

Ms. Ruth Curley
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7258

Subject:

Post-Indicator Valve Repair Summary Report
Former Lockheed Martin French Road Facility
Utica, New York

Dear Ms. Curley:

This report provides the New York State Department of Environmental Conservation (NYSDEC) a summary of post-indicator valve (PIV) repairs completed to date by ConMed Corporation (ConMed) at the former Lockheed Martin facility in Utica, New York. These repairs, as identified in the ARCADIS 9 September 2008 *PIV Data Results and Action Plan* (hereafter, the Action Plan), focused on nine locations where ConMed planned to repair and/or replace below-ground appurtenances associated with the facility's fire suppression system. Lockheed Martin assisted ConMed in identifying soil and groundwater quality at each of the proposed repair locations, and with management (as appropriate) of waste generated during the repairs. A summary of the repair work is provided below.

Background

As part of routine facility maintenance activities, ConMed identified several PIV locations that required repair and/or replacement due to failure or potential failure, primarily due to the installation's age. A PIV is defined as a gate (or butterfly) valve used to control the water supply to the sprinkler system used for fire protection for the facility building. Many system components have outlived their expected lifespan because the fire suppression system, in general, dates from when the building was constructed in the 1950s, and thus requires repairs or upgrades due to leakage or other failure.

In consultation with ConMed, Lockheed Martin determined that some of these PIV repair locations fell within areas of possible soil and groundwater contamination. Although some of the proposed repair locations were outside the area of known contamination, Lockheed Martin chose to act proactively and developed the Action

Imagine the result

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ENVIRONMENT

Date:
March 8, 2011

Contact:
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Our ref:
NJ001027.0001

Plan to pre-characterize soil and groundwater at the prospective PIV repair locations, and to assist ConMed with the handling and disposal of soil and groundwater generated during the repairs.

Post-excavation confirmatory sampling during excavation associated with these repairs was originally anticipated, but because the soil and groundwater encountered during repair work was consistent with pre-excavation/pre-characterization sampling results, revisions to the procedural approach in the Action Plan provided to NYSDEC/NYSDOH were unnecessary. Collecting additional data beyond that already presented in that submittal was likewise unnecessary. Therefore, chemical analytical data in this report consists of the pre-excavation/pre-characterization data presented earlier in the Action Plan. The results of the pre-characterization data are summarized in the Action Plan and included as Tables 1 through 6 of this report.

PIV Repairs

ConMed identified nine potential PIV locations to be repaired or replaced as part of their site activities from September 2008 through May 2009. Of these nine potential locations, ConMed repaired five. ConMed has plans to repair an additional three to four PIV locations during 2011. These locations have been pre-characterized as part of the Action Plan or are proximate to data collected during other site investigations.

The five locations repaired are identified below. They had been incorrectly labeled in the Action Plan data set (ConMed corrected the PIV identification numbers between submittal of the Action Plan and completion of the repairs) and are revised here. ConMed also repaired a sixth location (identified as PIV-5) that had not been identified as part of the Action Plan. As such, it was not pre-characterized by Lockheed Martin in advance of the repairs described herein. This work was performed as part of ConMed's evolving plans to conduct PIV repairs/replacements. Note that this sixth location, designated PIV-5, is correctly identified in this report. The PIV-5 location identified in the Action Plan was incorrectly labeled, and should be corrected to PIV-3, as shown below.

The six PIVs that ConMed repaired were as follows:

- DPIV-6 (identified as PIV-6 in the Action Plan)
- PIV-7 (correctly identified in the Action Plan)
- PIV-6 (identified as PIV-8E in the Action Plan)
- PIV-5 (not included in the Action Plan)

- PIV-4 (correctly identified in the Action Plan)
- PIV-3 (identified as PIV-5 in the Action Plan)

Locations DPIV-6, PIV-7, PIV-6, and PIV-5 were repaired in September–December 2008. Locations PIV-4 and PIV-3 were repaired in April–May 2009. ARCADIS provided no continuous field oversight during these repairs. In accordance with the Action Plan, ARCADIS and ConMed communicated by phone regarding the schedule and status of repairs. These communications led the repair team to conclude that soils and groundwater could continue being handled as had been proposed in the Action Plan, using the soils as backfill and managing groundwater through discharge to the sanitary sewer (as described below).

At each location, ConMed (and its contractors) excavated an area around each PIV location to expose the PIV and its associated piping. Excavated soils were immediately staged on poly sheeting, adjacent to the excavation. The PIV and piping were then cut and replaced and the excavated soils were backfilled and compacted (using the excavator bucket). Pre-characterization data demonstrated that the soil was suitable for backfilling. Each area was completed with asphalt paving once the repairs had been made. These activities generated no excess soils requiring management or off-site disposal.

Groundwater encountered in each of the excavations during PIV repairs was handled in accordance with the Action Plan. This involved dewatering the excavation and temporarily storing purged groundwater in an above ground tank, with eventual discharge to the sanitary-sewer system (following pre-treatment through carbon vessels, as required by the Oneida County Department of Water Quality & Water Pollution Control). Oneida County had initially approved the short-term discharge of approximately 12,000 gallons of groundwater to the sanitary sewer associated with the PIV repairs. However, after the initial repairs to DPIV-6 and PIV-7 (the first two PIV locations addressed), a higher than anticipated infiltration rate of groundwater was observed, resulting in a larger volume of water purged from the excavations. As such, Lockheed Martin requested and received approval to discharge an additional 20,000 gallons (32,000 gallons total) of groundwater to the sanitary sewer.

Storage tanks used for this process were also increased in size in response to this increased groundwater volume. Initial plans called for using a 500-gallon poly tank, but this tank was replaced with a 20,000-gallon frac tank (provided by Clean Harbors Environmental Services). A second frac tank was added in November 2008 while the first was being dewatered. The first frac tank was demobilized in December 2008,

with the second remaining on-site through the winter and used to store groundwater for the April–May 2009 repairs. The frac tank was dewatered and removed from the site after the May 2009 repairs. An estimated 32,000 gallons of groundwater were discharged to the sanitary sewer over the project's duration.

Conclusions

The PIV repairs were completed in accordance with the Action Plan. Although ConMed had initially indicated that nine repairs would be made, only six have been completed to date, five of which were included in the Action Plan. ConMed has plans to complete an additional three to four PIV repairs during 2011.

Please contact me if you have any questions or comments.

Sincerely,

ARCADIS of New York, Inc.

A handwritten signature in blue ink, appearing to read "Jeffrey J. Bonsteel".

