Final • July 2009

Supplemental Remedial Investigation Report

for the Eighteenmile Creek Corridor Site (Site No. 932121) City of Lockport, New York



Prepared for:

New York State Department of Environmental Conservation

Prepared by:

ecology and environment engineering, p.c.
International Specialists in the Environment

002699.ID19.03-B2359

Final
Supplemental Remedial Investigation Report
for the
Eighteenmile Creek Corridor Site
(Site No. 932121)
City of Lockport, New York

July 2009

Prepared for:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 Broadway
Albany, New York 12233

Prepared by:

ECOLOGY AND ENVIRONMENT ENGINEERING, P.C.
368 Pleasant View Drive
Lancaster, New York 14086

Table of Contents

Table of Contents (cont.)

Table of Contents (cont.)

List of Tables

List of Tables (cont.)

List of Tables (cont.)

List of Figures

Figure **Page**

Table of Figures (cont.)

Figure **Page**

Table of Figures (cont.)

List of Abbreviations and Acronyms

µg/kg	micrograms per kilogram
µg/L	micrograms per liter
AMSL	above mean sea level
ASP	Analytical Services Protocols
ASTM	American Society for Testing and Materials
BGS	below ground surface
cfs	cubic feet per second
COPC	chemicals of potential concern
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
DER	(New York State) Department of Environmental Remediation
DPT	direct-push technology
DUSR	Data Usability Summary Report
EDD	Electronic Data Deliverable
EEEPC	Ecology and Environment Engineering, P.C.
EPA	United States Environmental Protection Agency
ERA	ecological risk assessment
ESA	Environmental Site Assessment
FF/SSH	floodplain forest and successional southern hardwoods
FS	Feasibility Study
FSP	Field Sampling Plan

List of Abbreviations and Acronyms (cont.)

FWIA	Fish and Wildlife Impact Analysis
GIS	Geographic Information System
HASP	Site-specific Health and Safety Plan
HSA	hollow-stem augering
ICP/MS	inductively coupled plasma/mass spectroscopy
ID	inner diameter
IDW	investigation-derived waste
LCS	laboratory control sample
MEDD	multimedia electronic data deliverable
mg/kg	milligrams per kilogram
MS	matrix spike
MSD	matrix spike/matrix spike duplicate
NAD	North American Datum
NAPL	non-aqueous phase liquid
NAVD	North American Vertical Datum of 1988
NCHD	Niagara County Health Department
NHP	(New York State) Natural Heritage Program
NTU	nephelometric turbidity units
NWI	National Wetlands Inventory
NYCRR	New York Code of Rules and Regulations
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OU	operable unit
PAH	polycyclic (or polynuclear) aromatic hydrocarbon
PCB	polychlorinated biphenyl

List of Abbreviations and Acronyms (cont.)

PID	photoionization detector
PISCES	Passive In Situ Chemical Extraction Sampler
PM	project manager
PPE	personal protective equipment
ppm	parts per million
PQL	practical quantitation limit
PUBHh	plaustrine, permanently flooded, diked/impounded wetlands
PVC	polyvinyl chloride
QA	quality assurance
QAPP	quality assurance project plan
QC	quality control
RI	Remedial Investigation
ROD	record of decision
RPD	relative percent difference
SCO	soil cleanup objective
SDG	sample delivery group
SJB	SJB Services, Inc.
SRI	supplemental remedial investigation
SSH	southern successional hardwood
STL	Severn Trent Laboratories
SVOC	semivolatile organic compound
TAGM	Technical Administrative Guidance Memorandum
TAL	Target Analyte List
TCE	trichloroethene
TCLP	Toxicity Characteristic Leaching Procedure
TIC	Tentatively Identified Compound

List of Abbreviations and Acronyms (cont.)

TOC	total organic carbon
TOGS	Technical and Operational Guidance Series
USFWS	United States Fish and Wildlife Service
USGS	United States Geographical Survey
VOC	volatile organic compound

Executive Summary

Ecology and Environment Engineering, P.C. (EEEPC), under contract to the New York State Department of Environmental Conservation (NYSDEC) (Work Assignment No. D004435-019), performed a Supplemental Remedial Investigation (SRI) at the Eighteenmile Creek Corridor Site (Site No. 932121). The Site is located between the New York State Barge Canal (Barge Canal) and Harwood Street in the city of Lockport, Niagara County, New York (see Figure 1-1). The primary purpose of this investigation was to further evaluate sediment contamination in the Eighteenmile Creek stretch between the Barge Canal and Harwood Street and to determine the lateral and vertical extent of contamination in the properties adjacent to the creek. The results of the investigation were also used to assess if Site conditions pose a potential threat to human health or the environment. An Additional Investigation was performed at the Corridor Site in late 2008/early 2009 (EEEPC 2009) to fill in gaps in the RI and SRI data and to facilitate the Feasibility Study (FS). The findings of the Additional Investigation are not included in this report as they will be submitted under separate cover.

The properties associated with the Eighteenmile Creek Corridor Site include the Barge Canal, Upson Park, the White Transportation property, the Former United Paperboard Company property, and the Former Flintkote Plant Site (see Figures 1-1 and 1-2). The headwaters of Eighteenmile Creek (north of the Barge Canal in Lockport, New York) originate from two branches (East and West) immediately north of the Barge Canal. Waters from the East Branch originate from a culverted section of the creek south of the Barge Canal supplemented by water flowing from the Canal through a spillway in the Barge Canal south wall or a plug through the bottom of the canal into an underlying tunnel near the Mill Street bridge. These waters flow north under the Barge Canal near Mill Street toward Clinton Street. The waters from the West Branch originate from the dry dock on the north side of the Barge Canal and flow north toward Clinton Street. Waters from the East and West Branch converge on the south side of Clinton Street and flow under Clinton Street to the Mill Pond on the north side of Mill Street. The Mill Pond is the result of a dam on the United Paperboard property (see Figure 1-2). The waters from Eighteenmile Creek eventually discharge to Lake Ontario in Olcott, New York (located approximately 15 miles north of the city of Lockport). A millrace branching off Eighteenmile Creek containing intermittent flow runs along the

west side of the Former Flintkote Plant Site buildings at 300 Mill Street and empties back into Eighteenmile Creek.

SRI Field Activities

The SRI activities included an initial Site reconnaissance; development of a work plan; a records search; sediment, surface soil, waste (including ash, fill and slag type material), subsurface soil, and groundwater sampling for chemical analysis; health and safety monitoring; development of a Site base map; an investigation-derived waste (IDW) disposal; and preparation of this SRI report. The investigation began in October 2006 with the Site reconnaissance. The final work plan was submitted in March 2007, the field work was performed from April to July 2007, the additional toxicity characteristic leaching procedure (TCLP) analyses of the soil and sediment samples were completed in August 2007, and IDW disposal was conducted in January 2008.

Nature and Extent of Contamination

The following is a summary of the SRI sampling activities and the contaminants of concern detected at the Site.

Sediment. Eighteen sediment coring lines were established perpendicular to the creek at approximately 200-foot intervals (see Figure 2-1). Since north of the Barge Canal the creek originates from two branches (East and West Branches) and because a millrace branches off Eighteenmile Creek along the west side of the Former Flintkote Plant Site buildings at 300 Mill Street, two transects (east and west) were established along lines 1, 2, 3, 14, 15, and 16. A minimum of three sediment cores were attempted in the creek at each transect, but were not always feasible due to the nature of the creek bed (coarse gravel, boulders, or bedrock). A total of 93 sediment samples were collected.

Polychlorinated biphenyls (PCBs) were found in the sediment samples with individual Aroclor concentrations up to 180 parts per million (ppm). Several sediment samples contained PCBs at concentrations greater than the screening level of 0.000023 ppm as specified in the Technical Guidance for Screening Contaminated Sediments (NYSDEC 1999). Moreover, several sediment samples throughout the corridor contained PCBs at concentrations above the higher screening level of 0.06 ppm specified in the draft (not published) Sediment Guidance Values for Use in Assessing Contaminated Sediment in New York State. The Aroclors found in the sediments include 1242 (downstream of the Clinton Street Dam only), 1248 (throughout the Corridor and the Barge Canal), 1254 (throughout the Corridor and the Barge Canal), and 1260 (mainly in the East Branch, one Barge Canal sample, isolated samples along the south United Paperboard parcel, and one downstream sample). Aroclor 1242 was not found in any of the other media.

Lead was found in the creek and canal sediments often at concentrations above the screening levels. Elevated lead levels were found throughout the Site, with a higher concentration downstream of the Clinton Street Dam. Copper was detected

above the screening level in most of these same samples. Polycyclic (or polynuclear) aromatic hydrocarbons (PAHs) were prevalent in the sediment samples throughout the Site.

Surface Soil. Surface soils were collected from off bank soil cores collected along coring lines. Thirty-nine off-bank surface soil samples were collected. Seventeen surface soil samples were also collected at boring locations from the three Corridor properties (Upson Park, White Transportation, and Former United Paperboard Company). In addition, three surface soil samples were collected from a property across from the Former United Paperboard Company property.

PCBs were found in the surface soils throughout the Site at concentrations of total PCBs ranging up to 4.3 ppm (Former United Paperboard Company off-bank sample). PCB levels in several samples exceeded the NYSDEC commercial use Soil Cleanup Objective (SCO) of 1 ppm. The lower unrestricted use SCO of 0.1 ppm was exceeded in several samples at each property. The Aroclors found in the surface soil include: 1248 (sporadic detections throughout the Corridor), 1254 (sporadic detections throughout the Corridor), 1260 (sporadic detections throughout the Corridor), 1262 (only two locations in the downstream section of the Site), and 1268 (only in the former coal plant building east of the United Paperboard property and in two Upson Park samples).

Lead was found in all the samples often at concentrations exceeding the commercial use SCO. Chromium and other metals distribution followed closely the lead distribution in the samples. PAHs were prevalent in the surface soil samples as it was expected for an urban setting.

Subsurface Soils. Forty-three subsurface soil samples were collected from the off-bank core locations established along the sediment/soil coring lines. Additionally, 30 soil borings were installed at the three Corridor properties and 52 subsurface soil samples were collected from these borings. PCBs were detected in several subsurface soil samples at concentration ranging up to 630 ppm (in a boring at the Former United Paperboard Company installed near an area of fill).

PCBs were less common in the subsurface soil samples from the White Transportation and Upson Park and their concentrations were lower than those found elsewhere at the Site. Elevated PCB concentrations in the subsurface samples coincided with the presence of fill. Aroclor 1262 was found in the two subsurface soil samples associated with the surface samples. The highest PCB concentrations were detected in the subsurface soil samples collected from boring 18MC-SB15 installed at the southeast corner of the Former United Paperboard property near Clinton Street. This boring was installed near an area of fill material visible at the ground surface.

Lead and other related metals were found in the subsurface soils at concentrations exceeding the SCOs. Soil boring SB15 contained lower levels of total lead, but an elevated lead concentration was found in the TCLP extract.

Groundwater. Monitoring wells were installed, developed, and sampled at 14 of the soil borings. There were no PCBs found in the groundwater. However, chlorinated volatile organic compounds (VOCs) were found in some wells installed on the west side of the creek. Phenolic compounds were detected in several groundwater and subsurface soil samples primarily on the west side of the creek near the White Transportation property. Glycol-related compounds were detected as Tentatively Identified Compounds (TICs) in the groundwater samples in the same areas. Antimony was detected above groundwater quality standards in most of the groundwater samples, but the levels should be confirmed by further analysis due to the potential interference from high levels of iron.

Other Findings. Comparison of TCLP data to their respective total lead concentrations gathered during this SRI showed inconsistent results. It appears that the leachability of the lead may vary with the type of source material.

Sources

The NYSDEC RI (2006a) found high concentrations of PCBs and metals in sediment in the creek and the millrace adjacent to the Former Flintkote Plant Site; and metals-contaminated fill at locations along the banks of Eighteenmile Creek. The SRI sediment and floodplain (off-bank) soil samples collected for this investigation corroborate NYSDEC's findings. PCB-contaminated sediment in the Barge Canal immediately upstream (to the west) of Eighteenmile Creek was identified by another investigation performed by URS in 2004. Barge Canal sediments collected for the SRI investigation found much lower concentrations of PCBs in the sediment samples adjacent to the property.

The nearby lock and the fluctuations of the water level in the Barge Canal complicate Barge Canal sediment and flow dynamics that may cause irregular and inconsistent contribution of contaminants to the creek. However, based on the available data, including the Additional Investigation findings (EEEPC 2009), Barge Canal sediments do not appear to be currently a significant contributor of PCBs to Eighteenmile Creek sediments. Additionally, the levels of PAHs and metals in the Barge Canal and upstream sediment indicate they are not a source of significant contamination.

The remaining properties along the Eighteenmile Creek Corridor were characterized by areas of high contamination that appear to be related to areas of fill. The type of fill does not appear to be consistent. High levels of lead contamination are found in all fill areas, but PCB contamination was not found in all fill areas. The transport of fill material via erosion and runoff appears to be the primary mechanism for transport of PCBs and lead contamination further downstream.

Significant areas of subsurface fill contaminated with lead were identified in Upson Park, but the high levels of PCBs found during the RI were not confirmed during the SRI. Low concentrations of PCBs were found in the subsurface and off-bank soils at the White Transportation property. A possible source of the low-level PCBs found in the East Branch sediments is the Barge Canal. Although the fill areas on the Upson Park and White Transportation properties could be a source of lead contamination, they are not significant sources of PCB contamination.

On the west side of the Eighteenmile Creek Corridor, the potential fill areas show high levels of lead contamination with a high concentration fill area identified on the west side of the Site near 18MC-MW05 and near line 18MC-L09. Elevated lead concentrations in the fill samples were not associated with significant levels of PCBs. The presence of PCBs in the residential area on the west side of Eighteenmile Creek is most likely due to periodic flooding that has deposited contaminated sediment.

On the east side of the Eighteenmile Creek Corridor, the potential fill areas show both high levels of PCBs and lead contamination. The higher PCB levels found on the east side of the creek may be due to PCB-contaminated fill areas along that side of the creek. An area of high concentration PCB fill was identified southeast of the Former United Paperboard Company property on the east side of the creek. High concentrations of PCBs and lead were also found in the millrace adjacent to the Former Flintkote Plant Site which is a depositional area with intermittent flow. However, the potential for contaminant contribution from fill at this location could not be eliminated based on the data collected.

Surface soils were collected from the property across Mill Street from the Former United Paperboard Company property. Although contamination was found in these samples, there is no apparent transport mechanism for these soils inside the building to reach the creek. Moreover, the only Aroclor detected at this property was Aroclor 1268 found only in four Upson Park off-bank sample locations. Further investigation of this former coal power plant property as a limited source of fill may be warranted.

Due to insufficient data, the source of VOC and glycol contamination in the groundwater was not identified.

Routes of Migration

PCBs and lead were previously identified as the compounds of concern based on historical investigations conducted at the Site and surrounding areas. PCBs were not detected in groundwater. Natural and other man-made mechanisms that can result in the migration of contaminants from their source areas include: surface water flow, infiltration, groundwater flow, subsurface utilities, volatilization, excavation, grading, and vehicular traffic. Because PCBs and lead are not readily volatilized, only surface water flow, infiltration, groundwater flow, subsurface

utilities, and man-made mechanisms are discussed. The observations regarding migration routes are summarized below:

- Surface water flow at the Eighteenmile Creek Corridor Site is a mechanism that potentially allows lateral migration of contaminants from surficial soil into various property drainage ways that discharge into Eighteenmile Creek and could potentially discharge to Lake Ontario in Olcott, New York. Surface water flow at the Eighteenmile Creek Corridor Site occurs primarily during heavy precipitation events or spring snowmelts as surface runoff. The surface areas are mainly covered with vegetation (grassy and wooded areas) but also include areas with exposed soil and fill without vegetative cover, some buildings, and asphalt surface cover.

- Infiltration of precipitation would be expected in areas not covered by relatively impermeable barriers (i.e., concrete or asphalt). PCBs and lead are relatively insoluble in water and are not expected to appreciably leach into groundwater. Other contaminants detected including phenols are more soluble in water and may be subject to infiltration. Twenty-five percent of the corridor is covered by paved areas or buildings that would reduce direct infiltration and facilitate overland flow/runoff.

- Overburden groundwater flow would be expected to allow both vertical and lateral migration of contaminants located within the saturated zone. PCBs and lead are not readily soluble in groundwater and there were no PCB detections and very few lead detections in the groundwater samples. Therefore, PCBs and lead found in Site soils do not appear to impact groundwater at the Site.

- Based on historical review, the only ground utility present in the Eighteenmile Creek Corridor Site is a storm sewer crossing the creek approximately 25 to 50 feet downstream of the dam. Several sewer manholes were observed on both banks (east and west) of the creek. Although PCBs are not readily soluble in water, water flowing through pipe bedding containing PCB-laden particles can provide a means of transport for these particles into or from the creek and potentially beyond the Eighteenmile Creek Corridor Site.

- Considering that there were multiple surface and subsurface soil PCB detections above the SCO, it is possible that PCB-laden Site soils could be transported to other areas on and off Site during daily activities in non-paved areas or if an excavation were to occur. If there are no land restrictions to prevent excavations at this Site; then exposing the contaminated material would also facilitate soil transport via surface water flow.

Qualitative Human Health Risk Evaluation

A qualitative human health exposure risk assessment identified four groups of receptors with distinctly different potentials for human exposure to contaminants in the Eighteenmile Creek Corridor. These receptors include: residents of the

homes along Water Street with back yards abutting the creek (direct contact with contaminated soils in their yards and stream bank sediments and creek water, and through consumption of fish caught from the creek); visitors to the Eighteenmile Creek Corridor (direct contact with soils, sediment and creek water in the Corridor); Eighteenmile Creek anglers (direct contact with soils, sediment, and creek water in the corridor and through consumption of fish from the creek); and site workers at the Former United Paperboard Property (through direct contact with soils on the United Paperboard site).

Screening Level Ecological Risk Assessment

The ecological risk assessment (ERA) determined that the Eighteenmile Creek Corridor Site contains aquatic and terrestrial habitats capable of supporting a wide variety of aquatic organisms and wildlife. These ecological receptors could be exposed to the elevated levels of PCBs, copper, lead, and zinc found in floodplain soil, sediment, and/or surface water. Given that exposure pathways exist between Site-related contaminants and ecological receptors at the Site, if Site soils and sediments are not remediated or exposure pathways are not modified during site remediation to ameliorate the ecological risks, further evaluation, specifically a criteria-specific analysis and toxic effect analysis (Steps 2B and 2C in NYSDEC 1994), may be necessary to quantify these risks.

Recommendations

Additional data necessary to identify potential remedial alternatives to mitigate contamination problems may be necessary. A more detailed examination of the physical properties of the fill material and related contamination, along with a refined delineation of these fill areas may be necessary to characterize the transport and erosion of the material downstream and the extent of potential source material. Analysis of the contamination related to particle size may help predict whether the fill will deposit contamination or transport the contamination. PCB contamination has been found throughout the creek bed all the way to Lake Ontario. The presence of VOCs in the groundwater indicates a potential presence of VOCs in the soils. Testing for VOCs may be necessary for the Feasibility Study.

1 Introduction

1.1 Purpose of the Remedial Investigation

Ecology and Environment Engineering, P.C. (EEEPC) performed a Supplemental Remedial Investigation (SRI) at the Eighteenmile Creek Corridor Site (Site No. 932121) (herein referred to as the Site), located between the New York State Barge Canal (Barge Canal) and Harwood Street in the city of Lockport, Niagara County, New York (see Figure 1-1). This work was performed under the State Superfund Contract Work Assignment No. D004435-019 accepted by EEEPC on September 27, 2006, from the New York State Department of Environmental Conservation (NYSDEC), Division of Environmental Remediation (DER).

The purposes of this SRI were to:

- Better define the nature and extent of sediment contamination in Eighteenmile Creek from the Barge Canal to Harwood Street to assist in the evaluation of remedial alternatives;
- Determine the thickness of Eighteenmile Creek and millrace sediment throughout the Eighteenmile Creek Corridor Site;
- Determine the lateral and vertical extent of contamination in soil, fill, and groundwater at properties adjacent to the Site that could be potential sources of contaminants to the creek;
- Generate a qualitative human health exposure risk assessment that documents whether conditions at the Site pose an actual or potential human health exposure risk;
- Generate an ecological risk assessment (ERA) that documents whether conditions at the Site pose a potential ecological risk; and
- Provide the data necessary to identify potential remedial alternatives to mitigate contamination problems that pose threats to public health or the environment.

1.2 Site Background

1.2.1 Site Description

The properties associated with the Eighteenmile Creek Corridor Site include the Barge Canal, Upson Park, White Transportation property, Former United Paperboard Company property, and the Former Flintkote Plant Site (see Figures 1-1 and 1-2). The headwaters of Eighteenmile Creek (north of the Barge Canal in Lockport, New York) originate from two branches (East and West) immediately north of the Barge Canal. Waters from the East Branch originate at the spillway in the Barge Canal near the Mill Street bridge where canal waters join with water from the culverted section of Eighteenmile Creek south of the Barge Canal. These waters flow north under the Barge Canal near Mill Street toward Clinton Street. The waters from the West Branch originate from the dry dock on the north side of the Barge Canal and flow north toward Clinton Street. Waters from the East and West Branch converge on the south side of Clinton Street and flow under Clinton Street to the Mill Pond on the north side of Mill Street. The Mill Pond is the result of a dam on the United Paperboard property (see Figure 1-2). The waters from Eighteenmile Creek eventually discharge to Lake Ontario in Olcott, New York.

Eighteenmile Creek, located in the heart of Niagara County, is surrounded by six residential townships, and many citizens own creek-front property. The creek is used extensively for fishing, boating, and recreation. The sampling locations are primarily in a residential area. Sediment contamination in the project area has impacted residential properties adjacent to the creek.

During operation, the Barge Canal discharges approximately 50 cubic feet per second (cfs) of water into the East and West Branches of the creek. During dry periods, the Barge Canal provides a significant portion of the creek's flow.

1.2.2 Site History

Upson Park

Upson Park is located at 100 Clinton Street in the city of Lockport, Niagara County, New York (see Figure 1-2). The Site is bordered by Clinton Street and a residential area to the north, the West Branch of Eighteenmile Creek and the Barge Canal Authority to the east, the Barge Canal to the south, and a wooded area to the west. The land is currently listed as a town park and contains picnic areas and a walking trail along the canal. There is a parking area on the Site, but no standing buildings. The City of Lockport Assessor's Office lists the parcel (Parcel ID 109.10-1-76) as consisting of 5.9 acres of land owned by the City of Lockport. In the mid 1880s, this property contained a canal boat building company that was no longer in operation by 1892. A pulp mill operated at the Upson Park property between 1919 and 1928 and the pulp company operated until at least 1928. In 1914, the mill company name changed to the United Paper Board Company. By 1948, operations at the mill had been shut down and the buildings on the property were vacant. By 1969, the buildings on the property had been

demolished. Additional detail concerning the history of this property can be found in the 2007 Phase I Environmental Site Assessment (ESA) report prepared by EEEPC.

The White Transportation Property

The White Transportation property is located at 30-40 Mill Street in the city of Lockport, Niagara County, New York (see Figure 1-2). The property is bordered by the Barge Canal to the south, Mill Street to the east, Clinton Street to the north, and the East Branch of Eighteenmile Creek to the west. The northern portion of the White Transportation property operated as the New York Cotton Batting Company from at least 1909 until at least 1920, as the James O-Ring Company during the early 1940s, and White Transportation from 1948 until the late 1990s when operations ceased. Use of the northern portion of the White Transportation property during the 1920s and 1930s is unknown. The southern portion of the subject property operated as the Niagara Paper Mill from at least 1875 until approximately 1898, as a box factory by D.C. Graham in at least 1903, as a cold storage facility by L. Huston from at least 1903 until at least 1937, as the Lockport Leather Board Company from at least 1909 until sometime in 1914, as the Simon William Brewery from at least 1940 to 1952; and White Transportation from 1952 until the late 1990s, when operations ceased. The entire subject property (109.10-1-60, 109.10-1-61, 109.10-1-58, and 109.10-1-59) is owned by Gertrude W. White (estate attorney is Mr. Ben May). Currently, there are only three trailers on Site: one locked trailer located near the front of the Site building facing Mill Street and two trailers near the bank of the East Branch of Eighteenmile Creek. One of the trailers along the bank contained 55-gallon drums, two of which were lying on the ground behind the trailer. One of the drums on the ground had an open bung and contained an oily liquid. The NYSDEC Spills Department was notified on the day of the inspection (October 25, 2006) by NYSDEC personnel present during the Site visit. The trailers and drums were later removed from the property under the supervision of NYSDEC. Additional detail concerning the history of this property can be found in the 2002 Phase I ESA report prepared by TVGA Consultants (TVGA 2002) and the updated 2007 Phase I ESA prepared by EEEPC (EEEPC 2007a).

The Former United Paperboard Company Property

The Former United Paperboard Company property is located at 62 and 70 Mill Street (see Figure 1-2). Sixty-two Mill Street is the larger of the two parcels and is bordered by Olcott Street to the north, Mill Street to the east, Clinton Street to the south, and Water Street to the west. The property is currently occupied by Duraline Abrasives, Inc., and contains one warehouse building. Seventy Mill Street is a vacant lot with fill material and building ruins and is bordered by the Flintkote site to the north, Mill Street to the east, Olcott Street to the south, and Eighteenmile Creek to the west. An abandoned transformer pad and poles are present on the west bank of the creek, immediately downstream of the dam located in the creek behind the building on 62 Mill Street. The ponded water behind the dam is referred to as the Mill Pond. A storm sewer line also crosses the creek

approximately 25 to 50 feet downstream of the dam, and several sewer manholes were observed on both banks (east and west) of the creek. Water in the pond was high (close to the top of the dam), and flow beneath the dam was swift. Water from the pond leaks around the west side of the dam and flows adjacent to or over the top (during high flow conditions) of the abandoned transformer pad. The City of Lockport Assessor's Office lists the parcel (Parcel ID 109.10-1-57) as consisting of 3.7 acres and Parcel 109.06-3-11 as consisting of 1.2 acres of land owned by Tri-Side LLC.

In late 1880s and early 1890s, the 62 Mill Street United Paperboard property was owned and operated by the Jackson Lumber Company with the building designated as the Saw Mill and Sash & Blind Manufacturing. In 1892, Sash & Blind added a pulp mill and box facility to its operations. By 1898 the lumber company had shut down their operations and the area previously occupied by Sash & Blind became the Traders' Paper Company paper mill, which became United Box Board and Paper Company (Mutual Risk) in 1903. The 70 Mill Street United Paperboard property was owned by United Box Board Company in 1909. United Box Board Company became United Paper Board Company in 1914, which changed its name to United Paperboard Company in 1928, which then became United Board's Carton Corporation in 1948 and Beaverboard Company, Inc., in 1969. By 1969 the buildings have been vacated and dismantled. Additional detail concerning the history of this property can be found in the 2007 Phase I ESA report prepared by EEEPC.

The Former Flintkote Plant Site

The Former Flintkote Plant Site (198, 225, and 300 Mill Street) in the city of Lockport, Niagara County, New York (see Figure 1-2) is bounded by Eighteenmile Creek to the west, Mill Street to the east, a commercial property to the north, and vacant land of the Former United Paperboard Company to the south. William Street, which is no longer open to vehicular traffic, bisects the site. A dam approximately 10 feet high diverts Eighteenmile Creek westward for approximately 300 feet along William Street (located on top of the dam). The creek continues northward and returns to its original natural channel farther downstream. The two sluice gates located at the east end of the dam have been closed for at least 30 years. A millrace containing a sluggish stream approximately 6 inches to 1 foot deep runs along the west side of the buildings at 300 Mill Street and empties into Eighteenmile Creek (see Figure 1-2). The Flintkote property was purchased from the Beckman Dawson Roofing Company in 1928 and was operated as a manufacturer of felt and felt products. Production of sound-deadening and tufting felt for use in automobiles began at Flintkote in 1935 and continued until operations ceased and the plant closed in December 1971. It is suspected that composite laminates observed at the southernmost demolished building on the 198 Mill Street Property may have also been manufactured at Flintkote. A portion of the Flintkote property at 300 Mill Street near William Street was formerly listed as Site No. 932072 in the Registry of Inactive Hazardous Waste Disposal Sites in New York State (NYS) with a classification code of 3 because of seven drums

containing sweepings, solid materials and polychlorinated biphenyl (PCB) transformer oil that were stored in the basement of an on-site building. In January 1984, these drums were removed from the site by a waste oil processor and the site was removed from the Registry in 1985. In 1989, a number of drums containing chemicals were found in various locations throughout the buildings at 300 Mill Street with 28 of these drums containing hazardous wastes. These drums were disposed of off-site in May 1991 during a NYSDEC drum removal action. Additional detail concerning the history of this property can be found in the Record of Decision (ROD) prepared by NYSDEC in March 2006 (NYSDEC 2006b).

1.2.3 Previous Investigations

Between 1987 and 1998 NYSDEC collected 10 sediment samples from Eighteenmile Creek between Remick Parkway south of the Barge Canal and the Former Flintkote Plant Site in the city of Lockport (see Figure 1-3). In 1996 the NYSDEC DER collected six additional sediment samples from the area between Clinton Street and the Former Flintkote Plant site. PCBs were detected in all 15 samples analyzed. PCB levels in 11 of these samples exceeded NYSDEC's sediment criteria (606.0 micrograms per kilogram [µg/kg]) for chronic toxicity to benthic aquatic life and the NYSDEC's Technical and Administrative Guidance Memorandum (TAGM) No. 4046 surface soil cleanup objective (1,000 µg/kg). Lead was detected in all 11 samples analyzed, with concentrations exceeding the sediment criteria (110 milligrams per kilogram [mg/kg]) for the severe effect level in 10 samples and concentrations exceeding the TAGM 4046 soil cleanup objective (400 mg/kg) in five samples. Other inorganic contaminants also present in Eighteenmile Creek sediment at concentrations exceeding sediment criteria include arsenic, cadmium, chromium, and iron (once); nickel (twice); mercury (three samples); silver (four samples); copper (nine samples); and zinc (ten samples) (NYSDEC 2006a). The most contaminated sample was a sediment sample collected near the Former Flintkote Plant site.

In April 2002, the owner of the 143 Water Street property submitted a request to the Niagara County Health Department (NCHD) for sample collection and evaluation of soils from their property. In response to this request NCHD and NYSDEC conducted an inspection of the property. Discussions with the property owners revealed that: (1) a family case of cancer inspired research into available environmental data regarding the creek; (2) due to debris or ice blocking the cross-culverts under William Street, Eighteenmile Creek occasionally floods the yard of 143 Water Street (severe flooding once every two years and lesser flooding several times per year); (3) a small strip of wooded property (about 20 feet wide) between Eighteenmile Creek and the 143 Water Street property also frequently floods. The property owners raised concerns over possible contaminant migration from Eighteenmile Creek (especially elevated PCB levels) and over the poor maintenance of the creek by the city of Lockport that contributes to the flooding issues. During the site visit the NCDH identified a portion of the 143 Water Street yard that would flood during high water events and a small vegetable garden was observed within the reported flood area. Per the NCHD's request,

NYSDEC collected four samples (SS-1 through SS-4) from the property at 143 Water Street (see Figure 1-4). Based on the results of this sampling event, the NYS Department of Health (NYSDOH) requested 15 additional samples from properties along Water Street, including one sediment sample from Eighteenmile Creek and two waste samples from wooded property south of the Former Flintkote Plant site on Mill Street (NYSDEC 2002). These samples (SS-5, and SS-8 through SS-21; SED-6; and SS-6 and SS-7, respectively) were collected on July 23, 2002 (see Figure 1-4 and 1-5). Two soil samples (SS-6 and SS-7) and three sediment samples (SED-7, SED-8 and SED-9) near the Clinton Street dam from an area identified as a potential source of PCBs to Eighteenmile Creek were collected in November 2002 by NYSDEC (see Figure 1-4) (NYSDEC 2003).

