1" Sch 40 PVC	
- 10	500 - - -	2	10-15	4.9	36.1			plasticity, (3.7-4.9)	moist. (CLAY)	Y SILT and fine	rse subrounded Sa	gular SAN	ND, some very	-		0.010" Slot Screen (4.77- 14.77' bgs) Formation Collapse (10- 20.5' bgs)	
- 15	495 -				34.8	-		subround (0-3.45') I fine Sand subround	ed Gravel, dense, Dark gray SANDY few coarse Sand ed Gravel, dense,	, no plasticity, m SILT and fine t d to fine subrout , no plasticity, m	noist to wet. (TILL) to medium subang nded to subangula noist to wet. Satura) gular SAN ar Gravel, rated (0-0	ID, some very trace coarse 0.9'). (TILL)			1" Sch 40 PVC Cap at base of Screen (14.77- 15.17' bgs)	
			•Water				dings	Rem		tion hand cl	und surface; b able; AMSL = eared/air knife					t ed from 7-8' bgs for	

Well/Boring ID: A2-B1/A2-PZ1

Borehole Depth: 20.5' bgs

Site Location:

525 French Road Utica, New York

Data File:A2-B1_A2-PZ1.dat

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	-	3	15-20	4.8	2.3 0.47			(0-3.45') Dark gray SANDY SILT and fine to medium subangular SAND, some very fine Sand, few coarse Sand to fine subrounded to subangular Gravel, trace coarse subrounded Gravel, dense, no plasticity, moist to wet. (TILL) (3.45-4.8') Light gray GRAVELY SILT and fine to medium angular GRAVEL	$\begin{array}{c} & \times \\ \times$
- 20	- 490 -	4	20-20.5	0.6	0.29 0.13 0.03	_		(0-0-3') Dark gray SONE and SHALE), few coarse subrounded to subangular LIMESTONE Gravel, medium dense, dry. (TILL) (0-0.3') Dark gray SANDY SILT and fine to medium subangular SAND, some very fine Sand, few coarse Sand to fine subrounded to subangular Gravel, trace coarse subrounded Gravel, dense, no plasticity, moist. (TILL) (0.3-0.6') Light gray GRAVELY SILT and fine to medium angular GRAVEL (fractured	x x 20.5' bgs) x x x x x x x x x x
	-							LIMESTONE and SHALE), few coarse subrounded to subangular Limestone Gravel, medium dense, dry. (TILL/BEDROCK) Shale in tip of shoe at 20.5' bgs. Refusal at 20.5' bgs. End of Boring.	
25	- 485 - -								
	-								
30	480 -								
35	- 475 -								
			R(lings	Remarks: ags = above ground surface; bgs = below ground s Applicable/Available; AMSL = Above Mean Sea Le Location hand cleared/air knifed 0-5' bgs. Analytic VOCs.	vei.

Dril Dril Dril San	ling (ler's l ling M npling	Compa Name Nethoo g Meth	sh: 5/ any: Z : Jon d: Dire nod: 2 k-Mou	ebra E Cewl ect Pus 2.5" by	Enviror sh 5' Ace	nmer etate	ntal Liner		Borehole Depth:	7.3 n: 509.46' AMSL : 20.2' bgs on: 509.90' AMSL	Client: Lo	n g ID: A2-E ockheed Mar 525 French Utica, New	tin Corporati	
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stratigra	aphic Description			Well/Bor Construc	e
-												10-20		 Steel flushmount cover Locking J-Plug Concrete Pad (0-
-	- - 505 -	NA	NA	NA	NA			(0-5') Med	ium brown SILT and SA	ND, some coarse Gravel. (Fil	μ.			 Contracter Page (0- 0.5' bgs) Sand Drain (0.5- 1' bgs) Bentonite Pellet Seal (1-2.5' bgs) 1" Sch 40 PVC Riser (0.44'-4.86' bgs) #00 Silica Sand Pack (2.5-3.86' bgs)
	- - -	1	5-10	5	4.1		00000000	few coars Sand, me (4.1-5') D	e Sand and coarse subro dium stiff to stiff, no plas	Y SILT and fine to medium su ounded/subangular Gravel, tra ticity, moist. (TILL)	ace fine to medium			 #0 Silica Sand Pack (3.86-8' bgs)
- 10	500 - - - -	2	10-15	4.2	22.1			(065') D plasticity, (0.65-1.2' SAND, m (1.2-4.2') Sand to fi	ark brown-gray varved C stiff, moist. (CLAY) Some fine to medium s edium stiff, wet. (CLAY) Dark brown-gray SANDY ne subrounded/subangu 2" Pebbles, medium stiff	LAY, trace coarse subrounde ubangular to angular Gravel, / SILT and very fine to fine S/ ar Gravel, trace coarse subro to medium dense, no plastici	few fine to medium AND, some coarse bunded Limestone			 - 1" Sch 40 PVC 0.010" Slot Screen (4.86- 14.86' bgs) - Formation Collapse (8-20.2' bgs)
- 15	495 -				0.35		:::::::::::::::::::::::::::::::::::::::	Sand to fi Gravel to	ne subrounded/subangu 2" Pebbles, medium stiff	SILT and very fine to fine SAN lar Gravel, trace coarse subro to medium dense, no plastici	ounded Limestone ty, wet. (TILL)			 — 1" Sch 40 PVC Cap at base of Screen (14.86- 15.26' bgs)
			·Water				dings	Rem		ve ground surface; bgs /Available; AMSL = At and cleared/air knifed				om 11-12' bgs

Project: NJ001020.1.2 Template:G:\Rockware\LogPlot 2001\LogFiles\Templates\boring_well geoprobe 2007 analytical.ldfx Data File:A2-B2_A2-PZ2.dat Date2/28/2011 Created/Edited by:NJB

Well/Boring ID: A2-B2/A2-PZ2

Borehole Depth: 20.2' bgs

Site Location:

525 French Road Utica, New York

	Utica	a, new	/ York											
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction					
- - - 20		3	15-20 20-20.5	4.8	0.09			(0-4.8') Dark brown-gray SANDY SILT and very fine to fine SAND, some coarse Sand to fine subrounded/subangular Gravel, trace coarse subrounded Limestone Gravel to 2" Pebbles, medium stiff to medium dense, no plasticity, wet. (TILL) Saturated 1.8-2.5' bgs. Shale in tip of shoe at 20.2' bgs. (BEDROCK)	X X X X X X X X X X X X X X X X					
- - - - 25	Image: Construction Image: Construction													
- - - 30	- 480 - -													
	475 -							Remarks: ags = above ground surface; bgs = below ground Applicable/Available; AMSL = Above Mean Sea Le	evel.					
Proje	ect: N	J00102	Water	· Enviro Ter	nment	· Builc		Location hand cleared/air knifed 0-5' bgs. Analytic for VOCs. are\LogPlot 2001\LogFiles\Templates\boring_well geoprobe 2007 ar Date2/28/2011 Created/Edited by:NJB						

Dri Dri Dri Sar	lling (ller's lling N npling	Compa Name Nethoo g Meth	sh: 5/ any: Z : Jon d: Dire aod: 2 k-Mour	ebra E Cewl ect Pus 2.5" by	Enviror sh 5' Ace	nmen etate	Liner		Borehole Dept Surface Elevat	41.5 on: 509.46' AMSL		Well/Boring Client: Loc Location: g	kheed Ma	rtin Coi h Road	poration
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stratig	graphic Description					ell/Boring nstruction
- -									Steel flushmount cover Locking J-Plug						
-	- - 505 -	NA	NA	NA	NA			(0-5') Med	ium to dark gray SANI	D and CLAY, wet. (FILL)					Concrete Pad (0- 0.5' bgs) Bentonite Pellet Seal (0.3-0.8' bgs) #00 Silica Sand Pack (0.8-1' bgs) 1" Sch 40 PVC Riser (0.23'-1.88' bgs) #0 Silica Sand Pack (1-3' bgs)
- 5	- - 500 -	1	5-10	3.9	0.04 0.29 0.01	×		fine Sand (1.6-2.95') medium s medium p (2.95-3.8') Gravel, tra	In varved layers, stiff, Dark gray SANDY SI ubrounded to subangu asticity, saturated. (TI Medium gray SILT, s icce coarse Gravel to 2	few to trace coarse Sanc low to no plasticity, moist LT and very fine to fine S. Ilar Gravel, trace subroun LL) ome fine to medium subro " pebbles, very stiff, very and LIMESTONE. (ROCK	AND, few co aded coarse	barse Sand to Gravel, loose, ubangular	-		1" Sch 40 PVC 0.010" Slot Screen (1.88- 11.88' bgs)
_ 10	-	2	10-14	4.8	0.00	-)00000000	GRAVEL, subrounde Dar Larr (0-1.6') Mo	few coarse subrounde ed Limestone, loose, n k gray stiff, dense, no <u>je Limestone fragmen</u> dium gray GRAVELY	SILT and fine to medium	and, trace 1. .9-4'). (TILL)	-2" pebbles of			 1" Sch 40 PVC Cap at base of Screen (11.88- 12.28' bgs) Formation Collapse (3-15' bgs)
- 15-	495 -	3	14-15	1.6	0.02 0.02			subrounde		ed Gravel and very fine Sa o plasticity, moist. (TILL)		-2" pebbles of		× × × ×	
	Infrastr	ructure	•Water	· Enviro	nment	· Builc		nifed 0-5'	elow ground Mean Sea Lu bgs. Analytic	evel. cal sample	e collect	ted from 6-7' bgs for Page: 1 of 1			

Date Start/Finish: 6/2/2010 Drilling Company: Zebra Environmental Driller's Name: Phil Orsi Drilling Method: Direct Push Sampling Method: 1.5" by 5' Acetate Liner Rig Type: Track-Mounted Geoprobe Rig	Northing: NA Easting: NA Casing Elevation: NA' AMSL Borehole Depth: 6' bgs Surface Elevation: NA' AMSL Descriptions By: Daniel Zuck	Well/Boring ID: A2-B4 Client: Lockheed Martin Corporation Location: 525 French Road Utica, New York
DEPTH ELEVATION Sample Run Number Sample/Int/Type Recovery (feet) PID Headspace (ppm) Analytical Sample Geologic Column	Stratigraphic Description	Well/Boring Construction
NA) Dark brown-red GRAVELY SILT. (FILL)	x x x x x x x x x x x x x x x x
-5 -5 - 1 4-6 2.5 0.97	3') Slough; dark brown GRAVELY SILT. (TILL) 2.5') Red-brown GRAVELY SILT and fine to medium subrounded VEL, few coarse subrounded Sand, trace coarse subrounded to rel, trace very fine to fine Sand, stiff, no plasticity, moist. (TILL) e fragment in tip of shoe.	d to subangular
Refu	sal at 6' bgs. End of boring.	
R ARCADIS Infrastructure · Water · Environment · Buildings	emarks: ags = above ground surface; bgs = b Applicable/Available; AMSL = Above Location hand cleared/air knifed 0-4' VOCs. DUP-060210 collected.	pelow ground surface; NA = Not e Mean Sea Level. bgs. Analytical sample collected from 5-6' bgs for

Dri Dri Dri Sar	lling (ller's lling N npling	Compa Name Nethoo g Meth	sh: 6/ ny: Z Phil Dire nod: 1 k-Mou	ebra E Orsi ect Pus I.5" by	Enviror sh 5' Ace	etate	Liner		Northing: 112804 Easting: 1167600. Casing Elevation: Borehole Depth: Surface Elevation Descriptions By:	.0 : 509.40' AMSL 15.5' bgs a: 509.56' AMSL	Well/Boring Client: Loo Location: g	kheed Mar	tin Corpora Road	
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stratigrap	ohic Description			Well/Bo Construe	0
-	- - 510 -							 Steel flushmount cover Locking J-Plug 						
-	-	NA	NA	NA	NA		000000000	(0-4') Dar	k brown/red-brown SAND a	and fine to coarse GRAVEL. (FIL	L)			 Concrete Pad (0- 0.5' bgs) Bentonite Pellet Seal (0.4-1' bgs) #00 Silica Sand Pack (1-1.5' bgs) 1" Sch 40 PVC Riser (0.17-2.55' bgs)
5	505 - - -	1	4-10	4.8	0.71 0.22 3.4			(0.8-3.9') subangula trace coal (2.1-3.9')	Red-brown and gray GRA\ ar GRAVEL, few coarse su rse subrounded to subangu Wet, saturated in pockets,	VELY SILT and fine to medium s brounded Sand, trace very fine t ular Gravel, stiff, no plasticity, mo medium stiff.	ubrounded to o fine Sand, oist. (TILL)			— #0 Silica Sand Pack (1.5-13' bgs)
- 10	 500 -				6.3		000000	to subang subangula	ular Gravel, few very finé t ar Gravel, very dense, very	to fine Sand, trace coarse subrou / stiff, no plasticity, moist. (TILL) dium brown GRAVELY SILT, wet	inded to			 — 1" Sch 40 PVC 0.010" Slot Screen (2.55- 14.55' bgs)
- 15	- - 495 -	2	10-15	4.8	0.44 0.78 0.68			to subang subangula (2.4-3.3') Sand, stif (3.3-4.8)' subround	ular Gravel, few very fine t ar Gravel, very dense, very Dark gray varved CLAY, trr , low to no plasticity, moist Dark gray SANDY SILT an ad Sand, trace medium to	nd very fine to fine SAND, some r coarse subrounded to subangula	Inded to	· · · · · · · · · · · · · · · · · · ·		 Formation Collapse (13-15' bgs) 1" Sch 40 PVC Cap at base of Screen (14.55-