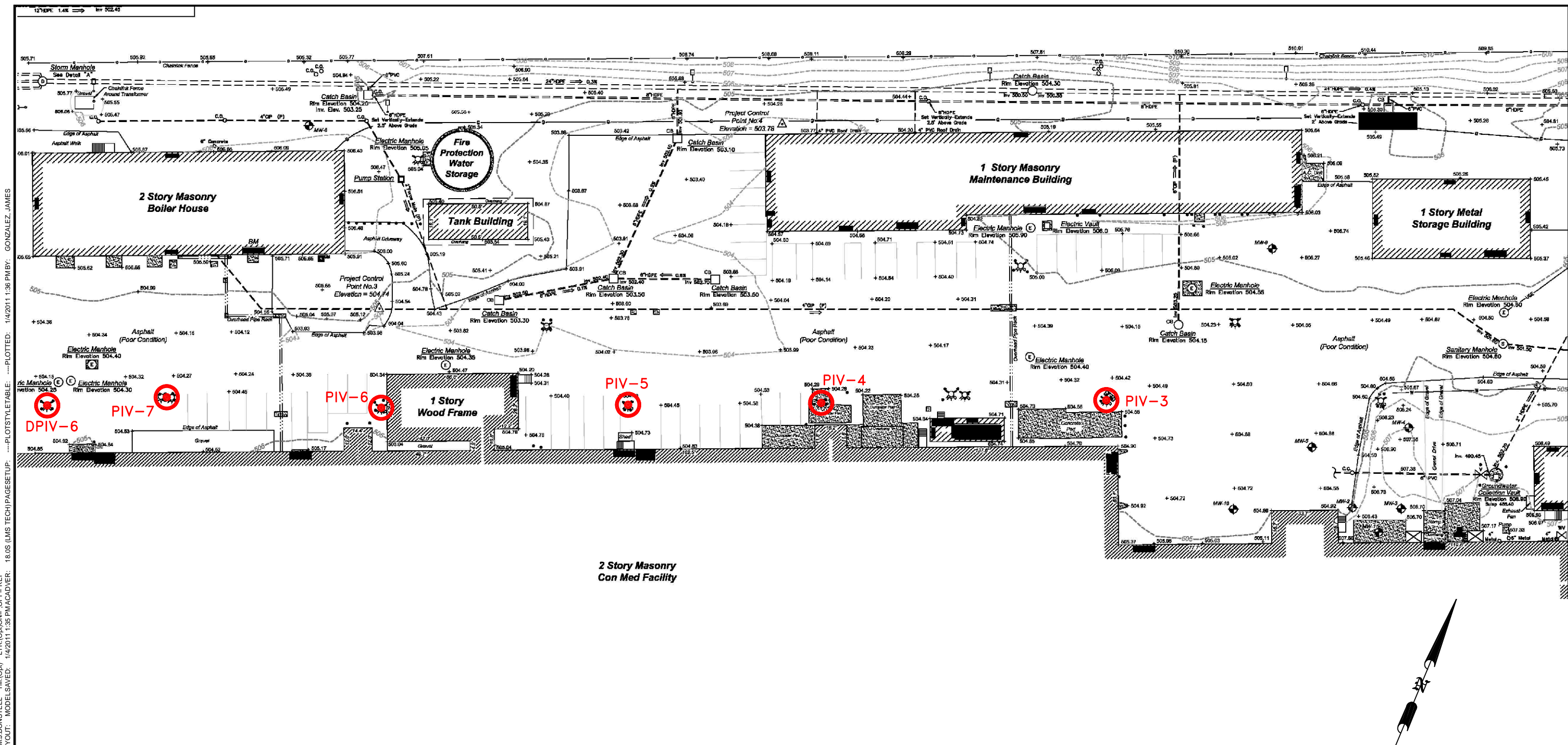
Jeffrey J. Bonsteel
Project Scientist

Attachments:

Figure 1
Tables 1–6

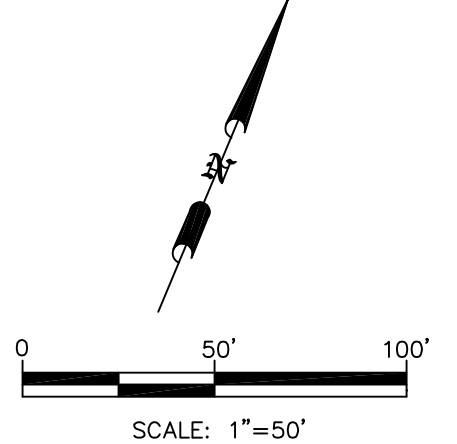
Copies:

Charles Trione, Lockheed Martin
James Zigmont, CDM
Chris Motta, ARCADIS
Greg Rys, NYSDOH
Dale Truskett, Lockheed Martin
Kay Armstrong, Armstrong & Associates
Richard Zigenfus, ConMed
Ginny Robbins, Bond, Schoeneck & King, PLLC



LEGEND:

PIV REPAIR LOCATION



FORMER LOCKHEED MARTIN FACILITY
 UTICA, NEW YORK
 PIV REPAIR PROGRAM

Site Plan

ARCADIS

FIGURE
1

CITY:MAHWAH DIV:GROUP:ENV DB:GONZALEZ LD(OP) PIC(OP) PM:JONSTEEL TM(OP) LYR(OP)ON="OFF"=REF" G:ENVCAD:Mahwah\ACTN\0010001000100003106\Nov06220101B1.dwg LAYOUT: MODELSAVED: 1/4/2011 1:35 PM:ACAD:VER: 18.05 (LMS TECH)PAGESETUP: ---PLOTSTYLETABLE: ---PLOT: 1/4/2011 1:36 PM:BY: GONZALEZ, JAMES XREFS: IMAGES: PROJECT: N0000631.0001.00001

MAP SOURCE:
Thew Associates PE-LS, PLLC
 Land Surveyors - GPS Consultants
 www.ThewAssociates.com
 361 St. Anthony Street Utica, New York 13501 T: 315/733-7279 F: 315/797-1967

Table 1. Volatile Organic Compounds in Soil Samples Collected from Test Pits, PIV Repairs, Former Lockheed Martin Facility, Utica, NY