In the fall of 2005 NYSDEC completed a remedial investigation (RI) of the Eighteenmile Creek Corridor Site in order to better define the nature and extent of sediment contamination in Eighteenmile Creek and the millrace, to further evaluate the impact of creek flooding on residential properties along Water Street, and to evaluate potential sources of contaminants to the creek (NYSDEC 2006a). These source areas include the Former Flintkote Plant Site, the White Transportation property, the Former United Paperboard Company property, Upson Park, and the Barge Canal (see Figure 1-2). Sample locations from the RI are included on Figures 1-4 through 1-7. During this RI, elevated concentrations of PCBs and metals (i.e., arsenic, chromium, copper, lead, and zinc) were found in sediment samples from Eighteenmile Creek and the millrace adjacent to the Former Flintkote Plant site. Additionally, contaminated sediment was found in the Barge Canal upstream of Eighteenmile Creek. PCBs, arsenic, chromium, copper, lead, and zinc levels detected in the fill at Upson Park, the White Transportation property, the Former United Paperboard Company property, and the Former Flintkote Plant Site may potentially adversely impact Eighteenmile Creek. However, these potential source areas were not fully investigated and the volume of contaminated sediment requiring remediation was not quantified during the RI.

The NYSDEC RI identified several sites adjacent to the Eighteenmile Creek Corridor Site as potential suspected contributors of contaminants to Eighteenmile Creek. A brief description of previous evaluations and investigations completed at these sites is presented below.

A Phase I ESA for the United Paperboard Company and Upson Park was prepared by EEEPC for NYSDEC. No other previous investigations have been completed at these properties

As stated above, a Phase I ESA of the White Transportation property was completed in 2002 by TVGA Consultants for the Niagara County Department of Planning, Development, and Tourism (TVGA Consultants 2002). On November 3, 2005, a Site reconnaissance was conducted by NYSDEC as part of the Eighteenmile Creek Corridor RI. In early 2007, EEEPC updated the Phase I ESA (EEEPC 2007a).

The Former Flintkote Plant Site was cited by the NYSDEC Division of Water as a potential source of contaminants to Eighteenmile Creek based on analytical results for two ash samples collected by NYSDEC (NYSDEC 1996). Two more samples from the island collected by the DER in August 1996 failed the Toxicity Characteristic Leaching Procedure (TCLP) regulatory limit for lead (characteristic hazardous waste D008). A site investigation of the Flintkote property conducted in 1999 by NYSDEC determined that the Flintkote property had received various wastes, refuse, and debris over the years, with much of the waste being visible at the surface and along the Eighteenmile Creek embankments and millrace (NYSDEC 2000). In 2003, a site investigation of the Former Flintkote Plant Site was conducted by Niagara County under NYSDEC's Brownfield program to fill in data gaps in NYSDEC's 1999 investigation. The results of the Niagara County site investigation were consistent with the NYSDEC site investigation results. A ROD for the Former Flintkote Plant Site was issued in March 2006 (NYSDEC 2006b).

1.2.4 Additional Investigation

An additional field investigation was performed at the Corridor Site in late 2008/early 2009 (EEEPC 2009) to fill in gaps in the RI and SRI data and to facilitate the Feasibility Study (FS). The objectives of the Additional Investigation were to:

- Determine whether the Barge Canal is a significant source of contamination to Eighteenmile Creek by qualitatively estimating the contribution of contamination to Eighteenmile Creek from the canal and gain a better understanding of sediment transport from the canal to Eighteenmile Creek. These data will be used to complete the FS for the Site; and
- Understand the presence of volatile organic compounds (VOCs) in the groundwater in the Upson Park and former United Paperboard properties, even though groundwater is not part of the FS operable units (OUs).

The findings of the Additional Investigation were submitted as an addendum to the Final SRI report (EEEPC 2009).

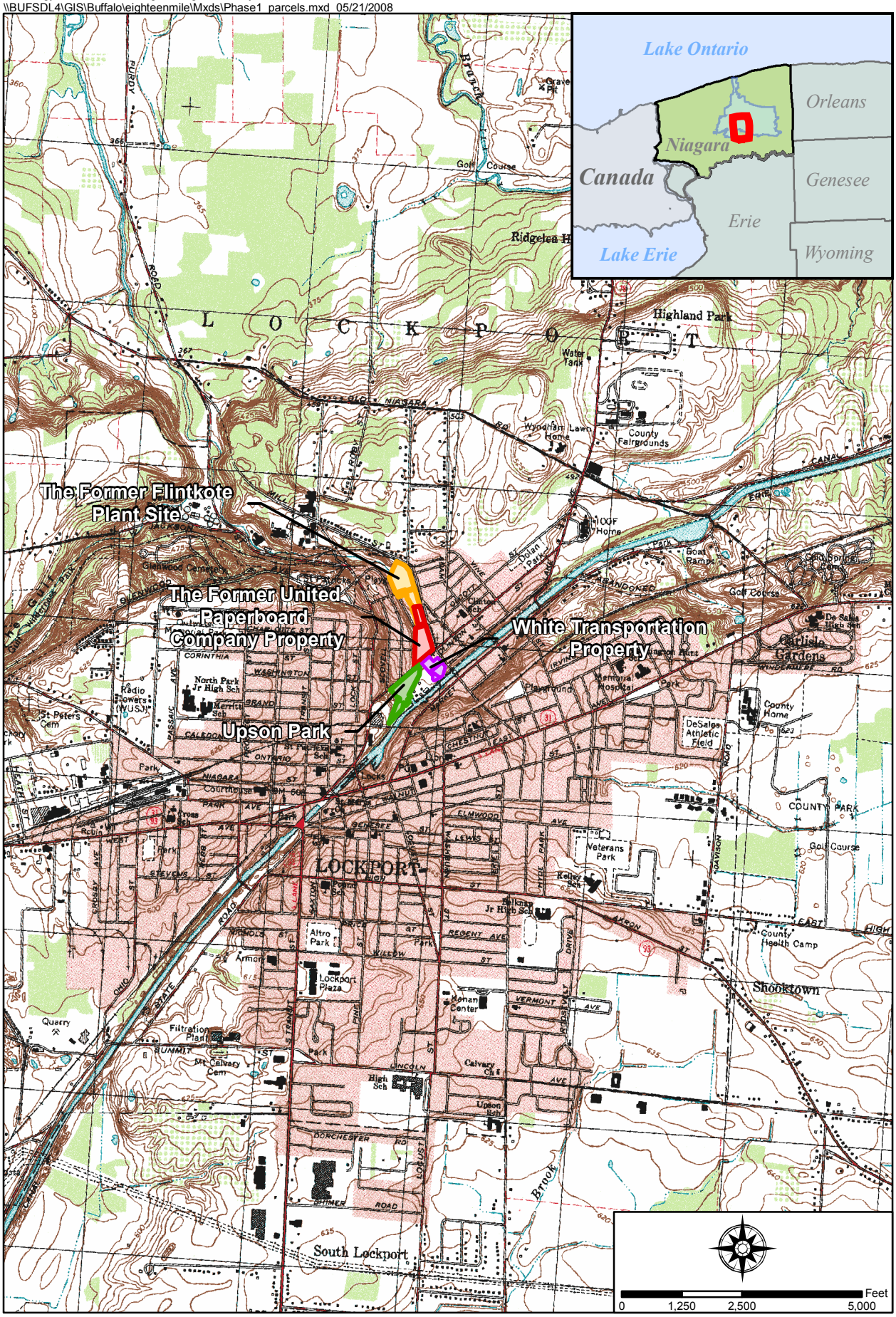
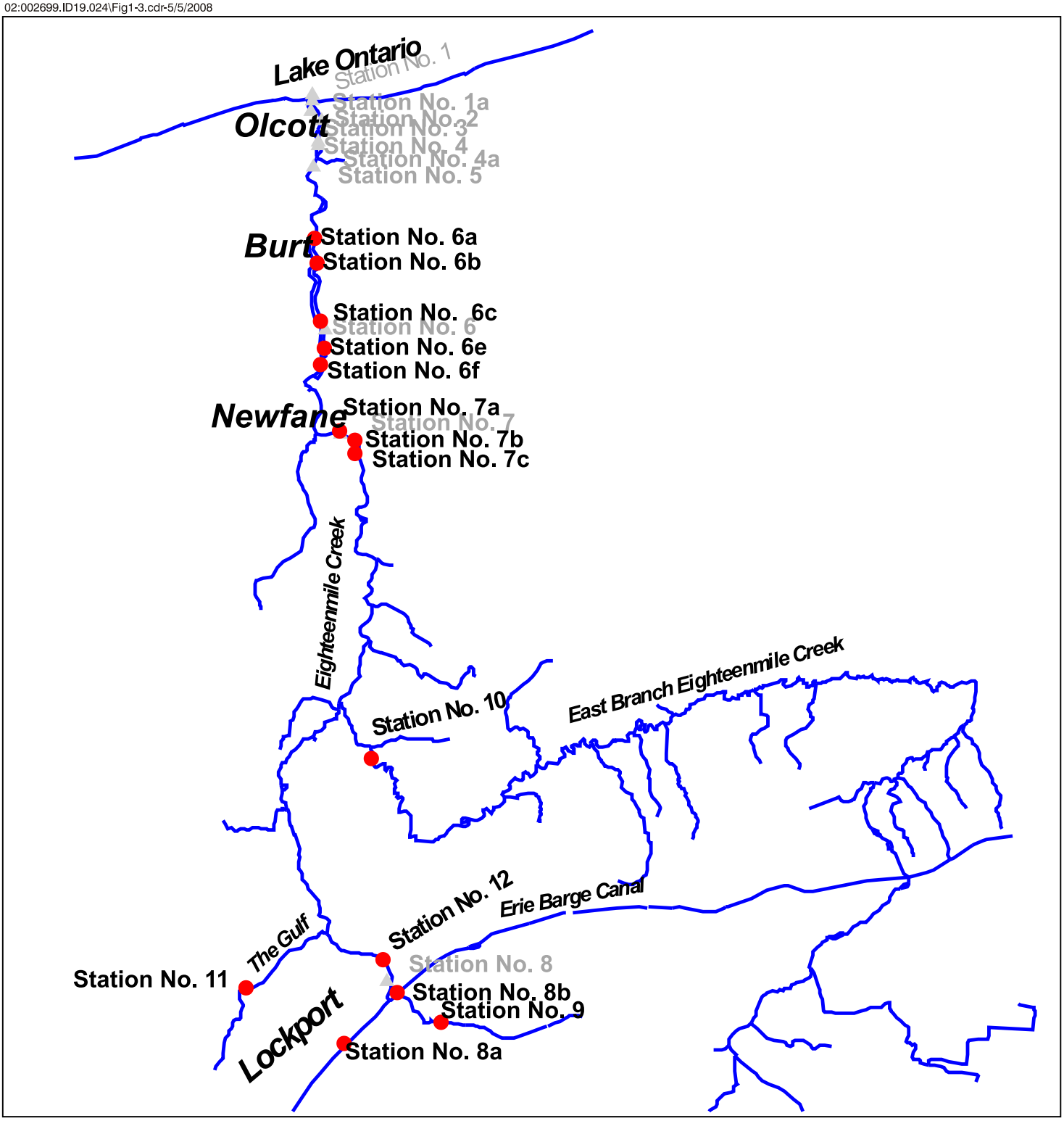


Figure 1-1
Site Location Map
Eighteenmile Creek Corridor Site
City of Lockport, New York

Source: NYS Orthoimagery, 2005

Figure 1-2
Site Layout
Eighteenmile Creek Corridor Site SRI
Lockport, New York

02:002699.ID19.024\Fig1-3.cdr-5/5/2008



SOURCE: NYSDEC, 2006

Figure 1-3 Study Area and Sampling Locations from December 2001 Final Report Eighteenmile Creek Sediment Sampling

LEGEND:

- PROPERTY LINE
- ORIGINAL LOT LINE
- ▲ SURFACE SOIL SAMPLE LOCATION (2005 INVESTIGATION)
- ● SURFACE SOIL SAMPLE LOCATION (FLINTKOTE INVESTIGATION)

0 100 200 300

SCALE IN FEET

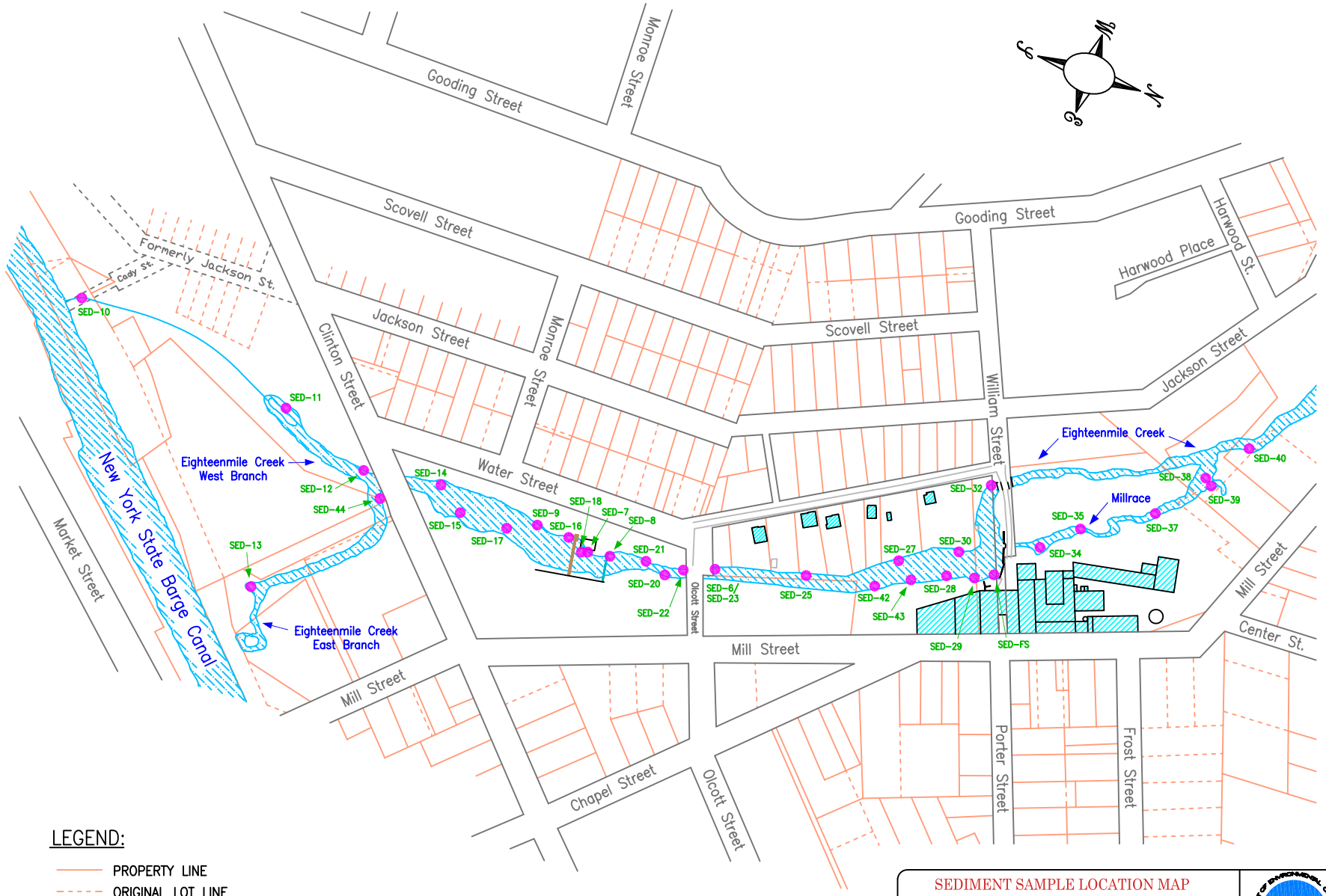
SURFACE SOIL SAMPLE LOCATION MAP
(WATER STREET RESIDENTIAL AREA, UNITED PAPERBOARD, AND FLINTKOTE) FROM NYSDEC RI

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 10/31/05 DRAWING: Borings & Samples.dwg

SITE NAME: EIGHTEENMILE CREEK CORRIDOR FIGURE 1-4

SOURCE: NYSDEC, 2006



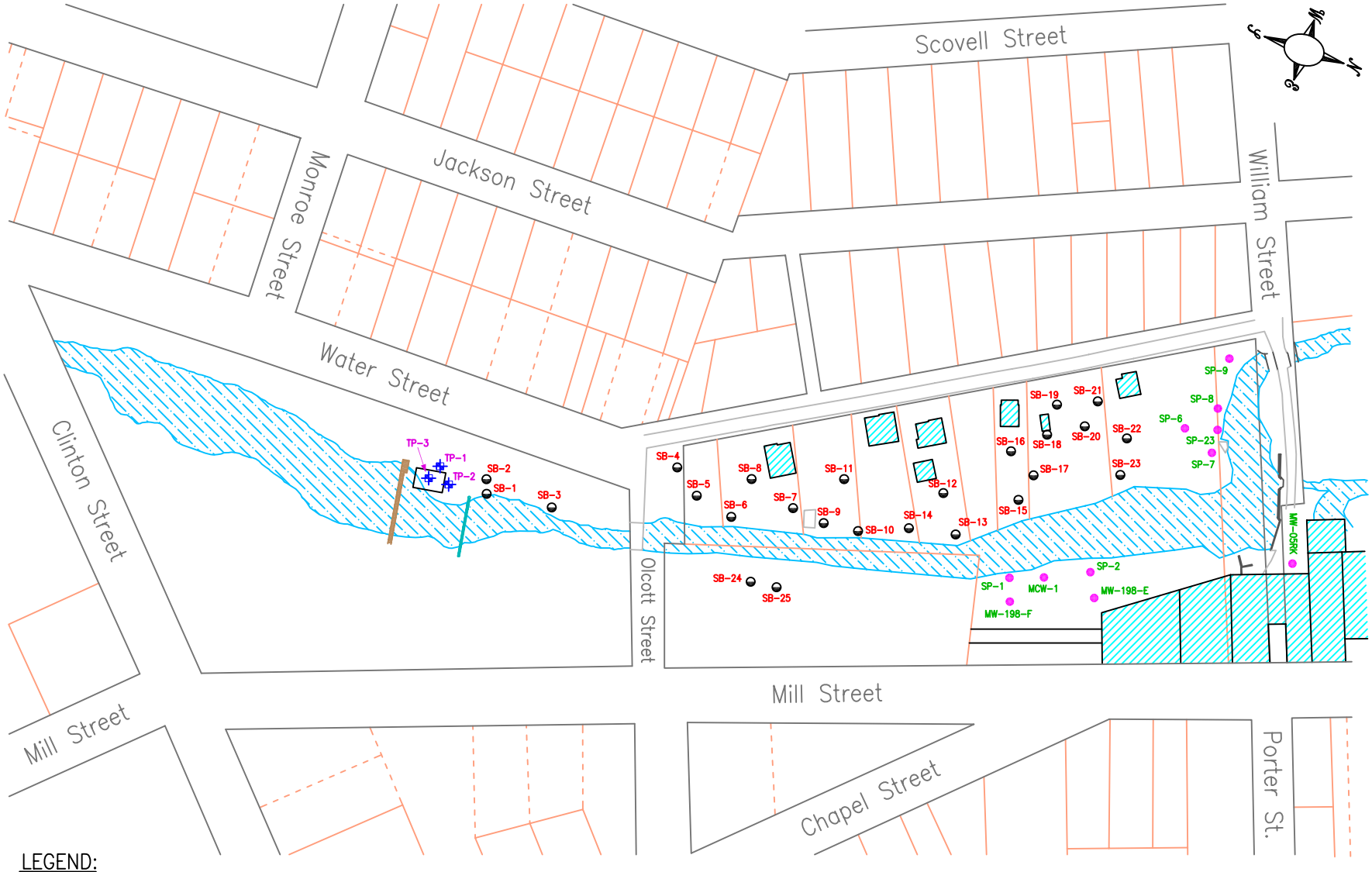
SEDIMENT SAMPLE LOCATION MAP
FROM NYSDEC RI

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 10/31/05 DRAWING: Base Map.dwg

SITE NAME: EIGHTEENMILE CREEK CORRIDOR FIGURE 1-5

SOURCE: NYSDEC, 2006



LEGEND:

- PROPERTY LINE
- ORIGINAL LOT LINE
- SOIL BORING LOCATION (2005 INVESTIGATION)
- SOIL BORING LOCATION (FLINTKOTE INVESTIGATION)
- TEST PIT LOCATION (2005 INVESTIGATION)

0 100 200 300

SCALE IN FEET

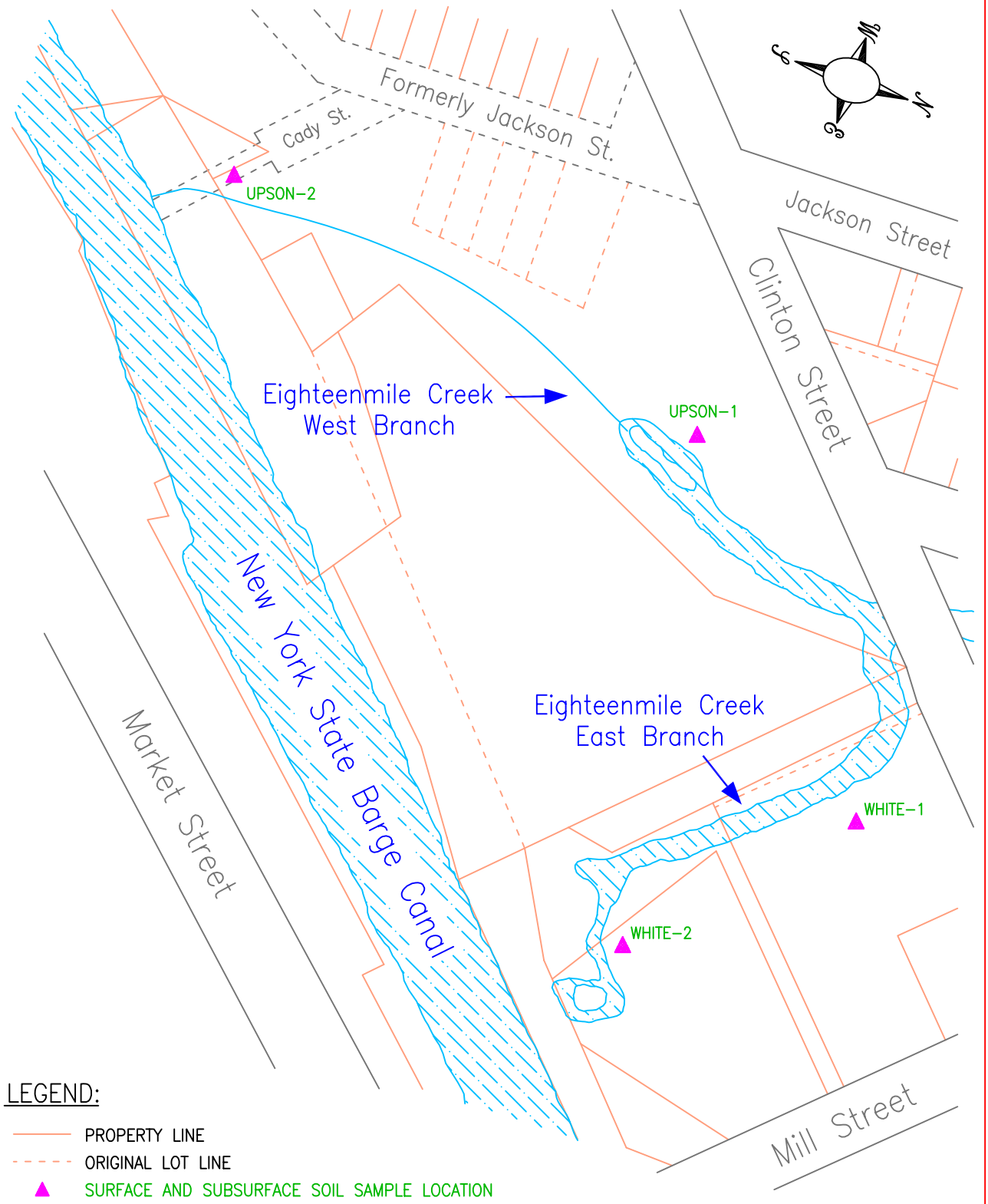
SOIL BORING AND TEST PIT SAMPLING LOCATIONS FROM NYSDEC RI

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 10/31/05 DRAWING: Borings & Samples.dwg

SITE NAME: EIGHTEENMILE CREEK CORRIDOR FIGURE 1-6

SOURCE: NYSDEC, 2006



SURFACE AND SUBSURFACE SOIL SAMPLE LOCATION MAP (WHITE TRANSPORTATION AND UPSON PARK) FROM NYSDEC RI

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 10/31/05 DRAWING: Waste Samples.dwg

SITE: EIGHTEENMILE CREEK CORRIDOR FIGURE 1-7

SOURCE: NYSDEC, 2006

2 Supplemental Remedial Investigation Activities

2.1 Site Reconnaissance and Records Search

Prior to work plan development, EEEPC reviewed Site records, conducted a Site reconnaissance visit with the NYSDEC project manager (PM) on October 25, 2006, and made supplemental Site visits on November 30, 2006 and January 8, 2007. The main purpose of these Site visits was to identify potential sampling locations and equipment access with Site personnel.

As part of this Supplemental RI, NYSDEC provided EEEPC with copies of pertinent historical Site investigation reports. These reports were reviewed and incorporated into the work plan and this SRI report.

EEEPC reviewed available reports from previous Site investigation activities including:

- *NYSDEC. March 2006. Record of Decision for the Former Flintkote Plant Site;*
- *NYSDEC. 2006. Draft Remedial Investigation Report for the Eighteenmile Creek Corridor Site;*
- *NYSDEC. June 2002. Sampling Report, Former Flintkote Plant Site, 143 Water Street, City of Lockport, Niagara County, New York;*
- *NYSDEC. March 2003. Sampling Report, Water Street Properties, City of Lockport, Niagara County, New York;*
- *NYSDEC. December 2001. Final Report Eighteen Mile Creek Sediment Study;*
- *TVGA. 2005. Final Remedial Alternatives Report, former Flintkote Site;*
- *TVGA. 2002. Phase I Environmental Site Assessment for White Transportation 30-40 Mill Street, Lockport. Niagara Country, New York; and*

- *URS. 2006. Summary Report for PCBs Detected in NYS Barge Canal Sediments During the Investigation of NYSEG's Transit Street and State Road Former MGP Sites.*

The environmental geographic information system (GIS) shape files and property ownership data were obtained and used for this Site. An additional literature search included visiting various town and county offices to obtain historical aerial photographs and property data and obtaining and reviewing Sanborn maps.

Following the background review, a Phase I ESA for the source area properties was completed. This ESA was completed in conformance with current American Society for Testing and Materials (ASTM) standards, and included a Site reconnaissance; regulatory database review; and review of historical land title records and state and local records, historical aerial photographs; historical Sanborn facility maps, and historical United States Geographical Survey (USGS) topographic maps. On January 10, 2007, after reviewing the existing Site documentation and completing the Phase I ESA for the United Paperboard Company and Upson Park properties, EEEPC held a meeting with NYSDEC regarding the draft work scope. A Site base map was also developed prior to initiation of the field investigation (see Figure 2-1).

2.2 Field Activities

Field activities at the Eighteenmile Creek Corridor Site included: sediment thickness investigation; sediment, surface soil, waste (including ash, fill and slag type material), subsurface soil, and groundwater sampling for chemical analysis; installation of soil borings and groundwater monitoring wells; health and safety monitoring; development of a Site base map; and investigation-derived waste (IDW) disposal.

The first part of the field activities was conducted between April 16 and July 12, 2007. During this effort, 30 soil borings were installed and sampled. Monitoring wells were installed and developed at 14 of these borings. The sample collection effort included, 59 surface soil (includes 39 off-bank surface soil samples, 17 surface soil samples collected from the three Corridor properties, and three surface soil samples collected from a property across from the Former United Paperboard Company property), 95 subsurface soil (includes 43 off-bank subsurface soil samples and 52 subsurface soil samples collected from borings installed at the three Corridor properties), 93 sediment samples, and 14 groundwater samples. All samples were analyzed for PCBs and select metals (arsenic, chromium, copper, lead, and zinc). Select samples were also analyzed for semivolatile organic compounds (SVOCs), pesticides, target analyte list (TAL) metals, and total organic carbon (TOC). A summary of the samples collected and the analyses performed is presented in Table 2-1. Table 2-2 presents a list of the SRI samples collected from the transects. Prior to initiation of sampling activities, sample locations were staked by EEEPC during two separate Site visits (March 26 and April 9, 2007).

All SRI field activities were performed in accordance with the work plan for the Eighteenmile Creek Corridor SRI developed by EEEPC and approved by NYSDEC in February 2007 (EEEPC 2007b). All samples were labeled, packaged, and shipped according to procedures outlined in the Field Sampling Plan (FSP). Sample locations are presented in Figure 2-1 and a sample collection summary, including sample identification and analyses performed, is provided in Tables 2-1 and 2-3. Sample depths and locations are summarized in Table 2-4.