Dril Dril Dril San	ling (ler's l ling N npling	Compa Name Netho g Meth	sh: 6/ any: Z : Phil d: Dire nod: 1 k-Mour	ebra E Orsi ect Pu 1.5" by	Enviror sh 5' Ace	etate	Liner		Borehole Depti	36.2 on: 510.03' AMSL n: 14' bgs on: 510.24' AMSL		Client: Loo	g ID: A2-E ckheed Mar 525 French Utica, New	tin Corpo Road	
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stratig	raphic Description				Well/E Constr	Boring ruction
-	-														 Steel flushmount cover Locking J-Plug
-	510 -	NA	NA	NA	NA		2000000	(0-3.5') M	edium to dark brown G	RAVELY SILT and SAND, I	loose, mo	ist. (FILL)			Concrete Pad (0- 0.5' bgs) Bentonite Pellet Seal (0.3-1' bgs) #00 Silica Sand Pack (1-1.5' bgs) #0 Silica Sand Pack (1.5-2.5' bgs) 1" Sch 40 PVC
5	- 505 -	1	3.5-5	1.5	0.29 0.39 0.21			(1.5-3.6') GRAVEL Gravel, tr (0-1.7') R	few coarse subrounde ace very fine to fine Sar ed-brown GRAVELY S	aterial. SILT and fine to medium su d Sand, trace coarse subro nd, stiff, no plasticity, moist. ILT and fine to medium subr d Sand, trace coarse subro	ounded to . (TILL) rounded t	subangular			Riser (0.21-2.18' bgs)
-	-	2	5-10	4.8	0.42	×		Gravel, tr (1.7-3.5') stiff, low t (3.5-4.8') fine subro	ace very fine to fine Sa Dark gray varved CLA o no plasticity, moist. (C Medium gray SANDY S unded to subangular C	nd, stiff, no plasticity, moist.	. (TILL) : subround	ded Gravel,			
- 10	500 - - -	3	10-14	3.9	0.71			(1-3.9') M fine subro	unded to subangular G	T and very fine to fine SAN ravel, trace medium to coar se, no plasticity, moist. (TILI	rse subro				 Formation Collapse (2.5-14' bgs) 1" Sch 40 PVC Cap at base of Screen (12.18- 12.58' bgs)
- 15	- 495 -							En	l of Boring at 14' bgs.						
			•Water				dings	Rem	Арріїсарі	ove ground surface; b e/Available; AMSL = hand cleared/air knif	Above	Mean Sea L	evel.		ed from 7-8' bgs for

Dril Dril Dril San	ling C ler's l ling N npling	Compa Name: Nethoo g Meth	sh: 6/ any: 2 Phil : Dira nod: k-Mou	Zebra E Orsi ect Pu: 1.5" by	Enviror sh ' 5' Ace	etate	Liner		Northing: N/ Easting: NA Casing Elev Borehole De Surface Elev Descriptions	ation: NA'A	AMSL		Well/Boring Client: Loo Location: g	kheed Ma	artin Co h Road	d
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stra	atigraphic De	scription					/ell/Boring onstruction
-	_															
-		NA	NA	NA	NA		×6000001		k brown/red-brown						* * * * * * * * * * * * * * * * * * *	Collapsed material (0-6' bgs)
5	-5 -	1	4-6	0.8	NA		× × × × × × × × × ×	(Rock)	actured SHALE (G	ravel/+III material) and trace pieces	or Silt s	screen.		× × × × × × × × × ×	
- 10								End of bo	ing at 6' bgs.							
- 15	-15 -															
	5 -15 -							Rem		able/Availabl	d surface; bgs e; AMSL = Ab red/air knifed	ove N	viean Sea L	evei.		

Dril Dril Dril San	ling C ler's I ling N npling	Compa Name: /lethoo g Meth	Phil d: Dire od:	Zebra E Orsi ect Pu: 1.5" by	Enviror	etate	Liner		Borehole De Surface Elev		02' AMSL	Well/Borin Client: Loo Location:	kheed Ma	rtin Corpo n Road	
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stra	atigraphic Des	scription				Boring truction
															Steel flushmount cover Locking J-Plug
-	-	NA	NA	NA	NA			(0-4') Dar	k brown-red GRAV	ELY SILT and SA	ND, moist to wet. (FIL	L)			Concrete Pad (0- 0.5' bgs) Bentonite Pellet Seal (0.2-0.69' bgs) #00 Silica Sand Pack (0.69-0.89' bgs) 1" Sch 40 PVC Riser (0.14-1.89' bgs)
- 5	- 505	1	4-5	2.6	41.1 17.8	-		(0.8-2.6') subangul	ar GRAVEL, few co	RAVELY SILT and barse subrounded	fine to medium subro Sand, trace coarse su		-		#0 Silica Sand Pack (0.89-5.5' bgs)
-	-	2	5-10	4.8	56.2 78.2 346.5		200600	(0-1.7') S (1.7-3.3') subangul subangul (3.3-4.8') subangul	Dark red-brown GF ar GRAVEL, few co ar Gravel, soft to m Medium gray GRA ¹ ar GRAVEL, few co	wn SILT and SAN RAVELY SILT and barse subrounded leedium stiff, no pla VELY SILT and fir barse subrounded	ILL) D, loose, saturated. (1 fine to medium subro Sand, trace coarse su sticity, saturated. (TILI re to medium subroun to subangular SAND, ist. Trace chemical-lik	unded to brounded to L) ded to trace very fine			1" Sch 40 PVC 0.010" Slot Screen (1.89- 13.89' bgs)
- 10	500 - - - 495 -	3	10-15	2.7	2.8	-		GRAVEL Sand, de (1.7-2.7') Sand, ver	few coarse subrou ise, stiff, no plastici Dark gray varved C y stiff, low to no pla	unded to subangul ity, moist. Trace of CLAY, trace coarse asticity, moist. (CL	to medium subrounde ar SAND, trace very fi chemical-like odor. (TI e subrounded Sand, tr AY) parse subrounded to s to plasticity, moist to w	ne to medium LL) ace very fine			 Formation Collapse (5.5-18' bgs) 1" Sch 40 PVC Cap at base of Screen (13.89- 14.29' bgs)
							dings	Rem	Applic	on hand clear	d surface; bgs = e; AMSL = Above red/air knifed 0-4	e Mean Sea L	surface; N evel.		d from 9-10' bgs for

Well/Boring ID: A2-B8/A2-PZ6

Borehole Depth: 18' bgs

Site Location:

525 French Road

	rion	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction				
DEPTH	ELEVATION	Sample	Sample	Recove		Analytic	Geologi						
-	-	4	15-18	2.5	1.1 0.43			(0-1.8') Dark gray SILT, some fine Gravel to coarse subrounded to subangular Sand, few very fine to fine Sand, dense, stiff, no plasticity, moist to wet. (TILL) (1.8-2.5') Medium to light gray SILT, some fine Gravel to coarse subrounded to subangular Sand, few very fine to fine Sand, very dense, very stiff, no plasticity, dry to moist. (TILL)	× × Formation × × Collapse (5.5-18' × × bgs) × ×				
								End of Boring at 18' bgs.					
- 20	490 -												
	-												
	_												
- 25	485 -												
	_												
	_												
- 30	- 480 -												
- 50	_												
	_												
	_												
- 35	475 -												
				~ -		~		Remarks: ags = above ground surface; bgs = below ground su Applicable/Available; AMSL = Above Mean Sea Lev	el.				
Applicable/Available, AWSL = Above Mean Sea Level. Location hand cleared/air knifed 0-4' bgs. Analytical sample collected from 9-10' bgs for VOCs.													

Dril Dril Dril Sar	illing C iller's I illing N mpling	Compa Name: Methoc g Meth	i sh: 6/. any: Z :: Phil d: Dire hod: 1 ck-Mour	Zebra E Orsi ect Pus 1.5" by	Environ Ish y 5' Ace	etate	Liner	Eastii Casin Borel Surfa	ning: 1128056.7 ng: 1167620.1 ng Elevation: 509.59' A hole Depth: 20' bgs ice Elevation: 509.74' A riptions By: Daniel Zuc	AMSL	Well/Boring Client: Loc Location: e	kheed Ma	rtin Cor n Road	
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stratigraphic Descrip	ption				ell/Boring nstruction
-	- 510 -													Steel flushmount cover Locking J-Plug
-		NA	NA	NA	NA		2000000	(0-4') Dark brown G	GRAVELY SILT and SAND, mois	st to wet. (FILL)				Concrete Pad (0- 0.5' bgs) Bentonite Pellet Seal (0.3-1' bgs) #00 Silica Sand Pack (1-1.57' bgs) 1" Sch 40 PVC Riser (0.13-2.57' bgs) #0 Silica Sand Pack (1.57-3'
5	505 -	1	4-5	2.8	0.37 1.01 0.61			GRAVEL, few coar	y GRAVELY SILT fine to mediur rse subrounded Sand, trace very	y fine to fine Sand,	subangular trace coarse			bgs)
-	- - 500 -	2	5-10	2.25	0.99 25.9			(2.35-2.8') Medium coarse subangular loose, soft, no plast (0-0.1') Slough. (0.1-1.9') Reddish t to subangular GRAV subangular Gravel, (1.9-2.25') Medium	angular Gravel, soft, low plasticit gray SANDY SILT and very fine Sand, trace medium to coarse s ticity, moist. (TILL) brown and gray GRAVELY SILT VVEL, few coarse subrounded to , trace very fine to fine Sand, stif grayish brown SANDY SILT and angular Gravel to coarse subrou TILL)	e to fine SAND, fev subrounded to sub- f and fine to mediuu o subangular Sand, ff, no plasticity, mo nd very fine to fine S	m subrounded , trace coarse ist. (TILL) Sand, trace fine			1" Sch 40 PVC 0.010" Slot Screen (2.57- 14.96' bgs)
- 10	- - 495 -	3	10-15	3.25	0.0			subrounded to suba no plasticity, wet. D (0-3.6') Medium gra	argrayish brown SANDY SILT and angular Gravel to coarse subrou Dry to moist (2.2-3.25'). (TILL) ayish brown SANDY SILT and ve angular Gravel to coarse subrou TILL)	unded to subangula	ar Sand, loose,			 Formation Collapse (3-20' bgs) 1" Sch 40 PVC Cap at base of Screen (14.56- 14.96' bgs)
			R				dings	Remarks:		AMSL = Above	e Mean Sea L	surface; N evel.	A = No	

Well/Boring ID: A2-B9/A2-PZ7

Borehole Depth: 20' bgs

Site Location:

525 French Road Utica, New York

01	ica, Nev	VIOIR														
DEPTH FI EVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction								
-	_ 4	15-20	4.3	0.03			(0-3.6') Medium grayish brown SANDY SILT and very fine to fine SAND, trace fine subrounded to subangular Gravel to coarse subrounded to subangular Sand, loose, no plasticity, wet. (TILL)	× × Formation × Collapse (3-20' × × bgs) × × × ×								
- 	_			0.14			(3.6-4.3') Light gray gravel sized fractured SHALE and rock powder, dry. (BEDROCK)									
-	- - End of Boring at 20' bgs. - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -															
- - 25 -	-															
-	-															
480 - 30 -	-															
- - - 35	-															
	475															

Dril Dril Dril San	ling (ler's l ling M npling	Compa Name Nethoo g Meth	sh: 6/ any: Z : Phil d: Dire nod: 1 k-Mou	Zebra E Orsi ect Pus 1.5" by	Enviror sh ' 5' Ace	etate	Liner		Northing: 112804 Easting: 1167613 Casing Elevation Borehole Depth: Surface Elevation Descriptions By:	1.6 : 509.70' AMSL 15' bgs n: 509.91' AMSL	Client: Loc	g ID: A2-B10/A2-P ckheed Martin Corpora 525 French Road Utica, New York	
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stratigra	phic Description		Well/Bo Construc	-
-					 Steel flushmount cover Locking J-Plug 								
-		NA	NA	NA	NA		2000000	(0-4') Mec	iium dark brown SILT and	GRAVEL, some Sand, soft, loos	e, wet. (FILL)		 Concrete Pad (0- 0.5' bgs) Bentonite Pellet Seal (0.3-1' bgs) #00 Silica Sand Pack (1-1.6' bgs) 1' Sch 40 PVC Riser (0.22-2.6' bgs)
_5	505 -	1	4-5	2.55	1.17			subangula	ar GRAVEL, few coarse su	SILT and fine to medium subrour ubrounded to subangular Sand, tr Gravel, stiff, no plasticity, moist. (ace very fine to		
-	-	2	5-10	4.8	3.02	×	2000000000	subangula fine Sand	ar GRAVEL, few coarse su	SILT and fine to medium subround ubrounded to subangular Sand, tr Gravel, stiff, no plasticity, moist. e.	ace very fine to		 #0 Silica Sand Pack (1.6-13' bgs) 1" Sch 40 PVC 0.010" Slot Screen (2.6-14.6' bgs)
- 10	3.02 3.02 10 500 3.02 0.61 0.61												
F	-				0.29			GRAVEL,	few coarse subrounded to	nd fine to medium subrounded to o subangular Sand and very fine i sticity, moist. Wet (3.2-3.6'). (TIL	to fine Sand		 Formation Collapse (13-15' bgs)
- 15	495 -					-		End of Bo	ring at 15' bgs.				 — 1" Sch 40 PVC Cap at base of Screen (14.6-15' bgs)
			•Water		nment	· Build	5	Rem	Applicable// Location ha for VOCs.	e ground surface; bgs = b Available; AMSL = Above and cleared/air knifed 0-4	e Mean Sea L	evel. cal sample collected fr	rom 10-11' bgs

Dri Dri Dri Sa	lling (ller's lling N mpling	Compa Name Methor g Meth	sh: 5/ any: Z : Phil d: Dire nod: 1 k-Mou	ebra E Orsi ect Pus 1.5" by	Enviror sh ' 5' Ace	nmer etate	Liner		Northing: 112789 Easting: 1167152 Casing Elevation Borehole Depth: Surface Elevatior Descriptions By:	.2 : 508.57' AMSL 20' bgs n: 505.54' AMSL	Well/Boring ID: PZ-22 Client: Lockheed Martin Corporation Location: 525 French Road Utica, New York				
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stratigra		Well/Boring Construction				
-	_	-										Locking J-Plug Steel Protective Casing 1" Sch 40 PVC Riser (3' ags- 1.49' bgs)			
-	505 -	NA	NA	NA	NA		× × × × × × × × × × × × × × × × × × ×	(0-5') Fill	material. (FILL)				0.5' bgs)		
- 5	500 - - - -	1	5-10	4.8	0.0			(1-3.1') M Gravel, fe no plastic (3.1-4.8') subangula	edium gray GRAVELY SIL w very fine to medium Sar ity, wet. (TILL) Medium gray GRAVELY S	/ Soils with organics and medium _T and fine to medium subrounden nd, trace coarse Gravel subround SILT and fine to medium subroun medium Sand, trace coarse Grav L)	ed to subangular ded, stiff, low to ded to		1" Sch 40 PVC 0.010" Slot Screen (1.49- 11.49' bgs)		
- 10 - - - - 15	495 - - - - 490 -	2	10-15	4.8	0.0 0.0 0.0 0.0	-		subangul; stiff, low p (2.2-2.5') (2.5-4.8') GRAVEL subangul; (0-0.25') \$ (0.25-0.6')) Medium gray GRAVELY ar Gravel, few very fine to Jasticity, dry to moist. (TIL Fragmented LIMESTONE Dark gray GRAVELY SILT some coarse subrounded ar Gravel, dense, no plasti Slough.) Dark gray GRAVELY SIL		#0 Silica Sand Pack (1-12.07' bgs) 1" Sch 40 PVC Cap at base of Screen (11.49- 11.89' bgs)				
1950 0.0									arks: ags = above Applicable//	I Sand, few fine to medium Sand e ground surface; bgs = I Available; AMSL = Above and cleared/air knifed 0-5	, trace coarse below ground e Mean Sea L	evel.			