CONSTITUENT	NYSDEC STANDARDS	PIV-4 7/15/2008	PIV-5 [PIV-3] 7/15/2008	PIV-6 [DPIV-6] 7/14/2008
1,1,1-TRICHLOROETHANE	680	< 5	< 5	< 5
1,1,2,2-TETRACHLOROETHANE	NS	< 5	< 5	< 5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	NS	< 5	< 5	< 5
1,1,2-TRICHLOROETHANE	NS	< 5	< 5	< 5
1,1-DICHLOROETHANE	270	< 5	2 J	< 5
1,1-DICHLOROETHENE	330	< 5	< 5	< 5
1,2,4-TRICHLOROBENZENE	NS	< 5	< 5	< 5
1,2-DIBROMO-3-CHLOROPROPANE	NS	< 5	< 5	< 5
1,2-DIBROMOETHANE	NS	< 5	< 5	< 5
1,2-DICHLOROBENZENE	1100	< 5	< 5	< 5
1,2-DICHLOROETHANE	NS	< 5	< 5	< 5
1,2-DICHLOROPROPANE	NS	< 5	< 5	< 5
1,3-DICHLOROBENZENE	2400	< 5	< 5	< 5
1,4-DICHLOROBENZENE	1800	< 5	< 5	< 5
2-BUTANONE	120	< 26	< 30	< 26
2-HEXANONE	NS	< 26	< 30	< 26
4-METHYL-2-PENTANONE	NS	< 26	< 30	< 26
ACETONE	50	32 B	26 BJ	13 BJ
BENZENE	60	< 5	< 5	< 5
BROMODICHLOROMETHANE	NS	< 5	< 5	< 5
BROMOFORM	NS	< 5	< 5	< 5
BROMOMETHANE	NS	< 5	< 5	< 5
CARBON DISULFIDE	NS	< 5	1 J	< 5
CARBON TETRACHLORIDE	760	< 5	< 5	< 5
CHLOROBENZENE	1100	< 5	< 5	< 5
CHLOROETHANE	NS	< 5	< 5	< 5
CHLOROFORM	370	< 5	< 5	< 5
CHLOROMETHANE	NS	< 5	< 5	< 5
CIS-1,2-DICHLOROTHENE	250	< 5	< 5	< 5
CIS-1,3-DICHLOROPROPENE	NS	< 5	< 5	< 5
CYCLOHEXANE	NS	< 5	< 5	< 5
DIBROMOCHLOROMETHANE	NS	< 5	< 5	< 5
DICHLORODIFLUOROMETHANE	NS	< 5	< 5	< 5
ETHYLBENZENE	1000	< 5	< 5	< 5
ISOPROPYLBENZENE	NS	< 5	< 5	< 5
METHYL ACETATE	NS	< 5	< 5	< 5
METHYL-T-BUTYL ETHER (MTBE)	930	< 5	< 5	< 5
METHYLCYCLOHEXANE	NS	< 5	< 5	< 5
METHYLENE CHLORIDE	50	8 B	5 BJ	7 B
STYRENE (MONOMER)	NS	< 5	< 5	< 5
TETRACHLOROETHENE	1300	< 5	< 5	< 5
TOLUENE	700	< 5	< 5	< 5
XYLENE (TOTAL)	260	< 16	< 18	< 16
TRANS-1,2-DICHLOROETHENE	190	< 5	< 5	< 5
TRANS-1,3-DICHLOROPROPENE	NS	< 5	< 5	< 5
TRICHLOROETHENE	470	< 5	< 5	< 5
TRICHLOROFLUOROMETHANE	NS	< 5	< 5	< 5
VINYL CHLORIDE	20	< 10	< 12	< 10

Notes:

All units are ug/kg unless otherwise noted

Data compared to 6 NYCRR Part 375

Unrestricted Use Soil Cleanup Objectives

NS - No Standard

Exceedences noted in **bold**.

Sample ID noted in brackets is corrected sample ID location.

Table 1. Volatile Organic Compounds in Soil Samples Collected from Test Pits, PIV Repairs, Former Lockheed Martin Facility, Utica, NY

CONSTITUENT	NYSDEC STANDARDS	PIV-7 7/14/2008	PIV-8E [PIV-6] 7/15/2008	PIV-8E 0-3 [PIV-6] 7/15/2008
1,1,1-TRICHLOROETHANE	680	< 5	< 5	< 5
1,1,2,2-TETRACHLOROETHANE	NS	< 5	< 5	< 5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	NS	< 5	< 5	< 5
1,1,2-TRICHLOROETHANE	NS	< 5	< 5	< 5
1,1-DICHLOROETHANE	270	< 5	< 5	< 5
1,1-DICHLOROETHENE	330	< 5	< 5	< 5
1,2,4-TRICHLOROBENZENE	NS	< 5	< 5	< 5
1,2-DIBROMO-3-CHLOROPROPANE	NS	< 5	< 5	< 5
1,2-DIBROMOETHANE	NS	< 5	< 5	< 5
1,2-DICHLOROETHANE	1100	< 5	< 5	< 5
1,2-DICHLOROETHANE	NS	< 5	< 5	< 5
1,2-DICHLOROPROPANE	NS	< 5	< 5	< 5
1,3-DICHLOROBENZENE	2400	< 5	< 5	< 5
1,4-DICHLOROBENZENE	1800	< 5	< 5	< 5
2-BUTANONE	120	< 27	< 26	< 27
2-HEXANONE	NS	< 27	< 26	< 27
4-METHYL-2-PENTANONE	NS	< 27	< 26	< 27
ACETONE	50	15 BJ	27 B	10 BJ
BENZENE	60	< 5	< 5	< 5
BROMODICHLOROMETHANE	NS	< 5	< 5	< 5
BROMOFORM	NS	< 5	< 5	< 5
BROMOMETHANE	NS	< 5	< 5	< 5
CARBON DISULFIDE	NS	< 5	< 5	< 5
CARBON TETRACHLORIDE	760	< 5	< 5	< 5
CHLOROBENZENE	1100	< 5	< 5	< 5
CHLOROETHANE	NS	< 5	< 5	< 5
CHLOROFORM	370	< 5	< 5	< 5
CHLOROMETHANE	NS	< 5	< 5	< 5
CIS-1,2-DICHLOROTHENE	250	< 5	20	< 5
CIS-1,3-DICHLOROPROPENE	NS	< 5	< 5	< 5
CYCLOHEXANE	NS	< 5	< 5	< 5
DIBROMOCHLOROMETHANE	NS	< 5	< 5	< 5
DICHLORODIFLUOROMETHANE	NS	< 5	< 5	< 5
ETHYLBENZENE	1000	< 5	< 5	< 5
ISOPROPYLBENZENE	NS	< 5	< 5	< 5
METHYL ACETATE	NS	< 5	< 5	< 5
METHYL-T-BUTYL ETHER (MTBE)	930	< 5	< 5	< 5
METHYLCYCLOHEXANE	NS	< 5	< 5	< 5
METHYLENE CHLORIDE	50	12 B	9 B	3 BJ
STYRENE (MONOMER)	NS	< 5	< 5	< 5
TETRACHLOROETHENE	1300	< 5	< 5	< 5
TOLUENE	700	< 5	< 5	< 5
XYLENE (TOTAL)	260	< 16	< 16	< 16
TRANS-1,2-DICHLOROETHENE	190	< 5	2 J	< 5
TRANS-1,3-DICHLOROPROPENE	NS	< 5	< 5	< 5
TRICHLOROETHENE	470	< 5	< 5	< 5
TRICHLOROFLUOROMETHANE	NS	< 5	< 5	< 5
VINYL CHLORIDE	20	< 11	< 10	< 11

Notes:

All units are ug/kg unless otherwise noted

Data compared to 6 NYCRR Part 375

Unrestricted Use Soil Cleanup Objectives

NS - No Standard

Exceedences noted in **bold**.