Deviations from the work plan, including total number of samples, sample locations, and sampling procedures, occurred as a result of unanticipated field conditions and were approved by NYSDEC during the course of the investigation. These deviations included:

- Shallow refusal encountered during soil boring installation led to a change in the drilling method from the planned direct-push technology (DPT), to hollow-stem augering (HSA) and continuous sampling via split spoon;

- Due to shallow bedrock and rubble encountered during HSA, wells 18MC-MW09, -MW14, -MW15, and -MW16 required bedrock coring in order to drill to the required depth;

- Since all monitoring wells were installed with a drill rig (HSA and in some case rock coring), the wells were completed using 2-inch polyvinyl chloride (PVC) riser and screen instead of the 1-inch PVC riser and screen planned;

- 18MC-MW02 was first drilled via HSA and the first subsurface soil sample was collected. Due to early refusal, the boring was re-drilled adjacent to the first borehole and the second subsurface soil sample was collected from the new boring. Therefore, the 18MC-MW02-Z2 was not collected from the same boring/location as the associated surface soil (SS02) and Z1 shallow subsurface soil (18MC-MW02-Z1);

- To offset increased drilling costs resulting by the change in drilling techniques, two monitoring wells were eliminated (18MC-MW03 and 18MC-MW07) prior to resuming field activities, with the approval of the NYSDEC PM. The associated borings and subsurface soil samples were also eliminated;

- 18MC-MW02 was relocated slightly southwest of the originally proposed location, toward the location of eliminated well 18MC-MW03;

- 18MC-MW05 was relocated slightly southeast of the originally proposed location, closer to Eighteenmile Creek, and toward the location of eliminated well 18MC-MW07;

- A groundwater sample was not collected from monitoring well 18MC-MW09 because it was dry;
- Soil boring 18MC-SB11 was moved approximately 50 feet west of the planned location due to shallow (1 to 2 feet below ground surface [BGS]) refusal;
- One soil boring was added in the field by the NYSDEC PM (18MC-SB15);
- One additional sediment coring location (two samples: 18MC-AS-S01-Z1 and –Z2) was installed in the southwest portion of the White Transportation property per the NYSDEC PM's request;
- Collection of mid-channel sediment samples was not possible along transects 18MC-L01E, -L10, -L15 and -L16, and collection of an east bank sediment sample was not possible along transect 18MC-L18 due to the absence of sediment at the bottom of the channel at these locations;
- Due to various matrix interferences encountered in the analysis of the soil and sediment samples, pesticide analysis of some samples was not performed on the subsurface soil samples collected from the monitoring well borings. For the same reasons, a sample clean-up step was added to the analysis of the samples that were analyzed for pesticides;
- Samples 18MC-L01W-S02-Z1 and –Z2 were not analyzed for TOC, however, the two samples from the corresponding S01 location (west bank) were analyzed for TOC;
- All but one of the centerline deep samples (Z2) were analyzed for SVOCs and pesticides as well as the planned PCB, selected metals, and TOC analyses; and
- Some surface sediment samples were not collected from the 0 to 2–inch depth interval, due to the presence of gravel in the top portion of the creek bed.

The methodologies and specific goals of each of the aforementioned activities are described in Sections 2.2 through 2.6. Analytical test results are discussed in Sections 4 and 5. A photographic log of the activities and sampling locations is presented in Appendix A.

2.2.1 Health and Safety Monitoring

During the field investigation, the Site safety officer performed air monitoring to characterize potential airborne vapor and particulate concentrations, including those of volatile organic vapors and explosive gases. The air monitoring was conducted for the protection of Site workers and the community and to characterize environmental samples. Action levels for each monitoring instrument were detailed in the Site-specific Health and Safety Plan (HASP) (EEEPC 2007b).

Levels of organic vapors were measured in the workers' breathing zone, for which action levels are based, and downwind of intrusive sampling activities. Oxygen and combustible gas monitors were positioned at a location (e.g., at the top of the boreholes) that measured a worst-case contaminant level and provided the earliest possible warning that a hazardous condition may form.

Continuous organic vapor monitoring was conducted during drilling/sampling using a photoionization detector (PID) (MiniRAE 2000) equipped with a 10.6 electron-volt lamp. Concentrations were monitored directly on the instrument display by the EEEPC Site-safety officer and were frequently recorded in a notebook during intrusive activities. No organic vapor concentrations were detected above background during drilling activities.

Prior to initiating intrusive subsurface activities, EEEPC's drilling subcontractor (SJB Services, Inc., of Hamburg, New York [SJB]) coordinated with the Underground Facilities Protection Organization to identify and locate underground utilities.

2.2.2 Coring and Sampling in the Creek and the New York State Barge Canal

Coring was performed between April 18 and April 25, 2007. In order to determine sediment thickness in Eighteenmile Creek and the nature and extent of contaminated sediment and soil along the creek for the purpose of evaluating remedial alternatives, 18 lines were established at approximately 200-foot intervals perpendicular to the creek (see Figure 2-1). Some of the lines (1, 2, 3, 14, 15, and 16) have both an east and west component. A minimum of three sediment cores was attempted in the creek at each transect. These cores were collected at the two banks and at the centerline of the creek. Additional soil cores were collected off-bank at 50-foot intervals along most of the lines (see Figure 2-1 and Tables 2-2 and 2-3). As per the work plan, off-bank cores were established only at areas with data gaps.

As stipulated in the work plan, transect and core locations were slightly modified from the planned locations based on field conditions. The cores were advanced to refusal, which on average was encountered between 1 and 1.5 feet below the top of the creek bed. Sampling was conducted in accordance with the methodologies presented in the FSP (Appendix A of the SRI Work Plan).

Coring was performed by the drilling subcontractor (SJB) and was overseen by EEEPC. Sediment and soil coring along transects was performed using a coring device comprised of a macrocore-type sampler with dedicated acetate liners. The sample collection device was driven by a slam bar until refusal was encountered. Upon retrieval of the core, the acetate liner was cut open and the contents screened for VOCs using a PID. The contents of the liner were then logged, described, and where applicable, a sample(s) was collected for laboratory analysis. Sediment texture, visual observations, presence or absence of sheens and odors,

potential sources of contamination (e.g., non-aqueous phase liquid [NAPL]) and water depth were recorded for each core. Table 2-4 summarizes observations made during coring. Table 2-5 summarizes the sediment coring depths and recoveries, as well as the estimated sediment thickness. Samples were collected for analysis as described below. A portion of each sample was also archived by the laboratory for potential TCLP metals analysis. Upon review of the results from the metals analyses of the sediment and off-bank soil samples collected from the 18 transects, 29 samples were submitted for TCLP analysis.

Sediment Core Samples

Seventy-nine sediment coring locations were planned for this SRI, including 24 cores in the Eighteenmile Creek centerline (-S02) and 48 in the Eighteenmile Creek banks (-S01 and -S03, west and east bank, respectively) of the creek, one upgradient (18MC-UP-S01), and six in the Barge Canal (18MC-BC01 through –BC06). Collection of mid-channel sediment samples was not possible along transects 18MC-L01E, -L10, -L15 and -L16, and collection of an east bank sediment sample was not possible along line 18MC-L18 due to the rocky creek bottom. In addition, swift current at the mid-channel location of transect 18MC-L01E made collection of a mid-channel sediment sample impossible due to concern for worker safety.

A total of 75 cores were established in the creek. The upgradient sediment core location was established upstream of the Barge Canal and upstream of the culverted portion of the creek (18MC-UP-S01). The upstream location was intended to serve as background samples to be used to assess the nature and magnitude of contamination that can be attributed to the study area. A total of 93 sediment samples were collected. At least one sample was collected at each core location. At 16 locations two samples were collected (-Z1 and -Z2) and at one location three samples were collected (-Z1 through –Z3).

Centerline Cores (20). At each location, at least one sample (-Z1) was collected. At most core locations, this sample was collected from the 0 to 2-inch interval. At locations where there was no sediment in the top 2 inches (i.e., gravel was present), the top sample (-Z1) was collected from a deeper interval. The selection of the interval sampled depended (no deeper than 1 foot) on the core recovery and field (visual and olfactory observations and PID readings) observations. Where core penetration (eight locations) was more than 1 foot, an additional sample was collected (-Z2). Location 18MC-L05W-S02 core penetration reached 3 feet. However, due to poor recovery, a third sample was not collected at this location. Similar to the Z1 interval selection, the Z2 depth interval depended on the field observations. The majority of the centerline samples were submitted for PCB, select metals (arsenic, chromium, copper, lead, and zinc), SVOC, pesticide, and TOC analysis. The two samples from location 18MC-L01W-S02 (-Z1 and –Z2) were not analyzed for TOC and 18MC-L02W-S02-Z2 was not analyzed for pesticides and SVOCs.

Bank Cores (48). At least one sample was collected at the bottom of each core. At eight locations, where core penetration was deeper than 1 foot, an additional sample was collected from the native soil if encountered, or from the interval that exhibited different lithology than the shallow sample, or from the bottom of the core. One location (18MC-L05W-S03), where the coring extended to 4 feet below the top of the creek bottom and there was sufficient core recovery, a third sample was collected (-Z3).

All bank sediment samples were submitted for PCB and select metals (arsenic, chromium, copper, lead, and zinc) analysis. Two samples (18MC-L01W-S01-Z1 and –Z2) were also submitted for TOC analysis; and two samples (18MC-L01E-S01-Z1 and 18MC-L01E-S03-Z1) were also submitted for pesticides, SVOC, and TOC analysis. Finally, the samples from the added coring location at the area where kids were observed playing (18MC-AS-S01-Z1 and –Z2) were submitted for TAL metals/mercury, PCBs, pesticides, and SVOCs.

Upstream Core (one). A core was established at the centerline of the creek upstream of the Barge Canal just before the stream is culverted. Two samples were collected at this location, one from each foot penetrated during coring. All upstream samples were tested for PCBs, select metals (arsenic, chromium, copper, lead, and zinc), SVOCs, pesticides, and TOC.

Barge Canal Cores (six). Cores were established at six locations in the Barge Canal (transects 18MC-BC01 through -BC06) to collect sediment samples from the bottom of the Barge Canal. Three cores were established in the vicinity of the spillway and three in the vicinity of the dry dock. Barge canal sediment core samples were collected from the top 2 inches of each core. In all cases, refusal was encountered within 2 to 5 inches of the surface of the canal bed. Also, due to the limited amount of sediment present at each location, the Barge Canal sample was a composite from the centerline and the area adjacent to the two banks. At locations 18MC-BC01, -BC02, -BC03, and -BC06 the material found was rounded, poorly sorted gravel. Slightly more sediment was present at locations 18MC-BC04 and -BC05. The Barge Canal sampling was performed by the drilling subcontractor using a floating work platform and a combination of a slam bar, macrocore sampler, and dedicated acetate liners. All samples were analyzed for PCBs, select metals (arsenic, chromium, copper, lead, and zinc), SVOCs, pesticides, and TOC.

Off-bank Cores

In addition to the bank and centerline sediment cores, off-bank soil cores were obtained at 15 of the 18 sediment/soil coring lines. A total of 39 off-bank cores were installed. From each off-bank core at least one surface soil (0 to 2-inch) sample was collected. Where core refusal was reached at 1 foot or less, no other samples were collected. At 37 core locations, where core penetration was more than 1 foot, at least one additional sample was collected. At 12 locations, core refusal was encountered deeper than 2 feet and at six of these locations, a third

sample (Z3) was collected. At the remaining six locations where core refusal was deeper than 2 feet, the third sample was not collected due to poor recovery and no change in the lithology.

All off-bank core soil samples were submitted for PCB and TAL Metals (including mercury) analysis. Additionally, one off-bank surface soil sample on each line was selected randomly for SVOC and pesticide analysis. For the two lines that are split into east and west transect (18MC-L02E and 18MC-L03E), two surface soil samples were collected for a total of 17 samples submitted for SVOC and pesticide analysis.

2.2.3 Surface Soil Sampling

According to the SRI work plan, 20 surface soil samples (18MC-SS01 through -SS20) were collected from the 0-to-2-inch depth interval to assess the potential for direct contact exposure and assess the surface soil conditions across the Site. These surface soil samples were analyzed for TAL Metals, PCBs, and SVOCs. Pesticide analysis was also performed on all surface soil samples except the two samples collected inside the dilapidated former power plant building located on the east side of Mill Street (18MC-SS18 and 18MC-SS19) and the sample collected on the same property outside and south of the building (18MC-SS20). Samples 18MC-SS18 and 18MC-SS19 consisted of miscellaneous debris from the deteriorating building (e.g., roofing, wood fragments), materials (dust and soil) blown in from outside, as well as material (dust and debris) that appear to have collected on the floor of the building during operation of the plant. Sample SS18 was collected from a depression on the floor from what appeared to be an area where equipment might have been present when the plant was in operation, whereas sample SS19 was collected near the west wall of the building where a lot of debris was present. Similar to the sediment samples, a portion of each surface soil sample was archived by the laboratory for potential TCLP metals analysis. Upon review of the results from the TAL Metals analyses of the surface soil samples, two surface soil samples were submitted for TCLP analysis.

In addition to these 20 surface soil samples, off-bank coring included surface soil sampling as well. These surface soil samples were discussed earlier.

2.2.4 Borehole/Well Drilling and Subsurface Soil Sampling

Thirty soil borings were installed to supplement the subsurface soil sampling data (geologic subsurface information and subsurface soil/waste analytical data) collected during the NYSDEC RI. Soil boring 18MC-SB15 located on the southeast portion of the Former United Paperboard property was added at the request of the NYSDEC PM and planned soil borings 18MC-MW03 and 18MC-MW07 were not installed. Fifteen of the 30 soil borings were converted to groundwater monitoring wells.

All soil borings were advanced to the water table or refusal, whichever came first. The soil borings selected to be converted to groundwater monitoring wells were

further advanced to approximately 10 feet below the water table. As specified in the SRI work plan, 12 borings (18MC-SB03 through 18MC-SB10 and 18MC-SB12 through 18MC-SB15) were installed using a truck-mounted DPT rig. Continuous sampling was performed using a macrocore sample device and dedicated acetate sleeves. Due to early refusal, drilling techniques were modified and the remaining borings (18MC-SB01, 18MC-SB02, 18MC-SB11, 18MC-MW01, 18MC-MW04 through 18MC-MW06, and 18MC-MW08 through 18MC-MW17) were advanced via HSA techniques using a CME-550 all terrain drill rig. Continuous soil sampling was performed using split spoons.

Due to HSA refusal above the water table at boreholes 18MC-MW09, -MW14, -MW15, and -MW16, rock coring was performed to further advance the borings. Rock coring was conducted at 18MC-MW09, 18MC-MW14, 18MC-MW15, and 18MC-MW16 due to hollow stem auger (HSA early refusal). Groundwater monitoring wells were installed in the bedrock at all four wells. At borehole 18MC-MW09, HSA refusal was encountered at 9 feet BGS and the borehole was further advanced to 16 feet BGS via rock coring. There were no significant fractures observed on the cores; however, there was water encountered during rock coring. After well completion and development, it was discovered that this well was dry. Well 18MC-MW14 was advanced to 20.5 feet BGS via HSA and to 30.5 feet BGS via rock coring. Due to borehole collapse during rod retrieval, the well was installed at a total depth of 25 feet BGS. Well 18MC-MW15 was advanced to 16.7 feet BGS via HSA and to 21.7 feet BGS via rock coring. Well 18MC-MW16 was advanced via HSA to 15 feet BGS and to 25 feet BGS via rock coring.

Upon removal from the ground, the acetate liner/split spoon was opened and the contents were screened for VOCs using a PID. The contents of the sampling device were then logged in a geotechnical boring log (see Appendix B), described, and at least one subsurface soil sample was collected from each borehole for laboratory analysis. A second subsurface soil sample (Z2) was collected at 21 of the soil borings due to the presence of suspected waste or other potential contamination as determined based on field screening evidence or change in lithology. At soil boring location 18MC-SB05, a third subsurface soil sample (Z3) was collected due to the presence of a slight petroleum or metallic odor and wood fragments. At soil boring locations 18MC-SB04 and 18MC-SB11 only the shallow sample was collected due to shallow refusal (3.5 and 4 feet BGS, respectively). Samples were collected using a dedicated stainless-steel spoon, and homogenized using dedicated stainless-steel bowls.

A total of 52 subsurface soil samples were collected and submitted for PCBs and TAL metals analysis. The monitoring well subsurface soil samples were also analyzed for SVOCs. Since there were no VOCs detected with the PID, no samples were submitted for VOC analysis. Similar to the sediment samples, a portion of each sample was archived by the laboratory for potential TCLP metals analyses.

Upon review of the results from the TAL metals analyses of the subsurface soil samples, five samples were submitted for TCLP analysis.

Boreholes not used for monitoring well installation were backfilled with soil cuttings, plugged with bentonite, and covered with topsoil upon sampling completion.

2.3 Groundwater Investigation

2.3.1 Monitoring Well Installation

Seventeen boreholes collocated with surface soil samples were planned for completion as groundwater monitoring wells (no monitoring wells were planned for the three surface soil locations in the property of the former power plant building located on the east side of Mill Street). However, no wells were installed at surface soil sample locations 18MC-SS03 and 18MC-SS07, since these wells were eliminated during the field investigation. Additionally, since monitoring well locations 18MC-MW02 and 18MC-MW05 were adjusted in the field, these wells are not collocated with the associated surface soil samples (18MC-SS02 and 18MC-SS05, respectively).

The 15 wells were constructed with a 2-inch inner diameter (ID), flush joint Schedule 40 PVC screen (0.010-inch slot size), threaded bottom plugs, and flush-threaded 2-inch ID Schedule 40 PVC riser. Nine wells were constructed with a 10-foot screen and the other five were constructed with a 5-foot screen. All PVC connections were flush-threaded, with a PVC cap placed on the bottom of the screen. A sand pack of U.S. Silica #0 sand extended from the bottom of the screen to 2 feet above the screen and was followed by a 2-foot-thick pelletized bentonite seal. Following a minimum 30-minute respite that allowed the bentonite to hydrate, a 5% bentonite/cement grout was installed from the top of the seal to 1 foot BGS.

Ten monitoring wells were completed aboveground with a 2.5-foot tall locking steel protective casing with an approximate 1.5-foot round anti-percolation pad. Five monitoring wells were completed flush with the ground using 8-inch diameter by 12-inch deep steel, flush-mount protective casings. All wells were fitted with a locked water-tight cap (J-plug). Table 2-6 summarizes the monitoring well construction data. Geotechnical well boring and construction logs are presented in Appendix B.

2.3.2 Monitoring Well Development

The EEEPC field team developed all the newly installed monitoring wells between June 27 and July 3, 2008. The development was performed using a decontaminated submersible pump at a maximum flow rate that would not draw the water level down to the pump. The pump was slowly moved to different depth intervals within the screen to draw fine sediments out of the sand pack and into the well for removal without surging the well. Temperature, pH, conductivity, and turbidity measurements were recorded to monitor the progress of the development

process. Development was considered complete when pH, specific conductance, and temperature stabilized over three consecutive readings. At most wells turbidity of the discharge at the end of development was 50 nephelometric turbidity units (NTUs) or less. Appendix C contains the well development records for each well.

2.3.3 Groundwater Sampling

Monitoring wells were sampled at least 24 hours after development was completed in order to allow the well to recover and have natural groundwater flow conditions return in the immediate vicinity of the well (between July 9 and 11, 2008).

Prior to sampling the monitoring wells, static water levels were measured in each well (see Table 2-7). The volume of water in each well was then calculated, and at least three volumes of water standing in the well casing were removed. Submersible pumps with dedicated tubing were used for purging the wells prior to groundwater sampling. New dedicated bailers and new dedicated nylon cord were used for sampling all the wells. Temperature, pH, conductivity, and turbidity measurements were recorded throughout the well purging process, and immediately prior to sampling. Purging was continued until either groundwater turbidity was below 50 NTUs or five well volumes were purged. Table 2-8 presents sample numbers, dates, and final groundwater quality measurements at the time of sampling. Appendix D contains the well purge records.

2.4 Laboratory Analysis

Severn Trent Laboratories (STL) of Buffalo, New York (now Test America Buffalo) performed laboratory analysis of the soil and sediment samples, and Mitkem Corporation, of Warwick, Rhode Island performed analysis of the groundwater samples collected. Samples analyzed by STL were delivered to the laboratory at the end of each day. Samples analyzed by Mitkem were shipped overnight by FedEx. The laboratories followed NYSDEC Analytical Services Protocol (ASP) 2005 for all analytical methods, quality assurance (QA)/quality control (QC), holding times, and reporting requirements. Laboratory data were reported with Category B data package deliverables and standard laboratory electronic data deliverable (EDD) consistent with the EEEPC corporate format or EPA Region 2 Multimedia Electronic Data Deliverable (MEDD) format. More detailed information on the laboratory analysis is provided in Section 4.

For metals analysis, most soil samples were submitted for select metals (arsenic, copper, chromium, lead, and zinc) that were anticipated to potentially pose the greatest human health exposure risk at the Site. A portion of the samples submitted for metals analysis was analyzed for the full TAL of metals. Additionally, a portion of all the solid samples (soil and sediment) were submitted for TCLP analysis of barium, cadmium, chromium, and lead. All the groundwater samples were analyzed for both total and dissolved TAL metals.

2.5 Site Survey

Popli Consulting of Rochester, New York, performed a Site survey between July 10 and 20, 2007. Surveying included the horizontal locations and vertical elevations of 15 soil boring locations, 15 monitoring well/surface soil locations, three additional surface soil sample locations, and 114 sediment coring locations as well as other key Site features, including the creek, the canal, structures, and roads.

Elevations were referenced to the North American Vertical Datum of 1988 (NAVD 88). Vertical control was established in United States survey feet to an accuracy of 0.1± feet for all ground shots, and 0.01± feet for monitoring well inner casing elevations. Coordinate values were referenced to the North American Datum of 1983 (utilizing the New York Continually Operation Reference Stations), New York State Plane Coordinate System, West Zone (North American Datum of 1983 [CORS] – NYSPCS, West Zone). Coordinates were reported in United States survey feet to an accuracy of 0.5± feet.

2.6 Investigation-derived Waste Handling

The following types of IDW were generated: soil from subsurface drilling; decontamination water; groundwater from development, purging, and sampling; and spent personal protective equipment (PPE) and sampling equipment. Investigation-derived soils and water were containerized in 55-gallon steel drums (eight soil drums and seven water drums). All IDW was stored on site in Upson Park until samples were collected and analyzed. A composite waste soil sample and a composite waste water sample were submitted to the laboratory to determine whether these wastes were potentially contaminated with PCBs VOCs, SVOCs, or metals above regulatory levels. These waste samples were also analyzed to determine ignitability, reactivity, and corrosivity. The analytical results for the IDW are presented in Table 2-9.

Trace amounts of barium, cadmium, chromium, lead, and selenium were detected in the soil, well below regulatory limits. Trace amounts of barium, chromium, lead, and selenium were detected in the water, well below regulatory limits. Based on the analytical results and per the NYSDEC PM's approval, the decontamination, development and purge water was released on Site. The soil was removed from the Site and disposed of as non-hazardous waste by Op-Tech Environmental Services on January 24, 2008.

Table 2-1 Sampling and Chemical Analysis Detail Table, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analysis	Sample ID	Method	Number of Locations	Number of Field Samples	ESTIMATED Field Duplicates[1]	ACTUAL Field Duplicates[1]	Trip Blanks[2]	Total Number of Samples	MS/MSD [3]	MS/MSD [3]
Creek Transect Sediment Core Samples (centerline and banks)										
TCL PCBs	18MC-L01W-S01, S02, S03 -Z1 to -Z4 through 18MC-L18-S01, S02, S03 -Z1 to -Z4 and upstream and NYSBC samples Specific IDs listed on Table 3-2	SW8082	75	93	5	6	-	99	5	5
As, Cr, Cu, Pb, Zn		SW6010B/7471		90	5	6	-	96	5	5
TOC		Lloyd Kahn		34	2	2	-	36	1	2
TCL SVOCs		SW8270		33	2	1	-	34	1	2
TCL Pesticides		SW8081		34	2	1	-	35	1	2
TCLP Metals [4]		SW1311/6010B/7471		10	1		-		-	-
Pesticide Prep		SW8081		34	2	1	-	35	1	2
Sample Archiving		-		90	-	6	-	96	-	-
		Creek Sediment Core Samples (centerline and banks)								
Creek Transect Off-Bank Core Soil Samples										
TCL PCBs	18MC-L01W-S04, S05, S06 -Z1 to -Z4 through 18MC-L18-S04, S05, S06, S07 -Z1 to -Z4 Specific IDs listed on Table 3-2	SW8082	39	82	5	2	-	84	4	5
Metals		SW6010B/7471		82	5	2	-	84	4	5
TCL SVOCs		SW8270		17	1		-	17	1	1
TCL Pesticides		SW8081		17	1		-	17	1	1
TCLP Metals [4]		SW1311/6010B/7471		9	-		-		-	-
Pesticide Prep		SW8081		17	1	0	-	17	1	1
Sample Archiving		-		82	5	2	-	84	-	-
Surface Soil Samples										
TCL PCBs	Consecutively numbered starting at 18MC-SS01 through 18MC-SS20	SW8082	20	20	1	1	-	21	1	1
Metals		SW6010B/7471		20	1	1	-	21	1	1
TCL SVOCs		SW8270		20	1	1	-	21	1	1
TCL Pesticides		SW8081		19	1	1	-	20	1	1
TCLP Metals [4]		SW1311/6010B/7471		2	-		-		-	-
Pesticide Prep		SW8081		19	1	1	-	20	1	1
Sample Archiving		-		20	1	1	-	21	-	-
Micro-well Boring Subsurface Soil Samples										
TCL PCBs	Consecutively numbered starting at 18MC-MW01-Z1 & -Z2 through 18MC-MW17-Z1 & -Z2	SW8082	15	23	2		-	23	2	2
Metals		SW6010B/7471		23	2		-	23	2	2
TCL SVOCs		SW8270		11	1		-	11	1	1
TCL Pesticides		SW8081		0	0		-	0	0	0
TCL VOCs [5]		SW8260		0	0			0	0	0
TCLP Metals [4]		SW1311/6010B/7471		3	1				-	-
Sample Archiving		-		23	-		-	23	-	-
Geoprobe Boring Subsurface Soil Samples										
TCL PCBs	Consecutively numbered starting at 18MC-SB01-Z1 & -Z2 through 18MC-SB14-Z1 & -Z2	SW8082	15	29	2	3	-	32	2	2
Metals		SW6010B/7471		29	2	3	-	32	2	2
TCL SVOCs		SW8270		4	1	1	-	5	1	1
TCL VOCs [5]		SW8260		0	0			0	0	0
TCLP Metals [4]		SW1311/6010B/7471		3	-		-		-	-
Sample Archiving		-		29	-		-	32	-	-
TCLP Metals [4]		SW1311/6010B/7471	74	74	-		-	74	-	-

Table 2-1 Sampling and Chemical Analysis Detail Table, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analysis	Sample ID	Method	Number of Locations	Number of Field Samples	ESTIMATED Field Duplicates[1]	ACTUAL Field Duplicates[1]	Trip Blanks[2]	Total Number of Samples	MS/MSD [3]	MS/MSD [3]
Micro-well Groundwater Samples										
TCL PCBs	Consecutively numbered starting at 18MC-MW01 through 18MC-MW17; excluding 18MC-MW03, 18MC-MW07, and 18MC-MW09	SW8082	15	15	1	1	-	17	1	1
Metals (Total & Dissolved)		SW6010B/7471		30	2	2	-	32	2	2
TCL SVOCs		SW8270		15	1	1	-	16	1	1
TCL Pesticides		SW8081		15	1	1	-	16	1	1
TCL VOCs		SW8260		15	1	1	4	16	1	1
IDW Analysis [6]										
TCLP Volatiles	Numbered 18MC-IDW-S and 18MC-IDW-W	SW1311/8260	1 soil and 1 water IDW sample	2	-	-	-	2	-	-
TCLP SVOCs		SW1311/8270		2	-	-	-	2	-	-
TCL Pesticides		SW1311/8081		2	-	-	-	2	-	-
TCL PCBs		SW8082		2	-	-	-	2	-	-
TCLP Metals		SW1311/6010B/7471		2	-	-	-	2	-	-
Ignitability		Sec. 2.1.2		2	-	-	-	2	-	-
Reactivity		Sec. 2.1.3		2	-	-	-	2	-	-
Corrosivity (pH)		Sec. 2.1.1		2	-	-	-	2	-	-
TCLP Extraction		Sec. 2.1.1		2	-	-	-	2	-	-
Rinsate Samples [7]										
TCL PCBs	Numbered 18MC-RB01, 18MC-RB02, and RB071107	SW8082	3	3	-	-	-	3	-	-
Metals		SW6010B/7471		3	-	-	-	3	-	-
TCL SVOCs		SW8270		3	-	-	-	3	-	-
TCL Pesticides		SW8081		1	-	-	-	1	-	-
TCL VOCs		SW8260		3	-	-	1	4	-	-

[1] Duplicate samples will be collected at a frequency of 1 per 20. /D suffix will identify the duplicates.

[2] Trip blanks will accompany every shipment of groundwater samples submitted for VOC analysis. Trip blank samples will be numbered consecutively starting with 18MC-TB-01.

[3] Additional volume will be required for the MS/MSD samples collected at a frequency 1 per 20 original samples.

[4] A portion of the samples submitted for metals analysis will be archived by the laboratory and kept until after the metals results are evaluated. Samples containing metals at elevated concentrations that may be characteristic of hazardous waste will

[5] If VOCs are detetced using field instrumentation (PID), the interval with the highest PID reading will be submitted for volatile organic compound (VOC) analysis.

[6] Number of IDW characterization samples is an assumption for costing and planning purposes. Actual number of IDW samples will be determined at the end of the investigation.

[7] Rinsate samples will be collected at a frequency of 1 per 20 samples collected with non-dedicated equipment.

Key:

18MC = Eighteenmile Creek Corridor Site.
ID = Sample Identification.
IDW = Investigation-derived waste.
MS/MSD = Matrix spike/matrix spike duplicate.
MW = Monitoring micro-well.
PCB = Polychlorinated biphenyl.
QAPP = Quality Assurance Project Plan.
RB = Rinsate sample.
SB = Soil boring sample.
SVOC = Semivolatile Organic Compound.
SW = Most Recent Updates.
TB = Trip blank.
TBD = To Be Determined.
TCL = Target Compound List (from the most current version of EPA Contract Laboratory Program (CLP) methods, SOM01.1).
TCLP = Toxicity Characteristic Leaching Procedure
VOC = Volatile Organic Compound.
Z = Suffix will identify the sample interval for the subsurface soil samples.