Well/Boring ID: PZ-22

Borehole Depth: 20' bgs

Site Location:

525 French Road Utica. New York

U	Jtica,	New	York								
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction		
	_				0.0			subangular Gravel, dense, no plasticity, moist. (TILL) (0.6-2.4') Dark gray varved CLAY stiff to very stiff, low to no plasticity, moist. (CLAY)			
-	_	3	15-20	4.8	0.0			(2.4-3.3') Dark gray SANDY CLAY and medium to coarse subangular to angular SAND, some varved layers, trace medium to coarse angular Gravel, stiff, no plasticity, moist to wet. (CLAY)			
-	-				0.0			(3.3-4.8') Medium to dark gray SANDY SILT and fine to medium subangular Sand, some very fine Sand, trace coarse Sand to fine Gravel, medium dense, no plasticity, wet. (TILL)			
- 20 48	-							End of Boring at 20' bgs.			
-	_										
-											
	-										
-	30 -										
-	_										
-	_										
— 30 47	-										
-	-										
-	_										
	-										
47	70 -								surface: NA - Net		
Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level. Location hand cleared/air knifed 0-5' bgs. No analytical sample collected.											
Project:	NJ0	0102	20.1.2	Ter	nplate	:G:\R	Rockwa	are\LogPlot 2001\LogFiles\Templates\boring_well geoprobe 2007 ar	nalytical.ldfx Page: 2 of 2		

Dri Dri Dri Sar	lling (ller's lling N npling	rt/Finia Compa Name: Methoo g Meth e: Trac	iny: Z Phil d: Dire iod: 1	ebra E Orsi ect Pus I.5" by	Enviror sh 5' Ace	nmen etate	Liner		Borehole Depth: 25' bgs Location: 525					skheed Mar 525 French	ID: PZ-23 wheed Martin Corporation 25 French Road ltica, New York				
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column			Stratigrap	Well/Boring Construction								
-	-	-												 Locking J-Plug Steel Protective Casing 					
-	- 505 - -	NA	NA	NA	0.0		<pre>x x x x x x x x x x x x x x x x x x x</pre>	(0-4.5') H	and cleared. ((FILL)							 Concrete Pad (0- 0.5' bgs) 		
		1	4.5-5	1.05	0.0	-	× × H · · ·	(0-0.6') SI	ough; Back fill	I soil with orga	anics. (FILL)				11	1			
- 5	- 500 - - -	2	5-10	4.0	0.0		00000000	(0-3.7') M	ed to subangul pugh. Reddish gray (few medium t and Gravel, n edium gray GF m to coarse S , stiff, no plast	GRAVELY SI GRAVELY SI to coarse San medium stiff, r RAVELY SILT Sand, trace mu ticity, moist to	ILT and fine su ILT and fine su nd, trace medii no plasticity, n T and fine sub edium to coar o wet.(TILL) T and fine sub	nd very fine to me ium dense, no pla ubrounded to sub um to coarse Lim noist to wet.(TILL rounded to suban se angular Limes	sticity,				 Bentonite/concrete Grout (0-16' bgs) 1" Sch 40 PVC Riser (3' ags- 18.07' bgs) 		
- - - 15	- 495 - - -	3	10-15	4.8	0.0			few mediu fragments (3.7-4.8')	m to coarse S , stiff, no plast Medium to dar ity, moist.(CL/	Sand, trace me ticity, moist to	edium to coar wet.(TILL)	se angular Limes	ione Gravel						
		A ructure					lings	Rem	Ap Loc	cation han	valiable; A	air knifed 0-4	below ground e Mean Sea L .5' bgs. Analy	evel.			from 6-7' bgs for		

Well/Boring ID: PZ-23

Borehole Depth: 25' bgs

Site Location:

525 French Road Utica, New York

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
-	490 -	4	15-20	4.8	0.0			(0.9-3.2') Medium to dark gray CLAY, few coarse subrounded Sand, varved, stiff, low plasticity, moist.(CLAY)	Bentonite Seal (16-17' bgs)
- 20	-				0.0	_		(3.2-4.8') Medium to dark gray SANDY SILT and medium subangular to angular SAND, some fine to medium Sand, trace coarse Sand to fine subangular to angular Gravel, loose to medium dense, no plasticity, pockets of saturation.(TILL)	#0 Silica Sand Pack (17-20.4' bgs) 1" Sch 40 PVC 0.010" Slot
-	_				0.0			(0-1.1') Slough. (1.1-3.1') Medium to dark gray SANDY SILT and medium subangular to angular SAND, some fine to medium Sand, trace coarse Sand to fine subangular to angular	Screen (18.07- 20.07' bgs) 1" Sch 40 PVC Cap at base of Screen (20.07- 20 d7 bcs)
-	485 -	5	20-25	4.5	0.0			Gravel, loose to medium dense, no plasticity, pockets of saturation.(TILL) (3.1-4.5') Dark gray GRAVELY SILT and fine to medium subangular to angular	20.47' bgs)
- 	_				0.0		000	(BRAVEL, few coarse subrounded Sand to medium Sand, very dense, no plasticity, wet, trace pockets of saturation.(TILL)	
	- 480 - -							End of Boring at 25' bgs.	
- 30	-								
	475 -								
- 35	_								
			RC				dings	Remarks: ags = above ground surface; bgs = below ground su Applicable/Available; AMSL = Above Mean Sea Lev Location hand cleared/air knifed 0-4.5' bgs. Analytic VOCs. DUP-051810 collected.	el.

Dri Dri Dri Sar	lling (ller's lling N npling	Compa Name: Nethoo g Meth	sh: 5/ ıny: Z ∵ Phil d: Dire ıod: 1 k-Moui	ebra E Orsi ect Pus 1.5" by	Enviror sh 5' Ace	nmen etate	Liner		Easting: 1167390.9Client: LockCasing Elevation: 504.77' AMSLClient: LockBorehole Depth: 14.47' bgsLocation: 5				g ID: PZ-24 kheed Martin Corporation 525 French Road Jtica, New York				
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stratigra	aphic Description	Well/Boring Construction						
-																 Locking J-Plug Steel Protective Casing 	
-	- - 500 -	NA	NA	NA	NA		× × × × × × × × × × × × × × × × × × ×	(0-5') Har	id cleared. (FILL)							 Concrete Pad (0- 0.5' bgs) Sand Drain (0.5- 1' bgs) 1" Sch 40 PVC Riser (3' ags- 1.49' bgs) Bentonite Seal (1-3' bgs) #00 Silica Sand Pack (3-3.5' bgs) 	
- 5		. 1	5-10	2.5	0.0		< F. F. F. F. F. F. H.	SAND, fe coarse lin (TILL)	w coarse subrounded Sal testone Gravel, loose to r Brownish gray SILTY CL	D and very fine to medium s nd, trace Clay lenses at 0.8' medium dense, wet (0-1.3'), AY, medium stiff, low to med	, trace n saturate	nedium to ed (1.3-2.2').				- #0 Silica Sand Pack (3.5-14.47' bgs)	
- 10		2	10-14	4.8	0.0			(2.95-4.1 saturated (4.15-4.8)) Brownish gray SILTY CI (CLAY) 5) Brownish gray SILT, tr				 1" Sch 40 PVC 0.010" Slot Screen (4.07- 14.07' bgs) 1" Sch 40 PVC Cap at base of Screen (14.07- 14.47' bgs) 				
Remarks: ags = above ground surface Applicable/Available; AMSL Location hand cleared/air km for VOCs.												Mean Sea L	evel. cal sample	colle	ected fror	14.47' bgs) n 10-11' bgs	

Dri Dri Dri Sai	lling (ller's lling N npling	Compa Name Nethoo g Meth	sh: 5/ any: Z : Phil : Dire aod: 1 k-Mour	ebra E Orsi ect Pus I.5" by	Enviror sh 5' Ace	etate	Liner		Easting: 1167475.2Client: LocCasing Elevation: 510.62' AMSLClient: LocBorehole Depth: 20.11' bgsLocation: g				g ID: PZ-25 kheed Martin Corporation 525 French Road Jtica, New York				
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stra	atigraphic Des	Well/Boring Construction						
-	510 - -													 Locking J-Plug Steel Protective Casing 			
-	- 505 -	NA	NA	NA	NA			(0-4') Han	d cleared; backfill.	(FILL)				Concrete Pad (0- 0.8' bgs)			
5	_	1	4-5	0.8	0.0		× ×	GRAVEL, subrounde	few medium to coa ed Gravel, medium	arse subangular to dense to dense, n	e to medium subangu angular Sand, trace o plasticity, moist. (Tl	coarse ILL)				 — 1" Sch 40 PVC Riser (3' ags- 9.67' bgs) 	
-	- 500 - -	2	5-10	4.8	0.0	\times	200000000000	GRAVEL, subrounde (0.35-4.8') angular G	few medium to coa ed Gravel, medium Light to medium g ravel, some very fin	arse subangular to dense to dense, n gray GRAVELY SIL ne to coarse subro	ne to medium subang angular Sand, trace o o plasticity, moist. (TI T and fine to medium unded Sand, few coa lium dense, dry to mo	coarse ILL) n subangular to arse angular				— Bentonite Seal (0.8-8' bgs)	
_ 10	- 495 -	3	10-13	4.8	0.0 0.0 0.0			angular G Limestone	Light to medium g ravel, some very fi Gravel, trace fine	ne to coarse subro 1.5" Pebbles, mec	T and fine to medium unded Sand, few coa lium dense, dry to mo low to no plasticity, n	irse angular bist. (TILL)	-			— #0 Silica Sand	
- 15	-	4	13-18	7.5	0.0			some very Shale Gra (TILL)	t to medium gray G r fine to coarse sub vel, trace fine 1.5"	prounded Sand, fev Pebbles, medium	d fine to medium sub v coarse angular Lim dense, no plasticity, r	estone and noist to wet.				 Pack (8-20.11' bgs) — 1" Sch 40 PVC 0.010" Slot Screen (9.67-19.67' bgs) 	
			•Water				lings	Rem	Applic	on hand clear	surface; bgs = I ; AMSL = Above ed/air knifed 0-4	e Mean Sea L	evel.			om 7-8' bgs for	

(Client	: Lock	heed N	Martin	Corpo	ratio	n	Well/Boring ID: PZ-25								
	Sito I	ocatio	n.					Borehole De	Borehole Depth: 20.11' bgs							
	525	Frenc	h Road	t												
	Utica	a, New	/ York													
					Ê		i –									
		mber			ndd)	e	L L									
	z	n Nu	/Type	feet)	pace	Samp	olum		Well/Boring							
Ξ	ATIO	le Ru	le/Int	/ery (eads	tical §	gic C	Stratigraphic Description	Construction							
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column									
		0)	••	-			$\overline{\bigcirc}$	(2-5') Light to medium gray GRAVELY SILT and fine to medium subangular Gravel, some very fine to coarse subrounded Sand, few coarse angular Limestone and								
F					0.0			Shale Gravel, trace fine 1.5" Pebbles, medium dense, no plasticity, moist to wet. (TILL)								
_	490 -															
	-	-					\bigcirc	(0-0.9') Light to medium gray GRAVELY SILT and fine to medium subangular GRAVEL, some very fine to coarse subrounded Sand, few coarse angular because of the standard standard for the standard stand								
-		5	18-20	0.9	0.0		\square	Limestone and Shale Gravel, trace fine 1.5" Pebbles, medium dense, no plasticity, wet to saturated. (TILL)								
- 20									1" Sch 40 PVC Cap at base of							
_	-	-						End of Boring at 20.11' bgs.	Screen (19.67- 20.11' bgs)							
	-	-														
-	485 -															
-	405															
_	-	-														
	_	-														
- 25																
-	_															
	-															
	480 -	-														
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- 30	-	-														
50	-	-														
-	_															
-																
_	475 -	-														
	-	-														
-	_															
- 35	_															
	_															
								Remarks: ags = above ground surface; bgs = below ground Applicable/Available; AMSL = Above Mean Sea Le	surface; NA = Not evel.							
	6	A	P	۲٦	וח	C		Location hand cleared/air knifed 0-4' bgs. Analytic	cal sample collected from 7-8' bgs for							
		ructure					dinas	VOCs.								
		Lettere		2.1010	ment	2 GIIC										

Dri Dri Dri Sa	lling (ller's lling N mpling	Compa Name: Nethoo g Meth	sh: 5/ any: Z : Phil : Dire nod: 1 k-Mou	ebra E Orsi ect Pus I.5" by	Enviror sh 5' Ace	etate	Liner		Northing: 1128056.2 Easting: 1167534.2 Casing Elevation: 510.95' AMSLWell/Boring ID: PZ-26 Client: Lockheed Martin CorporationBorehole Depth: 20' bgs Surface Elevation: 507.8' AMSLLocation: 525 French Road Utica, New YorkDescriptions By: Daniel ZuckLocation: 525 French Road Utica, New York					n		
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stratig	graphic Descriptic	Well/Boring Construction					
-	510 - -															Locking J-Plug Steel Protective Casing
-	-	NA	NA	NA	NA			(0-2.6') Fi	II. (FILL)							Concrete Pad (0- 0.8' bgs)
- 5	505 - -	1	2.6-5	2.6	0.0			Limeston		LY SILT and fine to coa lium to coarse subround				$\left + \right $		1" Sch 40 PVC Riser (3' ags- 9.42' bgs)
-	- 500 - -	2	5-10	4.8	0.0	×		Limestone	eddish brown GRAVE e GRAVEL, trace med dry to moist. (TILL)	LY SILT and fine to coa ium to coarse subround	arse subrounde ded Sand, mec	ed to angular lium dense, no				Bentonite Seal (0.8-8' bgs)
- 10	- - 495 -	3	10-15	4.8	0.0			Limestone plasticity,	e GRAVEL, trace med dry to moist. (TILL)	LY SILT and fine to coarse subround ium to coarse subround ium to coarse subround ium to coarse subround ium to coarse subround its stiff, low to no plasti	ded Sand, mec	lium dense, no				1" Sch 40 PVC 0.010" Slot Screen (9.42- 19.42' bgs)
- 15	-				0.0	_		(0-1') Slot	ugh.							#0 Silica Sand Pack (8-19.82' bgs)
-	-				0.0 0.0			(1-1.8') R SAND, lo (1-1.8') R	eddish brown SILTY S ose, moist. (TILL)	AND and fine to coarse		/				
			Water				dings	Rem		oove ground surfa ole/Available; AMS hand cleared/air						om 8-9' bgs for