Sample ID noted in brackets is corrected
sample ID location.

Table 2. Semi-Volatile Organic Compounds in Soil Samples Collected from Test Pits, PIV Repairs, Former Lockheed Martin Facility, Utica, NY

CONSTITUENT	NYSDEC STANDARDS	PIV-4 7/15/2008	PIV-5 [PIV-3] 7/15/2008	PIV-6 [DPIV-6] 7/14/2008	PIV-7 7/14/2008
ACENAPHTHENE	20000	< 1900	< 1900	< 1900	< 1900
ACENAPHTHYLENE	20000	< 1900	< 1900	< 1900	< 1900
ACETOPHENONE	NS	< 1900	< 1900	< 1900	< 1900
ANTHRACENE	100000	< 1900	< 1900	< 1900	< 1900
ATRAZINE	NS	< 1900	< 1900	< 1900	< 1900
BENZALDEHYDE	NS	< 1900	< 1900	< 1900	< 1900
BENZO(A)ANTHRACENE	1000	< 1900	< 1900	< 1900	< 1900
BENZO(B)FLUORANTHENE	1000	< 1900	< 1900	< 1900	< 1900
BENZO(K)FLUORANTHENE	800	< 1900	< 1900	< 1900	< 1900
BENZO(G,H,I)PERYLENE	100000	< 1900	< 1900	< 1900	< 1900
BENZO(A)PYRENE	1000	< 1900	< 1900	< 1900	< 1900
BIPHENYL	NS	< 1900	< 1900	< 1900	< 1900
BIS(2-CHLOROETHOXY)METHANE	NS	< 1900	< 1900	< 1900	< 1900
BIS(2-CHLOROETHYL)ETHER	NS	< 1900	< 1900	< 1900	< 1900
2,2'-OXYBIS(1-CHLOROPROPANE)	NS	< 1900	< 1900	< 1900	< 1900
BIS(2-ETHYLHEXYL)PHTHALATE	NS	< 1900	< 1900	< 1900	< 1900
4-BROMOPHENYL PHENYL ETHER	NS	< 1900	< 1900	< 1900	< 1900
BUTYL BENZYL PHTHALATE	NS	< 1900	< 1900	< 1900	< 1900
CAPROLACTAM	NS	< 1900	< 1900	< 1900	< 1900
4-CHLOROANILINE	NS	< 1900	< 1900	< 1900	< 1900
4-CHLORO-3-METHYLPHENOL	NS	< 1900	< 1900	< 1900	< 1900
2-CHLORONAPHTHALENE	NS	< 1900	< 1900	< 1900	< 1900
2-CHLOROPHENOL	NS	< 1900	< 1900	< 1900	< 1900
4-CHLOROPHENYL PHENYL ETHER	NS	< 1900	< 1900	< 1900	< 1900
CARBAZOLE	NS	< 1900	< 1900	< 1900	< 1900
CHRYSENE	1000	170 BJ	180 BJ	180 BJ	200 BJ
DIBENZO(A,H)ANTHRACENE	330	< 1900	< 1900	< 1900	< 1900
DIBENZOFURAN	NS	< 1900	< 1900	< 1900	< 1900
DIN-N-BUTYL PHTHALATE	NS	< 1900	< 1900	< 1900	< 1900
3,3'-DICHLOROBENZIDINE	NS	< 1900	< 1900	< 1900	< 1900
2,4-DICHLOROPHENOL	NS	< 1900	< 1900	< 1900	< 1900
DIETHYL PHTHALATE	NS	< 1900	< 1900	< 1900	< 1900
2,4-DIMETHYLPHENOL	NS	< 1900	< 1900	< 1900	< 1900
DIMETHYL PHTHALATE	NS	< 1900	< 1900	< 1900	< 1900
4,6-DINITRO-2-METHYLPHENOL	NS	< 3700	< 3600	< 3700	< 3700
2,4-DINITROPHENOL	NS	< 3700	< 3600	< 3700	< 3700
2,4-DINNITROTOLUENE	NS	< 1900	< 1900	< 1900	< 1900
2,6-DINITROTOLUENE	NS	< 1900	< 1900	< 1900	< 1900
DIN-N-OCTYL PHTHALATE	NS	< 1900	< 1900	< 1900	< 1900
FLUORANTHENE	100000	< 1900	< 1900	< 1900	< 1900
FLUORENE	30000	< 1900	< 1900	< 1900	< 1900
HEXACHLOROBENZENE	NS	< 1900	< 1900	< 1900	< 1900
HEXACHLOROBUTADIENE	NS	< 1900	< 1900	< 1900	< 1900
HEXACHLOROCYCLOPENTADIENE	NS	< 1900	< 1900	< 1900	< 1900
HEXACHLOROETHANE	NS	< 1900	< 1900	< 1900	< 1900
INDENO(1,2,3-CD)PYRENE	500	< 1900	< 1900	< 1900	< 1900
ISOPHORONE	NS	< 1900	< 1900	< 1900	< 1900
2-METHYLNAPHTHALENE	NS	< 1900	< 1900	< 1900	< 1900
2-METHYLPHENOL	NS	< 1900	< 1900	< 1900	< 1900
4-METHYLPHENOL	NS	< 1900	< 1900	< 1900	< 1900
NAPHTHALENE	12000	< 1900	< 1900	< 1900	< 1900
2-NITROANILINE	NS	< 3700	< 3600	< 3700	< 3700
3-NITROANILINE	NS	< 3700	< 3600	< 3700	< 3700
4-NITROANILINE	NS	< 3700	< 3600	< 3700	< 3700
NITROBENZENE	NS	< 1900	< 1900	< 1900	< 1900
2-NITROPHENOL	NS	< 1900	< 1900	< 1900	< 1900
4-NITROPHENOL	NS	< 3700	< 3600	< 3700	< 3700
N-NITROSODIPHENYLAMINE	NS	< 1900	< 1900	< 1900	< 1900
N-NITroso-DI-N-PROPYLAMINE	NS	< 1900	< 1900	< 1900	< 1900
PENTACHLOROPHENOL	800	< 3700	< 3600	< 3700	< 3700
PHENANTHRENE	100000	< 1900	< 1900	< 1900	< 1900
PHENOL	NS	< 1900	< 1900	< 1900	< 1900
PYRENE	100000	< 1900	< 1900	< 1900	< 1900
2,4,5-TRICHLOROPHENOL	NS	< 1900	< 1900	< 1900	< 1900
2,4,6-TRICHLOROPHENOL	NS	< 1900	< 1900	< 1900	< 1900