Table 2-2 Sample List per Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Transect Sediment Samples	Off Bank Soil Samples	Soil Boring and Monitoring Well Soil Samples	Groundwater Samples
Upstream Location			
18MC-UP-Z1 and –Z2	None	None	None
New York State Barge Canal			
18MC-BC01-Z1 through 18MC-BC06-Z1	None	None	None
Upson Park			
18MC-L01W-S01-Z1 to –Z2 through –S02-Z1 to –Z2, & -S03-Z1 18MC-L02W-S01-Z1 to –Z2 through –S03-Z1 to –Z2 18MC-L03W-S01-Z1 through –S03-Z1 18MC-L04W-S01-Z1, 18MC-L04W-S02-Z1 & -Z2, 18MC-L04W-S03-Z1 18MC-L05W-S01-Z1, 18MC-L05W-S02-Z1 & -Z2, 18MC-L05W-S03-Z1 to –Z3	18MC-L01W-S04-Z1 to -Z3, -S05-Z1 to –Z3, and –S06-Z1 & -Z2 18MC-L02W-S04-Z1 to -Z3 through –S06-Z1 to -Z3, 18MC-L03W-S04-Z1 to –Z2 through –S06-Z1 to –Z2, 18MC-L04W-S04-Z1 to –Z2 and –S05-Z1 to –Z2, 18MC-L05W-S04-Z1 to –Z2	18MC-SB11-Z1, 18MC-SB12-Z1 and –Z2 through 18MC-SB14-Z1 & Z2 18MC-SS14 through 18MC-SS17 and 18MC-MW14-Z1 through 18MC-MW17-Z1	18MC-MW14 through 18MC-MW17
White Transportation Property			
18MC-L01E-S01-Z1, -S03-Z1, & -S03-Z2 18MC-L02E-S01-Z1, -S02-Z1 & -S03-Z1 18MC-L03E-S01-Z1 through –S03-Z1 18MC-AS01-Z1 & -Z2	18MC-L02E-S04-Z1, -S04-Z2 and 18MC-L02E-S05-Z1, & -S05-Z2 18MC-L03E-S04-Z1 & -S04-Z2 and 18MC-L03E-S05-Z1 to -Z3	18MC-SB06-Z1 & -Z2 through 18MC-SB10-Z1 & Z2 18MC-SS10 through 18MC-SS13 and 18MC-MW10-Z1 & -Z2, 18MC-MW11-Z1, 18MC-MW12-Z1 & -Z2, 18MC-MW13-Z1	18MC-MW10 through 18MC-MW13
Former United Paperboard Company Property			
18MC-L06-S01-Z1, 18MC-L06-S02-Z1 & -Z2 & -S03-Z1 & -Z2 18MC-L07-S01-Z1 through –S03-Z1 18MC-L08-S01-Z1 through –S03-Z1 18MC-L09-S01-Z1, 18MC-L09-S02-Z1 & -Z2, through –S03-Z1 & –Z2 18MC-L10-S01-Z1, –S03-Z1 18MC-L11-S01-Z1 through –S03-Z1	18MC-L06-S04-Z1 to –Z2 and –S05-Z1 to –Z2, 18MC-L07-S04-Z1 to –Z2 and –S05-Z1 to –Z2, 18MC-L08-S04-Z1 to –Z2 and –S05-Z1 to –Z2, 18MC-L09-S04-Z1 to –Z2 and –S05-Z1 to –Z2, 18MC-L10-S04-Z1 to –Z2 and –S05-Z1 to –Z2 18MC-L11-S04-Z1 to –Z2 and –S05-Z1 to –Z2	18MC-SB01-Z1 & -Z2 through 18MC-SB03-Z1 & –Z2, 18MC-SB04-Z1, 18MC-SB05-Z1 & Z2 18MC-SS01 through 18MC-SS09 and 18MC-MW01-Z1 & -Z2, 18MC-MW02-Z1 & -Z2, 18MC-MW04-Z1 & -Z2 through 18MC-MW06-Z1 & Z2, 18MC-MW08-Z1 & -Z2, and 18MC-MW09-Z1	18MC-MW01 18MC-MW02 18MC-MW04 through 18MC-MW06, and 18MC-MW08

Table 2-2 Sample List per Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Transect Sediment Samples	Off Bank Soil Samples	Soil Boring and Monitoring Well Soil Samples	Groundwater Samples
Property Adjacent to the Former United Paperboard Company Property at the Corner of Mill and Olcott			
None	None	18MC-SS18 through 18MC-SS20	None
Former Flintkote Plant Site			
18MC-L12-S01-Z1 through –S03-Z1 18MC-L13-S01-Z1 through –S03-Z1 18MC-L14E-S01-Z1, 18MC-L14E-S02-Z1 & -Z2 through –S03-Z1 to –Z2 18MC-L15E-S01-Z1 through –S03-Z1 18MC-L16E-S01-Z1 through –S03-Z1 18MC-L14W-S01-Z1 through –S02-Z1, 18MC-L14W-S03-Z1 & -S03-Z2 18MC-L15W-S01-Z1 & 18MC-L15W-S03-Z1	18MC-L13-S04-Z1 to –Z2	None	None
Downstream of Former Flintkote Plant Site			
18MC-L16W-S01-Z1 & -S03-Z1 18MC-L17-S01-Z1 through –S03-Z1 18MC-L18-S01-Z1, -S02-Z1 & -Z2	18MC-L16W-S04-Z1 to –Z2 and –S05-Z1 to –Z2 18MC-L17-S04-Z1 to –Z2, -S05-Z1 & -Z2, -S06-Z1 & -S07-Z1 18MC-L18-S04-Z1 to –Z2 through –S07-Z1 to –Z2	None	None

Table 2-3 Transect Sample Summary, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation, Lockport, New York

Transect Line ID/ Sample Set ID	Total Number of Samples	Location Description	Sample ID
Line 1W	13 (1 centerline, 2 bank, 3 off bank)	Transect 1W across West Branch of Eighteenmile Creek (north of NYS Barge Canal)	18MC-L01W-S01-Z1 to –Z2 through –S02-Z1 to –Z2, & -S03-Z1
Line 2W	15 (1 centerline, 2 bank, 3 off bank)	Transect 2W across West Branch of Eighteenmile Creek	18MC-L02W-S01-Z1 to –Z2 through –S03-Z1 to –Z2
Line 3W	9 (1 centerline, 2 bank, 3 off bank)	Transect 3W across West Branch of Eighteenmile Creek	18MC-L03W-S01-Z1 through –S03-Z1
Line 4W	8 (1 centerline, 2 bank, 3 off bank)	Transect 4W across West Branch of Eighteenmile Creek	18MC-L04W-S01-Z1, 18MC-L04W-S02-Z1 & -Z2, 18MC-L04W-S03-Z1
Line 5W	8 (1 centerline, 2 bank, 1 off bank)	Transect 5W across West Branch of Eighteenmile Creek (south of Clinton Street and upstream of confluence)	18MC-L05W-S01-Z1, 18MC-L05W-S02-Z1 & -Z2, 18MC-L05W-S03-Z1 to –Z3
Line 1E	3 (0 centerline, 2 bank, 0 off bank)	Transect 1E across East Branch of Eighteenmile Creek (north of NYS Barge Canal)	18MC-L01E-S01-Z1, -S03-Z1, & -S03-Z2
Line 2E	7 (1 centerline, 2 bank, 1 off bank)	Transect 2E across East Branch of Eighteenmile Creek	18MC-L02E-S01-Z1, -S02-Z1 & -S03-Z1
Line 3E	8 (1 centerline, 2 bank, 2 off bank)	Transect 3E across East Branch of Eighteenmile Creek	18MC-L03E-S01-Z1 through –S03-Z1
Line 6	9 (1 centerline, 2 bank, 2 off bank)	Transect 6 across Eighteenmile Creek (north of Clinton Street and downtream of East and West Branch confluence)	18MC-L06-S01-Z1, 18MC-L06-S02-Z1 & -Z2 & -S03-Z1 & -Z2
Line 7	7 (1 centerline, 2 bank, 2 off bank)	Transect 7 across Eighteenmile Creek (in Mill Pond)	18MC-L07-S01-Z1 through –S03-Z1
Line 8	7 (1 centerline, 2 bank, 2 off bank)	Transect 8 across Eighteenmile Creek upstream of Clinton St. Dam (by United Paperboard Company Property)	18MC-L08-S01-Z1 through –S03-Z1
Line 9	8 (1 centerline, 2 bank, 2 off bank)	Transect 9 across Eighteenmile Creek downstream of Clinton St. Dam (by United Paperboard Company Property)	18MC-L09-S01-Z1, 18MC-L09-S02-Z1 & -Z2, through –S03-Z1
Line 10	6 (0 centerline, 2 bank, 2 off bank)	Transect 10 across Eighteenmile Creek (downstream of Olcott Street by United Paperboard Company Property)	18MC-L10-S01-Z1, –S03-Z1
Line 11	7 (1 centerline, 2 bank, 2 off bank)	Transect 11 across Eighteenmile Creek (by United Paperboard Company Property)	18MC-L11-S01-Z1 through –S03-Z1
Line 12	3 (1 centerline, 2 bank, 0 off bank)	Transect 12 across Eighteenmile Creek (by former Flintkote Property)	18MC-L12-S01-Z1 through –S03-Z1
Line 13	5 (1 centerline, 2 bank, 1 off bank)	Transect 13 across Eighteenmile Creek (by former Flintkote Property)	18MC-L13-S01-Z1 through –S03-Z1
Line 14W	4 (1 centerline, 2 bank, 0 off bank)	Transect 14W across Eighteenmile Creek main channel, west side of island on the Former Flintkote Plant Site	18MC-L14W-S01-Z1 through –S02-Z1, 18MC-L14W-S03-Z1 & -S03-Z2

Table 2-3 Transect Sample Summary, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation, Lockport, New York

Transect Line ID/ Sample Set ID	Total Number of Samples	Location Description	Sample ID
Line 15W	2 (0 centerline, 2 bank, 0 off bank)	Transect 15W across Eighteenmile Creek main channel, west side of island on the Former Flintkote Plant Site	18MC-L15W-S01-Z1 & 18MC-L15W-S03-Z1
Line 16W	6 (0 centerline, 2 bank, 2 off bank)	Transect 16W across Eighteenmile Creek main channel, west side of island adjacent ot former Flintcote Plant Site	18MC-L16W-S01-Z1 & -S03-Z1
Line 14E	4 (1 centerline, 2 bank, 0 off bank)	Transect 14E across millrace, east side of island on the Former Flintkote Plant Site	18MC-L14E-S01-Z1, 18MC-L14E-S02-Z1 & -Z2 through –S03-Z1
Line 15E	3 (1 centerline, 2 bank, 0 off bank)	Transect 15E across millrace, east side of island on the Former Flintkote Plant Site	18MC-L15E-S01-Z1 through –S03-Z1
Line 16E	3 (1 centerline, 2 bank, 0 off bank)	Transect 16E across millrace, east side of island on the Former Flintkote Plant Site	18MC-L16E-S01-Z1 through –S03-Z1
Line 17	9 (1 centerline, 2 bank, 4 off bank)	Transect 17 across Eighteenmile Creek north of millrace adjacent to the Former Flintkote Plant Site	18MC-L17-S01-Z1 through –S03-Z1
Line 18	11 (1 centerline, 1 bank, 4 off bank)	Transect 18 across Eighteenmile Creek furthest downstream location	18MC-L18-S01-Z1, -S02-Z1 & -Z2
NYS Barge Canal	6 (6 centerline cores)	NYS Barge Canal immediately south of the Eighteenmile Creek East Branch (near spillway) and West Branch (near Dry Dock)	18MC-BC-S01-Z1 through 18MC-BC-S06-Z1
Upstream Point	2 (1 centerline, 0 bank, 0 off bank)	Eighteenmile Creek furthest upstream location near intersection of Walnut, Vine, and Remick Parkway)	18MC-UP-S01-Z1 to -Z2
Added Sample	2	Between Line 1E and Line 2E, on west bank. Location was added in field by NYSDEC May when children were observed playing on bank. Collected Z1 from 0-0.2 ft. and Z2 from 0.8 to 1.5 ft bgs.	18MC-AS01-Z1 and -Z2
Total Number of Core samples		**173**	
Total Number of Discrete Coring Locations		**117**	

Note that all creek samples were named S01 for the west bank, S02 for the centerline sample, and S03 for the east bank. The remaining locations (off-bank samples) will be numbered from west to east (S04 to S07).

Table 2-4 Noteable Observations From Sediment Coring, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Sample ID	Sample Interval	Observations
Upstream Sediment		
18MC-UP-S01-Z1	0.1-0.8 ft	Dark gray silt with 50% mixed gravel.
18MC-UP-S01-Z2	1.1-1.8 ft	Red-brown clay with few fine to small gravel.
NYS Barge Canal Sediment		
18MC-BC01-Z1	0-2 inches	Black-gray sediment, fine silt to clay, very plastic, 25% fine gravel to coarse sand.
18MC-BC02-Z1	0-2 inches	Gray sediment, very plastic, mix of silt and clay with few coarse sand and fine gravel.
18MC-BC03-Z1	0-2 inches	Dark gray sediment with 25% fine gravel.
18MC-BC03-Z1/D	0-2 inches	Dark gray sediment with 25% fine gravel.
18MC-BC04-Z1	0-2 inches	Gray silt, high plastic, 20% fine gravel.
18MC-BC05-Z1	0-2 inches	Dark gray sediment with 25% fine gravel.
18MC-BC06-Z1	0-2 inches	Dark gray to black sediment - mix of clay, silt and fine gravel.
Upson Park Soil		
18MC-SB14-Z2	10.2-11.5 ft	Brown clay fill with wood fragments. Overlain by Z1 sample that was comprised of black ash/slag fill w/ TCLP lead results = 4.39 mg/L
18MC-L2W-S04-Z2, -Z3	1.5 - 2 and 2.5 - 3	Fill consisting of clay with brick fragments. Overlain by Z1 sample that was comprised of brown sansy soil with some fragments of brick.
White Transportation Sediment		
18MC-L01E-S01-Z1	0-2 inches	Black granular soil with 5% fine gravel.
18MC-L01E-S03-Z1	0-2 inches	Dark brown soil with 10% fiune gravel.
18MC-L01E-S03-Z2	0.5-1.2 ft	Brown soil with clay and silt components. Slightly plastic, estimated 15% fine gravel and asphalt fragments.
18MC-L02E-S01-Z1	0.8-1.5 ft	Dark gray to black silt with estimated 20% fine to small gravel.
18MC-L02E-S02-Z1	0-0.5 ft	Unconsolidated, poorly sorted mixed gravel with slight silt content and 40% poorly sorted sand.
18MC-L02E-S03-Z1	0.5-1.0 ft	60% gray, unsorted gravel with gray silt making up remainder.
18MC-L03E-S01-Z1	0.5-1.5 ft	Brown-gray silty clay with 30% poorly sorted gravel.
18MC-L03E-S02-Z1	0-2 inches	Dark brown to black soft silt with 30% fine to small gravel and few fine shell fragments.
18MC-L03E-S03-Z1	0.7-1.7 ft	Dark gray silt with 20% fragments of slag and plastic, brick and wood debris.
18MC-L03E-S03-Z1/D	0.7-1.7 ft	Dark gray silt with 20% fragments of slag and plastic, brick and wood debris.
18MC-AS01-S01-Z1	0-2 inches	Children observed playing at this location. Black topsoil, 15% fine gravel and few black slag fragments.
18MC-AS01-S01-Z2	0.8-1.5 ft	Children observed playing at this location. Brown clay with 20% mixed gravel and few fragments of black slag.
White Transportation Soil		
18MC-L02E-S05-Z1 & -Z2	0-2 inches and 0.8 - 1.5	Top soil mixed with sand and gravel and fragments of plastic, asphalt, metals, and glass.
Upson Park Sediment		
18MC-L01W-S01-Z1	0-2 inches	Dark gray very fine silt, moderately plastic, 30% dolostone.
18MC-L01W-S01-Z2	0.5-1 ft	Dark gray very fine silt with 20% dolostone.
18MC-L01W-S02-Z1	0-2 inches	Dark brown to dark gray fine silt. Moderately plastic with 20% dolostone gravel.

Table 2-4 Noteable Observations From Sediment Coring, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Sample ID	Sample Interval	Observations
18MC-L01W-S02-Z2	1-2 ft	Dark brown to dark gray very fine silt with 30% dark gray dolostone and 20% debris made up of fragements of glass, plastic and metal.
18MC-L01W-S03-Z1	0.3-1.0 ft	Dark brown to gray very fine silt. Moderately plastic, 30% dolostone gravel.
18MC-L02W-S01-Z1	1-2 ft	Tan-brown silty clay, with 10% gravel and 5% shell fragments.
18MC-L02W-S01-Z2	2-3.2 ft	Dark gray to black plastic clay.
18MC-L02W-S02-Z1	0-2 inches	Poorly sorted sandy, gravelly sediment with 20% shell fragments.
18MC-L02W-S02-Z2	1-2 ft	Mottled dark and light gray clay. Appears native
18MC-L02W-S02-Z2/D	1-2 ft	Mottled dark and light gray clay. Appears native
18MC-L02W-S03-Z1	0-2 inches	Tan-brown silty clay, with 10-15% gravel and few organic fragments.
18MC-L02W-S03-Z2	3.2-4 ft	Dark gray to black plastic clay. Appears native.
18MC-L03W-S01-Z1	0.8-1.8 ft	Dark brown soft silt with 10% gravel.
18MC-L03W-S02-Z1	0-2 inches	Dark brown poorly sorted silty sediment with 30% gravel.
18MC-L03W-S03-Z1	2-3 ft	Dark gray soft silt.
18MC-L04W-S01-Z1	0.5-1.5 ft	Dark brown to dark gray silty clay. Very soft.
18MC-L04W-S02-Z1	0-2 inches	Very dark brown to black silt with poorly sorted sand to small gravel.
18MC-L04W-S02-Z2	1-2 ft	Brown unconsolidated silty sediment with 25% poorly sorted sand to gravel.
18MC-L04W-S03-Z1	1-2 ft	75% poorly sorted gravel with remainder dark brown soft silt.
18MC-L05W-S01-Z1	1-2 ft	Very soft, very drak gray to black sediment with 25% black slag.
18MC-L05W-S02-Z1	0-2 inches	Dark gray fine silt with 30% gravel.
18MC-L05W-S02-Z2	1.5-3 ft	Dark gray very soft sediment with slag and small gravel. Slight metallic odor.
18MC-L05W-S03-Z1	0-0.5 ft	Dark brown organic silty soil with 15% fine to small gravel.
18MC-L05W-S03-Z2	1-1.5 ft	Dark brown to dark green silty clay with some iron staining.
18MC-L05W-S03-Z3	2-2.5 ft	Dark brown-gray silt. Moderatley loose (less cohesive than Z2 sample).
United Paperboard Sediment		
18MC-L06-S01-Z1	1-1.5 ft	Dark brown to black clay-rich soil with brown-red streaks of clay.
18MC-L06-S02-Z1	0-2 inches	Dark brown to dark gray silty clay with 10% fine to small gravel.
18MC-L06-S02-Z2	1-2 ft	Dark brown to dark gray silty clay with 20% fine to small gravel.
18MC-L06-S03-Z1	0.5-1.2 ft	Gray-green to yellow-orange silty clay with 30% red rock fragments (fragments do not appear to be brick), 10% wood fragments and 5% glass.
18MC-L06-S03-Z1/D	0.5-1.2 ft	Gray-green to yellow-orange silty clay with 30% red rock fragments (fragments do not appear to be brick), 10% wood fragments and 5% glass.
18MC-L06-S03-Z2	1.5-2.5 ft	Orange-brown-gray silty plastic clay with 2" seam of white ash.
18MC-L07-S01-Z1	3-3.5 ft	Loose, wet dark brown soil with mix of silt and clay and few fine
18MC-L07-S01-Z1/D	3-3.5 ft	Loose, wet dark brown soil with mix of silt and clay and few fine
18MC-L07-S02-Z1	0-0.8 ft	black soft silt with 15% gravel.
18MC-L07-S03-Z1	1.5-2.5 ft	Mixed brown-black soil with sand, silt and clay. 15% small to medium gravel.
18MC-L08-S01-Z1	0.5-1.5 ft	Dark brown clay rich soil with 35% wood fragments.
18MC-L08-S02-Z1	0.4-1.0 ft	Dark gray to black soft silt with few fragments of gravel.
18MC-L08-S03-Z1	0.5-1.5 ft	Mixed brown silty, sandy, clay. 10-20% unsorted gravel.

Table 2-4 Noteable Observations From Sediment Coring, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Sample ID	Sample Interval	Observations
18MC-L09-S01-Z1	0.5-1.2 ft	Brown clay with gravel and wood fragments.
18MC-L09-S02-Z1	0-2 inches	Loose black sediment with mix of poorly sorted sand, gravel, and silt.
18MC-L09-S02-Z2	0.8-1.5 ft	Red-brown clay with 25% gravel.
18MC-L09-S03-Z1	1.5-2.5 ft	Black, unconsolidated sediment comprised of a mix of silt, sand, and fine gravel. Possible very light sheen.
18MC-L10-S01-Z1	0.5-1.5 ft	Dark brown loose top soil with fragments of wood, fine gravel, and few sand.
18MC-L10-S01-Z1/D	0.5-1.5 ft	Dark brown loose top soil with fragments of wood, fine gravel, and few sand.
18MC-L10-S03-Z1	0.5-0.9 ft	Dark brown poorly sorted sandy soil with 10% fine to small gravel.
18MC-L11-S01-Z1	1-1.6 ft	Dark gray to dark tan mixed soft silt. Possible light sheen.
18MC-L11-S02-Z1	0.5-0.9 ft	Black silty sediment with 30% mixed gravel and unsorted sand.
18MC-L11-S03-Z1	0.5-0.8 ft	Brown silt with 50% unsorted gravel, sand, and slag.
18MC-L12-S01-Z1	1-1.6 ft	Tan to dark brown soft silt with black streaks and some small gravel.
18MC-L12-S02-Z1	0.5-0.9 ft	Gray loam mix with sand and organic plant and wood matter, and silt.
18MC-L12-S03-Z1	0.8-1.7 ft	Black silt with 60% fine to coarse sand and fine gravel.
18MC-L13-S01-Z1	0.8-1.5 ft	Gray-tan plastic clay with 30% fine gravel and fragments of leaves and organic matter.
18MC-L13-S02-Z1	0.5-1.0 ft	Gray silt with 30% poorly sorted sand and fine gravel.
18MC-L13-S03-Z1	0.5-1.0 ft	Black silt with 20% coarse sand to small gravel and fragments of
United Paperboard Soil		
18MC-SB15-Z1	1.5-2 ft	Red-brown mixed grainsize loose ash. SB-15 was added by DEC May while in the field.
18MC-L09-S04-Z1	0-2 inches	Brown loam mix. Collected in area where fill is known or expected.
Former Flintkote Site Sediment		
18MC-L14E-S01-Z1	0.5-0.8 ft	Brown silt with 35% unsorted sand and fine gravel.
18MC-L14E-S02-Z1	0-2 inches	Gray silt with 25% sorted sand and gravel.
18MC-L14E-S02-Z2	1-1.5 ft	Dark brown silt with 10% fine gravel.
18MC-L14E-S03-Z1	0.8-1.2 ft	Black silt with 25% fine gravel and organic matter.
18MC-L14W-S01-Z1	0.9-2 ft	Red-gray silt with 20% small gravel.
18MC-L14W-S02-Z1	0-2 inches	Red-brown clay with 15% fine to small gravel.
18MC-L14W-S03-Z1	0.5-1.2 ft	Red-brown silty clay with gravel.
18MC-L14W-S03-Z2	1.8-2.3 ft	Red-brown silty with 25% unsorted sand, fine gravel.
18MC-L15E-S01-Z1	0.5-0.9 ft	Dark gray silt with 25% unsorted sand and small gravel.
18MC-L15E-S01-Z1/D	0.5-0.9 ft	Dark gray silt with 25% unsorted sand and small gravel.
18MC-L15E-S02-Z1	0-2 inches	Brown-gray silt with 60% unsorted sand and fine gravel.
18MC-L15E-S03-Z1	0.5-1.0 ft	Soft brown silt. 20% fine to small gravel.
18MC-L15W-S01-Z1	0.3-1.2 ft	Dark brown clay-rich soil wth 30% organic matter and 10% small gravel.
18MC-L15W-S03-Z1	0.3-0.8 ft	Red-brown silt with 25% poorly sorted gravel.
18MC-L16E-S01-Z1	0.4-1.0 ft	Black to dark brown silt with 25% organic matter and 10% fine to medium gravel.
18MC-L16E-S02-Z1	0-0.5 ft	Soft black silt with 10% wood fragments.
18MC-L16E-S03-Z1	0.5-1.0 ft	Dark brown silt with 30% organic fragments (roots) and 5% small gravel.

Table 2-4 Noteable Observations From Sediment Coring, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Sample ID	Sample Interval	Observations
18MC-L16W-S01-Z1	0.2-0.8 ft	Brown-red silt with 20% organic fragments and 15% fine to small gravel.
18MC-L16W-S03-Z1	0.5-1.0 ft	Red sandy clay with 15% organics and fine gravel.
18MC-L17-S01-Z1	0.4-0.8 ft	Dark gray soft silt with a slight sheen and a light petroleum odor.
18MC-L17-S02-Z1	0.5-1.0 ft	Dark gray to black soft silt. Slight petroleum or metallic odor.
18MC-L17-S03-Z1	0.5-1.0 ft	Red-brown clay rich soil with 25% fragments of black slag, brick, and white ash.
18MC-L18-S01-Z1	0.3-0.9 ft	Loose brown silt with 30% fine to coarse sand and gravel fragments.
18MC-L18-S02-Z1	0.2-0.9 ft	Mixed brown silt with 40% fine wood fragments and a few fine gravel.
18MC-L18-S02-Z2	1.2-1.8 ft	Mixed brown silt with 40% fine wood fragments and a few fine gravel.

Table 2-5 Summary of Sediment Coring, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Sediment Core Location ID	Sediment Thickness (feet BTCB)	Depth to Refusal (feet BTCB)	Fill interval (feet BTCB)	Bottom of Core Description
18MC-L01W-S01	1	1		Dark gray very fine silt.
18MC-L01W-S02	0.5-1	2		Recovered 1-2 feet, dark brown to dark gray very fine silt.
18MC-L01W-S03	1	1		Dark brown to gray very fine silt.
18MC-L02W-S01	3.2	No refusal		Dark gray to black plastic clay, appears native.
18MC-L02W-S02	2	2		Mottled dark gray and light gray clay, appears native.
18MC-L02W-S03	4	No refusal		Dark gray to black plastic clay, appears native.
18MC-L03W-S01	2.5	2.5		Recovered 1 foot, dark brown so silt.
18MC-L03W-S02	4	No refusal		Poor recovery, dark brown poorly sorted silty sediment.
18MC-L03W-S03	3	No refusal		Recovered 1 foot, dark gray so silt.
18MC-L04W-S01	3.8	No refusal		Recovered 2 feet, dark brown to dark gray silty clay.
18MC-L04W-S02	3	3 (may not be at bedrock)		Brown unconsolidated silty sediment.
18MC-L04W-S03	3	3 (not at bedrock)		Recovered 1 foot, very rocky, poorly sorted, dark brown so silt.
18MC-L05W-S01	2.8	2.8 (may not be bedrock)		Recovered 1.2 feet, very so very dark sediment.
18MC-L05W-S02	4	No refusal		Recovered 1.5 feet, dark gray very so sediment with slag and small gravel.
18MC-L05W-S03	4	No refusal		Recovered 3 feet, dry brownish-gray silt
18MC-L05W-S04	3	No refusal		Recovered 1 foot, dark brown to gray clay rich soil
18MC-L01E-S01	1	No refusal (not much sediment)		Poor recovery, not much sediment, appears bedrock approx. 1 foot BTCB.
18MC-L01E-S02	No Data [1]	At bedrock		At bedrock.
18MC-L01E-S03	2	2		Recovered 1 foot, brown soil with clay and silt components.
18MC-L02E-S01	2.5	2.5		Recovered 1.8 feet, dark gray to black silt.
18MC-L02E-S02	1	1		Recovered 0.8 feet, unconsolidated poorly sorted mixed gravel.
18MC-L02E-S03	1	1		Recovered 0.8 feet, unsorted gravel with some silt.
18MC-L03E-S01	3	3 (at bedrock or native)		Recovered 1.8 feet, brown gray silty clay.
18MC-L03E-S02	3	3		Recovered 1.2 feet, dark brown to black so sediment (silt).
18MC-L03E-S03	2.5	No refusal	0.7-1.7	Recovered 1.8 feet, dark gray silt.
18MC-L06-S01	3	3		Recovered 1.7 feet, clay rich soil, dark brown, streaks of brown-red.
18MC-L06-S02	3.8	No refusal		Recovered 3 feet, dark brown to dark gray silty clay.
18MC-L06-S03	3.5	No refusal		Recovered 2 feet, orange brown-gray silty clay.
18MC-L07-S01	4	No refusal		Recovered 2 feet, dark brown loose wet soil with silt clay.
18MC-L07-S02	2	2		Recovered 0.8 feet, black so silt.
18MC-L07-S03	4	No refusal		Recovered 1.9 feet, brown-black soil with some sand, silt, clay.
18MC-L08-S01	2	No refusal		Recovered 1.8 feet, dark brown clay rich soil (not native).
18MC-L08-S02	1	1 (not at bedrock)		Dark gray to black silt, very gravelly, hard to recover enough for sample.
18MC-L08-S03	2	2		Recovered 1.5 feet, mixed brown silty, sandy clay.
18MC-L08-S05	4	No refusal	0.9-1.5	Recovered 2.5 feet, dark gray to black clay sandy soil.
18MC-L09-S01	3	3 (not at bedrock)		Recovered 1.7 feet, brown clay with wood, gravel.
18MC-L09-S02	2.5	No refusal		Recovered 1.5 feet, red-brown clay (possibly native).
18MC-L09-S03	4	No refusal		Recovered 1.2 feet, black unconsolidated so mixed sand/fine gravel (possibly fill).
18MC-L10-S01	2	No refusal		Recovered 1.5 feet, dark brown loose topsoil.
18MC-L10-S02	<0.5	No sediment		no sediment, possibly at bedrock.
18MC-L10-S03	1	1 (not at bedrock)		Recovered 0.9 feet, dark brown sandy soil, some gravel.
18MC-L11-S01	3	3		Recovered 1.1 feet, dark gray to dark tan mixed so silt.
18MC-L11-S02	2	2		Recovered 0.9 feet, black sediment.
18MC-L11-S03	0.8	0.8		Recovered 0.8 feet, brown silt.
18MC-L12-S01	1.8	1.8 (not bedrock)		Recovered 0.8 feet, tan to dark brown so silt with black streaks.
18MC-L12-S02	2.5	2.5 (not at bedrock)		Recovered 1 foot, gray loam mix with sand and organic matter, silt.
18MC-L12-S03	2	2 (not at bedrock)		Recovered 0.9 feet, black silt.
18MC-L13-S01	1.8	1.8 (not at bedrock)		Recovered 1.2 feet, gray-tan clay, plastic.
18MC-L13-S02	2	2 (not at bedrock)		Recovered 0.8 feet, gray silt with sand/fine gravel.
18MC-L13-S03	1.2	1.2		Recovered 0.9 feet, black silt.
18MC-L14W-S01	2	2		Recovered 1.1 feet, red-gray silt.
18MC-L14W-S02	1	1		Recovered 0.8 feet, brown-red clay.
18MC-L14W-S03	3	3		Recovered 2 feet, red-brown silt.
18MC-L14E-S01	1	1		Recovered 0.8 feet, brown silt.
18MC-L14E-S02	1.5	1.5		Dark brown silt.
18MC-L14E-S03	1.5	1.5		Recovered 1 foot, black silt.
18MC-L15W-S01	1.5	1.5		Recovered 0.9 feet, dark brown clay rich soil.
18MC-L15W-S02	<0.5	No sediment		No sediment, possibly at bedrock.
18MC-L15W-S03	1.2	1.2		Recovered 0.9 feet, red-brown silt.
18MC-L15E-S01	1.1	1.1		Recovered 0.9 feet, dark gray silt.
18MC-L15E-S02	1.8	1.8		Recovered 0.9 feet, brown-gray silt.
18MC-L15E-S03	1.8	1.8		Recovered 1.1 feet, so brown silt.