Client:	Lockheed	Martin	Corporation	۱
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Site Location:

525 French Road Utica, New York Borehole Depth: 20' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
- - - 20-	490 - - -	4	15-20	4.8	0.0			(1.8-4.8') Dark gray SANDY SILT and fine to medium subangular SAND, few medium to coarse subrounded to subangular Limestone Gravel, medium dense, wet. (TILL)	1" Sch 40 PVC Cap at base of Screen (19.42- 19.82' bgs)
-	- 485 -								19.02 bys)
- 25 -	_								
-	- 480 - -								
- 30 -	-								
- - - 35	475 - -								
	_								

	/e ground surface; bgs = below ground surface; NA = Not /Available; AMSL = Above Mean Sea Level. and cleared/air knifed 0-2.6' bgs. Analytical sample collected from 8-9' bgs for
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Dri Dri Dri Sai	lling (ller's lling N npling	Compa Name Netho g Meth	sh: 5/ any: Z : Phil d: Dire nod: 1 k-Mour	ebra E Orsi ect Pus I.5" by	Enviror sh 5' Ace	etate	Liner		Northing: 1127870.1Well/BoriEasting: 1167159.4Client: LoCasing Elevation: 504.12' AMSLClient: LoBorehole Depth: 17' bgsLocationSurface Elevation: 504.39' AMSLDescriptions By: Daniel Zuck				tin Corpora	tion	
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stratigraphic	c Description			Well/Bo Construc	-	
_	- - 505 -											Locking J-Plug Steel Protective Casing			
-	-	NA	NA	NA	NA			(0-4') Har	d cleared/air knifed. (FILL)					 Concrete Pad (0- 0.8' bgs) 1" Sch 40 PVC Riser (3' ags- 5.07' bgs) Bentonite Seal (0.8-3' bgs) 	
- 5	500 - - -	. 1	4-9	5.15	0.0			subangula no plastic	lium brown (hints of red) GRA ar to angular Limestone GRAV ity, dry to moist. (TILL) Dark gray varved CLAY, very o	/EL, trace fine to medium Sar	nd, very dense,				
- 10	- 495 - -	-			0.0	×		coarse Li	Medium to dark brown SAND nestone Gravel, medium dens Medium to dark brown SAND AND, trace coarse Limestone	se, no plasticity, moist. (CLAY) bangular to	-		 #0 Silica Sand Pack (3-15.47' bgs) 1" Sch 40 PVC 	
-	-	2	9-14	4.8	0.0			angular S	Light to medium gray SANDY AND, few fine angular Gravel, e Gravel, medium dense, dry tr	trace coarse subrounded to				0.010" Slot Screen (5.07- 15.07' bgs)	
490 - 15 3 14-17 4.5 0.0								(1-4.5') Light medium gray SANDY SILT, some fine to medium Limestone and Shale					1" Sch 40 PVC Cap at base of Screen (15.07-		
Infrastructure · Water · Environment · Buildings									arks: ags = above g Applicable/Ava Location hand VOCs.	round surface; bgs = t illable; AMSL = Above cleared/air knifed 0-4				om 9-10' bgs for	

Site Location:

525 French Road Utica, New York

Borehole Depth: 17' bgs

	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	-				0.0		: : : : : : :	(1-4.5') Light medium gray SANDY SILT, some fine to medium Limestone and Shale fragments/Gravel, some very fine to medium subangular to angular, loose to medium dense, dry to moist. (TILL)	× × 15.47' bgs) × Formation × × Collapse (15.47
	-				0.0			End of Boring at 17' bgs.	17' bgs)
	-								
48	5 -								
20									
	-								
48) 25	0 -								
20	-								
	-								
	-								
	_								
47	5 -								
30									
	-								
470	0 -								
35	_								
						•		Remarks: ags = above ground surface; bgs = below ground	urface; NA = Not vel.
			RO				lings	Location hand cleared/air knifed 0-4' bgs. Analytica VOCs.	I sample collected from 9-10' bgs fo

Dri Dri Dri Sa	lling (ller's lling N mpling	Compa Name Metho g Meth	sh: 5/ any: Z : Jon d: Dire aod: 2 k-Mou	ebra E Cewl ect Pus 2.5" by	Enviror sh 5' Ace	nmen etate	Liner	Northing: 1127870.1 Easting: 1167159.4 Casing Elevation: 504.12' AMSL Borehole Depth: 22' bgs Surface Elevation: 504.39' AMSL Descriptions By: Daniel Zuck	Location: 5	g ID: PZ-28 kheed Martin Corporation 525 French Road Jtica, New York			
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description		Well/Boring Construction			
-	- 505 -	-								Steel flushmount cover Locking J-Plug			
-	- - - 500 -	NA	NA	NA	NA		<pre>x x x x x x x x x x x x x x x x x x x</pre>	(0-5') Medium brown and gray FILL and native SANDY SILT. (FILL)		Concrete Pad (0- 0.5' bgs) Bentonite Pellet Seal (0.4-1' bgs) #00 Silica Sand Pack (1-1.5' bgs) 1" Sch 40 PVC Riser (0.24'-2.14' bgs)			
- 5	- - - 495 -	1	5-10	4.5	0.0	-	2000000000	(0-4.5') Medium dark gray GRAVELY SILT and fine to medium subrou subangular GRAVEL, trace coarse subrounded Sand, trace coarse su subangular Gravel, very dense, no plasticity, moist. (TILL)	inded to ibrounded to	#0 Silica Sand Pack (1.5-9' bgs) 1" Sch 40 PVC 0.010" Slot Screen (2.14- 12.14' bgs)			
- 10	- - 490 -	2	10-15	4.9	0.0 0.0 0.0			subangular GRAVEL, trace coarse subrounded Sand, trace coarse su subangular Gravel, very dense, no plasticity, moist. (TILL) (2.6-2.8') Dark gray very fine SAND, trace Silt, loose, no plasticity, mo (TILL)	6-2.8') Dark gray very fine SAND, trace Silt, loose, no plasticity, moist to wet. LL) 8-4.9') Dark gray varved CLAY, trace very fine Sand, very stiff, low plasticity,				
			• Water				lings	(0-1') Dark gray varved CLAY, trace very fine Sand, very stiff, low plas (CLAY) Remarks: ags = above ground surface; bgs = br Applicable/Available; AMSL = Above Location hand cleared/air knifed 0-5' for VOCs.	elow ground s Mean Sea Le	evel.			

Borehole Depth: 22' bgs

Site Location:

525 French Road

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	-				0.0			(1-1.75') Dark gray CLAYEY SILT, some fine to medium subrounded to subangular Gravel, medium stiff to stiff, no plasticity, wet. (CLAY)	
	- 485 -	3	15-20	3.5	0.0			(1.75-3.5') Dark gray SANDY SILT and very fine to fine SAND, some medium subangular Sand, few medium to coarse subrounded to subangular Gravel, trace medium to coarse 2" subrounded to subangular Pebbles, dense, no plasticity, wet. (TILL)	× × × × × × × × × × × × × × × × × × × ×
- 20	-	4	20-22	1.7	0.0	-		(0-1.35') Dark gray SANDY SILT and very fine to fine SAND, some medium subangular Sand, few medium to coarse subrounded to subangular Gravel, trace medium to coarse 2" subrounded to subangular Pebbles, dense, no plasticity, wet. (TILL) (1.35-1.7') Dark gray SHALE, 1-3mm layers, fractured. (BEDROCK)	
					0.0			End of Boring at 22' bgs.	
- 25 - - - -	480 - - - 475 -								
- 35	470 -								
			R (dings	Remarks: ags = above ground surface; bgs = below ground s Applicable/Available; AMSL = Above Mean Sea Le Location hand cleared/air knifed 0-5' bgs. Analytica for VOCs.	vel.

Dri Dri Dri Sai	lling (ller's lling N npling	Compa Name Nethoo g Meth	sh: 5/ any: Z : Jon d: Dire nod: 2 k-Mou	ebra E Cewl ect Pus 2.5" by	Enviror sh 5' Ace	nmen etate	Liner		Northing: 1127907.1Well/BorinEasting: 1167242.0Client: LocCasing Elevation: 503.84' AMSLClient: LocBorehole Depth: 21' bgsLocation: Surface Elevation: 504.06' AMSLDescriptions By: Daniel ZuckLocation: Surface Elevation: Su				ckheed Ma	artin Co ch Roa	d	on	
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Sti	ratigraphic D	Description				Well/Boring Construction		
-	- 505 -	-													Steel flushmount cover Locking J-Plug Concrete Pad (0-		
-	- - 500 -		NA	NA	NA		<pre></pre>	(0-5') Med	ium brown SAND	D an SILT and GI	RAVEL. (FILL)						 Concrete Pad (0- 0.5' bgs) Bentonite Pellet Seal (0.3-1' bgs) #00 Silica Sand Pack (1-1.27' bgs) 1" Sch 40 PVC Riser (0.21'-2.27' bgs)
- 5	- - 495 -	1	5-10	3.75	5.2		000000000	subangula	(0-3.75') Medium brown/gray GRAVELY SILT and fine to medium subrounded to subangular GRAVEL, few coarse Sand and coarse subrounded to subangular Gravel, dense, stiff, no plasticity, wet (0-2.4'), moist (2.4-3.75'). (TILL)								 #0 Silica Sand Pack (1.27-12.1' bgs) 1" Sch 40 PVC 0.010" Slot Screen (2.27- 12.27' bgs)
- 10	- - 490 -	2	10-15	3.9	0.0	_	0000000000	subanguli Gravel, di (0-2.7') M subanguli coarse Sa	edium brown/gray rr GRAVEL, some rr GRAVEL, some nd and coarse some moist. Fractured	coarse Sand and sticity, moist. (TIL y GRAVELY SIL y GRAVELY SIL e fine to medium ubrounded to sut	T and fine to mediu t coarse subrounde LL) T and fine to mediu subrounded to sub pangular Gravel, de 5-2.9') and fractured	um subro bangula ense, sti	punded to r Sand, few ff, no				 1" Sch 40 PVC Cap at base of Screen (12.27- 12.67' bgs) Formation Collapse (12.1- 21' bgs)
	Infrastr	ructure	•Water	· Enviro	nment	· Build		Rem	arks: ags = Appli Locat VOC	tion hand cle	Ind surface; bg ble; AMSL = A eared/air knifed	d 0-5'	bgs. Analyti	ical sampl	e colle	cted fro	m 6-7' bgs for

Borehole Depth: 21' bgs

Site Location:

525 French Road Utica. New York

DЕРТН	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
4	- - 85 -	3	15-20	2.7	0.3		200000000	(0-2.7') Medium brown/gray GRAVELY SILT and fine to medium subrounded to subangular GRAVEL, some fine to medium subrounded to subangular Sand, few coarse Sand and coarse subrounded to subangular Gravel, dense, stiff, no plasticity, moist. Fractured Sandstone (1.85-2.9') and fractured Limestone (2.25- 2.4'). (TILL)	<pre></pre>
-		4	20-21	1	0.0		<u></u>	(0.3-1') Medium dark gray SANDY SILT and fine to medium SAND, few coarse Sand to fine subrounded to subangular Grave;, medium dense, loose, no plasticity. (TILL)	
4	- 80 - - -								
4	- 75								
4	- 70 -								
			R (Water				dings	Remarks: ags = above ground surface; bgs = below ground s Applicable/Available; AMSL = Above Mean Sea Le Location hand cleared/air knifed 0-5' bgs. Analytica VOCs.	vel.

Drill Drill Drill Sam	ling C ler's I ling N npling	Compa Name: Aethoo g Meth	sh: 5/ any: Z : Jon : Dire aod: 2 k-Mou	ebra E Cewl ect Pus 2.5" by	Enviror sh 5' Ace	nmen etate	Liner		Easting: 1167400.7 Casing Elevation: 504.72' AMSLClient: LocBorehole Depth: 21' bgsLocation:				g ID: PZ-30 kheed Martin Corporation 525 French Road Jtica, New York			
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Strati	graphic Description				Well/Bc Constru	Ũ	
-													Steel flushmount cover Locking J-Plug Concrete Pad (0- 0.5' bgs)			
-		NA	NA	NA	NA		2000000000	/ (0-0.2') S	ough; Medium brown	SILT and GRAVEL. (FILL)	medium sub	angular				
- 5	500 -	1	5-10	2.7	0.0 0.0 0.0			(0.8-2.1') to mediur subround (TILL) (2.1-2.7')	Fractured LIMESTON Dark gray SANDY SII a subrounded to suba ed to subangular Gra Dark brownish gray S	IE and PEBBLES. (ROCK LT and fine to medium sub ingular Gravel, few coarse vel, medium dense, mediu SILTY CLAY, few coarse S e subrounded Gravel, stiff	bangular SA Sand and c um stiff, no p Gand to fine s	coarse lasticity, wet.			 — 1" Sch 40 PVC 0.010" Slot Screen (2.01- 10.01' bgs) 	
- 10 - - - - 15	495 - - - 490 -	2	10-15	3.8	0.47	\times		(1.2-3.8') SAND, sc medium c (0-4.3') M some fine Limeston	moist to wet. (CLAY) Medium dark gray SA me fine to medium si ense, no plasticity, w edium dark gray SAN to medium subangul	(, trace coarse subrounded NDY SILT and very fine to ubangular Gravel, trace co et, saturated (1.8-2.4'). (Ti saturated (1.8-2.4'). (Ti DY SILT and very fine to r ar Gravel, trace coarse su nse, dense to very dense (× × × × × × × × × × × × × × × × × × ×	 — 1" Sch 40 PVC Cap at base of Screen (10.01- 10.41' bgs) — Formation Collapse (3.2-21' bgs) 			
Infrastructure · Water · Environment · Buildings									arks: ags = al Applicat	bove ground surface ble/Available; AMSL n hand cleared/air kr s.			surface; NA evel.		rom 10-11' bgs	

Borehole Depth: 21' bgs

Site Location:

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	-	3	15-20	4.3	0.05			(0-4.3') Medium dark gray SANDY SILT and very fine to medium subangular SAND, some fine to medium subangular Gravel, trace coarse subrounded Gravel, fractured Limestone (3.8-4'), medium dense, dense to very dense (3-4.3'), no plasticity, wet, saturated (1.5-2'). (TILL)	<pre></pre>
- 20	485 -	4	20-21	1.4	0.0		:::::::::::::::::::::::::::::::::::::::	(0-1.4') Medium dark gray SANDY SILT and very fine to medium subangular SAND, some fine to medium subangular Gravel, trace coarse subrounded Gravel, fractured Limestone (0.9-1.15'), dense to very dense, no plasticity, wet. (TILL)	
- 25									
- 30	475 -								
- 35	470 -								
Ir	ct: NJ	ucture	R (<i>Water</i> 20.1.2	Enviro	nment	·Builc		Remarks: ags = above ground surface; bgs = below ground a Applicable/Available; AMSL = Above Mean Sea Le Location hand cleared/air knifed 0-5' bgs. Analytic for VOCs.	cal sample collected from 10-11' bgs

Dri Dri Dri Sa	lling (ller's lling N mpling	Compa Name Nethoo g Meth	sh: 5/ any: Z : Jon d: Dire aod: 2 k-Mour	ebra E Cewl ect Pus 2.5" by	Enviror sh 5' Ace	nmen etate	Liner		Easting: 1167494.4 Casing Elevation: 505.17' AMSLClient: LocBorehole Depth: 20' bgsLocation: 100 million					rtin C h Roa	ad	
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stratig	raphic Description					Vell/Boring Construction	
-	-												Steel flushmount cover Locking J-Plug Concrete Pad (0- 0, 5' bas)			
-	505 - - -	NA	NA	NA	NA			(0-5') Meo	lium brown SANDY SI	LT with GRAVEL. (FILL)					Concrete Pad (0.5' bgs) Bentonite Pelle Seal (0.5-1' bgs #00 Silica Sand Pack (1-1.2' bg 1" Sch 40 PVC Riser (0.40'-2.0 bgs) #0 Silica Sand Pack (1.2-2.5' bgs)	et gs) id gs) C 09'
- 5	500 - - -	1	5-10	5.0	0.23			Gravel, fe medium S (1.8-4.65' SILT, few	w coarse Sand and co Sand, dense, stiff, no pl) Dark brownish gray fi	ne to medium subrounded to s subangular Gravel, trace fine	ar Gravel	I, trace fine to				>
- 10	- 495 - - - -	2	10-15	5.0	0.16 0.16 0.19	-		(0-0.5') D subround (0.5-5') D (CLAY)	brounded Sand, very s ark gray varved CLAY ed Sand, very stiff, low ark gray varved CLAY,	A and very fine to fine SAND, tr tiff, low to no plasticity, moist. and very fine to fine SAND, tra to no plasticity, moist. (CLAY) trace very fine Sand, stiff, low fand fine to medium subangul	. (CLAY) ace medi) v to no pl:	um to coarse			 — 1" Sch 40 PVC Cap at base of Screen (10.09- 10.49' bgs) — Formation Collapse (2.5-2 bgs) 	f -
490 -									arks: ags = ab Applicabl	ravel, very dense, no plasticity ove ground surface; bg le/Available; AMSL = A hand cleared/air knifec	y, wet. (T gs = be Above I	llL) Iow ground Mean Sea Lu	surface; N evel.	× × A = N		

Borehole Depth: 20' bgs

Site Location:

525 French Road

Utica, New York PID Headspace (ppm) Sample Run Number Analytical Sample Geologic Column Sample/Int/Type Recovery (feet) Well/Boring ELEVATION Stratigraphic Description Construction DEPTH $(0\mathchar`-4.35')$ Dark gray SANDY SILT and fine to medium subangular SAND, few medium to coarse subangular Gravel, very dense, no plasticity, wet. (TILL) × × Ξ ^ × _ × ... Formation × × Collapse (2.5-20' bgs) 0.40 ••• 3 15-20 4.35 × x × × × <u>...</u> × Limestone transitioning to Shale at 20' bgs. (BEDROCK) × Refusal at 20' bgs. End of Boring. 485 - 25 480 - 30 475 - 35 470 **Remarks:** ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level. ARCADIS Location hand cleared/air knifed 0-5' bgs. Analytical sample collected from 17.5-18.5' bgs for VOCs. Infrastructure · Water · Environment · Buildings

Dri Dri Dri Sar	lling (ller's lling N npling	Compa Name Nethoo g Meth	sh: 5/ any: Z : Jon d: Dire aod: 2 k-Mou	Zebra E Cewl ect Pus 2.5" by	Enviror sh 5' Ace	nmen etate	ital Liner	Northing: 1128024.4 Easting: 1167548.7 Casing Elevation: 504.90' AMSL Borehole Depth: 21' bgs Surface Elevation: 505.29' AMSL Descriptions By: Daniel Zuck	Client: Loc	g ID: PZ-32 kheed Martin Corporation 525 French Road Jtica, New York			
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description		Well/Boring Construction			
- -	-									Steel flushmount cover Locking J-Plug Concrete Pad (0-			
-	505 - - - -	NA	NA	NA	NA			(0-5') Medium brown SANDY SILT and SAND. (FILL)		Concrete Pad (0- 0.5' bgs) Bentonite Pellet Seal (0.5' b'gs) #00 Silica Sand Pack (1-1.2' bgs) 1" Sch 40 PVC Riser (0.37'-2' bgs) #00 Silica Sand Pack (1.2-6.5' bgs)			
-	500 - - -	. 1	5-10	5.0	0.21			(0-4.1') Medium brownish gray GRAVELY SILT and fine to medium s subangular GRAVEL, few very fine to fine Sand, trace coarse subrou loose, soft, moist, saturated (0-0.75'). (TILL)	nded Gravel,	1" Sch 40 PVC 0.010" Slot Screen (2-11' x x x x x x x x			
- 10	- 495 -				0.27 0.26 0.61	-		(4.1-5') Dark gray SILTY CLAY and few fine to medium subangular S to medium subrounded to subangular Gravel, stiff, low to no plasticity (0-0.3') Dark gray SILTY CLAY and few fine to medium subangular S to medium subrounded to subangular Gravel, stiff, low to no plasticity (TILL) (0.3-1.1') Dark gray SANDY SILT and fine to medium subangular SA to medium subangular Gravel, few coarse subrounded Gravel, trace.	y, moist. (TILL) AND, trace fine y, saturated.	X X X X X X X X X X X X X X X X X X X			
2 10-15 5.0 0.38 to medium subangula plasticity, saturated ((1.1-3.3') Dark gray subrounded Gravel, s (3.3-3.95') Dark gray subrounded Gravel, s								plasticity, saturated. (TILL) (1.1-3.3') Dark gray varved CLAY, trace very fine Sand, stiff, medium plasticity, moist to wet. (CLAY) (3.3-3.95') Dark gray CLAY, some very fine Sand, trace coarse Sand subrounded Gravel, stiff, moist to wet. (CLAY)	gray SANDY SiLT and the to medium subangular SAND, some tine angular Gravel, few coarse subrounded Gravel, trace Clay, loose, no ated. (TILL) Cap at base or Screen (11-11 bgs) gray varved CLAY, trace very fine Sand, stiff, medium to low × × it to wet. (CLAY) × × gray SANDY SILT and very fine to fine SAND, few coarse subangular × × yray SANDY SILT and very fine to fine SAND, few coarse subangular × ×				
15	490 -					_		(0-5') Dark gray SANDY SILT and fine to very fine SAND, few fine to subrounded to subangular Gravel, trace coarse Sand and coarse Gra medium dense, no plasticity, saturated. (TILL)	avel, loose to	x x x x x x x x x x x x x x x x x x x			
Remarks: ags = above ground surface; bgs = below ground surface; NA = Ne Applicable/Available; AMSL = Above Mean Sea Level. Location hand cleared/air knifed 0-5' bgs. Analytical sample collector for VOCs. Project: NJ001020.1.2 Template:G:\Rockware\LogPlot 2001\LogFiles\Templates\boring_well geoprobe 2007 analytical.ldfx Data File:PZ-32.dat Data=2/28/2011 Created/Edited by:N.IB													

Borehole Depth: 21' bgs

Site Location:

	Utica	a, New	/ York				-		
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
- - - 20	- - 485 -	3	15-20	5.0	0.28	-		(0-5') Dark gray SANDY SILT and fine to very fine SAND, few fine to medium subrounded to subangular Gravel, trace coarse Sand and coarse Gravel, loose to medium dense, no plasticity, saturated. (TILL) (0-0.25') Black SHALE, fractured 1-3mm layers, saturated. (ROCK)	x x x x x
-	-	4	20-21	1.1	0.54 0.0			(0.25-1') Dark gray SANDY SILT and fine to very fine SAND, few fine to medium subrounded to subangular Gravel, trace coarse Sand and coarse Gravel, loose to medium dense, no plasticity, saturated. (TILL) (1-1.1') Black SHALE, 1cm layers, dense, dry. (BEDROCK) Refusal at 21' bgs. End of Boring.	
- - 25 -	- 480 - -								
- - 30 -	- 475 - -								
- 35	470 -							Remarks: ags = above ground surface; bgs = below ground Applicable/Available; AMSL = Above Mean Sea Le	evel.
		ucture	Water	· Enviro		Build		Location hand cleared/air knifed 0-5' bgs. Analytic for VOCs. are\LogPlot 2001\LogFiles\Templates\boring_well geoprobe 2007 ar	

Drill Drill Drill Sam	ling C ler's N ling M npling	ompa Name: Iethoo Meth	sh: 5/ iny: Z Jon d: Dire iod: 2 k-Mour	ebra E Cewl ect Pus 2.5" by	Enviror sh 5' Ace	nmen etate	Liner	Northing: 1128073.3 Easting: 1167660.7 Casing Elevation: 510.00' AMSL Borehole Depth: 15' bgs Surface Elevation: 510.27' AMSL Descriptions By: Daniel Zuck	Client: Loc Location: 5	g ID: PZ-33 kheed Martin Corporation 525 French Road Jtica, New York			
DEPTH	LEEVATION Sample Run Number Sample/Int/Type Recovery (feet) PID Headspace (ppm) Analytical Sample Geologic Column							Stratigraphic Description			Boring truction		
	-										Steel flushmount cover Locking J-Plug		
0	510 -	NA	NA	NA	NA			0-5') Hand cleared. (FILL)			Concrete Pad (0- 0.5' bgs) Bentonite Pellet Seal (0.5-1' bgs) #00 Silica Sand Pack (1-1.2' bgs) 1" Sch 40 PVC Riser (0.22'-2' bgs) #0 Silica Sand Pack (1.2-6' bgs) 1" Sch 40 PVC 0.010" Slot		
- 5	505 -	1	5-10	3.75	0.76 0.47 0.22	-		0-0.8') Dark gray SANDY SILT and fine to medium subangular SAN ne Sand, few fine to medium subrounded to subangular Gravel, me lasticity, wet. (TILL) 0.8-1.85') Dark gray varved CLAY, trace coarse subrounded Sand, lasticity, moist. (CLAY) 1.85-3.75') Dark gray SANDY SILT and fine to medium subangular ery fine Sand, few fine to medium subrounded to subangular Grave ense, no plasticity, wet. (TILL)	dium dense, no stiff, low to no SAND, some		Screen (2-6.28' bgs) 1" Sch 40 PVC Cap at base of Screen (6.28- 6.58' bgs)		
- 10	500 -	2	10-15	3.2	0.81 0.64 0.36 0.56 0.47	\times		 0-0.5') Dark gray SILTY SAND and very fine to medium SAND, som ubangular Sand, loose, no plasticity, wet. (TILL) 0.5-1.6') Dark gray GRAVELY SILT and fine to medium subrounded Sravel, trace very fine Sand, very dense, no plasticity, moist. (TILL) 1.6-1.9') Dark gray very fine to fine SAND, some Silt, loose, no plast aturated. (TILL) 1.9-2.9') Dark gray SILTY CLAY, some very fine to fine Sand, stiff, I noist. (CLAY) 2.9-3.2') Dark gray GRAVELY SILT and fine to medium subrounded sand, very dense, very stiff, no plasticity, and subrounded Sand, very dense, very stiff, no plasticity, 	to subangular ticity, wet to ow plasticity, d GRAVEL,		Formation Collapse (6-15' bgs)		
-15 //			Water				lings	Refusal at 15' bgs. End of Boring. Remarks: ags = above ground surface; bgs = Applicable/Available; AMSL = Above Location hand cleared/air knifed 0-5 for VOCs.	e Mean Sea Le	surface; NA = Not evel.	d from 10-11' bgs		

Dri Dri Dri Sai	lling (ller's lling N npling	Compa Name Nethoo g Meth	sh: 5/ any: 2 : Phil d: Dire nod: 7 k-Mou	ebra E Orsi ect Pus 1.5" by	Enviror sh 5' Ace	etate	Liner	Northing: 1127837.7 Easting: 1167296.7 Casing Elevation: 503.88' AMSL Borehole Depth: 25' bgs Surface Elevation: 504.12' AMSL Descriptions By: Daniel Zuck	Client: Loc	g ID: PZ-34 Scheed Martin Corporation 525 French Road Utica, New York				
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description		Well/Boring Construction				
-	- 505 -									0.5' bgs)				
-	- - 500 -	NA	NA	NA	NA		* * * * * * * * * * * * * * * * * * *	(0-5') Medium brown Fill material, Silt and Brick. (FILL)		Concrete Pad (0- 0.5' bgs) Bentonite Pellet Seal (0.5-1' bgs) #00 Silica Sand Pack (1-1.2' bgs) 1" Sch 40 PVC Riser (0.37'-2' bgs) #0 Silica Sand Pack (1.2-6.5' bgs)				
- 5	- - 495 -	1	5-10	2.8	2.56	×	2000000000	(0-0.6') Slough; GRAVEL wet, transitioning to saturated. (0.6-2.8') Reddish gray GRAVELY SILT and fine to medium subround subangular GRAVEL and coarse subrounded SAND, some fine to me medium dense, no plasticity, moist to wet. (TILL)		1" Sch 40 PVC 0.010" Slot Screen (2-11' x x bgs) x x x x x x x x				
- 10 - - - 15	- - 490 -	2	10-15	3.6	0.02	-		(0-0.4') Slough. (0.4-1') Reddish gray GRAVELY SILT and fine to medium subrounde GRAVEL and coarse subrounded SAND, some fine to medium Sand plasticity, wet. (TILL) (1-3.1') Medium gray GRAVELY SILT and medium to coarse subrour subangular GRAVEL and coarse SAND to fine subrounded GRAVEL medium Sand, medium dense, no plasticity, moist. (TILL) (3.1-3.6') Medium gray GRAVELY SILT and medium to coarse subrour subangular GRAVEL and coarse SAND to fine subrounded GRAVEL medium Sand, soft, loose, saturated. (TILL) (0-0.4') Slough. (0.4-1.3') Dark brown gray varved CLAY, few Silt, trace very fine San plasticity, moist to wet. (CLAY)	unded to , some fine to unded to , some fine to	x x x x				
			•Water				lings	Remarks: ags = above ground surface; bgs = b Applicable/Available; AMSL = Above	Mean Sea Le	surface; NA = Not evel. cal sample collected from 6-7' bgs for				