Notes:

All units are ug/kg unless otherwise noted

Data compared to 6 NYCRR Part 375

Unrestricted Use Soil Cleanup Objectives

NS - No Standard

Exceedences noted in **bold**.

Sample ID noted in brackets is corrected sample ID location.

Table 2. Semi-Volatile Organic Compounds in Soil Samples Collected from Test Pits, PIV Repairs, Former Lockheed Martin Facility, Utica, NY

CONSTITUENT	NYSDEC STANDARDS	PIV-8E [PIV-6] 7/15/2008	PIV-8E 0-3 [PIV-6] 7/14/2008
ACENAPHTHENE	20000	< 1800	< 2000
ACENAPHTHYLENE	20000	< 1800	< 2000
ACETOPHENONE	NS	< 1800	< 2000
ANTHRACENE	100000	< 1800	< 2000
ATRAZINE	NS	< 1800	< 2000
BENZALDEHYDE	NS	< 1800	< 2000
BENZO(A)ANTHRACENE	1000	< 1800	< 2000
BENZO(B)FLUORANTHENE	1000	< 1800	< 2000
BENZO(K)FLUORANTHENE	800	< 1800	< 2000
BENZO(G,H,I)PERYLENE	100000	< 1800	< 2000
BENZO(A)PYRENE	1000	< 1800	< 2000
BIPHENYL	NS	< 1800	< 2000
BIS(2-CHLOROETHOXY)METHANE	NS	< 1800	< 2000
BIS(2-CHLOROETHYL)ETHER	NS	< 1800	< 2000
2,2'-OXYBIS(1-CHLOROPROPANE)	NS	< 1800	< 2000
BIS(2-ETHYLHEXYL)PHTHALATE	NS	< 1800	< 2000
4-BROMOPHENYL PHENYL ETHER	NS	< 1800	< 2000
BUTYL BENZYL PHTHALATE	NS	< 1800	< 2000
CAPROLACTAM	NS	< 1800	< 2000
4-CHLOROANILINE	NS	< 1800	< 2000
4-CHLORO-3-METHYLPHENOL	NS	< 1800	< 2000
2-CHLORONAPHTHALENE	NS	< 1800	< 2000
2-CHLOROPHENOL	NS	< 1800	< 2000
4-CHLOROPHENYL PHENYL ETHER	NS	< 1800	< 2000
CARBAZOLE	NS	< 1800	< 2000
CHRYSENE	1000	180 BJ	170 BJ
DIBENZO(A,H)ANTHRACENE	330	< 1800	< 2000
DIBENZOFURAN	NS	< 1800	< 2000
DIN-N-BUTYL PHTHALATE	NS	< 1800	< 2000
3,3'-DICHLOROBENZIDINE	NS	< 1800	< 2000
2,4-DICHLOROPHENOL	NS	< 1800	< 2000
DIETHYL PHTHALATE	NS	< 1800	< 2000
2,4-DIMETHYLPHENOL	NS	< 1800	< 2000
DIMETHYL PHTHALATE	NS	< 1800	< 2000
4,6-DINITRO-2-METHYLPHENOL	NS	< 3600	< 3800
2,4-DINITROPHENOL	NS	< 3600	< 3800
2,4-DINNITROTOLUENE	NS	< 1800	< 2000
2,6-DINITROTOLUENE	NS	< 1800	< 2000
DIN-N-OCTYL PHTHALATE	NS	< 1800	< 2000
FLUORANTHENE	100000	< 1800	< 2000
FLUORENE	30000	< 1800	< 2000
HEXACHLOROBENZENE	NS	< 1800	< 2000
HEXACHLOROBUTADIENE	NS	< 1800	< 2000
HEXACHLOROCYCLOPENTADIENE	NS	< 1800	< 2000
HEXACHLOROETHANE	NS	< 1800	< 2000
INDENO(1,2,3-CD)PYRENE	500	< 1800	< 2000
ISOPHORONE	NS	< 1800	< 2000
2-METHYLNAPHTHALENE	NS	< 1800	< 2000
2-METHYLPHENOL	NS	< 1800	< 2000
4-METHYLPHENOL	NS	< 1800	< 2000
NAPHTHALENE	12000	< 1800	< 2000
2-NITROANILINE	NS	< 3600	< 3800
3-NITROANILINE	NS	< 3600	< 3800
4-NITROANILINE	NS	< 3600	< 3800
NITROBENZENE	NS	< 1800	< 2000
2-NITROPHENOL	NS	< 1800	< 2000
4-NITROPHENOL	NS	< 3600	< 3800
N-NITROSODIPHENYLAMINE	NS	< 1800	< 2000
N-NITROSO-DI-N-PROPYLAMINE	NS	< 1800	< 2000
PENTACHLOROPHENOL	800	< 3600	< 3800
PHENANTHRENE	100000	< 1800	< 2000
PHENOL	NS	< 1800	< 2000
PYRENE	100000	< 1800	< 2000
2,4,5-TRICHLOROPHENOL	NS	< 1800	< 2000
2,4,6-TRICHLOROPHENOL	NS	< 1800	< 2000

Notes:

All units are ug/kg unless otherwise noted

Data compared to 6 NYCRR Part 375

Unrestricted Use Soil Cleanup Objectives

NS - No Standard

Exceedences noted in **bold**.

Sample ID noted in brackets is corrected sample ID location.