Table 2-5 Summary of Sediment Coring, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Sediment Core Location ID	Sediment Thickness (feet BTCB)	Depth to Refusal (feet BTCB)	Fill interval (feet BTCB)	Bottom of Core Description
18MC-L16W-S01	1.2	1.2		Recovered 0.9, brown-red silt.
18MC-L16W-S02	<0.5	No sediment		no sediment, possible bedrock under rocky/gravelly area.
18MC-L16W-S03	1.2	1.2		Recovered 0.9 feet, red sandy clay.
18MC-L16E-S01	1.5	1.5		Recovered 0.9 feet, black to dark brown silt.
18MC-L16E-S02	1.3	1.3		Recovered 0.8 feet, black so silt.
18MC-L16E-S03	1.2	1.2		Recovered 1 foot, dark brown silt.
18MC-L17-S01	0.8	0.8		Recovered 0.7 feet, dark gray so silt.
18MC-L17-S02	1.6	1.6		Recovered 1 foot, dark gray to black so silt.
18MC-L17-S03	1.2	1.2		Recovered 1 foot, red-brown clay.
18MC-L18-S01	1.1	1.1		Recovered 0.8 feet, brown loose silt.
18MC-L18-S02	1.8	1.8		Recovered 1.8 feet, brown mixed silt.
18MC-L18-S03	<0.5	No sediment		No sediment, slabs of concrete.

Note:
[1] Probably less than 1 foot due to swift current.

Key:

< = Less than.
18MC = Eighteenmile Creek Corridor Site.
18MC-L = Transect line.
BTCB = Below the top of the creek bottom.
ID = Sample Identification.
S01 = West bank sediment sample.
S02 = Midpoint sediment sample.
S03 = East bank sediment sample.

Table 2-6 Well Construction Summary, Eighteenmile Creek Corridor Supplemental RI/FS, Lockport, New York

Monitoring Well ID	Well Completion	Well Type	Northing	Easting	TOIC Elevation (ft AMSL)	Ground Surface Elevation (ft AMSL)	Depth to Bedrock (feet BGS)	Total Well Depth (ft BGS)	Screen Interval (ft BGS)	Sand Pack Interval (ft BGS)
18MC-MW-01	Above Ground	O	1,158,834.731	1,120,183.215	480.45	477.68	>22.0	22.0	12.0-22.0	10.0-22.0
18MC-MW-02	Above Ground	O	1,158,700.903	1,120,298.654	488.42	486.31	>30.0	28.0	18.0-28.0	16.0-28.0
18MC-MW-04	Above Ground	O	1,158,577.035	1,120,302.619	490.08	487.67	>26.0	26.0	16.0-26.0	14.0-26.0
18MC-MW-05	Above Ground	O	1,158,375.878	1,120,205.726	481.14	479.03	>23.0	23.0	13.0-23.0	11.0-23.0
18MC-MW-06	Flush	O	1,158,369.892	1,120,421.414	488.42	488.88	26.00	25.0	15.0-25.0	13.0-25.0
18MC-MW-08	Above Ground	O	1,157,857.947	1,120,356.158	491.62	488.91	16.00	16.0	6.0-16.0	4.0-16.0
18MC-MW-09	Flush	B	1,157,941.174	1,120,150.986	501.43	501.74	9.00	14.0	9.0-14.0	7.0-14.0
18MC-MW-10	Above Ground	O	1,157,698.176	1,120,387.09	493.77	490.54	18.00	17.0	7.0-17.0	5.0-17.0
18MC-MW-11	Flush	O	1,157,802.241	1,120,668.786	492.97	493.12	14.00	13.5	8.5-13.5	6.5-13.5
18MC-MW-12	Above Ground	O	1,157,622.865	1,120,537.622	495.06	492.68	>14.5	14.5	9.5-14.5	7.5-14.5
18MC-MW-13	Above Ground	O	1,157,502.776	1,120,677.517	496.07	493.52	10.00	9.0	4.0-9.0	2.0-9.0
18MC-MW-14	Flush	B	1,157,578.022	1,120,214.997	496.15	496.39	20.50	25.0	20.0-25.0	18.0-25.0
18MC-MW-15	Above Ground	B	1,157,334.775	1,120,067.983	506.85	504.42	16.70	21.7	16.7-21.7	14.7-21.7
18MC-MW-16	Above Ground	B	1,157,205.429	1,119,881.82	520.75	518.36	9.50	25.0	15.0-25.0	13.0-25.0
18MC-MW-17	Flush	O	1,156,791.828	1,119,981.357	516.88	517.16	>26.0	26.0	16.0-26.0	14.0-26.0

Notes:

1 Horizontal Datum is NYS NAD 83(96) East Zone.

2 Vertical Datum is NGVD 88.

Key:

AMSL = Above mean sea level.
B = Bedrock.
BGS = Below ground surface.
ft = Feet.
O = Overburden.
TOIC = Top of Inner Casing.

Table 2-7 Groundwater Elevation Data, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Well ID	Inner Casing Elevation (ft AMSL)	First Round 7/9/2007		Second Round 11/21/2007		Third Partial Round 1/24/2008	
		Water Level (ft BTOIC)	Water Level Elevation (ft AMSL)	Water Level (ft BTOIC)	Water Level Elevation (ft AMSL)	Water Level (ft BTOIC)	Water Level Elevation (ft AMSL)
18MC-MW01	480.45	14.91	465.54	15.00	465.45	NM	NM
18MC-MW02	488.42	17.20	471.22	17.95	470.47	NM	NM
18MC-MW04	490.08	19.30	470.78	20.00	470.08	NM	NM
18MC-MW05	481.14	14.74	466.40	13.80	467.34	NM	NM
18MC-MW06	488.42	15.90	472.52	16.00	472.42	NM	NM
18MC-MW08	491.40	11.54	479.86	11.58	479.82	NM	NM
18MC-MW09	501.43	12.90	488.53	12.93	488.50	NM	NM
18MC-MW10	493.77	12.08	481.69	12.35	481.42	NM	NM
18MC-MW11	492.97	7.20	485.77	9.51	483.46	NM	NM
18MC-MW12	495.06	12.37	482.69	13.10	481.96	NM	NM
18MC-MW13	496.07	7.33	488.74	8.05	488.02	NM	NM
18MC-MW14	496.15	18.10	478.05	17.30	478.85	17.30	478.85
18MC-MW15	506.85	20.00	486.85	19.97	486.88	19.97	486.88
18MC-MW16	520.75	18.03	502.72	18.80	501.95	18.80	501.95
18MC-MW17	516.88	15.12	501.76	25.02	491.86	Dry	< 490.88
198-E	480.44	15.71	464.73	15.90	464.54	NM	NM
198-F	479.48	14.62	464.86	14.65	464.83	NM	NM
MCW-1	470.23	5.52	464.71	5.55	464.68	NM	NM

KEY:

AMSL = Above Mean Sea Level.
BTOIC = Below top of inner Casing.
ft = Feet.
NM = Not measured.

Table 2-8 Monitoring Well Groundwater Quality Measurements, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Well and Sample ID	Sample Date	Metals Sample Date	Purged Volume (gal)	pH (s.u.)	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTUs)
18MC-MW01	07/09/07	07/09/07	15	6.99	14	1,669	45
18MC-MW02	07/09/07	07/10/07	10	7.17	14.7	1,851	10
18MC-MW04	07/09/07	07/09/07	7.5	7.45	15.3	1,078	42
18MC-MW05	07/10/07	07/10/07	10	7.34	14.2	1,939	32
18MC-MW06	07/09/07	07/10/07	6	7.25	16.5	1,606	13
18MC-MW08	07/10/07	07/11/07	6.2	6.61	18.5	1,748	21
18MC-MW10	07/10/07	07/10/07	11.5	7.51	19	457	5
18MC-MW11	07/10/07	07/11/07	6	7.63	16.9	868.4	>1,000
18MC-MW12	07/10/07	07/11/07	5.4	7.14	18.6	973.5	>1,000
18MC-MW13	07/10/07	07/11/07	4	7.19	24.8	502.9	387
18MC-MW14	07/11/07	07/11/07	4	7.32	16	1,889	28
18MC-MW15	07/11/07	07/11/07	7	7.25	13.4	3,340	19
18MC-MW16	07/11/07	07/11/07	7.5	7.48	18.3	2,995	48
18MC-MW17	07/11/07	07/12/07	6	7.7	21.3	441.6	326

Key:

18MC-MW = Eighteenmile Creek Corridor Site monitoring well.
°C = Degrees Celsius.
gal = Gallons.
µS/cm = Microsiemens per centimeter.
NTU = Nephelometric turbidity units.
s.u. = Standard units.
> = Greater than.

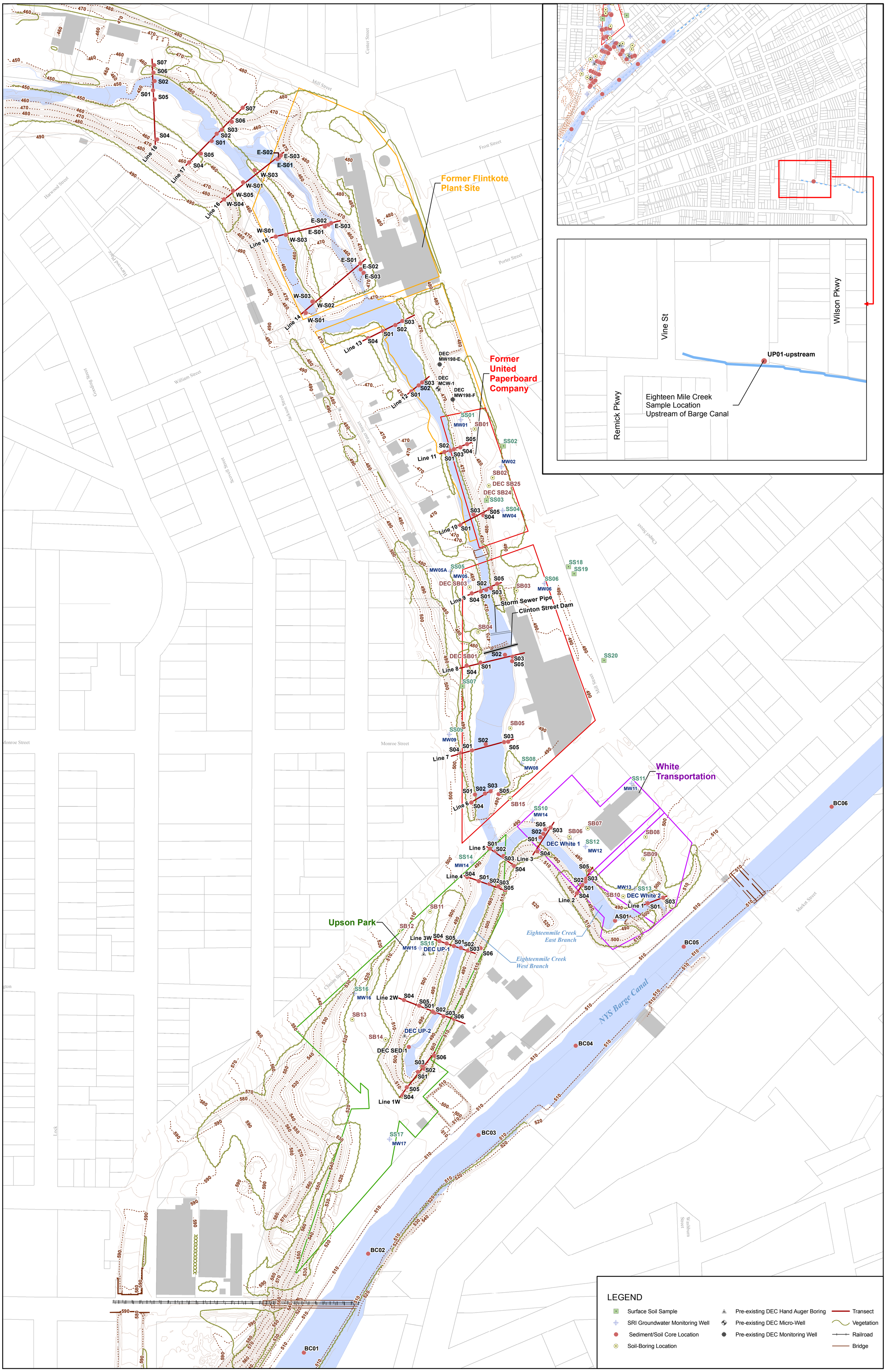
Table 2-9 Summary of Analytical Results for the Investigation-derived Waste Samples, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria [1]	18MC-IDWS 11/02/07	18MC-IDWW 11/02/07
TCLP Metals/Mercury by Method 6010B and 7470 (mg/L)			
Arsenic	5	0.020 U	0.020 U
Barium	100	0.52	0.19 J
Cadmium	1	0.00046 J	0.0050 U
Chromium	5	0.00087 J	0.00057 J
Lead	5	0.015	0.0044 J
Mercury	5	0.00011 U	0.00011 U
Selenium	0.2	0.085	0.028 J
Silver	1	0.030 U	0.030 U
TCL PCBs by Method 8082 (mg/L)			
Aroclor-1016	N/A	0.036 U	0.0010 U
Aroclor-1221	N/A	0.036 U	0.0010 U
Aroclor-1232	N/A	0.036 U	0.0010 U
Aroclor-1242	N/A	0.036 U	0.0010 U
Aroclor-1248	N/A	0.036 U	0.0010 U
Aroclor-1254	N/A	0.036 U	0.0010 U
Aroclor-1260	N/A	0.036 U	0.0010 U
TCLP Volatile Organic Compounds by Method 8260B (mg/L)			
1,1-Dichloroethene	0.7	5.0 U	5.0 U
1,2-Dichloroethane	0.5	5.0 U	5.0 U
2-Butanone	200	5.0 U	5.0 U
Benzene	0.5	5.0 U	5.0 U
Carbon tetrachloride	0.5	5.0 U	5.0 U
Chlorobenzene	100	5.0 U	5.0 U
Chloroform	6	5.0 U	5.0 U
Tetrachloroethene	0.73	5.0 U	5.0 U
Trichloroethene	0.5	5.0 U	5.0 U
Vinyl chloride	0.2	5.0 U	5.0 U
TCLP Semivolatile Organic Compounds by Method 8270C (mg/L)			
1,4-Dichlorobenzene	7.5	0.033 U	0.033 U
2,4,5-Trichlorophenol	400	0.067 U	0.067 U
2,4,6-Trichlorophenol	2	0.033 U	0.033 U
2,4-Dinitrotoluene	0.13	0.033 U	0.033 U
2-Methylphenol	200	0.033 U	0.033 U
4-Methylphenol	200	0.033 U	0.033 U
Hexachlorobenzene	0.13	0.033 U	0.033 U
Hexachlorobutadiene	0.5	0.033 U	0.033 U
Hexachloroethane	3	0.033 U	0.033 U
Nitrobenzene	2	0.033 U	0.033 U
Pentachlorophenol	100	0.067 U	0.067 U
Pyridine	5	0.033 U	0.033 U
Ignitabilty by Method SW1010 (˚F)			
Ignitability	<60	200 U	200 U
Rective Cyanide by Method SW7.3.3.2 (mg/L)			
Reactive Cyanide		1 U	0 U
Reactive Sulfide by Method SW7.3.4.2 (mg/L)			
Reactive Sulfide		1 U	0 U
pH by Method SW9045C/SM4500 (s.u.)			
Corrosivity	<2 or >12.5	8.1	8.3

(1) New York State Department of Environmental Conservation, Division of Solid And Hazardous Materials, Identification And Listing Of Hazardous Wastes (6 NYCRR 371).

Key:

˚ F = Degrees Fahrenheit.
J = Estimated value.
mg/L = Milligram per liter.
N/A = Not available.
PCB = Polychlorinated biphenyls.
s.u. = Standard units.
U = Parameter not detected (practical quantitation limit listed).
> = Greater than.
< = Less than.



1 inch equals 125 feet

0 125 250 500 Feet

N

Figure 2-1
SRI Sample Location Map
Eighteenmile Creek Corridor Site
Lockport, New York

3 Physical Characteristics of the Study Area

3.1 Environmental Setting

The Eighteenmile Creek Site has moderate relief, with elevations that range between approximately 450 and 515 feet above mean sea level (AMSL) (see Figure 1-1). The Site is covered by a portion of Eighteenmile Creek, measuring an estimated 0.5 miles long, four separate commercial/industrial properties, as well as residential properties, and undeveloped woodlands. Land use within 1 mile of the Site is primarily residential, with some commercial and light industrial use.

The Barge Canal is immediately south of the Site and Lock No. 34 is located around 0.5 miles upstream (southwest) from Upson Park, on the canal. Eighteenmile Creek empties into Lake Ontario, which is located around 15 miles north of the city of Lockport.

According to the National Wetlands Inventory (NWI), two reaches of Eighteenmile Creek within the study area are considered palustrine, permanently flooded, diked/impounded wetlands (for more information, see Section 8).

Niagara County, where the Site is located, is characterized by a humid continental climate representative of the humid climate of the northeastern United States, with mild summers and very cold winters when temperatures tend to be in the 20s. Although rainfall is fairly evenly distributed throughout the year, minimum monthly precipitation is less in the winter than the other seasons. Since most atmospheric systems affect Niagara County as they move across the continent or up the Atlantic Coast, the weather in the region is very variable with temperatures and other atmospheric elements undergoing noticeable changes within a few days. The climate is influence mainly by the proximity of lakes Erie and Ontario. The cold lake waters function like a sink that retards normal air temperature rising during the spring and they tend to restrict extreme high temperatures in the summer. In the fall the lake waters reduce cooling at night. Since the area is relatively flat, elevation has a lesser influence over the climate in Niagara County.

Eighteenmile Creek is surrounded by six residential townships, and many citizens own creek-front property. The creek is used extensively for fishing, boating, and recreation.

The headwaters of Eighteenmile Creek (north of the Barge Canal in Lockport, New York) originate from two branches (East and West) immediately north of the Barge Canal. East Branch waters originate at the spillway in the Barge Canal near the Mill Street bridge where canal waters join with water from the culverted section of Eighteenmile Creek south of the Barge Canal. These waters flow north under the Barge Canal near Mill Street to Clinton street. Eighteenmile Creek flows north and eventually discharges to Lake Ontario in Olcott, New York. West Branch waters originate from the dry dock on the north side of the Barge Canal and flow north to Clinton Street. Waters from the East and West Branch converge on the south side of Clinton Street and flow under Clinton Street to the Mill Pond on the north side of Mill Street. A dam is located in the creek behind the building on 62 Mill Street, the larger of the two United Paperboard parcels. Water from the Mill Pond, leaks around the west side of the dam and flows adjacent to or over the top (during high flow conditions) of the abandoned transformer pad. The Mill Pond is the result of the dam (see Figure 2-1). A storm sewer line also crosses the creek approximately 25 to 50 feet downstream of the dam, and several sewer manholes were observed on both banks (east and west) of the creek. In the area of the Former Flintkote Plant Site, a dam approximately 10 feet high diverts Eighteenmile Creek westward for approximately 300 feet along William Street (located on top of the dam). The creek continues northward and returns to its original natural channel farther downstream. The two sluice gates located at the east end of the dam have been closed for at least 30 years. A millrace containing a sluggish stream approximately 6 inches to 1 foot deep runs along the west side of the buildings at 300 Mill Street and empties into Eighteenmile Creek (see Figure 2-1).

During operation, the Barge Canal discharges approximately 50 cfs of water into the East and West Branches of the creek. During dry periods, the Barge Canal provides a significant portion of the creek's flow.

Surface topography at the Upson Park property slopes from Clinton Street to a large parking area and from the parking area steeply downward toward Eighteenmile Creek and steeply upward to the west (elevation ranges from approximately 490 to 530 feet AMSL). Topography of the White Transportation property is terraced, sloping from east to west, toward the East Branch of Eighteenmile Creek. Topography of the Former United Paperboard Company property and the Former Flintkote Plant Site dips toward Eighteenmile Creek. Specifically, along Mill Street surface topography is generally flat and the Water Street portion of the United Paperboard property slopes steeply downward toward Eighteenmile Creek (elevation ranges from 470 to 490 feet AMSL).

3.2 Geology

3.2.1 Regional Geology

The study area is located in the city of Lockport, in central Niagara County, New York, around 15 miles south of Lake Ontario and 25 miles northeast of Lake Erie. It falls within the Ontario Lowlands physiographic province.

The advance and retreat of glaciers during past ice ages have largely defined regional topography, geology, and soils. The surficial geology of the watershed consists mostly of glacial deposits formed about 10,000 to 15,000 years ago during the Pleistocene, when glaciers covered the area. These glacial deposits are generally less than 50 feet thick in the watershed area (La Sala 1968). The most common deposits found in the watershed area are glacial tills and lacustrine silts and clays. Glacial and lacustrine (pertaining to lakes) are descriptors that indicate the conditions that the deposits formed in. The glacial tills were deposited beneath the glacial ice. They have a variable texture and consist of non-sorted clay, silt, sand, and gravel. The lacustrine silt and clay deposits formed as sediment settled out in lakes fed by melting glacial ice. The deposits generally consist of laminated silt and clay and are usually calcareous with low permeability (NYS Museum 2004; La Sala 1968).

Less widespread glacial deposits in the watershed area include kame moraine, lacustrine beach, and sand and till moraine. The kame moraine was deposited at an active ice margin during the retreat of a glacier. It is composed of a variable texture, from boulders to sand, with calcareous cement. Lacustrine beach deposits were deposited at the shoreline of a glacial lake. They are generally well-sorted sand and gravel and are stratified, permeable, well-drained, and generally non-calcareous. Lacustrine sand deposits were generally laid down nearshore in proglacial lakes. (A proglacial lake is a body of water in a basin in front of a glacier, generally in direct contact with the lake.) The deposits typically consist of stratified, well-sorted quartz sand that is permeable. Till moraine was deposited adjacent to the glacial ice, which has a variable texture and is generally low in permeability (NYS Museum 2004).

The bedrock in the watershed consists of Ordovician and Silurian rocks that dip gently southward at 20 to 60 feet per mile (La Sala 1968). The bedrock found in the watershed from north to south (and also from oldest to youngest) includes the Queenston Formation, the Thorold Sandstone, the Irondequoit Limestone, the Decew Dolostone, and the Guelph Dolostone.

The Queenston Formation was deposited in the Upper Ordovician and is a member of the Richmond Group. During the Ordovician, as the Taconic mountains rose toward the east, the Queenston Formation is traditionally thought to have formed as sediments began eroding from the mountains. Thus, the Queenston consists of red non-marine or continental shale, siltstone, and sandstone (NYS Museum 1991).

The remaining formations found in the watershed are part of the Niagaran Series. They are generally richly fossiliferous and were deposited in shallow inland seas during the Silurian. The Niagaran Series includes the Medina, Clinton, and Lockport Groups (Brett et al. 1995).

The Thorold Sandstone is in the Medina Group. It ranges in thickness from 4.5 to 20 feet, with an average of 12 feet. From Rochester to Lockport, it is a mottled pink to red, cross-bedded, channel sandstone with numerous trace fossils. From Lockport and west it consists of a light gray to white, massive, clayey, pelletal sandstone. It is typically interbedded with thin green silty shale layers whose number increases toward the top of the unit (Brett et al. 1995).

Irondequoit Limestone and Decew Dolostone are members of the Clinton Group. The Irondequoit Limestone is a thick- to massive-bedded, medium greenish-grey to pinkish-grey, dolomitic, fossiliferous limestone. Thin tongues of shale are common and increase in abundance in the upper portion of the unit. The Irondequoit ranges in thickness from 5 to 22 feet with an average of 15 feet (Brett et al. 1995).

The Decew Dolostone ranges in thickness from 8 to 12 feet with an average of 9 feet. It consists of variably bedded, dark gray to olive gray, clayey to sandy, fine-grained dolomite. Its most characteristic feature is soft sediment deformation features. Fossils are rare, but have occasionally been observed (Brett et al. 1995).

The Guelph Dolostone is a part of the Lockport Group. It is a medium to dark gray laminated, fine-grained dolostone with partings of dark greenish-gray to nearly black shale. Both the shale and dolomite are petroliferous and sparsely fossiliferous. The Guelph can be as thick as 300 feet (Brett et al. 1995).

3.2.2 Site Geology

The majority of the Site is believed to generally consist of mostly glacial tills and lacustrine silts and clays, with localized areas of fill material overlying bedrock. Overburden also includes areas where massive pieces of bedrock are believed to have been backfilled, and was encountered at depths as shallow as 1 to 3 feet BGS.

The nature of the overburden was characterized during this SRI through split-spoon sampling during borehole drilling. Depth of bedrock and thickness of fill and native overburden varied between boreholes. Borehole and monitoring well drilling logs are presented in Appendix B and include boring descriptions; depth and unit from which soil samples were collected; identification of suspected fill; relative soil densities based on blow counts recorded during split-spoon sampling; and construction diagrams of monitoring wells.

Suspected fill material was observed at the ground surface as well as in the subsurface at varying depths. Two distinct fill units were observed throughout the Site, including:

- Unconsolidated slag material colored dark gray to black, ranging from moderately to well sorted fine to medium sand with gravel content ranging from zero

to 50%. Found at the Upson Park, White Transportation, and Former Flintkote Plant Site properties.

- Unconsolidated red-brown poorly sorted cinder material containing fragments of red brick, rubber, metal, glass, and buttons found at various locations at the Site but specifically at the Former United Paperboard Company property.

Additional possible fill was observed consisting of gray clay-matrix material containing varying proportions of unsorted sand and fine gravel. Color of the sand and gravel varied between black, gray, brown, tan, red, yellow, and more.

Thickness of fill at the corridor was difficult to determine as it was encountered mixed at different proportions with other overburden material but it generally ranged from less than 1 foot to more than 10 feet.

Native overburden consisted of brown silty, sandy soil with varying dolostone gravel; dark brown silt to silty clay; and dark gray fine silty clay. Bedrock observed consisted of light to dark gray dolostone with interbedded gray clay, and no fossils. Bedrock depth ranged from 9 feet in 18MC-MW09 to more than 30 feet in 18MC-MW02. Groundwater was found between 6 and 20 feet BGS.

Refusal using hollow stem auger drilling occurred prior to encountering groundwater while drilling monitoring wells 18MC-MW09, -MW14, -MW15, and -MW16, and rock coring was used to complete these installations.

Both gray-black slag fill and red-brown cinder fill were observed in Upson Park. A total of eight soil borings were installed on the property (see Figure 2-1). Geologic conditions observed during the subsurface investigation at Upson Park are summarized below:

- Refusal was encountered in all but one boring (18MC-MW17) and rock coring was conducted at 18MC-MW14, -MW15 and -MW16.

- Dry, sandy soil with a high proportion of dolostone fragments ranging in size from sand to coarse gravel was encountered at 18MC-SB11 (west of Eighteenmile Creek in the northern portion of Upson Park east of the driveway).

- Suspected fill was encountered at18MC-SB12 (west of Eighteenmile Creek near Clinton Street, between the two Upson Park driveways) from the surface to refusal (12 feet BGS). The fill was comprised of a clay-matrix with fragments of red brick, and varying colored pieces of coarse sand and fine gravel. A fine sand-sized black ash layer was observed at approximately 6 to 6.8 feet BGS.

- Black sand to fine gravel-sized slag was encountered in the top 2 feet of 18MC-SB13 (west of Eighteenmile Creek, west edge of the parking lot in Up-

son Park) to a total depth of 7 feet BGS, followed by possible fill comprised of clay matrix containing sand and gravel.

- Suspected fill was encountered at 18MC-SB14 (west of Eighteenmile Creek, along the east edge of the parking lot) from the surface to auger refusal (15 feet BGS). Dark gray to black sandy slag was observed at high proportions in the top several feet. Gray to tan clay-matrix material with mixed gravel, fragments of brick, rootlets, and organic peat was found to increase in proportion with depth.

- Mixed sand and gravel-rich soil was found in the top several feet of 18MC-MW14 (west of Eighteenmile Creek, along the shoulder of Clinton Street) followed by varying-sized pieces of dolostone. Poorly consolidated gray and brown silt and clay with sand and gravel was found from 10 to 20 feet BGS, however, poor soil recovery hampered precise description of the borehole in this interval. HSA refusal was encountered at 20.5 feet BGS.

- Red-brown sandy silt with varying proportions of dolostone gravel was found at 18MC-MW15 (west of Eighteenmile Creek, to the east of the Upson Park driveway) from just below the ground surface to around 10 feet BGS, where the soil graded to red-brown fine silt. Auger refusal was encountered at 16.7 feet.

- Gray, brown and red silty soil was encountered at18MC-MW16 (west of Eighteenmile Creek, to the west of the Upson Park driveway) from just below the surface to top of bedrock (15 feet BGS) with clay increasing in proportion in the bottom 3 feet of the overburden.

- Gray-brown silt and clay was encountered at 18MC-MW17 (north of the Barge Canal, south of the Canal Corporation yard). Poorly sorted dolostone gravel was also found from the surface to the total depth. Poor recovery hampered precise description of much of this borehole.

Both gray-black slag fill and red-brown cinder fill were observed on the White Transportation property, with much slag visible on the ground surface. A total of nine soil borings were installed on the property (see Figure 2-1). Geologic conditions observed during the subsurface investigation at the White Transportation property are summarized below:

- Dark gray to black slag comprised of sand to fine gravel was encountered at 18MC-SB06 (northwest portion of the property, east of Eighteenmile Creek) from the surface to approximately 2.3 feet BGS, followed by approximately 7 feet of poorly consolidated gray to brown mixed silt to gravel-size weathered dolostone. Dark gray to black clay that appeared to be native was found at a depth of approximately 12 feet BGS.

- Sand and gravel of varying size and color were encountered throughout 18MC-SB07 (northwestern portion of the property, east of Eighteenmile Creek). Suspected fill at the borehole was comprised of gray, brown, and black unsorted sand and gravel slag material; black, well sorted fine sand slag; mixed-size dolostone gravel; and red-brown sand.

- Dark gray mixed sand and gravel slag fill and brown clay matrix with mixed-size sand to fine gravel of varying color were observed at 18MC-SB08 (eastern portion of the property).

- Mixed-size slag comprised of sand and gravel colored dark gray to black was encountered at 18MC-SB09 (southeastern portion of the White Transportation property). Brown clay-matrix with mixed size sand to fine gravel of varying colors was also observed.

- Dark gray to black sand to gravel size slag fill and gray to brown silt with poorly sorted gravel were encountered at 18MC-SB10 (southern portion of the property, north of Eighteenmile Creek).

- Suspected slag fill comprised of gray, brown, and black fine to coarse sand; dark brown gravely silt; and native gray and brown soft silty clay were encountered at 18MC-MW10 (northwestern portion of the property).

- Suspected slag fill comprised of dark (gray to dark brown to black) fine to coarse sand; gray-brown clay-matrix material containing mixed-size gravel; and brown to red-brown silty clay with dolostone gravel were observed at 18MC-MW11 (northeastern portion of the property).

- Overburden at 18MC-MW12 (western portion of the property, east of Eighteenmile Creek) consisted of suspected slag fill (dark fine to coarse sand); and brown silty clay.

- Suspected slag fill comprised of dark (gray to brown to black) fine to coarse sand; and black, poorly consolidated mixed sand, silt and clay were encountered at 18MC-MW13 (southern portion of the property, north of Eighteenmile Creek).