Borehole Depth: 25' bgs

Site Location:

525 French Road

	Utica	a, New	/ York						
рертн	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
_	-				0.02			(0.4-1.3') Dark brown gray varved CLAY, few Silt, trace very fine Sand, low plasticity, moist to wet. (CLAY)	× × × × × × × × Eormation
	_	3	15-20	1.5				(1.3-1.5') Dark brown gray CLAY, soft to medium stiff, medium plasticity, wet to saturated. (CLAY)	X Collapse (6.5-25 X X bgs)
	_								
-	485 -								
- 20	-				0.46			(0-0.3') Slough. (0.3-0.65') Dark brown gray CLAY, soft to medium stiff, medium plasticity, wet to	
-	-						: : : : : :	saturated. (CLAY) (0.65-2.4') Medium dark gray SANDY SILT and very fine to medium subangular SAND, few medium to coarse subrounded Limestone Gravel, dense, no plasticity,	
-	_				0.51			SAND, few medium to coarse subrounded Limestone Gravel, dense, no plasticity, moist to wet. (TILL)	
-	_	4	20-25	3				(2.4-3') Medium to light gray SILT, few medium to coarse subangular Sand, trace fine to medium subrounded to subangular Gravel, very stiff, very dense, no plasticity, moist. (TILL)	
-	480 -								
- 25								End of Boring at 25' bgs.	
-	_								
-	475 -								
- 30	-								
-	_								
-	_								
-	_								
-	470 -								
- 35									
								Remarks: ags = above ground surface; bgs = below ground a Applicable/Available; AMSL = Above Mean Sea Le	surface; NA = Not evel.
			R Water				dings	Location hand cleared/air knifed 0-5' bgs. Analytic VOCs.	cal sample collected from 6-7' bgs for
Proie	ect: N	J00102	20.1.2	Ter	nolate	:G:\F	Rockwa	are\LogPlot 2001\LogFiles\Templates\boring_well geoprobe 2007 ar	nalytical.ldfx Page: 2 of 2

Dri Dri Dri Sar	lling (ller's lling N npling	Compa Name: /lethoo g Meth	sh: 5/ ıny: Z ∶ Phil 1: Dire ıod: 1 k-Mour	ebra E Orsi ect Pus I.5" by	Enviror sh 5' Ace	etate	Liner		Easting: 1167313.6 Casing Elevation: 503.98' AMSL Client: L				ng ID: PZ-35 ckheed Martin Corporation 525 French Road Utica, New York			
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stra	atigraphic Des	cription		Well/Boring Construction			
-	- 505 -											Steel flushmount cover Locking J-Plug Concrete Pad (0- 0,5' bas)				
-	- - 500 -	NA	NA	NA	NA		000000000	(0-5') Mec	ium brown SILTY (GRAVEL, trace bri		0.5' bgs)				
- 5	5 - 0.02 0.24							(0.3-0.9') subangula medium s (0.9-4.8') subround	 3') Slough. 0.9') Reddish Brown GRAVELY SILT and fine to medium subrounded to ngular GRAVEL, few fine to medium Sand, trace coarse subrounded Gravel, um stiff, medium dense, no plasticity, wet. (TILL) 4.8') Reddish brown and gray layered GRAVELY SILT and fine to medium sunded to subangular GRAVEL, some fine to medium Sand, few coarse bounded Gravel, trace Clay lenses, dense, no plasticity, moist. (TILL) 						— 1" Sch 40 PVC 0.010" Slot Screen (2.27- 12.27" bgs)	
- 10	2 10-15 4.8 0.01 490 - 0.14							subround	Reddish brown and	AVELY SILT and fine to medium Sand, fer to plasticity, moist. (1	v coarse			 Formation Collapse (2- 12.67' bgs) 1" Sch 40 PVC Cap at base of Screen (12.27- 12.67' bgs) 		
			•Water				lings	. ,	(0-5') NO RECOVERY. Remarks: ags = above ground surface; bgs = below ground Applicable/Available; AMSL = Above Mean Sea Location hand cleared/air knifed 0-5' bgs. Analy VOCs.						om 5-6' bgs for	

Site Location:

525 French Road Utica, New York

Well/Boring ID: PZ-35

Borehole Depth: 20' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Well/Boring Stratigraphic Description Construction
	-							(0-5') NO RECOVERY.
	_	3	15-20	0	NA			
	485 -							
-20	-							End of Boring at 20' bgs.
	-							
	_							
25	480 -							
20	-							
	-							
	_							
30	475 -							
	-							
	_							
	-							
35	470 -							
								Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level.
			Water				lings	Location hand cleared/air knifed 0-5' bgs. Analytical sample collected from 5-6' bgs fo VOCs.

Dri Dri Dri Sa	lling (Iler's Iling N mpling	Compa Name: Nethoo g Meth	sh: 5/ ıny: Z : Phil d: Dire iod: 1 k-Moui	ebra E Orsi ect Pus I.5" by	Enviror sh 5' Ace	etate	Liner	Easting: 1 Casing El Borehole Surface E	1127869.8 1167440.9 evation: 504.23' AMSL Depth: 20' bgs ilevation: 504.23' AMSL ons By: Daniel Zuck	g ID: PZ-36 kheed Martin Corporation 525 French Road Jtica, New York					
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	S	Stratigraphic Description			Well/Boring Construction			
-	- - 505 -	-									Steel flushmount cover Locking J-Plug Concrete Pad (0 0.5' bgs)				
-	- - 500 -	NA	NA	NA	NA		<pre></pre>	(0-5') Fill material. (FILL)							
- 5	- - 495 -	1	5-10	4.0	0.03			coarse Sand to fine subr Gravel, soft, low plasticity (1.45-4') Brownish gray C some coarse subrounder Gravel, stiff, no plasticity,	SANDY SILT and fine to medium subang ounded to subangular Gravel, trace coars y, saturated. (TILL) GRAVELY SILT and fine to medium suba d Sand, trace medium Sand, trace coarse	se subrounded		x 1" Sch 40 PVC 0.010" Slot Screen (1.7-11.7' bgs) x x			
- 10	- - 490 -	2	10-15	3.5	0.07	×	8400000000000	some coarse subrounded Gravel, stiff, no plasticity, (0-0.2') Slough.	GRAVELY SILT and fine to medium suba d Sand, trace medium Sand, trace coarse moist. Very stiff, very dense (3.1-3.5'). (• subrounded TILL)	× × × × ×	Formation Collapse (1.2- 12.1' bgs)			
			R(DI		lings	Remarks: ags App Loc	a = above ground surface; bgs blicable/Available; AMSL = Abc ation hand cleared/air knifed 0 VOCs. MS/MSD collected.	= below ground we Mean Sea L	surface; NA evel.				

Borehole Depth: 20' bgs

Site Location:

525 French Road

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
20	- 485 -	3	15-20	3.5	0.0			some coarse subrounded Sand, trace medium Sand, trace coarse subrounded Gravel, very stiff, very dense, no plasticity, moist. (TILL) (0.6-2.95') Dark gray varved CLAY, trace fine to coarse Gravel, very stiff, no plasticity, moist. (CLAY) (0.6-2.95') Dark gray varved CLAY, trace fine to coarse Gravel, very stiff, no plasticity, moist. (CLAY) (0.6-2.95') Dark gray varved CLAY, trace fine to coarse Gravel, very stiff, no plasticity, moist. (CLAY) (2.95-3.5') Dark to medium gray SANDY SILT and fine to very fine SAND, few subrounded Gravel, stiff, dense, no plasticity, moist to wet. (TILL) End of Boring at 20' bgs.	x x x x x x x x x x x x x x x x
- 25	- - 480 - -								
- 30	- 475 -								
- 35	470 -								
			Water				dings	Remarks: ags = above ground surface; bgs = below ground surface; Applicable/Available; AMSL = Above Mean Sea Level. Location hand cleared/air knifed 0-5' bgs. Analytical surfor VOCs. MS/MSD collected.	

Dri Dri Dri Sa	lling (ller's lling N mpling	Compa Name: /lethoo g Meth	sh: 5/ any: Z : Phil : Dire nod: 1 k-Mou	ebra E Orsi ect Pus I.5" by	Enviror sh 5' Ace	etate	Liner		Northing: 1127874.1 Easting: 1167552.2 Casing Elevation: 504.51' AMSLWell/Boring ID: PZ-39 Client: Lockheed Martin Corpora Location: 525 French Road Utica, New YorkBorehole Depth: 20' bgs Surface Elevation: 504.71' AMSLLocation: 525 French Road Utica, New York				d	lion				
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column			Stratigra	phic Descr	iption					/ell/Bor onstruc	-
-																		 Steel flushmount cover Locking J-Plug
5	- - 500 -	NA	NA	NA	NA		x x x x x x x x x x x x x x x x x x x	(0-6') Har	d cleared/ air	ir knifed to na	itive material. ((FILL)			>			 Concrete Pad (0- 0.5' bgs) Bentonite Pellet Seal (0.5-1' bgs) 1" Sch 40 PVC Riser (0.2'-1.52' bgs)
-	- - 495 -	1	6-10	2.8	0.07			(0.9-2.9') subangula	Dark reddish ar GRAVEL, f	few medium	VELY SILT an	d fine to medium angular Sand, tra moist to wet.			>	<u> </u>		 — 1" Sch 40 PVC 0.010" Slot Screen (1.52- 11.52' bgs)
- 10	- - 490 -	2	10-15	1.0	0.61			(0-0.3') Sl (0.3-2.5') subangula	ough. Medium to da	few medium	AVELY SILT at	rounded Sand, tra	race coa	arse	> > > > > > > > > > > > > > > > > > >			 Formation Collapse (1-20' bgs) 1" Sch 40 PVC Cap at base of Screen (11.52- 11.92' bgs)
			•Water				lings	-	(0.3-2.5') Medium to dark gray GRAVELY SILT and fine to medium subrounded to subangular GRAVEL, few medium to coarse subrounded Sand, trace coarse x × × Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level. Location hand cleared/air knifed 0-6' bgs. Analytical sample collected from 15-16' bgs for VOCs.					om 15-16' bgs				

Borehole Depth: 20' bgs

Site Location:

525 French Road Utica. New York

DEPTH ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
485 20	- 3 	15-20	3.1	0.4			subrounded to subangular Gravel, very stiff, to very dense, no plasticity, moist. (TILL) (0.3-2.5') Medium to dark gray GRAVELY SILT and fine to medium subrounded to subangular GRAVEL, few medium to coarse subrounded Sand, trace coarse subrounded to subangular Gravel, very stiff, to very dense, no plasticity, moist. (TILL) (2.5-3.1') Dark gray varved CLAY, trace very fine to fine Sand, medium stiff, low plasticity, moist. (CLAY) End of Boring at 20' bgs.	x x x x x x x x x x x x x x x x
480 - 25	-							
475 30	-							
35 470		R		DI	S		Remarks: ags = above ground surface; bgs = below ground a Applicable/Available; AMSL = Above Mean Sea Le Location hand cleared/air knifed 0-6' bgs. Analytic for VOCs. MS/MSD collected.	evel.

Dri Dri Dri Sa	lling (ller's lling M mpling	Compa Name Methoo g Meth	sh: 5/ any: 2 : Phil d: Dire nod: 1 k-Mou	ebra E Orsi ect Pus I.5" by	Enviror sh 5' Ace	etate	Liner		Easting: 1167375.6 Casing Elevation: 506.46' AMSL Client: Lo			ng ID: PZ-40 ckheed Martin Corporation 525 French Road Utica, New York				
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stratigra	aphic Description		Well/Boring Construction				
-	-	-										Steel flushmount cover Locking J-Plug Concrete Pad (0 0.5' bgs) Bentonite Pellet				
-	- 505 -	- NA	NA	NA	NA		<pre></pre>	(0-5') Har	d cleared/air knifed. (FILI	L)		Concrete Pad (0- 0.5' bgs)				
- 5	- 500 -	- 1	5-10	4.5	1.2 0.41 0.53 0.27			Gravel an (0.9-1.8') subround (1.8-2.15' subangula moist to w (2.15-4.5'	d fine to medium Sand, k Fill material; Medium brov ed Gravel and fine to med) Brownish gray GRAVEL ar Gravel, trace coarse su ret. (TILL)) Reddish brown GRAVE ar GRAVEL, trace coarse	n SANDY SILT, few to some me bose. Black staining (0.5-0.9'). wnish gray SANDY SILT, few to dium Sand, loose, saturated. (F Y SILT and fine to medium sub ubangular gravel, medium stiff, LY SILT and fine to medium su subangular gravel, stiff, low to	(FILL) o some medium ILL) prounded to low to no plasticity, brounded to	X X X X X X X X X X X X X X X X X X X X				
- 10	495 - - 2 10-15 2.7 0.3 - 2 10-15 2.7 0.56							subanguli stiff, no pl (2.1-2.35' subanguli very stiff, (2.35-2.7' plasticity, (0-0.75') \$) Medium gray GRAVELY ar GRAVEL, trace coarse asticity, moist. Limestond Medium gray GRAVELY ar GRAVEL, trace coarse no plasticity, moist. (TILL Medium brownish gray moist. (CLAY)	/ SILT and fine to medium subr subrounded Gravel, trace fine e fragments (1.5-1.75'). (TILL) / SILT and fine to medium subr subrounded Gravel, trace fine) varved CLAY, trace very fine Sa rved CLAY, trace very fine San	X X X X X X X X X X X X X X X X					
			•Water				lings		arks: ags = abov Applicable/	e ground surface; bgs = /Available; AMSL = Abo	= below ground we Mean Sea L	I surface; NA = Not Level.				