Table 3. PCBs and Metals in Soil Samples Collected from Test Pits, PIV Repairs, Former Lockheed Martin Facility, Utica, NY

CONSTITUENT	NYSDEC STANDARDS	PIV-4 7/15/2008	PIV-5 [PIV-3] 7/15/2008	PIV-6 [DPIV-6] 7/14/2008
PCBs				
AROCLOR 1016	100	< 18	< 18	< 19
AROCLOR 1221	100	< 18	< 18	< 19
AROCLOR 1232	100	< 18	< 18	< 19
AROCLOR 1242	100	< 18	< 18	< 19
AROCLOR 1248	100	< 18	< 18	< 19
AROCLOR 1254	100	< 18	< 18	39
AROCLOR 1260	100	< 18	< 18	9.4 J
TOTAL PCBs	100	< 18	< 18	48.4
METALS				
LEAD	63000	9500	4100	6900
SILVER	2000	< 590	< 5400	< 570
HEXAVALENT CHROMIUM	1000	< 940	< 920	< 890
CYANIDE (ug/g)	27	< 0.99	< 1.1	< 1.1

Notes:

All units are ug/kg unless otherwise noted
 Data compared to 6 NYCRR Part 375
 Unrestricted Use Soil Cleanup Objectives
 Soil Cleanup Objective for PCBs represents
 Total PCBs in subsurface soils
 Exceedences noted in **bold**.
 Sample ID noted in brackets is corrected
 sample ID location.

Table 3. PCBs and Metals in Soil Samples Collected from Test Pits, PIV Repairs, Former Lockheed Martin Facility, Utica, NY

CONSTITUENT	NYSDEC STANDARDS	PIV-7 7/14/2008	PIV-8E [PIV-6] 7/15/2008	PIV-8E 0-3 [PIV-6] 7/15/2008
PCBs				
AROCLOR 1016	100	< 19	< 19	< 19
AROCLOR 1221	100	< 19	< 19	< 19
AROCLOR 1232	100	< 19	< 19	< 19
AROCLOR 1242	100	< 19	< 19	< 19
AROCLOR 1248	100	< 19	< 19	< 19
AROCLOR 1254	100	37	< 19	< 19
AROCLOR 1260	100	9.9 J	< 19	< 19
TOTAL PCBs	100	46.9	< 19	< 19
METALS				
LEAD	63000	5600	4500	6200
SILVER	2000	< 590	< 560	< 640
HEXAVALENT CHROMIUM	1000	< 960	< 910	< 860
CYANIDE (ug/g)	27	< 0.96	< 0.94	< 1.2

Notes:

All units are ug/kg unless otherwise noted

Data compared to 6 NYCRR Part 375

Unrestricted Use Soil Cleanup Objectives

Soil Cleanup Objective for PCBs represents

Total PCBs in subsurface soils

Exceedences noted in **bold**.

Sample ID noted in brackets is corrected
sample ID location.

Table 4. Volatile Organic Compounds in Groundwater Samples Collected from Test Pits, PIV Repairs, Former Lockheed Martin Facility, Utica, NY

CONSTITUENT	NYSDEC STANDARDS	PIV-4 7/15/2008	PIV-5 [PIV-3] 7/15/2008	PIV-6 [DPIV-6] 7/14/2008
1,1,1-TRICHLOROETHANE	5	< 5	< 5	2.8 J
1,1,2,2-TETRACHLOROETHANE	5	< 5	< 5	< 5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 5	< 5	2.3 J
1,1,2-TRICHLOROETHANE	1	< 5	< 5	< 5
1,1-DICHLOROETHANE	5	< 5	1.4 J	1.8 J
1,1-DICHLOROETHENE	5	< 5	< 5	< 5
1,2,4-TRICHLOROBENZENE	5	< 5	< 5	< 5
1,2-DIBROMO-3-CHLOROPROPANE	0.04	< 5	< 5	< 5
1,2-DIBROMOETHANE	NS	< 5	< 5	< 5
1,2-DICHLOROBENZENE	3	< 5	< 5	< 5
1,2-DICHLOROETHANE	0.6	< 5	< 5	< 5
1,2-DICHLOROPROPANE	1	< 5	< 5	< 5
1,3-DICHLOROBENZENE	3	< 5	< 5	< 5
1,4-DICHLOROBENZENE	3	< 5	< 5	< 5
2-BUTANONE	50	< 25	< 25	< 25
2-HEXANONE	50	< 25	< 25	< 25
4-METHYL-2-PENTANONE	NS	< 25	< 25	< 25
ACETONE	50	9.7 J	6.5 J	6.2 J
BENZENE	1	< 5	< 5	< 5
BROMODICHLOROMETHANE	50	< 5	< 5	< 5
BROMOFORM	50	< 5	< 5	< 5
BROMOMETHANE	5	< 5	< 5	< 5
CARBON DISULFIDE	NS	< 5	< 5	< 5
CARBON TETRACHLORIDE	5	< 5	< 5	< 5
CHLOROBENZENE	5	< 5	< 5	< 5
CHLOROETHANE	5	< 5	< 5	< 5
CHLOROFORM	7	< 5	< 5	< 5
CHLOROMETHANE	NS	< 5	< 5	< 5
CIS-1,2-DICHLOROTHENE	5	< 5	1.0 J	2.4 J
CIS-1,3-DICHLOROPROPENE	0.4	< 5	< 5	< 5
CYCLOHEXANE	NS	< 5	< 5	< 5
DIBROMOCHLOROMETHANE	50	< 5	< 5	< 5
DICHLORODIFLUOROMETHANE	5	< 5	< 5	< 5
ETHYLBENZENE	5	< 5	< 5	< 5
ISOPROPYLBENZENE	5	< 5	< 5	< 5
METHYL ACETATE	NS	< 5	< 5	< 5
METHYL-T-BUTYL ETHER (MTBE)	NS	< 5	0.72 J	< 5
METHYLCYCLOHEXANE	NS	< 5	< 5	< 5
METHYLENE CHLORIDE	5	< 5	< 5	< 5
STYRENE (MONOMER)	5	< 5	< 5	< 5
TETRACHLOROETHENE	5	< 5	< 5	< 5
TOLUENE	5	< 5	< 5	< 5
XYLENE (TOTAL)	5	< 15	< 15	< 15
TRANS-1,2-DICHLOROETHENE	5	< 5	< 5	< 5
TRANS-1,3-DICHLOROPROPENE	0.4	< 5	< 5	< 5
TRICHLOROETHENE	5	< 5	< 5	1.3 J
TRICHLOROFLUOROMETHANE	5	< 5	< 5	< 5
VINYL CHLORIDE	2	< 5	0.75 J	< 5

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

Exceedences noted in **bold**.

Sample ID noted in brackets is corrected sample ID location.