A total of 13 soil borings were installed in the Former United Paperboard Company property (see Figure 2-1). Rock coring was conducted in 18MC-MW09 due to refusal prior to encountering groundwater. Geologic conditions observed during the subsurface investigation at the Former United Paperboard Company property are summarized below:

- Suspected slag fill comprised of mixed-size sand to medium gravel; as well as brown clay-matrix material with varying proportions of poorly sorted gravel;

and brown silty clay with fine dolostone gravel were found at 18MC-SB01 (north portion of the property, east of Eighteenmile Creek).

- Suspected fill comprised of brown clay-matrix material with poorly sorted gravel; and fill comprised of dark gray fine sandy slag were encountered at 18MC-SB02 (north portion of the Former United Paperboard property, east of Eighteenmile Creek).

- Suspected fill comprised of poorly sorted sandy gravel of varying colors; sandy black slag fill; and poorly consolidated silty-clay matrix with sand to medium gravel were encountered at 18MC-SB03 (east of Eighteenmile Creek, west of the intersection of Mill Street and Olcott Street).

- Gray clay-rich soil with fine gravel was encountered at 18MC-SB04 (between Eighteenmile Creek and Water Street).

- Black slag fill; red-brown silty clay-matrix fill with unsorted sand and gravel; brown clay; unconsolidated sandy gravel; and dark gray, highly plastic silt with up to 40% fine wood fragments were found at 18MC-SB05 (east of Eighteenmile Creek, west of the building). A very slight metallic or petroleum odor was detected in the silt encountered in the bottom of the borehole.

- Burnt red-brown mixed grain size fill material with fragments of glass and metal; as well as gray-brown silt-matrix material containing poorly sorted sand to medium gravel; gray to brown fine silt with a few fragments of wood and shells; and tight yellow-gray clay were observed at 18MC-SB15 (near fill material visible at the ground surface on the western portion of the property, north of Clinton Street, East of Eighteenmile Creek, outside the fence that surrounds the property).

- Black to dark brown fine sandy soil; loose, orange-brown to gray to red-brown, sandy fill with fine gravel; and dense, brown silty clay were encountered at 18MC-MW01 (northern portion of the property, east of Eighteenmile Creek).

- No obvious fill was observed while drilling 18MC-MW02 (northern portion of the property, east of Eighteenmile Creek). Overburden consisted of gray-brown silt with varying proportions of unsorted dolostone gravel.

- Brown fine silty soil with few fragments of red brick; black sand slag fill; brown sandy, silty soil; black and brown silty, sandy soil; and native material comprised of wet, sandy silt with intermittent poorly to moderately sorted fine dolostone gravel were encountered at 18MC-MW04 (northern portion of the property, east of Eighteenmile Creek).

- Overburden at 18MC-MW05 (northern portion of the property, west of Eighteenmile Creek) consisted of gray sandy soil; red-brown poorly sorted cinder fill; gray, silty clay matrix material with mixed color unsorted sand and gravel; and possible native material comprised of red-brown silt with intermittent coarse sand and fine gravel. This location was moved to target a ridge of suspected red-brown cinder fill adjacent to Eighteenmile Creek.

- Gray-brown well graded sand with gravel; gray-brown and red-brown sandy soil; and native material comprised of tan-brown silt to silty clay were encountered at 18MC-MW06 (eastern portion of the Former United Paperboard Company property, east of Eighteenmile Creek, near the north edge of the Mill Street parking lot).

- Overburden at 18MC-MW08 (western portion of the Former United Paperboard Company property, east of Eighteenmile Creek, in the Clinton Street parking area) consisted of brown sandy soil; mixed black and red-brown poorly sorted sandy fill; and dark gray to black fine silt with fine wood fragments.

- Black sandy fill; light brown clayey silt and gravel were encountered at18MC-MW09 (western portion of the property, west of Eighteenmile Creek). HSA refusal was encountered at 9 feet BGS.

There were no soil borings installed on the Former Flintkote Plant Site during this investigation. More than 10 feet of red-brown poorly sorted cinder ash fill containing fragments of brick, metal, glass, rubber and buttons could be observed in the banks on the Former Flintkote Plant Site near Eighteenmile Creek and on the ground surface on the Former Flintkote Plant Site property.

3.3 Hydrology

The Eighteenmile Creek watershed is located within both the Ontario and Huron Plains, two relatively flat plains that are separated by the Niagara Escarpment, which runs generally east/west along the northern portion of the city of Lockport. Within the Ontario Plain (from Lake Ontario to the Niagara Escarpment) elevations range from approximately 245 feet AMSL at the shoreline to approximately 400 feet AMSL at the toe of the escarpment (see Figure 1-1). Within the watershed area the escarpment ranges from 100 to 175 feet. The maximum elevations within the watershed occur within the Huron Plain in the southern portion of the watershed and are approximately 635 feet AMSL in the southwestern portion and approximately 655 feet AMSL along the southeastern extent.

The gulf and the main branch of Eighteenmile Creek are both located within a well-incised, steeply sloped channel for most of their lengths. The channel walls range in height, but average approximately 35 feet. The East Branch lacks the incised channel characteristic of the rest of Eighteenmile Creek.

The Site is located in an area in which deep, well drained to excessively drained, medium-textured soils formed in glacial outwash deposits composed primarily of sand and gravel.

3.3.1 Surface Water and Runoff

Approximately 75% of the surface area at the Site is covered by grass/vegetation and some areas of exposed soils and fill, with the other 25% of the surface area covered by buildings and asphalt/stone.

Eighteenmile Creek varies from tens of feet wide or less where the creek enters the Site to the south, to over 50 feet wide in the Mill Pond along the Former United Paperboard property. In many areas the creek bed along the center of the channel was comprised mostly of coarse sand and various sizes of gravel, stone, and rubble. A larger proportion of silt was observed along the creek bottom in the West Branch of the creek, as well as between Clinton Street and the Clinton Street Dam. In the East Branch of the creek, as well as downstream of the Clinton Street Dam the creek bottom was comprised largely of gravel and rubble.

Water depth in the creek varied from a few inches in the southern-most point of the West Branch to around 10 feet in the center of the Mill Pond, along the Former United Paperboard Company property (Line 18MC-L08).

Drainage ditches are generally absent on all of the individual properties. Based on historical review, the only underground utility present in the Eighteenmile Creek Corridor Site is a storm sewer located in the creek north of the Clinton Street Dam. Also several sewer manholes were observed on both banks (east and west) of the creek.

Upson Park surface topography dips away from Clinton Street, toward the West Branch of Eighteenmile Creek. Topography of the White Transportation property is terraced, descending from east to west, toward the East Branch of Eighteenmile Creek. Topography of the Former United Paperboard Company property and the Former Flintkote Plant Site dips toward Eighteenmile Creek. It appeared that a substantial amount of rock and concrete debris may be buried beneath the surface on the eastern portion of the Former United Paperboard Company Property site; and the soil on this property and the Former Flintkote Plant Site appeared to be well drained, likely resulting in a significant amount of drainage on these properties percolating directly downward, into the soil.

Drainage within the watershed can be described as generally flowing to the north. The East Branch of Eighteenmile Creek initially flows to the northeast, before turning west and joining with the main branch. This is caused by a topographic high point located in the southeastern portion of the watershed. The East Branch near the Barge Canal and White Transportation property has high flow, with water depth of 1 to 3 feet at mid-channel, and rocky bottom. The West Branch has moderate to high flow velocity in most places and a bottom composed

of cobble, gravel, and sand. The East and West Branches of Eighteenmile Creek merge immediately upstream from Clinton Street and then flow north beneath Clinton Street into Mill Pond on the former United Paperboard Company property. Near the Former Flintkote Plant Site, the creek channel splits and flows around an island with most of the flow following the channel on the west side of the island.

3.3.2 Groundwater

Groundwater elevations were measured at all wells on July 9, 2007, and November 21, 2007. Table 2-7 shows the groundwater elevations and Figures 3-1 and 3-2 show the interpreted groundwater isopleths based on these measurements. Groundwater elevations ranged between less than 465 feet in the NYSDEC wells installed on the Former Flintkote Plant Site prior to this SRI (wells 198-E, 198-F and MCW-1), and nearly 503 feet in 18MC-MW16, in Upson Park, near Clinton Street.

The water level in well 18MC-MW17 decreased nearly 10 feet between the first and second rounds of water level measurements, taken July 9 and November 21, respectively (see Table 2-7), while water levels in all other wells fluctuated less than 1 foot. To verify these measurements, during a site visit on January 24, 2008, to dispose of the IDW, water levels were measured again in the Upson Park wells (18MC-MW14 through 18MC-MW17). The Barge Canal was empty at this time and 18MC-MW17 was dry. Water levels in the remaining wells in Upson Park, however, had risen between approximately a few tenths of a foot and 2 feet.

Groundwater contour patterns depicted in Figures 3-1 and 3-2 show flow generally toward Eighteenmile Creek. The horizontal hydraulic gradient at the Site ranges between 0.08 foot per foot and 0.32 foot per foot as measured from the contours and associated July and November 2007 water levels depicted on Figures 3-1 and 3-2.

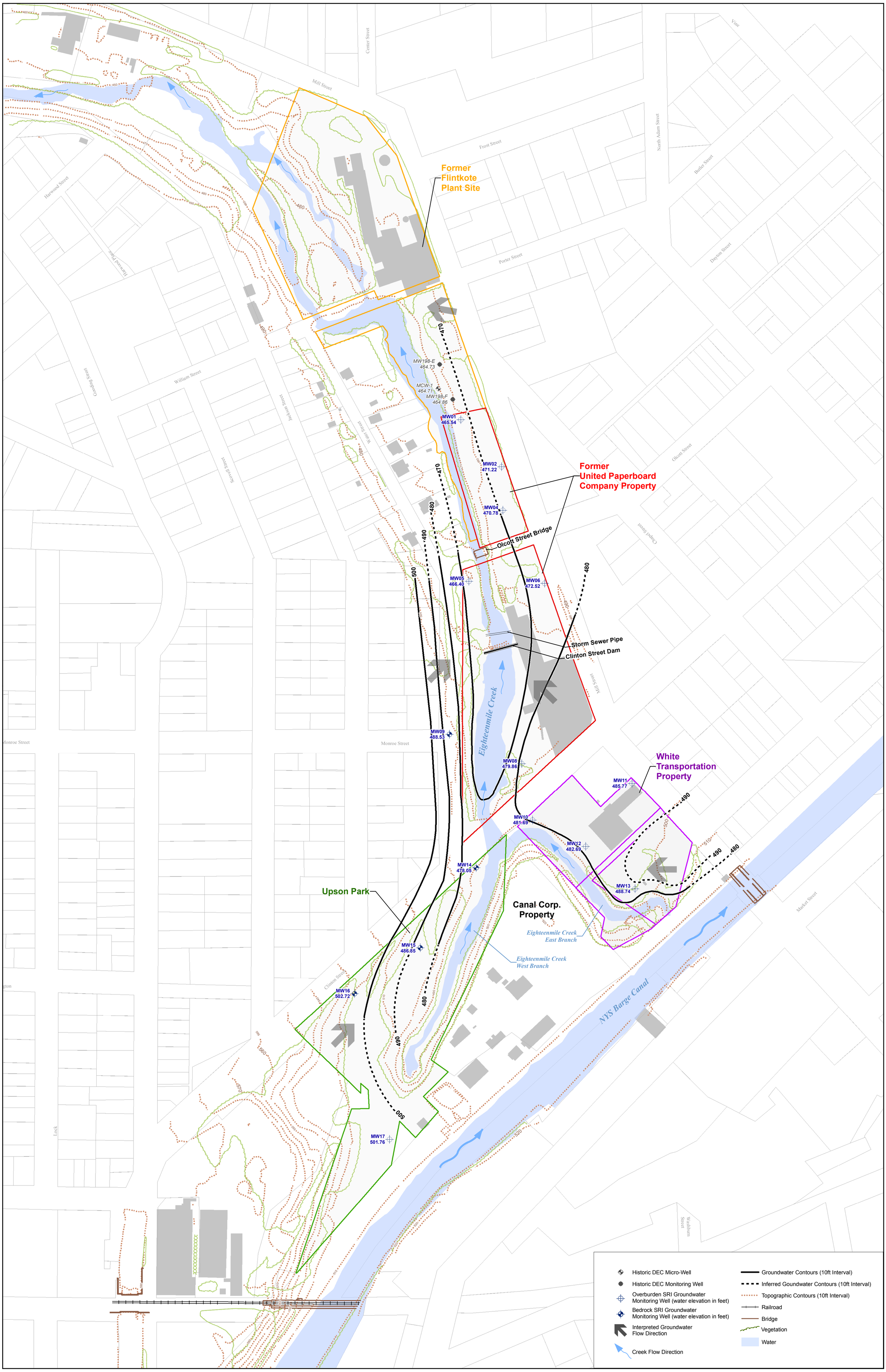


Fig 3-1: July 2007 Groundwater Contour Map, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

N

1 inch equals 125 feet

0 125 250 500 Feet

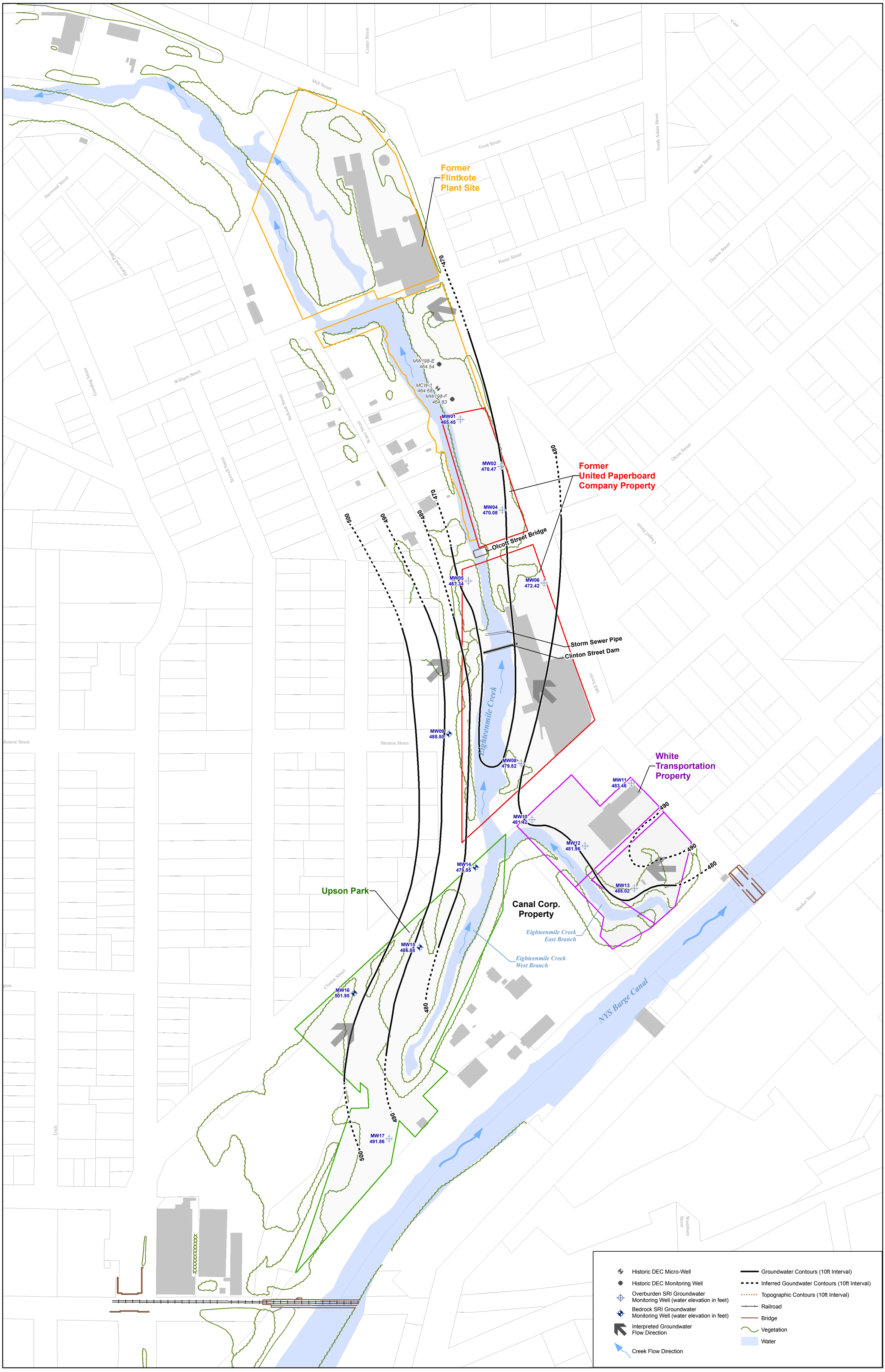


Fig 3-2: November 2007 Groundwater Contour Map, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

N

1 inch equals 125 feet

0 125 250 500 Feet

4 Quality Assurance/ Quality Control Procedures

This section describes the QA/QC procedures utilized for each environmental medium collected and analyzed for this project. The Quality Assurance Project Plan (QAPP) presented in the work plan was followed for all activities. The procedures described in the QAPP are consistent with the current updates of the United States Environmental Protection Agency (EPA) analysis procedures as described in SW-846.

4.1 Field QC Samples

Field QC samples provide a means to check ways that sample quality can be compromised in the field or through shipping, and also document overall sampling precision. The following sections describe field QC samples collected during the SRI.

Duplicate Samples

Consistency in both sample collection and sample analysis is checked through analysis of duplicate samples. Duplicate samples consist of aliquots of sample media placed in separate sample containers and labeled as separate samples. Duplicate samples were collected at a rate of approximately one per 20 field samples. Table 4-1 lists the duplicate samples and the original samples they duplicated. Duplicate sample analytical data are presented in the Data Usability Summary Reports (DUSR) in Appendix E. Duplicate precision is evaluated based on the relative percent difference (RPD) in the duplicate pair. Solid matrices with RPD values less than 70% are considered to have good precision. Water samples with RPD values less than 40% are considered to have good precision.

Field duplicate results indicated good overall precision. For the sediment samples, the PCBs and metals show good precision for most of the samples with no significant outliers indicating a concern with sampling or analysis precision. SVOCs were measured in one sediment duplicate pair. Most of the results were below the Practical Quantitation Limit (PQL) except for polycyclic (or polynuclear) aromatic hydrocarbons (PAH). The PAH results were much higher in the original than the duplicate. The results indicate potential for sediment samples contaminated with hydrocarbons to be inhomogeneous. The soil samples show good precision for most of the samples with no significant outliers indicating a

concern with sampling or analysis precision. For the one groundwater duplicate, some of the dissolved metals show a potential variability that may be due to differences in the filtering.

Field Blank Samples

Rinsate samples were collected to check the effectiveness of the decontamination process on sampling equipment. Two rinsate samples were collected from decontaminated split-spoons used for the collection of subsurface soil samples during drilling. A trace level of chlorobenzene was reported, but the result was below the reporting limit and difficult to confirm. Metals, including aluminum, barium, calcium, copper, iron, magnesium manganese, and nickel were detected in the rinsate blanks. Qualification of sample results was not necessary because the concentrations of metals detected in the rinsate blank were low level and significantly below soil concentrations. The rinsate blanks do not indicate any concerns with the split-spoon sampling techniques. One rinsate blank was collected for the groundwater samples from the pump, tubing, and bailer combination used for sampling. The sample showed low levels of both total and dissolved metals and bis(2-ethylhexyl)phthalate. The contaminants appear to come from low-level laboratory or field contamination. Most of the sample results were either significantly above the blank levels or were already qualified due to method blank levels. However, several low level zinc values reported in the samples are near the rinsate concentrations and should be considered laboratory background.

Appendix F contains rinsate blank analytical data (see Table F-1).

Trip blanks were prepared and shipped with the water samples for VOCs analysis. No compounds were detected in the trip blanks.

4.2 Laboratory QC Samples

Laboratory QC samples provide mechanisms to evaluate data quality based on sample integrity, holding times, method and calibration blank results, spike recoveries, surrogate recoveries, and duplicate precision. A complete listing of samples analyzed is provided in the associated DUSRs (see Appendix E). The DUSRs include attached outlier reports from data validation. The outlier report lists specific analytes outside control limits and associated samples. QC procedures used during the SRI sample analyses and any potential concerns with sample analysis procedures are detailed below.

Holding Times

Holding times are established and monitored to ensure analytical results accurately represent analyte concentrations in a sample at the time of collection. Exceeding the holding time for a sample generally results in a loss of the analyte due to a variety of mechanisms, such as deposition on the sample container walls or precipitation.

All samples were analyzed with the method-specified holding times and no qualification was required. One sample, 18MC-SB14-Z2, exceeded the holding time for TCLP mercury because the decision to run the sample for TCLP was not made until after the holding time had expired. Mercury was not found in the sample. Several samples for SVOCs were prepared after the NYSDEC ASP holding times, but within the method holding times. The samples were mostly re-extractions and no data qualification was required. 18MC-TB01 and 18MC-RB01 were analyzed outside the seven-day holding time for VOCs in the QAPP, but the samples were preserved which extended the holding time to 14 days.

Method and Calibration Blanks

Quality checks on the laboratory equipment, instrumentation, and methods reagents are conducted by analysis of method blanks. Method blanks consist of organic-free deionized water subjected to every step of the analytical process to determine possible points of laboratory contaminant introduction. Instrument calibration blanks are pure reagent matrix analyzed compared to set instrument response baselines.

Method and calibration blanks were performed at the required frequency. Low levels of phthalates, pesticides, and several metals were detected in the method blanks at trace levels. Sample results near the blank levels were qualified "U" either at the PQL or at the reported concentration.

Surrogate Spikes

Laboratory performance for individual samples analyzed for organic compounds is established by the use of surrogate spikes. Samples are spiked with surrogate compounds prior to preparation and analysis. Unusually low or high surrogate recoveries may indicate some deficiency in the analytical system or that some matrix effect exists. The surrogate results outside QC limits are presented on Table 3 in the DUSR.

Surrogate recoveries for several samples had recoveries outside of QC limits. Positive results associated with low or high recoveries were qualified "J" as estimated. Non-detect results were qualified "UJ" only for results with low recoveries. Non-detect results associated with high surrogate results were not qualified. The variation in the surrogate recoveries appear to be associated with sample matrix effects. The samples for SVOCs were reanalyzed to substantiate these matrix effects.

Most of the PCBs results showed high recoveries due to interferences from the matrix and PCBs. Many of the sediment and soil samples for PCB analysis and a few samples for SVOCs were analyzed at high dilutions and the surrogate compounds were diluted out and gave no recovery.

Spike Samples

Spike samples simulate the background effect and interferences found in the actual samples, and the calculated percent recovery of the spike is used as a measure of the accuracy of the total analytical method. Spike samples were prepared by adding to an environmental sample (before extraction or digestion) a known amount of pure analyte to be assayed. The percent recovery of the spike analyte measures the accuracy of the method. Spikes were added at a concentration approximately midpoint on the calibration curve. Spikes (e.g., laboratory control samples) added to a matrix blank were analyzed with each sample batch to assess analytical performance not affected by sample matrix. If matrix spike samples indicated a potential matrix effect, the matrix spike blanks were evaluated to verify the problems were not due to an analytical concern. If the concentration of the compound in the sample is greater than four times the spike amount, the results are not qualified. Recoveries outside QC limits are presented on Table 4 in the DUSR (if applicable).

All laboratory control sample (LCS) analyses were performed at the required frequency and were generally within control limits.

All matrix spike (MS) analyses were performed at the required frequency. MS recoveries indicate potential matrix problems for select metals and SVOCs in soil samples. The associated results are flagged "J" as estimated or "UJ" as estimated reporting limit. The recoveries do not indicate an analytical concern and are clearly associated with matrix effects.

Laboratory Duplicate or Matrix Spike Duplicates

In addition to analytical error introduced by machinery and sample handling, error can also occasionally result from analytical process interference by a sample matrix. This can result in the reporting of analytes at concentrations higher or lower than the true concentrations. Laboratory or matrix spike duplicates are aliquots of the same sample that are split prior to analysis and are treated exactly the same throughout the analytical method. The RPD between the values of the MS and matrix spike duplicate (MSD) or between the original and the matrix duplicate was taken as a measure of the precision of the analytical method. RPDs outside QC limits are presented in Table 5 in the DUSR (if applicable).

MS/MSD analysis was performed at the required frequency. RPD values for the select metals and SVOCs indicate potential soil matrix problems. The associated results are flagged "J" as estimated or "UJ" as estimated reporting limit.

Compound Identification and Reporting

For soil and sediment samples reported by STL, benzo(b)fluoranthene and benzo(k)fluoranthene peaks could not be resolved due to matrix effects. Positive results for these compounds were qualified "J." In addition, both STL and Mitkem reported tentatively identified compounds (TICs) for SVOCs. The TICs are qualified J as estimated and "N" as not confirmed. For soil and sediment samples,

the TICs represented potential hydrocarbon contamination as well as confirm high levels of PCB contamination. For the groundwater samples, the TICs indicate the potential for glycol contamination.

Pesticide analysis by EPA Method 8081 employs gas chromatography with electron capture as means of detection. Retention time is used as the method of compound identification. The analysis is ran using two dissimilar analytical columns to provide reliability in identification. However, in the presence of PCBs or in a complicated sample matrix, EPA Method 8081 can result in false positives or high biases of pesticide compounds.

The laboratory documented matrix interferences encountered in the EPA Method 8081 analysis. In those cases, the samples were analyzed at a dilution. Low levels of pesticides (e.g., 4,4′-DDE, 4,′-DDT, delta-BHC, Endosulfan II) were reported as positive detections, based on second column confirmation. The EPA Method 8081 chromatogram exhibited a "noisy" baseline pattern with multiple peaks. Based on the retention time and pattern recognition, the laboratory reported positive hits for PCBS in the EPA Method 8082 analysis of the same samples. The EPA Method 8270 chromatogram displayed the matrix interferences as the hydrocarbon "envelope."

During EPA Method 8081 and 8070C screening, the laboratory reported instrument shut-down for several samples. Analysis could only be performed with additional sample preparation steps and dilutions, resulting in elevated detection limits. Moreover, EPA Method 8081 analysis was eliminated for several samples based on the elevated detection limits and increased probability of false positive attributed to matrix interferences.

4.3 Data Review

The samples were grouped by STL and Mitkem into sample delivery groups (SDGs) based on batches of no more than 20 samples, daily delivery, or requested turnaround time. The SDGs are listed with their associated samples in Appendix E. A DUSR was generated for each SDG and they are included in Appendix E. Data for IDW soil and water disposal were not reviewed. The data reviews (both hard copy and electronic) followed the NYSDEC Guidance for the Development of DUSRs, June 1999.

Table 4-2 provides a summary of analytical methods and samples collected. Analytical data reports generated by the laboratory were checked to verify that data reported are consistent with the work plan and QAPP. The data review included an evaluation of the field and laboratory QC samples noted in Section 4.2 using the following procedure:

- **Completeness.** EEEPC performed a completeness check on all EDDs and compared the data to the hard copy deliverable to verify the data were reported consistently.

- **Compliance.** EEEPC processed EDDs using the internal software to verify the data reported are compliant with the QAPP requirements. EEEPC performed electronic data validation of EDDs and generated reports of qualified data. EEEPC reviewed the electronic reports, checked the hard copy reports and case narratives, assigned qualifiers to any outliers, review calibration information, and developed a DUSR for each SDG.

- **Reporting.** EEEPC assigned data qualifiers and flagged all reportable data. EEEPC generated summary tables of final qualified data included in Section 5.

- **Data Management.** EEEPC developed a project-specific database with all validated data stored in Microsoft Access format. A copy of the complete electronic data is provided in Appendix E.

Any deviations from acceptable QC specifications are discussed in the DUSRs (see Appendix E). The EEEPC data validators added appropriate qualifiers to the data to indicate potential concerns with data usability. These qualifiers were transferred to the data presented on summary tables in Section 5. For the SRI data, the following qualifiers were added:

J – The qualifier indicates an estimated value because the associated QC data indicated a potential laboratory or matrix problem or interference.

U – The result is considered non-detect. The laboratory assigned this flag to analytes not present at detectable concentrations (above the instrument detection limit or method detection limit). The data validator assigned this flag when an analyte was considered non-detect due to blank contamination. If the result is above the PQL, the PQL is considered elevated.

UJ – The result is considered non-detect at an estimated PQL.

Overall, the data quality was acceptable and the laboratory analysis and reporting procedures were representative of appropriate methodology for the samples collected. Table 4-3 summarizes the qualified data records for the sample reports. No sample results were rejected for an overall completeness of 100%. Laboratory QC concerns did not have a significant impact on the overall completeness and representativeness of the dataset. Copies of the laboratory reports are provided electronically as part of Appendix E.

Table 4-1 Field Duplicate Sample Summary, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Matrix	Field Duplicate Sample ID	Collection Date	Parent Sample ID	Metals	Mercury	VOCs	SVOCs	TOC	Pesticides	PCBs
GW	18MC-MW01/D	07/09/07	18MC-MW01	X	X	X	X		X	X
SD	18MC-BC03-Z1/D	06/15/07	18MC-BC03-Z1	X			X	X	X	X
SD	18MC-L02W-S02-Z2/D	04/18/07	18MC-L02W-S02-Z2	X				X		X
SD	18MC-L03E-S03-Z1/D	04/20/07	18MC-L03E-S03-Z1	X						X
SD	18MC-L06-S03-Z1/D	04/19/07	18MC-L06-S03-Z1	X						X
SD	18MC-L07-S01-Z1/D	04/23/07	18MC-L07-S01-Z1	X						X
SD	18MC-L10-S01-Z1/D	04/23/07	18MC-L10-S01-Z1	X						X
SD	18MC-L15E-S01-Z1/D	04/24/07	18MC-L15E-S01-Z1	X						X
SOIL	18MC-L02E-S05-Z2/D	04/20/07	18MC-L02E-S05-Z2	X	X					X
SOIL	18MC-L18-S05-Z2/D	04/25/07	18MC-L18-S05-Z2	X	X					X
SOIL	18MC-MW06-Z2/D	06/20/07	18MC-MW06-Z2	X	X		X			X
SOIL	18MC-MW08-Z2/D	06/11/07	18MC-MW08-Z2	X	X		X			X
SOIL	18MC-SB01-Z1/D	06/08/07	18MC-SB01-Z1	X	X					X
SOIL	18MC-SB10-Z1/D	04/26/07	18MC-SB10-Z1	X	X					X
SOIL	18MC-SB15-Z2/D	04/27/07	18MC-SB15-Z2	X	X					X
SOIL	18MC-SS17/D	04/16/07	18MC-SS17	X	X		X		X	X

Key:

BC = Barge Canal sample.
/D = Suffix indicating duplicate sample.
GW = Groundwater sample.
MW = Monitoring well sample.
PCB = Polychlorinated biphenyl.
SB = Soil boring sample.
SD = Sediment sample.
SS = Surface soil sample.
SVOC = Semivolatile organic compound.
TOC = Total organic carbon.
VOC = Volatile organic compound.
X = Sample was analyzed for these parameters.
Z1 = Shallow sample from sampling location.
Z2 = Second sample (from surface) from sampling location.