Borehole Depth: 20' bgs

Site Location:

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction			
	490 -				0.54			plasticity, moist. (CLAY) (0.75-2.7') Medium to dark gray varved CLAY, trace very fine Sand, very stiff, low				
		3	15-20	4	0.51			plasticity, moist. (CLAY)				
	_	5	13-20	7	0.29	0.29	0.29	0.29			(2.7-4') Medium to dark gray SANDY SILT and fine to medium subangular SAND, few fine to medium subangular Gravel, trace coarse subrounded Gravel, dense, no plasticity, wet. (TILL)	× x Formation
-20-								End of Boring at 20' bgs.				
	_											
	485 -											
	-											
	-											
0.5	_											
- 25	_											
	480 -											
	_											
	_											
- 30	-											
	-											
	475 -											
	_											
	_											
- 35												
	-							Remarks: ags = above ground surface; bgs = below ground s	surface; NA = Not			
			R (dings	Applicable/Available; AMSL = Above Mean Sea Le Location hand cleared/air knifed 0-5' bgs. Analytic for VOCs.	vei.			

Dri Dri Dri Sar	lling (ller's lling N npling	Compa Name: /lethoo g Meth	sh: 5/ any: Z : Phil d: Dire aod: 1 k-Mou	ebra E Orsi ect Pus I.5" by	Enviror sh 5' Ace	etate	Liner		Northing: 1127970.0 Easting: 1167471.3 Casing Elevation: 506.27' AMSLWell/Boring ID: PZ-41 Client: Lockheed Martin CorporationBorehole Depth: 20' bgs Surface Elevation: 506.55' AMSLLocation: 525 French Road Utica, New YorkDescriptions By: Daniel ZuckUtica, New York					on
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Stratigraph	ic Description	Well/Boring Construction			
-	-													 Steel flushmount cover Locking J-Plug
-	- 505 - -	NA	NA	NA	0.66		x x x x x x x x x x x x x x x x x x x	(0-5') Fill I	naterial. (FILL)			××		 Concrete Pad (0- 0.5' bgs) Bentonite Pellet Seal (0.3-0.8' bgs) 1" Sch 40 PVC Riser (0.26'-1.39 bgs)
- 5	- 500 - -	1	5-10	4.8	0.45	×	20000000000000000000000000000000000000	coarse su native ma (1.4-4.8') subangula medium s	brounded to subangular Gra terial. (TILL) Medium gray GRAVELY SIL ar GRAVEL, few very fine to to tiff, medium dense, no plastic	nd medium to fine SAND, few vel, loose, no plasticity. Mixtu T and fine to medium subroun fine Sand, trace coarse subrou city, moist. (TILL)	re of fill and			- 1" Sch 40 PVC 0.010" Slot Screen (1.39- 11.39' bgs)
- 10	- 495 - - -	2	10-15	2.8	0.02	-		subangula medium s (1.15-2.05 stiff, low p (2.05-2.8' coarse Sa moist to w (0-0.3') SI (0.3-3.4')) Medium gray GRAVELY SII ar GRAVEL, few very fine to t tiff, medium dense, no plastic 5) Medium to dark gray varve lasticity, moist. (CLAY)) Dark gray SANDY SILT and nd, trace fine subrounded to ret. (TILL) ough. Dark gray SANDY SILT and	LT and fine to medium subrou fine Sand, trace coarse subrou city, moist. (TILL) ed CLAY, trace very fine Sand d fine to medium subangular S subangular Gravel, dense, no fine to medium subangular SA	, stiff to very AND, trace plasticity,		× × × × × × × × × × × × × × × × × × ×	 Formation Collapse (0.8-20' bgs) 1" Sch 40 PVC Cap at base of Screen (11.39- 11.79' bgs)
	Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level. Location hand cleared/air knifed 0-5' bgs. Analytical sample collected from 5-6' bgs for VOCs.													

Borehole Depth: 20' bgs

Site Location:

	•	a, New							
рертн	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
-	490 - - -	3	15-20	3.4	0.0			subangular Gravel, dense, no plasticity, moist to wet. Very dense (2.3-3.4'). (TILL) (0.3-3.4') Dark gray SANDY SILT and fine to medium subangular SAND, few medium to coarse subrounded Gravel, trace coarse Sand, trace fine subrounded to subangular Gravel, dense, no plasticity, moist to wet. Very dense (2.3-3.4'). (TILL)	× × × × × × × × × × × × × × × × × × ×
- 20	- 485 - - -							End of Boring at 20' bgs.	
- 30	- 480 - - -								
-	- 475 - - -								
	Infrastra	ucture	Water	· Enviro	nment	· Builc		Remarks: ags = above ground surface; bgs = below ground Applicable/Available; AMSL = Above Mean Sea Le Location hand cleared/air knifed 0-5' bgs. Analytic VOCs. are\LogPlot 2001\LogFiles\Templates\boring_well geoprobe 2007 ar	cal sample collected from 5-6' bgs for

Date Start/Finish: 5/25/2010 Drilling Company: Zebra Environmental Driller's Name: Phil Orsi Drilling Method: Direct Push Sampling Method: 1.5" by 5' Acetate Liner Rig Type: Track-Mounted Geoprobe Rig									Borehole Dept Surface Elevat	573.5 ion: 505.18' AM	ИSL	Well/Boring ID: PZ-42 Client: Lockheed Martin Corporation Location: 525 French Road Utica, New York			oration
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column		Well/Boring Stratigraphic Description Construction					-	
-	-														Steel flushmount cover Locking J-Plug
-	505 - - - -	NA	NA	NA	NA		<pre> x x x x x x x x x x x x x x x x x</pre>	(0-5') Fill	naterial. (FILL)						Concrete Pad (0- 0.5' bgs) Bentonite Pellet Seal (0.3-0.5' bgs) 1" Sch 40 PVC Riser (0.25'-1.07 bgs)
- 5	500 — — — —	1	5-10	4.0	2.6			(0.75-4') F subangula		RAVELY SILT and fin se subangular Gravel,					1" Sch 40 PVC 0.010" Slot Screen (1.07- 11.07' bgs)
- 10	495 - - - - 490 -	2	10-15	3.3	0.31	_	POODOODOODO	(0.8-1.8') subangula dense to d (1.8-3.3') subangula (TILL)	ar, few coarse subang Jense, no plasticity, m Medium to dark gray (ar Gravel, few medium	LY SILT and fine to m lular Gravel, trace fine toist. (TILL) GRAVELY SILT and fi n to coarse Sand, very	to medium San	d, medium		Image: 1 Image: 1	 Formation Collapse (0.5-20' bgs) 1" Sch 40 PVC Cap at base of Screen (11.07- 11.47' bgs)
Remarks: ags = above ground surface; bgs = below ground surface; NA = I Applicable/Available; AMSL = Above Mean Sea Level. Location hand cleared/air knifed 0-5' bgs. Analytical sample colle VOCs.															

Borehole Depth: 20' bgs

Site Location:

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
- - - - - - - - - - - - - - - - - - -		3	15-20	4.8	1.2 0.24 0.27 0.51			(0-3.45') Slough; medium brown SAND and SILT, saturated. (TILL) (3.45-3.55') Dark gray SANDY SILT and fine to medium subangular SAND, few coarse subrounded Sand, loose, no plasticity, saturated. (TILL) (3.55-4.5') Dark gray Varved CLAY, trace very fine Sand, soft to medium dense, medium to low plasticity, wet. (CLAY) (4.5-4.8') Dark gray SANDY SILT and fine to medium subangular SAND, few subrounded to subangular coarse Sand to fine Gravel, trace coarse gravel, very dense, no plasticity, moist. (TILL) End of Boring at 20' bgs.	x x x x x x x x x x x x x x x x x x x x
_			RC				dings	Remarks: ags = above ground surface; bgs = below ground s Applicable/Available; AMSL = Above Mean Sea Le Location hand cleared/air knifed 0-5' bgs. Analytica VOCs.	vel.

Appendix B

Soil-Vapor-Probe Construction Logs

Soil Gas Probe Construction Log

(Unconsolidated)

	Project LMC- Utic	a	Well SG-7
	Town/City	Utica, NY	
6"inch flush mount	County Oneida		State NY
	Permit No.	N/A	
drilled hole	Land-Surface Elevati	ion and Datum:	
		feet	x Surveyed
Well casing,			Estimated
3/4 inch diameter,	Installation Date(s)	8/2/2010	
1/4 ID teflon lined tubing	Drilling Method	Geoprobe Rig	
Backfill			
X cement <u>1'5'</u>	Drilling Contractor	Zebra	
	Drilling Fluid	None	
1 ft*			
	Development Techni	que(s) and Date(s)	
Bentonite Slurry		4 (-)(-)	
2.5 ft* x pellets			
hydrated			
	Fluid Loss During Dr	illing	NA gallons
	Water Removed Dur	-	NA gallons
Soil Vapor Screen.	Static Depth to Wate		feet below M.P
3/4 inch diameter Stainless Steel Mesh	Pumping Depth to W	ater N/A	feet below M.P
	Pumping Duration	N/A hour	s
	Yield <u>N/A</u>	gpm	Date N/A
	Specific Capacity	N/A gpm	/ft
X Sand Pack # 1			
Formation Collaspse	Well Purpose	Soil vapor sampling	
	·		
<u>3.5</u> ft*	Remarks		
<u>3.5</u> ft*			
Measuring Point is Top of Well Casing			
Unless Otherwise Noted.			
* Depth Below Land Surface			
	Prepared by	D. Zuck	

Soil Gas Probe Construction Log

(Unconsolidated)

0 ↑ ft ↓ LAND SURFACE	Project LMC- Utic	a	Well SG-22
	Town/City	Utica, NY	
6" inch flush mount	County Oneida		State NY
2 inch diameter	Permit No.	N/A	
drilled hole	Land-Surface Elevati	on and Datum:	
1 K		feet	x Surveyed
Well casing,			Estimated
3/4 inch diameter,	Installation Date(s)	8/2/20	010
1/4 ID teflon lined tubing	Drilling Method	Geoprobe Rig	
x cement <u>1'5'</u>	Drilling Contractor	Zebra	
	Drilling Fluid	None	
<u> </u>			
	Development Techni	que(s) and Date(s)	
Bentonite slurry			
<u> </u>			
nyulated			
	Fluid Loss During Dri	lling	NA gallons
<u>3.5</u> ft*	Water Removed Duri	ing Development	NA gallons
	Static Depth to Wate	r N	A feet below M.P
Soil Vapor Screen. 3/4 inch diameter	Pumping Depth to W	ater N	/A feet below M.P
Stainless Steel Mesh			
	Pumping Duration		ours
	Yield <u>N/A</u>	gpm	Date N/A
	Specific Capacity	N/A g	pm/ft
Sand Pack # 1			
Formation Collaspse	Well Purpose	Soil vapor samplin	g
4.0 ft*			
4.0 ft*	Remarks		
<u></u> K			
Measuring Point is			
Top of Well Casing Unless Otherwise Noted.			
0			
* Depth Below Land Surface			

Dril Dril Dril Sar	lling (lle r 's lling npling	Compa Name: Methoo g Meth	sh: 5/ any: 2 : Phil d: Dire no d : 7 k-Mou	Zebra E Orsi ect Pu: 1.5" by	Enviror sh 7 5' Ace	nmer etate	Liner	Northing: 1127941.1 Easting: 1167256.4 Casing Elevation: NA' AMSL Borehole Depth: 25' bgs Surface Elevation: 507.4' AMSL Descriptions By: Daniel Zuck	56.4 Client: Lockheed Martin Corporation cn: NA' AMSL Location: 525 French Road cn: 507.4' AMSL Utica, New York							
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction							
	510 - - - - - - - - - - - - - - - - - - -	1 2	NA 4.5-5 5-10	NA 1.05 4.0	0.0			 (0-4.5') Hand cleared. (0-0.6') Slough; Back fill soil with organics. (0.6-1.05') Light to medium brown SILTY SAND and very fine to med subrounded to subangular SAND, trace Clay, medium dense, no plase (0-0.5') Slough. (0.5-1.9') Reddish gray GRAVELY SILT and fine subrounded to subang fex medium to coarse Sand, trace medium to coarse Lime fragments and Gravel, medium stiff, no plasticity, moist to wet. (1.9-4') Medium gray GRAVELY SILT and fine subrounded to subang few medium to coarse Sand, trace medium to coarse angular Limestor fragments, stiff, no plasticity, moist to wet. (0-3.7') Medium gray GRAVELY SILT and fine subrounded to subang few medium to coarse Sand, trace medium to coarse angular Limestor fragments, stiff, no plasticity, moist to wet. 	ular GRAVEL, gular GRAVEL, one Gravel	Steel flushmount cover Concrete Pad/Seal (0-0.5' bgs) Bentonite Seal (0.5-1.2' bgs) 3/8" Teflon Lined LDPE Tubing (0- 1.8' bgs) #0 Silica Sand Pack (1.2-2.5' bgs) 3/8" Stainless Steel Mesh Screen (1.8-2.4' bgs) 3/8" Cap at bottom of steel mesh screen (2.4-2.5' bgs)						
	-	3	10-15	4.8	0.0	-		(3.7-4.8') Medium to dark gray CLAY, few coarse subrounded Sand, low plasticity, moist. (0-0.9') Slough.	varved, stiff,							
Proje	Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level. SG-23 lithology and drilling information from PZ-23 log. Location hand cleared/air knifed 0-4.5' bgs. Analytical sample collected from 6-7' bgs for VOCs. DUP-051810 collected. Project: NJ001020.1.2 Template:G:\Rockware\LogPlot 2001\LogFiles\Templates\boring_well geoprobe 2007 analytical.ldfx Page: 1 of 2 Data File:SG-23.dat Date7/9/2010 Created/Edited by:NJB															

Client: Lockheed Martin Corporation

Site Location:

525 French Road Utica, New York

Borehole Depth: 25' bgs

DRAFT

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
-	- 490 -	4	15-20	4.8	0.0			(0.9-3.2') Medium to dark gray CLAY, few coarse subrounded Sand, varved, stiff, low plasticity, moist.	
-	_				0.0			(3.2-4.8') Medium to dark gray SANDY SILT and medium subangular to angular SAND, some fine to medium Sand, trace coarse Sand to fine subangular to angular Gravel, loose to medium dense, no plasticity, pockets of saturation.	
— 20 -	-				0.0			(0-1.1') Slough. (1.1-3.1') Medium to dark gray SANDY SILT and medium subangular to angular SAND, some fine to medium Sand, trace coarse Sand to fine subangular to angular	
- - 	485 -	5	20-25	4.5	0.0			Gravel, loose to medium dense, no plasticity, pockets of saturation.	
- 	_				0.0		000	GRAVEL, few coarse subrounded Sand to medium Sand, very dense, no plasticity, wet, trace pockets of saturation.	
-	-							End of Boring at 25' bgs.	
-	480 -								
- 30	_								
	-								
	475 -								
- 35	_								
						<u> </u>		Remarks: ags = above ground surface; bgs = below ground s Applicable/Available; AMSL = Above Mean Sea Le	urface; NA = Not vel.
			RC ire, en				dings	SG-23 lithology and drilling information from PZ-23 Location hand cleared/air knifed 0-4.5' bgs. Analyt VOCs. DUP-051810 collected.	log.