Table 4. Volatile Organic Compounds in Groundwater Samples Collected from Test Pits, PIV Repairs, Former Lockheed Martin Facility, Utica, NY

CONSTITUENT	NYSDEC STANDARDS	PIV-7 7/14/2008	PIV-8E [PIV-6] 7/15/2008
1,1,1-TRICHLOROETHANE	5	1.0 J	< 5
1,1,2,2-TETRACHLOROETHANE	5	< 5	< 5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	1.6 J	< 5
1,1,2-TRICHLOROETHANE	1	< 5	< 5
1,1-DICHLOROETHANE	5	2.3 J	< 5
1,1-DICHLOROETHENE	5	< 5	< 5
1,2,4-TRICHLOROBENZENE	5	< 5	< 5
1,2-DIBROMO-3-CHLOROPROPANE	0.04	< 5	< 5
1,2-DIBROMOETHANE	NS	< 5	< 5
1,2-DICHLOROBENZENE	3	< 5	< 5
1,2-DICHLOROETHANE	0.6	< 5	< 5
1,2-DICHLOROPROPANE	1	< 5	< 5
1,3-DICHLOROBENZENE	3	< 5	< 5
1,4-DICHLOROBENZENE	3	< 5	< 5
2-BUTANONE	50	< 25	< 25
2-HEXANONE	50	< 25	< 25
4-METHYL-2-PENTANONE	NS	< 25	< 25
ACETONE	50	5.5 J	7.9 J
BENZENE	1	< 5	< 5
BROMODICHLOROMETHANE	50	< 5	< 5
BROMOFORM	50	< 5	< 5
BROMOMETHANE	5	< 5	< 5
CARBON DISULFIDE	NS	< 5	< 5
CARBON TETRACHLORIDE	5	< 5	< 5
CHLOROBENZENE	5	< 5	< 5
CHLOROETHANE	5	< 5	< 5
CHLOROFORM	7	< 5	< 5
CHLOROMETHANE	NS	< 5	< 5
CIS-1,2-DICHLOROTHENE	5	1.4 J	21
CIS-1,3-DICHLOROPROPENE	0.4	< 5	< 5
CYCLOHEXANE	NS	< 5	< 5
DIBROMOCHLOROMETHANE	50	< 5	< 5
DICHLORODIFLUOROMETHANE	5	< 5	< 5
ETHYLBENZENE	5	< 5	< 5
ISOPROPYLBENZENE	5	< 5	< 5
METHYL ACETATE	NS	< 5	< 5
METHYL-T-BUTYL ETHER (MTBE)	NS	< 5	< 5
METHYLCYCLOHEXANE	NS	< 5	< 5
METHYLENE CHLORIDE	5	< 5	< 5
STYRENE (MONOMER)	5	< 5	< 5
TETRACHLOROETHENE	5	< 5	< 5
TOLUENE	5	< 5	< 5
XYLENE (TOTAL)	5	< 15	< 15
TRANS-1,2-DICHLOROETHENE	5	< 5	2.3 J
TRANS-1,3-DICHLOROPROPENE	0.4	< 5	< 5
TRICHLOROETHENE	5	2.0 J	0.49 J
TRICHLOROFLUOROMETHANE	5	< 5	< 5
VINYL CHLORIDE	2	< 5	4.2 J

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

Exceedences noted in **bold**.

Sample ID noted in brackets is corrected sample ID location.

Table 5. Volatile Organic Compounds in Groundwater Samples Collected from Test Pits, PIV Repairs, Former Lockheed Martin Facility, Utica, NY

CONSTITUENT	NYSDEC STANDARDS	PIV-4 7/15/2008	PIV-5 [PIV-3] 7/15/2008	PIV-6 [DPIV-6] 7/14/2008	PIV-7 7/14/2008	PIV-8E [PIV-6] 7/15/2008
ACENAPHTHENE	20	< 5	< 5	< 5	< 56	< 5
ACENAPHTHYLENE	NS	< 5	< 5	< 5	< 56	< 5
ACETOPHENONE	NS	< 5	< 5	< 5	< 56	< 5
ANTHRACENE	50	< 5	< 5	< 5	< 56	< 5
ATRAZINE	7.5	< 5	< 5	< 5	< 56	< 5
BENZALDEHYDE	NS	< 5	< 5	< 5	< 56	< 5
BENZO(A)ANTHRACENE	0.002	< 5	< 5	< 5	< 56	< 5
BENZO(B)FLUORANTHENE	0.002	< 5	< 5	< 5	< 56	< 5
BENZO(K)FLUORANTHENE	0.002	< 5	< 5	< 5	< 56	< 5
BENZO(G,H,I)PERYLENE	NS	< 5	< 5	< 5	< 56	< 5
BENZO(A)PYRENE	ND	< 5	< 5	< 5	< 56	< 5
BIPHENYL	5	< 5	< 5	< 5	< 56	< 5
BIS(2-CHLOROETHOXY)METHANE	5	< 5	< 5	< 5	< 56	< 5
BIS(2-CHLOROETHYL)ETHER	1	< 5	< 5	< 5	< 56	< 5
2,2'-OXYBIS(1-CHLOROPROPANE)	NS	< 5	< 5	< 5	< 56	< 5
BIS(2-ETHYLHEXYL)PHTHALATE	5	< 5	< 5	< 5	< 56	< 5
4-BROMOPHENYL PHENYL ETHER	NS	< 5	< 5	< 5	< 56	< 5
BUTYL BENZYL PHTHALATE	50	4 BJ	4 BJ	4 BJ	45 BJ	4 BJ
CAPROLACTAM	NS	< 5	< 5	< 5	< 56	< 5
4-CHLOROANILINE	5	< 5	< 5	< 5	< 56	< 5
4-CHLORO-3-METHYLPHENOL	NS	< 5	< 5	< 5	< 56	< 5
2-CHLORONAPHTHALENE	10	< 5	< 5	< 5	< 56	< 5
2-CHLOROPHENOL	NS	< 5	< 5	< 5	< 56	< 5
4-CHLOROPHENYL PHENYL ETHER	NS	< 5	< 5	< 5	< 56	< 5
CARBAZOLE	NS	< 5	< 5	< 5	< 56	< 5
CHRYSENE	NS	0.5 BJ	0.5 BJ	0.5 BJ	5 BJ	0.5 BJ
DIBENZO(A,H)ANTHRACENE	NS	< 5	< 5	< 5	< 56	< 5
DIBENZOFURAN	NS	< 5	< 5	< 5	< 56	< 5
DIN-N-BUTYL PHTHALATE	NS	5 B	5 B	5	< 56	5 B
3,3'-DICHLOROBENZIDINE	5	< 5	< 5	< 5	< 56	< 5
2,4-DICHLOROPHENOL	NS	< 5	< 5	< 5	< 56	< 5
DIETHYL PHTHALATE	50	< 5	< 5	< 5	< 56	0.6 J
2,4-DIMETHYLPHENOL	NS	< 5	< 5	< 5	< 56	< 5
DIMETHYL PHTHALATE	NS	< 5	< 5	< 5	< 56	< 5
4,6-DINITRO-2-METHYLPHENOL	NS	< 10	< 10	< 9	< 110	< 10
2,4-DINITROPHENOL	5	< 10	< 10	< 9	< 110	< 10
2,4-DINITROTOLUENE	NS	< 5	< 5	< 5	< 56	< 5
2,6-DINITROTOLUENE	NS	< 5	< 5	< 5	< 56	< 5
DIN-N-OCTYL PHTHALATE	NS	7 B	7 B	< 5	< 56	7 B
FLUORANTHENE	50	< 5	< 5	< 5	< 56	< 5
FLUORENE	50	< 5	< 5	< 5	< 56	< 5
HEXACHLOROBENZENE	0.04	< 5	< 5	< 5	< 56	< 5
HEXACHLOROBUTADIENE	0.5	< 5	< 5	< 5	< 56	< 5
HEXACHLOROCYCLOPENTADIENE	5	< 5	< 5	< 5	< 56	< 5
HEXACHLOROETHANE	5	< 5	< 5	< 5	< 56	< 5
INDENO(1,2,3-CD)PYRENE	0.002	< 5	< 5	< 5	< 56	< 5
ISOPHORONE	50	< 5	< 5	< 5	< 56	< 5
2-METHYLNAPHTHALENE	4.7*	< 5	< 5	< 5	< 56	< 5
2-METHYLPHENOL	NS	0.5 BJ	0.4 BJ	< 5	< 56	0.4 BJ
4-METHYLPHENOL	NS	< 5	< 5	< 5	< 56	< 5
NAPHTHALENE	10	< 5	< 5	< 5	< 56	< 5
2-NITROANILINE	5	< 10	< 10	< 9	< 110	< 10
3-NITROANILINE	5	< 10	< 10	< 9	< 110	< 10
4-NITROANILINE	5	< 10	< 10	< 9	< 110	< 10
NITROBENZENE	0.4	< 5	< 5	< 5	< 56	< 5
2-NITROPHENOL	NS	< 5	< 5	< 5	< 56	< 5
4-NITROPHENOL	NS	< 10	< 10	< 9	< 110	< 10
N-NITROSODIPHENYLAMINE	NS	< 5	< 5	< 5	< 56	< 5
N-NITROSO-DI-N-PROPYLAMINE	NS	< 5	< 5	< 5	< 56	< 5
PENTACHLOROPHENOL	1	< 10	< 10	< 9	< 110	< 10
PHENANTHRENE	50	< 5	< 5	< 5	< 56	< 5
PHENOL	1	< 5	2 J	< 5	< 56	< 5
PYRENE	50	< 5	< 5	< 5	< 56	< 5
2,4,5-TRICHLOROPHENOL	NS	< 5	< 5	< 5	< 56	< 5
2,4,6-TRICHLOROPHENOL	NS	< 5	< 5	< 5	< 56	< 5