Table 4-2 Summary of Analytical Methods and Number of Samples Collected, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Matrix	Lab Method ID	Lab Method Description	Number of Samples
DI	6010B	Metals by 6010B	1
GW	6010B	Metals by 6010B	32
DI	7470A	Mercury by 7470A	1
GW	7470A	Mercury by 7470A	32
DI	SW8081	Pesticides by 8081A	1
GW	SW8081	Pesticides by 8081A	16
DI	SW8082	PCBs by 8082	1
GW	SW8082	PCBs by 8082	16
DI	SW8260	VOCs by 8260B	2
GW	SW8260	VOCs by 8260B	19
DI	SW8270	SVOCs by 8270C	1
GW	SW8270	SVOCs by 8270C	16
SD	SW6010	TCLP Metals by 6010B	17
SD	SW6010	Metals by 6010B	97
SD	SW8081	Pesticides by 8081A	32
SD	SW8082	PCBs by 8082	97
SD	SW8270	SVOCs by 8270C	33
SD	E415.1 Kahn	TOC by Lloyd Kahn	36
SOIL	SW6010	TCLP Metals by 6010B	19
SOIL	SW6010	Metals by 6010B	165
SOIL	SW7470	TCLP Mercury by 7470A	1
SOIL	SW7471	Mercury by 7471A	164
SOIL	SW8081	Pesticides by 8081A	39
SOIL	SW8082	PCBs by 8082	165
SOIL	SW8270	SVOCs by 8270C	69
DI	SW6010	Metals by 6010B	2
DI	SW7470	Mercury by 7470A	2
DI	SW8082	PCBs by 8082	2
DI	SW8260	VOCs by 8260B	2
DI	SW8270	SVOCs by 8270C	2

Key:

DI = Deionized water.
GW = Groundwater sample.
PCB = Polychlorinated biphenyl.
SD = Sediment sample.
SVOCs = Semivolatile Organic Compounds.
TCLP = Toxicity Characteristic Leaching Procedure.
TOC = Total organic carbon.
VOC = Volatile Organic Compound.

Table 4-3 Summary of Sample Completeness, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Sample Matrix	Lab Method ID	Unqualified	J	U	UJ	Total	% Complete
GW	6010B	129	331	263	3	726	100%
GW	7470A	1	2	16	14	33	100%
GW	SW8081			357		357	100%
GW	SW8082	16		152		168	100%
GW	SW8260	17	8	1,045	20	1,090	100%
GW	SW8270	19	21	1,065	67	1,172	100%
SD	SW6010	230	304	19		553	100%
SD	SW8081	20	135	517		672	100%
SD	SW8082	201	25	744		970	100%
SD	SW8270	177	371	1,717	14	2,279	100%
SD	E415.1 Kahn	36				36	100%
SOIL	SW6010	1592	1,595	467	35	3,689	100%
SOIL	SW7470				1	1	100%
SOIL	SW7471	106	43	15		164	100%
SOIL	SW8081	25	165	590	18	798	100%
SOIL	SW8082	238	31	1,379	2	1,650	100%
SOIL	SW8270	236	664	3,449	206	4,555	100%
DI	SW6010	3	9	32		44	100%
DI	SW7470			2		2	100%
DI	SW8082			20		20	100%
DI	SW8260		1	101		102	100%
DI	SW8270			137	1	138	100%

Key:
DI = Deionized water.
GW = Groundwater sample.
SD = Sediment sample.

5 Nature and Extent of Contamination

5.1 Introduction

This section presents the analytical results of the SRI field activities in order to develop an understanding of the nature and extent of contamination at the Site. This information was used to assess the fate and transport of chemicals (see Section 6) and identify chemicals of potential concern for risk evaluation (see Section 7) that pose a potential threat to human health and/or the environment. A summary of the total number of samples organized by property and sample media is presented in Table 5-1.

Screening

The analytical results (see Tables 5-2 through 5-7) were screened against existing NYS regulatory criteria to identify samples containing analyte levels that may represent a possible threat to human health and/or the environment. Groundwater analytical data were compared to standards and guidance values contained in NYSDEC, *Technical and Operational Guidance Series (TOGS 1.1.1: Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* (NYSDEC 1998, with updates). Soil (surface and subsurface) data were compared to soil cleanup objectives contained in NYSDEC, 6 New York Codes, Rules, and Regulations (NYCRR) Subpart 375-6.8, *Remedial Program Soil Cleanup Objectives*. Sediment data were compared to the sediment criteria contained in the NYSDEC Division of Fish, Wildlife, and Marine Resources Technical Guidance for Screening Contaminated Sediments (NYSDEC 1999, with updates).

Under the Technical Guidance for Screening Contaminated Sediments (NYSDEC 1999), the screening levels for organic compounds are calculated based on the site-specific/sample-specific TOC. Site-specific corrected screening values were calculated based on an average TOC in order to compare the sample data to the same screening value. The TOC was determined by averaging the TOC results from all samples and calculated the 95% confidence interval. The lowest confidence interval of the TOC average was used for the calculation of the screening levels for the sediment samples, because this generated the most conservative estimate. Under this guidance the screening levels are calculated for: human health bioaccumulation, wildlife bioaccumulation, and benthic aquatic life acute and

chronic toxicity. The most stringent of the four levels was used in the comparisons. NYSDEC is in the process of revising the screening levels for sediments. The sediment data are also compared against the draft (not published) Sediment Guidance Values for Use in Assessing Contaminated Sediment in New York State. The draft criteria are based on development of national consensus based sediment quality guidelines (MacDonald et al. 2000a and b).

Under 6 NYCRR Subpart 375-6.8, NYSDEC presents various soil cleanup objectives (SCOs) for protection of public health based on land use criteria which include:

- **Unrestricted Use**, which is a use without imposed restrictions, such as environmental easements or other land use controls; or

- **Restricted Use,** which is a use with imposed restrictions, such as environmental easements, which as part of the remedy selected for the site require a site management plan that relies on institutional controls or engineering controls to manage exposure to contamination remaining at a site. Restricted use is separated into four different categories:

    1. **Residential Use** is a land use category that allows a site to be used for any use other than raising livestock or producing animal products for human consumption. Restrictions on the use of groundwater are allowed, but no other institutional or engineering control relative to the residential soil cleanup objectives, such as a site management plan, would be allowed. This land use category will be considered for single family housing;

    2. **Restricted-Residential Use** is a land use category that shall only be considered when there is common ownership or a single owner/managing entity of the site. Restricted-residential use shall, at a minimum, include restrictions which prohibit any vegetable gardens on a site, although community vegetable gardens may be considered with NYSDEC approval and single-family housing. Active recreational uses, which are public uses with a reasonable potential for soil contact, such as parks, are also included under this category;

    3. **Restricted-Commercial Use** is a land use for the primary purpose of buying, selling, or trading of merchandise or services. Commercial use includes passive recreational uses, which are public uses with limited potential for soil contact; and

    4. **Restricted-Industrial Use** is a land use for the primary purpose of manufacturing, production, fabrication, or assembly process and ancillary services. Industrial uses do not include any recreational component.

In addition, SCOs are presented in 6 NYCRR Subpart 375-6.8 for the protection of groundwater and ecological resources, which should be considered where applicable. The SCOs for protection of groundwater were not included in the screening process because groundwater data are screened independently against NYSDEC TOGS 1.1.1 values. If groundwater contamination is determined to be of concern based on this screening process, the FS will consider these soil cleanup objectives in selection of cleanup goals for soils. Similarly, protection of ecological resources is evaluated in the Site-specific ERA. If the ERA for this Site identifies a serious risk for one or more receptor groups, the SCOs for protection of ecological resources can be considered at that time as part of the risk-management process for the Site. Since this is a Superfund project, the soil data must be compared to prerelease conditions; therefore, the 6 NYCRR Part 375-6.8 Unrestricted Use SCOs are used for the Site. Additionally, the Restricted-Commercial Use SCOs are included in the tables for comparison purposes only.

The list of inorganic analytes (i.e., metals) found in the 6 NYCRR Part 375-6.8 regulation is limited to 15 metals because the intention of NYSDEC was to develop cleanup objectives for a priority list of contaminants commonly found at NYS waste sites. NYS background values (95th percentile), obtained from Appendix D of the *New York State Brownfield Cleanup Program, Development of Soil Cleanup Objectives, Technical Support Document* (NYSDEC 2006c), were used as screening criteria for those metals that were detected in site soils but not listed in 6 NYCRR Part 375-6.8. For metals with no Part 375-6.8 cleanup objectives and no NYS background values, eastern United States background values (95th percentile) from Shacklette and Boerngen (1984) were used as screening values.

The concentrations of metals in the TCLP analysis of high-level lead samples were compared to NYSDEC, Division of Solid and Hazardous Materials, Identification and Listing of Hazardous Wastes (6 NYCRR 371) for D008 hazardous waste values (hereafter called “NYSDEC hazardous waste values”).

Additionally, guidance values and standards apply to total PCB concentrations rather than individual Aroclor concentrations. Aroclors 1242, 1248, 1254, 1260, 1262, and 1268 were found in the various samples collected during the SRI. Aroclors 1248 and 1254 were the predominant Aroclors. Aroclor 1260 also was found in several soil and sediment samples. Aroclor 1242 was only detected in six shallow sediment samples; Aroclor 1262 was only detected in four downstream off-bank soil samples; and Aroclor 1268 was not found in the sediment samples. PCBs were not detected in groundwater samples collected at this Site.

5.2 Sediment Investigation Sampling and Analysis Results

Ninety-three sediment samples were collected from the center and banks of Eighteenmile Creek, as well as from the Barge Canal, and one upstream location. A

summary of the collected samples and the analyses is presented in Tables 2-1 and 2-3. The results for the sediment samples are presented in Figures 5-1a through 5-1h and 5-2a through 5-2h and on Tables 5-2a through 5-2f and 5-3a. A discussion of these results is presented below.

Upgradient

Two sediment samples were collected and submitted for TCL PCB, select metals, TCL SVOC, and pesticide analysis. A summary of the analytical data is provided in Table 5-2a. The upgradient location is south of the Barge Canal (see Figure 2-1).

PCBs. There were no PCBs detected in the upgradient sediment samples.

Pesticides. A total of six pesticides were detected in the upgradient sediment samples including five pesticides in the upgradient shallow sediment sample and one in the deep sample. Three pesticides, endrin, lindane and heptachlor, were detected in the shallow sample at concentrations exceeding the respective draft Sediment Guidance Values.

SVOCs. There were several SVOCs detected in the upgradient sediment samples including a phthalate, 16 PAHs, and three PAH-like SVOCs (i.e., similar chemical composition). Six PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, and chrysene) were detected above the current screening levels. Six more PAHs (anthracene, dibenzo(a,h)anthracene, fluoranthene, fluorene, phenanthrene, and pyrene) were detected above the draft Sediment Guidance Values. Total PAH concentrations exceeded the draft Sediment Guidance Value in both samples. PAHs are ubiquitous products of incomplete combustion of fuels or elevated temperature processes that involve compounds containing carbon and hydrogen and as such they are commonly found in urban areas.

Metals. All five metals were detected in the two samples. Copper was detected at a concentration above the current screening level in the shallow sample (18MC-UP-S01-Z1). Lead was found at a concentration exceeding the current screening level of 31 mg/kg in the shallow sample only (33.5 mg/kg).

New York State Barge Canal

Six sediment samples were collected from the Barge Canal. All samples were submitted to the laboratory for TCL PCB and select metal list (arsenic, chromium, copper, lead, and zinc) analysis. Two samples were also submitted for SVOC analysis, and one sample was also submitted for pesticide analysis. A summary of the analytical data is provided in Table 5-2a. At location 18MC-BC03, a duplicate sample was also collected (18MC-BC03-Z1/D). The collected sediment was mixed prior to filling the sample jars; however, the high gravel content made it difficult to homogenize. The analytical results for the organic compounds (SVOCs, pesticides, and PCBs) show high variability between the two samples,

indicating that the sediment at the 18MC-BC03 area (dry dock) is very heterogeneous. Therefore, the two sets of data are discussed below as individual samples.

PCBs. PCBs were detected in six of the seven sediment samples at concentrations of total PCBs ranging from 0.0066 mg/kg (18MC-BC01-Z1) to 2.63 mg/kg (18MC-BC04-Z1). Two Aroclors were detected, including 1248 (six samples) and 1260 (18MC-BC04). All detections exceeded the current screening level of 0.000023 mg/kg (see Figure 5-1a).

Pesticides. Nine pesticides were detected in the two samples, 18MC-BC03-Z1 and 18MC-BC03-Z1/D, that were analyzed for pesticides. There were three pesticides detected in the original sample (18MC-BC03-Z1) and eight pesticides detected in the duplicate (18MC-BC03-Z1/D). One pesticide, gamma-chlordane, was detected at a concentration above the current screening level (0.000043 mg/kg) in both samples. Dieldrin and beta-BHC were also detected above the current screening levels in the original sample only. Endrin was detected above the draft Sediment Guidance Value only in the duplicate sample. All the pesticide detections were below laboratory reporting limits in the original sample.

SVOCs. There were 24 SVOCs detected in the upgradient sediment samples including phenols, phthalates, and several PAHs and PAH-like compounds. Eight PAHs were detected above the current screening levels and 10 were detected above the draft Sediment Guidance Values. Six of these PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and indeno(1,2,3-cd)pyrene) were detected above the current screening level in all three samples analyzed. Additionally, total PAH concentrations exceeded the draft Sediment Guidance Value in both samples.

Metals. All five metals were detected in the Barge Canal samples. Lead was detected in all Barge Canal samples at concentrations ranging from 33.1 mg/kg (18MC-BC01-Z1) to 190 mg/kg (18MC-BC06-Z1), which exceed the current screening level (31 mg/kg). Furthermore, lead concentrations exceed the draft guidance value (36 mg/kg) in all but one (18MC-BC01-Z1) Barge Canal samples (see Figure 5-2a). Arsenic, copper, and zinc were also detected above the current screening levels and the draft guidance value in Barge Canal sediments.

Upson Park

Five transects (18MC-L01W, 18MC-L02W, 18MC-L03W, 18MC-L04, and 18MC-L05) were established and 24 (and one duplicate) sediment samples were collected from the West Branch of Eighteenmile Creek adjacent to the Upson Park property. All samples were submitted for TCL PCB and select metals list. Eight samples were also submitted for TCL SVOC analysis and one sample was analyzed for TCLP Metals. A summary of the analytical results is provided in Table 5-2b for sediment samples and Table 5-3a for TCLP metals.

PCBs. PCBs were detected in 14 sediment samples, all at concentrations exceeding the current screening level for total PCBs. Ten samples did not contain any PCBs. The Aroclors detected in the Upson Park sediment samples include 1248 (10 samples), 1254 (10 samples), and 1260 (two samples). The PCB results are shown on Figures 5-1b and 5-1c. All PCB concentrations in the Upson Park area were less than 1 parts per million (ppm).

Pesticides. Fifteen pesticides were detected in the Upson Park sediment samples. Thirteen of these pesticides were detected above the current screening levels in a number of samples. The most frequent exceedances were for 4,4'-dichlorodiphenyltrichloroethane (DDT) and aldrin.

SVOCs. There were 21 SVOCs detected in the Upson Park samples including phenols, phthalates, 19 PAHs, and PAH-like compounds. SVOCs detected above the current screening levels include six PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and indeno(1,2,3-cd)pyrene). Six more PAHs (anthracene, dibenzo(a,h)anthracene, fluoranthene, fluorene, phenanthrene, and pyrene) were detected above the draft Sediment Guidance Values. Additionally, total PAH concentrations exceeded the draft Sediment Guidance Value in four samples.

Metals. TAL metals analysis revealed the presence of all five metals in the Upson Park samples at concentrations exceeding the screening levels. Lead was detected in all of the 24 sediment samples at concentrations ranging from 28.9 mg/kg (18MC-L02W-S03-Z2) to 1,660 mg/kg (18MC-L01W-S02-Z2). All but one sediment sample collected from Upson Park were found to exceed the current screening level and the draft guidance value (see Figure 5-2b and 5-2c).

Sample 18MC-L01W-S02-Z2 that contained the highest lead concentration did not have lead detected during TCLP analysis. Barium and cadmium were found in the TCLP extract but at concentrations below the NYSDEC hazardous waste values (see Table 5-3a).

The White Transportation Property

Three transects (18MC-L01E, 18MC-L02E, and 18MC-L03E) were established across the East Branch of Eighteenmile Creek adjacent to the White Transportation property and 11 sediment samples were collected. All sediment samples were submitted to the laboratory for TCL PCB analysis. Nine samples were submitted for select metals and two for Total Metals analysis. Six samples were also submitted for TCL SVOC and pesticide analysis. One sample was also analyzed for TCLP Metals. A summary of the analytical data is provided in Tables 5-2c and 5-3a.

PCBs. PCBs were detected in all of the sediment samples at concentrations ranging from 0.012 mg/kg Aroclor 1248 (18MC-AS01-S01-Z2) to 3.8 mg/kg total PCBs (18MC-L02E-S01-Z1). Principle Aroclors detected were 1248 (seven sam-

ples), 1254 (nine samples), and 1260 (four samples). PCBs were found to exceed the current screening level in all 11 sediment samples (see Figure 5-1d). The highest PCB concentrations were found in 18MC-L02E-S01-Z1. All the other PCB concentrations were less than 1 ppm.

Pesticides. Fifteen pesticides were detected in the White Transportation sediment samples. Thirteen of these pesticides were detected above their current screening levels in a number of samples. The most frequent exceedances were for 4,4'-DDE and aldrin. Samples 18MC-L02E-S02-Z1 and 18MC-L03E-S02-Z1 contained the most pesticides at concentrations above the screening levels.

SVOCs. There were 22 SVOCs detected in the White Transportation sediment samples. Twelve SVOCs were detected above the current screening levels, the draft Sediment Guidance Values, or both. Additionally, total PAH concentrations exceeded the draft Sediment Guidance Value in all samples. The highest concentration of PAHs was found in sample 18MC-L03E-S02-Z1.

Metals. Twenty-two metals were detected in the White Transportation samples. The five main metals (arsenic, chromium, copper, lead, and zinc) were detected in all the samples and at least once above the current screening level. Lead concentrations in all 11 sediment samples exceeded the current screening level and in 10 samples they also exceeded the higher draft guidance values. Other metals found at concentrations exceeding the current screening level include manganese and nickel. Lead, copper, and zinc exhibited the most exceedances over the screening levels (see Figure 5-2d).

TCLP metals analysis of sample 18MC-L02E-S01-Z1 that contained the highest lead concentration revealed lead in the TCLP extract at concentrations below the NYSDEC hazardous waste values (see Table 5-3a). Only trace low levels of barium, cadmium, and lead were found in the TCLP extract of this sample.

The Former United Paperboard Company Property

Six transects (18MC-L06 through 18MC-L11) were established across Eighteenmile Creek adjacent to the Former United Paperboard Company property and 20 sediment samples were collected. All sediment samples were submitted to the laboratory for TCL PCB and select metals analysis. Seven samples were also submitted for TCL SVOC and pesticide analysis. Four samples were analyzed for TCLP Metals. A summary of the analytical data is provided in Tables 5-2d and 5-3a.

PCBs. PCBs were detected in 17 of the 20 United Paperboard Company sediment samples at concentrations ranging from 0.04 mg/kg total PCBs (18MC-L08-S02-Z1) to 61 mg/kg total PCBs (18MC-L09-S03-Z1). Principle Aroclors detected were 1242 (three samples), 1248 (17 samples), 1254 (16 samples), and 1260 (two samples). In all 17 samples where PCBs were detected the current screening level was exceeded and in 13 samples the higher draft guidance value was exceeded as

well. PCBs were not detected in samples 18MC-L06-S01-Z1, 18MC-L08-S01-Z1, and 18MC-L09-S02-Z2 (see Figures 5-1e and 5-1f).

Pesticides. Thirteen pesticides were detected in the United Paperboard sediment samples, all of them found in at least one sample at a concentration above the screening values. Thirteen of these pesticides were detected above their current screening levels in a number of samples. The most frequent exceedances were for 4,4'-Dichlorodiphenyldichloroethylene (DDE) and aldrin. Samples 18MC-L02E-S02-Z1 and 18MC-L03E-S02-Z1 contained the most pesticides at concentrations above the screening levels. The majority of the pesticides were detected at concentrations below the laboratory reporting limit.

SVOCs. There were 22 SVOCs detected in the United Paperboard sediment samples. Thirteen PAHs were detected above the current screening levels, the draft Sediment Guidance Values, or both. Additionally, total PAH concentrations exceeded the draft Sediment Guidance Value in four samples. The highest PAH concentrations were detected in sample 18MC-L11-S02-Z1.

Metals. All five metals were detected in the United Paperboard samples at concentrations exceeding the screening levels. Lead was detected in all sediment samples at concentrations ranging from 31.9 mg/kg (18MC-L06-S02-Z1) to 15,000 mg/kg (18MC-L09-S03-Z1), all exceeding the current screening level of 31 mg/kg. The highest metals concentrations were found in 18MC-L09-S03-Z1 (see Figures 5-2e and 5-2f).

Four samples with lead concentrations above 1,000 ppm (18MC-L09-S01-Z1, 18MC-L09-S03-Z1, 18MC-L10-S01-Z1, and 18MC-L11-S02-Z1) were selected for TCLP analysis. All four metals (barium, cadmium, chromium, and lead) were detected during TCLP metals analysis in a least one sample extract. Sample 18MC-L09-S01-Z1 contained lead in the extract at a concentration exceeding the NYSDEC hazardous waste value (see Table 5-3a). All the other concentrations were below NYSDEC hazardous waste values.

The Former Flintkote Plant Site

Seven transects (18MC-L12, 18MC-L13, 18MC-L14W, 18MC-L14E, 18MC-L15W, 18MC-L15E, and 18MC-L16E) were established across Eighteenmile Creek adjacent to the Former Flintkote Plant Site and 22 sediment samples (and one duplicate) were collected. All sediment samples were analyzed for TCL PCB and select metals. Seven samples were also submitted for TCL SVOC and Pesticide analysis. Eleven samples were analyzed for TCLP Metals. A summary of the analytical data is provided in Tables 5-2e and 5-3a.

PCBs. PCBs were detected in 17 of the 22 sediment samples at concentrations ranging from 0.006 mg/kg Aroclor 1248 (18MC-L14W-S02-Z1) to 180 mg/kg Aroclor 1248 (18MC-L14E-S02-Z1). Principle Aroclors detected were 1242 (two samples), 1248 (16 samples), and 1254 (16 samples). In all 18 samples where

PCBs were detected the current screening level was exceeded and in 16 samples the higher draft guidance value was exceeded as well (see Figure 5-1g).

Pesticides. Fifteen pesticides were detected in the Former Flintkote Plant Site sediment samples. Twelve of these pesticides were detected above the current or draft proposed screening levels in a number of samples. The most frequent exceedances were for endosulfan I, alpha BHC, and lindane. The majority of the pesticides were found at levels below the laboratory reporting limits.

SVOCs. There were 27 SVOCs detected in the Former Flintkote Plant Site sediment samples. Fourteen PAHs, one phthalate, and one PAH-like compound were detected above the current screening levels, the draft Sediment Guidance Values, or both. Additionally, total PAH concentrations exceeded the draft Sediment Guidance Value in five samples. The highest PAH concentrations were detected in sample 18MC-L15E-S02-Z1.

Metals. All five of the selected metals were detected in all the Former Flintkote Plant Site samples. The concentrations of every metal exceeded the screening levels in 14 of the 22 samples and some metals exceeded screening levels in every sample. Lead was detected in all 22 sediment samples at concentrations ranging from 11.3 mg/kg (18MC-L14W-S02-Z1) to 3,990 mg/kg (18MC-L13-S03-Z1). Lead concentrations exceeded the current and draft proposed screening levels in 21 Former Flintkote Plant Site sediment samples (see Figure 5-2g). Copper concentrations exceeded the current screening level in all samples.

TCLP metals analysis was performed on 11 samples with concentrations of lead greater than 1,000 ppm. Barium, cadmium, and lead were detected in all of the sample extracts. Extracts for samples 18MC-L13-S03-Z1, 18MC-L14W-S03-Z1, 18MC-L14W-S03-Z2, and 18MC-L15E-S03-Z1 contained lead at concentrations exceeding the NYSDEC hazardous waste value (see Table 5-3a).

Area Downstream of the Former Flintkote Plant Site

Three transects (18MC-L16W, 18MC-L17, and 18MC-L18) were established across Eighteenmile Creek adjacent to and downstream of the Former Flintkote Plant Site and eight sediment samples were collected. All sediment samples were analyzed for TCL PCB and select metals. Three samples were also submitted for TCL SVOC and Pesticide analysis. A summary of the analytical data is provided in Tables 5-2f and 5-3e.

PCBs. PCBs were detected in six of the eight sediment samples. Total PCB concentrations ranged from 0.02 (18MC-L18-S02-Z2) to 10.3 mg/kg (18MC-L16W-S01-Z1). Principle Aroclors detected were 1242 (two samples), 1248 (four samples), 1254 (five samples), and 1260 (one sample). In all six samples where PCBs were detected the current screening level was exceeded and in four samples the higher draft guidance value was exceeded as well.

Pesticides. Eight pesticides were detected in the downstream sediment samples at low concentrations below the laboratory reporting limit. The concentrations did exceed at least one screening level. Sample 18MC-L18-S02-Z1 contained the most pesticides with all concentrations exceeding the higher draft screening level.

SVOCs. There were 18 SVOCs detected in the downstream sediment samples. Nine PAHs were detected above the current screening level, the draft Sediment Guidance Value, or both. Additionally, total PAH concentrations exceeded the draft Sediment Guidance Value in two samples. The highest PAH concentrations were detected in sample 18MC-L18-S02-Z1.

Metals. All five selected metals were detected in the downstream samples. The concentrations of every metal exceeded the screening levels in only two of the seven samples. Lead was detected in all sediment samples at concentrations ranging from 32.6 mg/kg (18MC-L18-S02-Z2) to 576 mg/kg (18MC-L18-S02-Z1), which all exceeded the current screening level. Copper concentrations exceeded the current screening level in all downstream samples as well. None of the lead concentrations were above 1,000 ppm, therefore, no TCLP analysis was performed.

5.3 Soil Investigation Sampling and Analysis Results

Fifty-nine surface soil and 95 subsurface soil samples were collected during the SRI, including off bank surface and subsurface soil samples collected during the sediment coring and surface and subsurface soil samples collected during borehole drilling and monitoring well installation. The results for the soil samples are presented on Figures 5-1 through 5-5, Table 5-3b, and table series 5-4 through 5-6. A discussion of these results is presented below.

5.3.1 Surface Soil Samples

A combined total of 59 surface soil samples (generally less than 2 inches below grade) were collected from the Upson Park, White Transportation, Former United Paperboard Company, and downstream of the Former Flintkote Plant Site properties. These samples were collected from off bank creek transect locations and from soil boring locations where monitoring wells were installed with the following exceptions: 18MC-SS02 (MW-02 was moved south of originally intended location due to shallow refusal and because MW03 would not be installed), 18MC-SS03 (MW03 was not installed), 18MC-SS05 (MW05 was moved due to an overhead obstruction and to target a suspected area of contamination), 18MC-SS07 (MW07 was not installed), and 18MC-SS18 through -SS20 were collected form locations where no monitoring wells were planned.

Upson Park

Sixteen surface soil samples were collected from Upson Park including 12 collected along the creek transects (Z1 samples of S04, S05, and S06 locations) and four collected from other portions of the property. All surface soil samples were submitted to the laboratory for TCL PCB and TAL Metals analysis. Ten samples

were submitted for TCL SVOC analysis and nine of them were also submitted for TCL Pesticide analysis. One sample was analyzed for TCLP Metals. A summary of the analytical data is provided in Tables 5-3b, 5-4a, and 5-5a.

PCBs. Four PCBs were detected in 10 of the 16 surface soil samples at total PCB concentrations ranging from 0.0097 mg/kg to 0.66 mg/kg (18MC-SS15). The Aroclors detected were 1248 (five samples), 1254 (eight samples), 1260 (three samples), and 1268 (two samples). PCBs were found at concentrations exceeding the unrestricted use SCO of 0.1 mg/kg in six samples. There were no exceedances of the restricted commercial use SCO of 1.0 (see Figures 5-1b and 5-1c). All PCB concentrations in the Upson Park area were less than 1 ppm.

Pesticides. Fourteen pesticides were detected in the Upson Park surface soil samples. Four pesticides were detected at least once at a concentration above the unrestricted use SCO. 4,4'-DDE and 4,4'-DDT exhibited the most exceedances.

SVOCs. There were 20 SVOCs, mostly PAHs, detected in the Upson Park surface soil samples. Seven PAHs were detected above the unrestricted use SCO. The highest concentrations and most exceedances of PAH were found in sample 18MC-L04W-S04-Z1. No PAH were detected about the higher commercial use SCO except benzo(a)pyrene in this sample. Note that the commercial use and restricted use SCOs are the same for benzo(a)pyrene.

Metals. Twenty-two metals were detected in the Upson Park samples. Sixteen metals concentrations exceeded the unrestricted use SCO and 11 metals concentrations exceeded also the higher commercial use SCO. The five main metals (arsenic, chromium, copper, lead, and zinc) were detected in all the samples and at least once above the unrestricted use SCO. Chromium concentrations exceed the unrestricted use SCO in every sample. Lead was present in all the samples at concentrations ranging from 18.8 mg/kg (18MC-L01W-S04-Z1) to 3,480 mg/kg (18MC-L03W-S05-Z1). Lead concentrations exceeded the unrestricted use SCO in all but four samples and the restricted commercial use (1,000 mg/kg) SCO in one sample (18MC-L03W-S05-Z1) (see Figures 5-2b and 5-2c).

TCLP metals analysis was performed on the one sample 18MC-L03W-S05-Z1 with lead concentrations above 1,000 ppm. Trace levels of lead and barium were found in the extract at concentrations below the NYSDEC hazardous waste values (see Table 5-3b).

The White Transportation Property

Eight surface soil samples were collected from the White Transportation property including four that are located on transects established across the creek and four collected at various locations in the property. All were submitted to the laboratory for TCL PCB and TAL metals analysis. Six samples were also submitted for TCL SVOC and TCL Pesticide analysis. All surface soil samples were archived and

one sample was analyzed for TCLP Metals. A summary of the analytical data is provided in Tables 5-3b, 5-4b, and 5-5b.

PCBs. PCBs were detected in six of the eight surface soil samples at total PCB concentrations ranging from 0.0078 mg/kg (18MC-L03E-S04-Z1) to 0.67 mg/kg (18MC-SS13). Principle Aroclors detected were 1248 (one sample), 1254 (one sample), and 1260 (five samples). PCBs were found to exceed the unrestricted use SCO in three samples (all for Aroclor 1260); however there were no exceedances noted over the higher SCO for restricted commercial use (see Figure 5-1d).

Pesticides. Fourteen pesticides were detected in the White Transportation surface soil samples. Four pesticides were detected at least twice at a concentration above the unrestricted use SCO. 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT exhibited the most exceedances.

SVOCs. There were 23 SVOCs, including 16 PAHs, detected in the White Transportation surface soil samples. Only sample 18MC-SS10 contained SVOCs (five PAHs) at concentrations above the unrestricted use SCOs. One PAH, benzo(a)pyrene, was also detected above the commercial use SCO. Note that the commercial use and restricted use SCOs are the same for benzo(a)pyrene.