Soil Gas Probe Construction Log

(Unconsolidated)

0 ↑ft ↓ LAND SURFACE	Project LMC- Utic	ca	Well SG-24
ж.́	Town/City	Utica, NY	
6"inch flush mount	County Oneida		State NY
<u>2</u> inch diameter	Permit No.	N/A	
drilled hole	Land-Surface Elevati	ion and Datum:	
K		feet	x Surveyed
Well casing,			Estimated
3/4 inch diameter,	Installation Date(s)	8/2/201	0
1/4 ID teflon lined tubing	Drilling Method	Geoprobe Rig	
Backfill			
x cement <u>1'5'</u>	Drilling Contractor	Zebra	
	Drilling Fluid	None	
/			
	Development Techni	que(s) and Date(s)	
Bentonite			
6 ft* x pellets hydrated			
nyurated			
	Fluid Loss During Dri	illing	NA gallons
6.5 ft*	Water Removed Duri	ing Development	NA gallons
N	Static Depth to Wate	r NA	feet below M.F
Soil Vapor Screen. 3/4 inch diameter	Pumping Depth to W	ater N/A	feet below M.F
Stainless Steel Mesh	Pumping Duration	N/A hou	irs
	Yield N/A	gpm	Date N/A
Gravel Pack	Specific Capacity	 N/A gpn	
		gpi	
Formation Collaspse	Well Purpose	Soil vapor sampling	
<u>7.0</u> ft*			
7.0 ft*	Remarks		
Measuring Point is			
Top of Well Casing Unless Otherwise Noted.			
* Depth Below Land Surface			
	Prepared by	D. Zuck	

Dri Dri Dri Sai	lling (lle r 's l lling N npling	Compa Name: Methor g Meth	sh: 5/ any: Z : Phil d: Dire no d : 1 k-Mour	ebra E Orsi ect Pu: 1.5" by	Enviror sh 5' Ace	etate	Liner	Northing: 1128027.8 Easting: 1167472.2 Casing Elevation: NA' AMSL Borehole Depth: 20.11' bgs Surface Elevation: 507.8' AMSL Descriptions By: Daniel Zuck	g ID: SG-25 Scheed Martin Corporation 525 French Road Utica, New York DRAFT			
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction			
-	510 - -									Steel flushmount cover Concrete Pad/Seal (0-0.8' bgs)		
-	- 505 -	NA	NA	NA	NA			(0-4') Hand cleared; backfill.		3/8" Teflon Lined LDPE Tubing (0- 2.4' bgs) Bentonite Seal (0.8-2' bgs) #0 Silica Sand Pack (2-3' bgs) 3/8" Stainless Steel Mesh Screen (2.4-2.9' bgs)		
	-	1	4-5	0.8	0.0	-		(0-0.8') Reddish brown GRAVELY SILT and fine to medium subangu GRAVEL, few medium to coarse subangular to angular Sand, trace of subrounded Gravel, medium dense to dense, no plasticity, moist. (0-0.35') Reddish brown GRAVELY SILT and fine to medium subangu GRAVEL, few medium to coarse subangular to angular Sand, trace of subrounded Gravel, medium dense to dense, no plasticity, moist. (0.35-4.8') Light to medium gray GRAVELY SILT and fine to medium	coarse jular to angular coarse	3/8" Cap at bottom of steel mesh screen (2.9-3' bgs)		
-	 500 	2	5-10	4.8	0.0	\times		angular Gravel, some very fine to coarse subrounded Sand, few coa Limestone Gravel, trace fine 1.5" Pebbles, medium dense, dry to mo	rse angular ist.			
- 10	- 495 -	. 3	10-13	4.8	0.0 0.0 0.0			(0-0.65') Slough. (0.65-3.2') Light to medium gray GRAVELY SILT and fine to medium angular Gravel, some very fine to coarse subrounded Sand, few coa Limestone Gravel, trace fine 1.5" Pebbles, medium dense, dry to mo (3.2-4.8') Medium dark gray varved CLAY, stiff, low to no plasticity, m	rse angular ist.			
- 15	-	4	13-18	7.5	0.0			(0-2') Slough. (2-5') Light to medium gray GRAVELY SILT and fine to medium subz some very fine to coarse subrounded Sand, few coarse angular Lime Shale Gravel, trace fine 1.5" Pebbles, medium dense, no plasticity, n	estone and noist to wet.			
	Project: NJ001020.1.2 Template:G:\Rockware\LogPlot 2001\LogFiles\Templates\boring_well geoprobe 2007 analytical.ldfx Page: 1 of 2											

Client: Lockheed Martin Corporation							n	Well/Boring ID: SG-25			
	Site L	ocatio	on:					Borehole Depth: 20.11' bgs			
			h Road v York	ł					DRAFT		
						1	i				
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction		
-	- 490 -				0.0			(2-5') Light to medium gray GRAVELY SILT and fine to medium subangular Gravel, some very fine to coarse subrounded Sand, few coarse angular Limestone and Shale Gravel, trace fine 1.5" Pebbles, medium dense, no plasticity, moist to wet.			
-	-	5	18-20	0.9	0.0		0000	(0-0.9') Light to medium gray GRAVELY SILT and fine to medium subangular GRAVEL, some very fine to coarse subrounded Sand, few coarse angular Limestone and Shale Gravel, trace fine 1.5" Pebbles, medium dense, no plasticity, wet to saturated.			
20								End of Boring at 20.11' bgs.			
	-										
	485 -										
	-										
25	-	-									
- 25	_										
	_										
-	480 -										
Ī	_										
ŀ											
- 30											
F	-										
F	_										
-	475 -										
F	-	1									
- 35	-										
		•				<u> </u>		Remarks: ags = above ground surface; bgs = below ground Applicable/Available; AMSL = Above Mean Sea L	surface; NA = Not		
SG-25 lithology a Location hand cle VOCs.								Location hand cleared/air knifed 0-4' bgs. Analyti	nd cleared/air knifed 0-4' bgs. Analytical sample collected from 7-8' bgs for		
	roject: NJ001020.1.2 Template:G:\Rockware\LogPlot 2001\LogFiles\Templates\boring_well geoprobe 2007 analytical.ldfx Page: 2 of 2 ata File:SG-25.dat Date7/9/2010 Created/Edited by:NJB										

Dril Dril Dril Sar	lling C lle r 's I lling N npling	Compa Name Name Methor Methor	sh: 5/ any: Z : Phil d: Dire no d : 1 k-Mour	ebra E Orsi ect Pus .5" by	Enviror sh 5' Ace	etate	Liner	Northing: 1128055.6 Easting: 1167532.9 Casing Elevation: NA' AMSL Borehole Depth: 20' bgs Surface Elevation: 508.0' AMSL Descriptions By: Daniel Zuck	Well/Boring ID: SG-26 Client: Lockheed Martin Corporation Location: 525 French Road Utica, New York		
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction		
-	510 -										Steel flushmount cover Concrete Pad/Seal (0-0.8' bgs)
-	-	NA	NA	NA	NA		× × × × × × × × × × × × × × × × × × ×	(0-2.6') Hand cleared.			Bentonite Seal (0.8-9.5' bgs)
-	505 - -	1	2.6-5	2.6	0.0		200000	(2.6-5) Reddish brown GRAVELY SILT and fine to coarse subrounde Limestone GRAVEL, trace medium to coarse subrounded Sand, med plasticity, dry to moist.			2001 Tafler Lined
- 5	- - 500 -	2	5-10	4.8	0.0	×	20000000000	(0-4.8') Reddish brown GRAVELY SILT and fine to coarse subrounde Limestone GRAVEL, trace medium to coarse subrounded Sand, med plasticity, dry to moist.			3/8" Teflon Lined LDPE Tubing (0- 10.5' bgs) #0 Silica Sand
- 10 -	-				0.0	-		(0-2.2') Reddish brown GRAVELY SILT and fine to coarse subrounde Limestone GRAVEL, trace medium to coarse subrounded Sand, med plasticity, dry to moist.			40 Silica Salid Pack (9.5-11' bgs) 3/8" Stainless Steel Mesh Screen (10.5-11' bgs)
- 15	495 —	3	10-15	4.8	0.0			(2.2-4.8') Dark gray varved CLAY, stiff, low to no plasticity, moist.			
- 15					0.0			(0-1') Slough. (1-1.8') Reddish brown SILTY SAND and fine to coarse subrounded to	to subangular		
	Infras	tructu	RC <i>ure, en</i> 20.1.2	vironr	ment,	build		Remarks: ags = above ground surface; bgs = b Applicable/Available; AMSL = Above SG-26 lithology and drilling informati Location hand cleared/air knifed 0-2. VOCs.	Mean Sea Le on from PZ-26 6' bgs. Analy	evel. 5 log. tical sample co	

Client: Lockheed Martin Corporation Well/Boring ID: SG-26								
Site Location:	Borehole De	epth: 20' bgs						
525 French Road Utica, New York		DRAFT						
DEPTH ELEVATION Sample Run Number Sample/Int/Type Recovery (feet) PID Headspace (ppm) Analytical Sample Geologic Column	Stratigraphic Description	Well/Boring Construction						
	SAND, loose, moist. (1-1.8') Reddish brown SILTY SAND and fine to coarse subrounded to subangular SAND, loose, moist. (1.8-4.8') Dark gray SANDY SILT and fine to medium subangular SAND, few medium to coarse subrounded to subangular Limestone Gravel, medium dense, wet.							
- 485	End of Boring at 20' bgs.							
Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level. SG-26 lithology and drilling information from PZ-26 log. Location hand cleared/air knifed 0-2.6' bgs. Analytical sample collected from 8-9' bgs for VOCs. roject: NJ001020.1.2 Template:G:\Rockware\LogPlot 2001\LogFiles\Templates\boring_well geoprobe 2007 analytical.ldfx Page: 2 of 2 Date7/9/2010								

Data File:SG-26.dat

Dril Dril Dril Sar	ling C le r 's I ling N npling	Compa Name Name Methor Methor	sh: 5/ any: Z : Phil d: Dire no d : 1 k-Mou	Cebra E Orsi ect Pus 1.5" by	Enviror sh 5' Ace	etate	Liner	Northing: 1128101.5 Easting: 1167645.1 Casing Elevation: NA' AMSL Borehole Depth: 17' bgs Surface Elevation: 507.3' AMSL Descriptions By: Daniel Zuck	Well/Boring ID: SG-27 Client: Lockheed Martin Corporation Location: 525 French Road Utica, New York DRAFT		
DЕРТН	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction		
-	510 -						×	(0-4') Hand cleared/air knifed.		Steel F Casing	
-	- 505 - -	NA	NA	NA	NA		× × × × × × × × × × × × × × × × × × ×			Pad/St bgs) Bentor (0.5-6' 3/8" Te LDPE (0.5' at	eal (0-0.5' hite Seal bgs) eflon Lined
- -5 -	_	1	4-9	5.15	0.0			(0-3') Medium brown (hints of red) GRAVELY SILT and medium to coa subangular to angular Limestone GRAVEL, trace fine to medium Sand no plasticity, dry to moist.	d, very dense,	Pack (ca Sand 6-7' bgs) ainless
-	500 -				0.0			(3-5.15') Dark gray varved CLAY, very dense, low plasticity, dry to mo	ist.		/lesn 1 (6.5-7'
- 10	_	2	9-14	4.8	0.0	\times		(0-0.9') Medium to dark brown SANDY CLAY and fine to medium SAN coarse Limestone Gravel, medium dense, no plasticity, moist. (0.9-12.1') Medium to dark brown SANDY CLAY and fine to coarse su angular SAND, trace coarse Limestone Gravel, medium dense, no pla	ibangular to		
-	495 -				0.0			(2.1-3.8') Light to medium gray SANDY SILT and very fine to coarse s angular SAND, few fine angular Gravel, trace coarse subrounded to su Limestone Gravel, medium dense, dry to moist.	subangular to ubangular		
- 15	-	3	14-17	4.5	0.0			(0-1') Slough, cave in. (1-4.5') Light medium gray SANDY SILT, some fine to medium Limest fragments/Gravel, some very fine to medium subangular to angular, lo medium dense, dry to moist.	oose to		
Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level. SG-27 lithology and drilling information from PZ-27 log. Location hand cleared/air knifed 0-4' bgs. Analytical sample collected from 9-10' bg VOCs. Project: NJ001020.1.2 Template:G:\Rockware\LogPlot 2001\LogFiles\Templates\boring_well geoprobe 2007 analytical.ldfx Page: 1 of 2 Data File:SG-27.dat Date7/9/2010											Ū

Client: Lockheed Martin Corporation							n	Well/Boring ID: SG-27			
	Site L	.ocatio	on:					Borehole Depth: 17' bgs			
		Frenc a, New		b					DRAFT		
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction		
	-	-			0.0		: : : : : :	(1-4.5') Light medium gray SANDY SILT, some fine to medium Limestone and Shale fragments/Gravel, some very fine to medium subangular to angular, loose to medium dense, dry to moist.			
	490 -							End of Boring at 17' bgs.			
-	-										
-	_										
- 20	-										
-											
	-										
	485 -										
[-										
F	-										
- 25	-										
ŀ	_										
ŀ											
	480 -										
	-										
ſ	-										
- 30	-										
F	-										
ŀ	475 -										
ŀ	-										
	-	1									
	-	1									
- 35	-										
		1	1	I		1		Remarks: ags = above ground surface; bgs = below ground Applicable/Available; AMSL = Above Mean Sea L	surface; NA = Not evel.		
	ARCADIS Infrastructure, environment, buildings							SG-27 lithology and drilling information from PZ-2 Location hand cleared/air knifed 0-4' bgs. Analytic VOCs.	7 log.		
Project: NJ001020.1.2 Template:G:\Rockware\LogPlot 2001\LogFiles\Templates\boring_well geoprobe 2007 analytical.ldfx Pa									nalytical.ldfx Page: 2 of 2		

Data File:SG-27.dat