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

Exceedences noted in **bold**.

Sample ID noted in brackets is corrected sample ID location.

ARCADIS

Table 6. Pesticides, PCBs AND Metals in Groundwater Samples Collected from Test Pits, PIV Repairs, Former Lockheed Martin Facility, Utica, NY

CONSTITUENT	NYSDEC STANDARDS	PIV-4 7/15/2008	PIV-5 [PIV-3] 7/15/2008	PIV-6 [DPIV-6] 7/14/2008	PIV-7 7/14/2008	PIV-8E [PIV-6] 7/15/2008
PCBs						
AROCLOR 1016	0.09	< 0.47	< 0.47	< 0.47	< 0.47	< 0.47
AROCLOR 1221	0.09	< 0.47	< 0.47	< 0.47	< 0.47	< 0.47
AROCLOR 1232	0.09	< 0.47	< 0.47	< 0.47	< 0.47	< 0.47
AROCLOR 1242	0.09	< 0.47	< 0.47	< 0.47	< 0.47	< 0.47
AROCLOR 1248	0.09	< 0.47	< 0.47	< 0.47	< 0.47	< 0.47
AROCLOR 1254	0.09	0.13 J	< 0.47	0.090 J	0.086 J	< 0.47
AROCLOR 1260	0.09	< 0.47	0.31 J	< 0.47	< 0.47	< 0.47
TOTAL PCBs	0.09	0.13	0.31	0.090 J	0.086 J	< 0.47
Pesticides						
Aldrin	ND	< 0.047	< 0.047	0.013 J	< 0.047	< 0.047
alpha-BHC	NS	< 0.047	< 0.047	0.011 BJ	0.011 BJ	< 0.047
beta-BHC	NS	< 0.047	< 0.047	< 0.47	< 0.047	< 0.047
gamma-BHC (Lindane)	NS	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047
delta-BHC	NS	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047
4,4'-DDD	0.3	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047
4,4'-DDE	0.2	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047
4,4'-DDT	0.2	< 0.047	< 0.047	0.065	< 0.047	< 0.047
Dieldren	0.004	0.011 J	< 0.047	0.015 J	< 0.047	< 0.047
Endosulfan I	0.009*	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047
Endosulfan II	0.009*	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047
Endosulfan Sulfate	NS	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047
Endrin	ND	< 0.047	< 0.047	0.027 J	0.024 J	< 0.047
Endrin aldehyde	5	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047
alpha-Chlordane	0.05	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047
gamma-Chlordane	0.05	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047
Heptachlor	0.04	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047
Heptachlor epoxide	0.03	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047
Methoxychlor	35	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047
Toxaphene	0.06	< 0.47	< 0.47	< 0.47	< 0.47	< 0.47
Endrin ketone	5	< 0.047	< 0.047	< 0.047	< 0.047	< 0.047
METALS						
LEAD (mg/l)	0.025	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
SILVER (mg/l)	0.05	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030
HEXAVALENT CHROMIUM (mg/l)	0.05	< 0.010	< 0.010	< 1.0	< 1.0	< 0.010
CYANIDE (mg/l)	0.2	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Notes:

All units are ug/l unless otherwise noted

Data compared to NYSDEC Ambient

Water Quality Standards (TOGS 1.1.1)

PCB Standard is for Total PCBs

* No standard for groundwater; surface water standard shown

Exceedences noted in **bold**.

NS - No Standard

ND - Non-Detect

Sample ID noted in brackets is corrected sample ID location.