Metals. Twenty-two metals were detected in the White Transportation samples. Thirteen metals concentrations exceeded the unrestricted use SCO and eight metals concentrations exceeded also the higher commercial use SCO. The five main metals (arsenic, chromium, copper, lead, and zinc) were detected in all the samples and at least in three samples at concentrations above the unrestricted use SCO. Chromium concentrations exceeded the unrestricted use SCO in every sample. Lead was detected in all White Transportation surface soil samples at concentrations ranging from 9.7 mg/kg to 3,750 mg/kg (see Figure 5-2d). Lead concentrations exceeded the unrestricted use SCO in six samples and the restricted commercial use SCO in one sample (18MC-L02E-S05-Z1).

TCLP metals analysis was performed on sample 18MC-L02E-S05-Z1 that contained lead at a concentration greater than 1,000 ppm. Trace levels of barium, cadmium, chromium, and lead were found in the TCLP extract at concentrations below the NYSDEC hazardous waste values (see Table 5-3b).

The Former United Paperboard Company Property

Twenty-one surface soil samples were collected from the United Paperboard Company property. These samples include 12 surface soil samples collected during sediment coring (off-bank samples) and nine surface soil samples collected at locations where monitoring wells were planned. Additionally the surface soil off-bank sample collected adjacent to the Former Flintkote Plant Site (18MC-L13-S04-Z1) is discussed herein with the United Paperboard surface soil samples. Three additional samples (18MC-SS18 through SS-20) were collected from the

property across the United Paperboard at the Site of the dilapidated former power plant building located on the east side of Mill Street. These samples are included in this section with the United Paperboard samples as well. A total of 25 samples was submitted to the laboratory for TCL PCB and TAL metals analysis. Nineteen samples were submitted for TCL SVOC analysis and 16 samples were submitted for TCL Pesticide analysis. All surface soil samples were archived and two samples were analyzed for TCLP Metals. A summary of the analytical data is provided in Tables 5-3b, 5-4c, and 5-5c.

PCBs. PCBs were detected in 17 of the 25 surface soil samples with total PCB concentrations ranging from 0.014 mg/kg to 4.3 mg/kg. Principle Aroclors detected were 1248 (seven samples), 1254 (11 samples), 1260 (two samples), and 1268 (only in the two samples collected inside the dilapidated former power plant building). Seventeen soil samples contained PCBs at concentrations exceeding the unrestricted use SCO. PCB concentrations (Aroclor 1248) in one sample (18MC-L07-S05-Z1) also exceeded the higher commercial use SCO (see Figures 5-1e to 5-1g). The sample is located on the east bank under the United Paperboard facility.

Pesticides. Eighteen pesticides were detected in the samples. Seven pesticides were detected at least twice at a concentration above the unrestricted use SCO. 4,4'-DDE and 4,4'-DDT concentrations exceeded the SCO in all the samples and were the most common pesticides found.

SVOCs. There were 24 SVOCs, including 16 PAHs, detected in the surface soil samples discussed here. Ten SVOCs, including nine PAHs and dibenzofuran (a PAH-like compound) were detected at concentrations exceeding the unrestricted use SCO. Additionally, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene concentrations exceeded the higher commercial use SCO in at least three samples. PAH levels in the two samples (i.e., SS18 and SS19) collected inside the dilapidated former power plant building were several times higher than those detected in the other Former United Paperboard Company samples.

Metals. Twenty-three metals were detected in the samples discussed here. Eighteen metals concentrations exceeded the unrestricted use SCO and 12 metals concentrations exceeded also the higher commercial use SCO. Lead was detected in all of the 25 surface soil samples at concentrations ranging from 32.0 mg/kg (18MC-L10-S04-Z1) to 3,600 mg/kg (18MC-L09-S04-Z1). Lead concentrations exceeded the unrestricted use SCO in all but four samples and the commercial use SCO in three samples (see Figures 5-2e through 5-2g).

Similar to the other surface soil samples, chromium concentrations exceeded the unrestricted use SCO in all samples. Copper and zinc concentrations exceeded the unrestricted use SCO in 18 samples (one of which also exceeded the commercial use SCO for copper). The commercial use SCO was exceeded in several

samples including 12 samples for antimony and eight for arsenic. Twelve samples contained mercury at concentrations exceeding the unrestricted use SCO. Ubiquitous metals such as magnesium, calcium, and iron were found at concentrations exceeding at least the unrestricted use SCO in several samples. Metals concentrations in the two samples collected inside the dilapidated former power plant building were similar to those found in the other United Paperboard samples with the exception of barium and zinc that were found at concentrations several orders of magnitude higher in the two samples than in the United Paperboard samples. Barium concentrations exceeded the commercial use SCO.

TCLP metals analysis was performed on samples 18MC-L09-S04-Z, 18MC-L09-S05-Z1, 18MC-SS18, and 18MC-SS19. Barium, cadmium, and chromium concentrations in the TCLP extract were below the NYSDEC hazardous waste values. Lead was detected in extract from 18MC-L09-S04-Z1 at a concentration exceeding the NYSDEC hazardous waste value (see Table 5-3b).

Area Downstream of the Former Flintkote Plant Site

Ten surface soil samples were collected from the area downstream of the Former Flintkote Plant Site and. All the samples were analyzed for TCL PCB and TAL metals. Three samples were also submitted for TCL SVOCs and pesticide analysis. A summary of the analytical data is provided in Tables 5-3b and 5-5d.

PCBs. PCBs were detected in three of the 10 samples with total PCB concentrations ranging from 0.1 to 0.83 mg/kg. Principle Aroclors detected were 1254 (one samples), 1260 (one sample), and 1262 (two samples). PCB concentrations in samples 18MC-L16W-S04-Z1 and 18MC-L18-S07-Z1 exceeded the unrestricted use SCO but were below the higher commercial use SCO (see Figure 5-1h).

Pesticides. Eleven pesticides were detected in the downstream samples. Concentrations of three pesticides (4,4'-DDE, 4,4'-DDT, and dieldrin) exceeded the unrestricted use SCO in sample 18MC-L16W-S04-Z1.

SVOCs. There were 24 SVOCs detected in the downstream samples. PAHs benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, and indeno(1,2,3-cd)pyrene were found at concentrations exceeding the unrestricted use SCO in two sample each. Benzo(a)pyrene concentrations also exceeded the commercial use SCO in the two samples, because this SCO is the same as the unrestricted use SCO.

Metals. Twenty-three metals were detected in the downstream samples. Sixteen metals concentrations exceeded the unrestricted use SCO and nine metals concentrations exceeded also the higher commercial use SCO. Lead was detected in all downstream surface soil samples at concentrations ranging from 20.9 mg/kg (18MC-L16W-S05-Z1) to 603 mg/kg (18MC-L18-S05-Z1). Lead concentrations exceeded the unrestricted use SCO in all but two samples (see Figure 5-2h).

Similar to the other surface soil samples, chromium concentrations exceeded the unrestricted use SCO in all downstream surface soil samples. Copper and zinc concentrations exceeded the unrestricted use SCO in five and eight samples, respectively (two of which also exceeded the commercial use SCO for copper). The commercial use SCO was exceeded for several metals including antimony (two samples), cobalt, arsenic, potassium, and nickel (one sample each). Five samples contained mercury at concentrations exceeding the unrestricted use SCO. Ubiquitous metals, such as magnesium, calcium, and iron, were found at concentrations exceeding at least the unrestricted use SCO in several samples and the commercial use SCO in at least two samples each. Lead concentrations did not exceed 1,000 ppm and no TCLP analysis was performed.

5.3.2 Subsurface Soil Samples

A combined total of 95 subsurface soil samples were collected from the study area. Subsurface soil samples were collected from off bank locations and soil boring locations.

Upson Park

A total of 28 subsurface soil samples were collected, including 17 off-bank subsurface soil samples collected along the transects established across the West Branch of Eighteenmile Creek adjacent to the Upson Park property and 11 subsurface soil samples collected during drilling operations in the property. These samples were submitted for TCL PCB and TAL metals analysis. Four samples were also submitted for TCL SVOC analysis. Six samples were analyzed for TCLP Metals. A summary of the analytical data is provided in Tables 5-3b, 5-5a, and 5-6a.

PCBs. PCBs were detected in 14 of the 28 subsurface soil samples at total PCB concentrations ranging from 0.0093 mg/kg to 4.0 mg/kg total PCBs. Aroclors detected included 1248 (two samples), 1254 (eight samples), 1260 (four samples), 1268 (five samples). PCBs concentrations exceeded the unrestricted use SCO in four subsurface soil samples (18MC-L02W-S04-Z2, 18MC-L02W-S04-Z3, 18MC-L02W-S05-Z2, and 18MC-L02W-S06-Z2), while the concentration exceeded the higher restricted commercial use SCO in only one sample (18MC-L02W-S04-Z3). This sample was collected on the west side of the Site at a depth of 2.5 to 3 feet. Nearby subsurface soils did not show any PCB concentrations above 1 ppm (see Figures 5-1b and 5-1c).

SVOCs. There were seven SVOCs detected in the Upson Park samples, all at concentrations below the SCOs.

Metals. Twenty-three metals were detected in the Upson Park subsurface soil samples, with most of them found at concentrations exceeding the SCOs in several samples. Metals found above the higher commercial use SCOs include: antimony, arsenic, barium, cadmium, calcium, cobalt, copper, iron, lead, magnesium, mercury, nickel, potassium, sodium, and vanadium. Lead was detected in

all of the subsurface soil samples at concentrations ranging from 7.9 mg/kg to 77,300 mg/kg. Lead concentrations exceeded both SCOs in four samples and only the unrestricted use SCO in 15 samples (see Figures 5-2b and 5-2c). Similar to the surface soil samples, chromium levels exceeded the unrestricted use SCO in all the Upson Park subsurface soil samples.

TCLP metals analysis was performed on six samples with total lead concentrations close to or over 1,000 ppm. Barium, cadmium, chromium, and lead were detected at low levels in the sample extracts except for sample 18MC-SB14-Z2. This sample extract contained lead at a concentration exceeding the NYSDEC hazardous waste value (see Table 5-3b). The other sample from this boring, 18MC-SB14-Z1, contained lead close to the NYSDEC hazardous waste value for lead.

The White Transportation Property

Twenty-one subsurface soil samples were collected from the White Transportation property. These samples include 16 off-bank subsurface soil samples collected during sediment coring and five subsurface soil samples collected during drilling operations. The 21subsurface soil samples were submitted for TCL PCB and TAL metals analysis. Six samples were also submitted for TCL SVOC analysis. Two samples were analyzed for TCLP Metals. A summary of the analytical data is provided in Tables 5-3b, 5-5b, and 5-6b.

PCBs. PCBs were detected in five subsurface soil samples at total PCB concentrations ranging from 0.012 mg/kg to 0.48 mg/kg. Principle Aroclors detected included 1254 (two samples) and 1260 (four samples). PCB concentrations were found to exceed the unrestricted use SCO in two White Transportation subsurface soil samples (18MC-SB09-Z1 and 18MC-L02E-S04-Z2); however they did not exceed the higher commercial use SCO (see Figure 5-1d).

SVOCs. Thirty-two SVOCs were detected in the White Transportation subsurface soil. Three SVOCs (1,4-dioxane, 4-methylphenol, and phenol) were detected at concentrations exceeding the unrestricted use SCOs. Chlorophenol compounds also were detected at trace levels in these borings. This level of phenol compounds was not observed in any other samples. The concentrations appear to be unique to White Transportation.

Metals. Twenty-two metals were detected in the White Transportation subsurface soil samples, 16 of which were found at concentrations exceeding the SCOs. Metals found above the higher commercial use SCOs include: antimony, barium, calcium, iron, lead, magnesium, potassium, and sodium. Lead was detected in all of the subsurface soil samples at concentrations ranging from 1.7 mg/kg to 2,590 mg/kg. Lead concentrations exceeded both SCOs in one sample (18MC-L02E-S05-Z2) and only the unrestricted use SCO in seven samples (see Figure 5-2d). Similar to the surface soil samples, chromium levels exceeded the unrestricted use SCO in all the White Transportation subsurface soil samples.

TCLP metals analysis was performed on samples 18MC-L02E-S05-Z2 and 18MC-MW13-Z1 that contained high levels of total lead. Barium, cadmium, lead, and chromium were detected in the TCLP extracts at concentrations below the NYSDEC hazardous waste values (see Table 5-3b).

The Former United Paperboard Company Property

Thirty-seven subsurface soil samples were collected from the United Paperboard property. These samples include 12 off-bank samples subsurface soil samples collected during coring and 25 subsurface soil samples collected during drilling operations. Additionally, the off-bank subsurface soil sample collected from transect line 18MC-L13 (18MC-L13-S04-Z2) located at the boundary of the Flintkote property is discussed herein with the United Paperboard subsurface soil samples. The 38 samples were submitted for TCL PCB and TAL metals analysis. Thirteen samples were also submitted for TCL SVOC analysis. Four samples were analyzed for TCLP Metals. A summary of the analytical data is provided in Tables 5-3b, 5-5c, and 5-6c.

PCBs. PCBs were detected in 11 subsurface soil samples at total PCB concentrations ranging from 0.0047 mg/kg to 626 mg/kg. Principle Aroclors detected included 1248 (10 samples), 1254 (five samples), and 1260 (two samples). PCBs were found to exceed only the unrestricted use SCO in six subsurface soil samples, and both SCOs in three samples (18MC-SB15-Z1, 18MC-L08-S05-Z2, and 18MC-L09-S05-Z2). Sample 18MC-SB15-Z1 had the highest concentration of PCBs of any of the samples at the Site (see Figures 5-1e through 5-1g).

SVOCs. Thirty-three SVOCs were detected in the United Paperboard Company subsurface soil. Four SVOCs (benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and indeno(1,2,3-cd)pyrene) were detected at concentrations exceeding the unrestricted use SCOs and one (benzo(a)pyrene) was detected at concentrations exceeding both SCOs. Sample 18MC-MW05-Z1 contained the highest levels of SVOCs.

Metals. Twenty-two metals were detected in the United Paperboard Company subsurface soil samples, 19 of which were found at concentrations exceeding the SCOs. Metals found above both SCOs include: antimony, arsenic, calcium, cobalt, copper, iron, lead, magnesium, mercury, potassium, sodium, and vanadium. Lead was detected in all the property subsurface soil samples at concentrations ranging from 1.7 mg/kg to 7,430 mg/kg. Lead concentrations in nineteen samples were found to exceed the unrestricted use SCO, and in four samples (18MC-MW05-Z1, 18MC-SB15-Z1, 18MC-L09-S04-Z2, and 18MC-L09-S05-Z2) exceeded both SCOs (see Figures 5-2e through 5-2g). Similar to the surface soil samples, chromium levels exceeded the unrestricted use SCO in all the United Paperboard subsurface soil samples.

TCLP metals analysis was performed on four samples with concentrations of total lead above 1,000 ppm. Barium, cadmium, and chromium were detected in the sample extracts at concentrations below the NYSDEC hazardous waste values. Lead concentrations in the extracts of samples 18MC-MW05-Z1 and 18MC-SB15 were significantly above the NYSDEC hazardous waste value (see Table 5-3b). Lead was not detected in the extracts of 18MC-L09-S04-Z2 and 18MC-L09-S05-Z2.

Area Downstream of the Former Flintkote Plant Site

Eight subsurface soil samples were collected from the area downstream of the Former Flintkote Plant Site. All the samples were analyzed for TCL PCB and TAL Metals. One sample was analyzed for TCLP Metals. A summary of the analytical data is provided in Tables 5-3b and 5-5d.

PCBs. PCBs were detected in three samples with total PCB concentrations ranging from 0.31 to 0.53 mg/kg. Principle Aroclors detected were 1254 (18MC-L18-S07-Z2) and 1262 (18MC-L16W-S04-Z2 and 18MC-L18-S06-Z2). PCB concentrations in samples 18MC-L18-S06-Z2 exceeded the unrestricted use SCO (see Figure 5-1h).

Metals. Twenty-two metals were detected in the downstream samples. Fourteen metals concentrations exceeded the unrestricted use SCO and nine metals concentrations exceeded also the higher commercial use SCO. Lead was detected in all downstream subsurface soil samples at concentrations ranging from 8.5 mg/kg (18MC-L16W-S05-Z1) to 1,240 mg/kg (18MC-L18-S05-Z1). Lead concentrations exceeded the restricted commercial use SCO in one sample (18MC-L16W-S04-Z2) and the unrestricted use SCO in 12 samples (see Figure 5-2h).

Similar to the other soil samples, chromium concentrations exceeded the unrestricted use SCO in all downstream subsurface soil samples. The commercial use SCO was exceeded for several metals including antimony (two samples), calcium and magnesium (four samples), cobalt, arsenic, sodium, mercury, and nickel (one sample each). Copper, mercury, nickel, and zinc concentrations exceeded the unrestricted use SCO in four samples.

TCLP metals analysis was performed on sample 18MC-L16W-S04-Z2 that contained total lead at a concentration above 1,000 ppm. Barium and cadmium were detected in the TCLP sample extracts at concentrations below the NYSDEC hazardous waste values. Lead and chromium were not detected in the TCLP extract.

5.4 Groundwater Investigation

A combined total of 14 groundwater samples were collected from the wells installed at 15 soil borings on the Upson Park, White Transportation, and Former United Paperboard properties. Well 18MC-MW09 did not produce sufficient water for sample collection.

Upson Park

Four groundwater samples were collected from Upson Park. All samples were submitted to the laboratory for TCL VOC, TCL SVOC, TCL PCB, TCL Pesticide, and TAL Metals (Total and Dissolved) analysis. A summary of the analytical data is provided in Table 5-7a.

PCBs. PCBs were not detected in any of the groundwater samples collected from Upson Park.

VOCs. Groundwater samples from the two southern Upson Park wells (18MC-MW16 and -MW17) did not contain any VOCs. Seven VOCs (chloroform and six chlorinated hydrocarbons) were detected in the sample collected from the 18MC-MW14 well installed at the northern portion of the Site, near the property line at the shoulder of Clinton Street. Trichloroethene (TCE) and cis-1,2-dichloroethene (cis-1,2-DCE) in 18MC-MW14 were found at concentrations above the NYS groundwater quality standards. Three chlorinated hydrocarbons were detected in the groundwater sample collected from well 18MC-MW15 (located approximately 50 feet from the lower of the two Park service roads), all at concentrations below the NYS groundwater quality standards.

SVOCs. No SVOCs were detected in the Upson Park groundwater samples.

Metals. Twenty metals were found in the Upson Park groundwater samples. Total antimony, and total and dissolved iron, magnesium, and sodium were detected at concentrations exceeding the NYS groundwater quality standards in at least three of the four samples. Lead was only detected in sample 18MC-MW17 at a concentration of 11.4 micrograms per liter (µg/L), which is below the NYS groundwater quality standard.

The White Transportation Property

Four groundwater samples were collected from the White Transportation property. All samples were submitted to the laboratory for TCL VOC, TCL SVOC, TCL PCB, TCL Pesticide, and TAL Metals (total and dissolved) analysis. A summary of the analytical data is provided in Table 5-7b.

PCBs. PCBs were not detected in any of the groundwater samples collected from the White Transportation property.

VOCs. The groundwater sample collected from White Transportation well 18MC-MW11 located near the northeast corner of the building contained TCE and toluene at concentrations well below the NYS groundwater quality standards. No other VOCs were detected in the White Transportation groundwater samples.

SVOCs. Three SVOCs (two PAHs and caprolactam) were found in the White Transportation groundwater samples at concentrations well below the NYS groundwater quality standards. No phenolic compounds were detected in the

groundwater even though these compounds were found in the associated subsurface soil samples.

Metals. Sixteen metals were found in the White Transportation groundwater samples. Total antimony, and total and dissolved iron, manganese, and sodium were detected at concentrations exceeding the NYS groundwater quality standards in at least one of the four samples. Lead was not detected in any of the White Transportation groundwater samples.

The Former United Paperboard Company Property

Six groundwater samples were collected from the United Paperboard property. All samples were submitted to the laboratory for TCL VOC, TCL SVOC, TCL PCB, TCL Pesticide, and TAL Metals (total and dissolved) analysis. A summary of the analytical data is provided in Table 5-7c.

PCBs. PCBs were not detected in any of the groundwater samples collected.

VOCs. Groundwater samples from the two United Paperboard wells (18MC-MW06 and -MW08) located in the east portion of the southern parcel did not contain any VOCs. Five VOCs (chloroform and four chlorinated hydrocarbons) were detected at least once in the remaining four United Paperboard wells. One VOC, cis-1,2-DCE, was detected above the NYS groundwater quality standard (5 µg/L) at 7.1 µg/L in well 18MC-MW05 located at the northeast corner of the southern United Paperboard parcel. The remaining VOCs were detected at concentrations well below the NYS groundwater quality standard.

SVOCs. Six SVOCs (three PAHs, phenols, caprolactam, and acetophenone) were found in the United Paperboard groundwater samples. The PAH compounds also were detected in the soil samples from the monitoring well borings. Phenols were detected in groundwater sample 18MC-MW08 at a concentration exceeding the NYS groundwater quality standard. Phenols were not detected in the soil samples collected from the well, but phenols were detected from soils in the monitoring well borings of White Transportation. The remaining SVOCs were found at concentrations well below the NYS groundwater quality standards

Metals. Twenty metals were found in the United Paperboard groundwater samples. Antimony, iron, magnesium, manganese, and sodium were detected at concentrations exceeding the groundwater NYS groundwater quality standards in at least two samples. Lead was detected in two groundwater samples at concentrations below the groundwater standard.

5.5 Tentatively Identified Compounds

TICs are compounds that can be detected by the analytical methods but the identity and concentration cannot be confirmed without further testing. The TICs reported herein (see Appendix F) are compounds that the instrumentation detected but the SVOC and VOC analytical methods did not specifically target.

TICs were included in this SRI to investigate their occurrence in the sediment, soil, and water and perhaps to definitively identify and quantify a subset of them. Since these compounds are tentatively identified and are not part of the Target Compound List, specific screening criteria do not exist for them.

A total of 65 TICs were detected in the sediment samples and are provided in Table F-2 (see Appendix F). Fifty-three TICs were detected in the surface and 36 were found in the subsurface soil samples (see Appendix F Tables F-3 and F-4, respectively). TICs detected during SVOC analysis of the sediment and soil samples include PAH-like compounds, napthalenes, and other hydrocarbons. No TICs were detected in the soil samples at concentrations exceeding 100 mg/kg (the maximum value of SCOs for unrestricted use).

A summary of the TICs detected in the groundwater samples is provided in Table F-4 (see Appendix F). One VOC (dimethyl sulfide) and 14 SVOC TICs were detected in the groundwater samples. TICs detected during SVOC analysis of the groundwater samples include hydrocarbons and glycols. Several of these TICs were detected at concentrations higher than 5 µg/L (principal organic contaminant standard).

Table 5-1 Sampling and Analysis, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

	Total Number	PCB	Total Metals	Dissolved Metals	Select Metals (Ar, Cr, Cu, Pb, Zn)	SVOC	VOC	Pesticides	TCLP Metals
Upgradient Locations									
Sediment	2	2	0	0	2	2	0	2	0
NYS Barge Canal									
Sediment	6	6	0	0	6	2	0	1	0
Upson Park Property									
Sediment	24	24	0	0	24	8	0	8	1
Off Bank Surface Soil	12	12	12	0	0	5	0	5	1
Surface Soil Total[1]	16	16	16	0	0	9	0	9	0
Off Bank Subsurface Soil	17	17	17	0	0	0	0	0	4
Borehole Subsurface Soil	11	11	11	0	0	4	0	0	2
Groundwater	4	4	4	4	0	4	4	4	0
White Transportation Property									
Sediment	11	11	2	0	9	10	0	6	1
Off Bank Surface Soil	4	4	4	0	0	2	0	2	1
Surface Soil Total[1]	8	8	8	0	0	6	0	6	0
Off Bank Subsurface Soil	5	5	5	0	0	0	0	0	1
Borehole Subsurface Soil	16	16	16	0	0	6	0	0	1
Groundwater	4	4	4	4	0	4	4	4	0
Former United Paperboard Company Property									
Sediment Samples	20	20	0	0	20	7	0	7	4
Off Bank Surface Soil	12	12	12	0	0	6	0	6	2
Surface Soil Total[1]	21	21	21	0	0	15	0	15	2
Off Bank Subsurface Soil	12	12	12	0	0	0	0	0	2
Borehole Subsurface Soil	25	25	25	0	0	13	0	0	2
Groundwater	6	6	6	6	0	6	6	6	0
Parcel with Former Power Plant Building (located on the east side of Mill Street)									
Off Bank Surface Soil	0	0	0	0	0	0	0	0	0
Surface Soil Total[2]	3	3	3	0	0	3	0	0	0
Former Flintkote Plant Site									

Table 5-1 Sampling and Analysis, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

	Total Number	PCB	Total Metals	Dissolved Metals	Select Metals (Ar, Cr, Cu, Pb, Zn)	SVOC	VOC	Pesticides	TCLP Metals
Sediment	22	22	0	0	22	7	0	7	11
Off Bank Surface Soil	1	1	1	0	0	1	0	1	0
Surface Soil Total[1,3]	1	1	1	0	0	1	0	1	0
Off Bank Subsurface Soil	1	1	1	0	0	0	0	0	1
Borehole Subsurface Soil	0	0	0	0	0	0	0	0	0
Downstream of the Former Flintkote Plant Site									
Sediment	8	8	0	0	8	3	0	3	0
Off Bank Surface Soil	10	10	10	0	0	3	0	3	0
Surface Soil Total[1]	10	10	10	0	0	3	0	3	0
Off Bank Subsurface Soil	8	8	8	0	0	0	0	0	0
Borehole Subsurface Soil	0	0	0	0	0	0	0	0	0

Notes:

[1] The count for surface soils includes the off bank surface soils listed in the line above as well as any surface soil samples, if any, collected at locations where monitoring wells were planned.

[2] In the narrative of this report these samples are discussed in the Former United Paperboard Company property section.

[3] Samples 18MC-L13-S04-Z1 and –Z2 were collected adjacent to the Former Flintkote Plant Site property, however in the narrative of this report these samples are discussed in the Former United Paperboard Company property section.

Table 5-2a Summary of Positive Analytical Results for Upgradient and NYS Barge Canal Sediment Samples, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B	Sample ID: Date:	18MC-UP-S01-Z1 04/25/07	18MC-UP-S01-Z2 04/25/07	18MC-BC01-Z1 06/14/07	18MC-BC02-Z1 06/14/07	18MC-BC03-Z1 06/15/07	18MC-BC03-Z1/D 06/15/07	18MC-BC04-Z1 06/14/07	18MC-BC05-Z1 06/15/07	18MC-BC06-Z1 06/13/07
TOC by Method 415.1 Lloyd Kahn (mg/kg)												
TOC	NA	NA		15500	1650	--	--	32900	33600	--	25400	--
SVOCs by Method SW8270C (mg/Kg)												
2-Methylnaphthalene	0.98	NA		0.020 J	0.23 U	--	--	0.035 J	0.21 U	--	0.17 J	--
2-Methylphenol	NA	NA		0.23 U	0.23 U	--	--	0.26 U	0.21 U	--	0.22 U	--
4-Methylphenol	NA	NA		0.45 U	0.44 U	--	--	0.50 U	0.41 U	--	0.012 J	--
Acenaphthene	4	NA		0.098 J	0.052 J	--	--	0.098 J	0.0090 J	--	0.70	--
Acenaphthylene	NA	NA		0.028 J	0.014 J	--	--	0.12 J	0.015 J	--	0.22 U	--
Anthracene	3.1	0.06		**0.20 J**	**0.19 J**	--	--	**0.30**	0.037 J	--	**1.2**	--
Benzaldehyde	NA	NA		0.23 U	0.23 U	--	--	0.26 U	0.21 U	--	0.22 U	--
Benzo(a)anthracene	0.34	0.11		*0.57*	*0.38*	--	--	*1.3*	**0.13 J**	--	*1.5*	--
Benzo(a)pyrene	0.037	0.15		*0.62*	*0.38*	--	--	*1.2*	**0.12 J**	--	*1.2*	--
Benzo(b)fluoranthene	0.037	NA		**1.0**	**0.60**	--	--	**1.3**	**0.15 J**	--	**1.3**	--
Benzo(ghi)perylene	NA	NA		0.40	0.22 J	--	--	0.79	0.051 J	--	0.61 J	--
Benzo(k)fluoranthene	0.037	NA		**0.37**	**0.20 J**	--	--	**0.53**	**0.043 J**	--	**0.51**	--
Biphenyl	NA	NA		0.23 U	0.23 U	--	--	0.26 U	0.21 U	--	0.044 J	--
Bis(2-ethylhexyl) phthalate	5.8	239		0.65	0.23 U	--	--	0.88	0.068 J	--	0.22 U	--
Butyl benzyl phthalate	NA	NA		0.23 U	0.23 U	--	--	0.69	0.21 U	--	0.22 U	--
Carbazole	NA	NA		0.18 J	0.10 J	--	--	0.087 J	0.012 J	--	0.58	--
Chrysene	0.037	0.17		*0.78*	*0.46*	--	--	*1.1*	**0.11 J**	--	*1.3*	--
Dibenzo(a,h)anthracene	NA	0.03		**0.11 J**	**0.059 J**	--	--	**0.23 J**	0.016 J	--	**0.18 J**	--
Dibenzofuran	NA	NA		0.054 J	0.023 J	--	--	0.047 J	0.21 U	--	0.48	--
Dimethyl phthalate	NA	NA		0.23 U	0.23 U	--	--	0.26 U	0.21 U	--	0.22 U	--
Di-n-butyl phthalate	NA	NA		0.23 U	0.23 U	--	--	0.26 U	0.21 U	--	0.22 U	--
Di-n-octyl phthalate	NA	NA		0.23 U	0.23 U	--	--	0.26 U	0.010 J	--	0.22 U	--
Fluoranthene	29	0.42		**2.1**	**1.3**	--	--	**2.0**	0.24 --		**3.6 J**	--
Fluorene	0.23	0.08		**0.12 J**	0.065 J	--	--	**0.10 J**	0.012 J	--	*0.76*	--
Indeno(1,2,3-cd)pyrene	0.037	NA		**0.36**	**0.21 J**	--	--	**0.71**	**0.050 J**	--	**0.60 J**	--
Naphthalene	0.86	0.18		0.027 J	0.012 J	--	--	0.057 J	0.019 J	--	**0.19 J**	--
N-nitrosodiphenylamine	NA	NA		0.23 U	0.23 U	--	--	0.26 U	0.21 U	--	0.22 U	--
Phenanthrene	3.4	0.2		**1.1**	**0.68**	--	--	**0.94**	0.087 J	--	*4.8 J*	--
Pyrene	28	0.2		**1.3**	**0.81**	--	--	**1.9**	0.18 J	--	**2.9 J**	--
TOTAL PAHs	NA	1.61		**9.2**	**5.6**	--	--	**13**	1.3	--	**21**	--

Key at the End of Table 5-2 series.

Table 5-2a Summary of Positive Analytical Results for Upgradient and NYS Barge Canal Sediment Samples, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B	Sample ID: Date:	18MC-UP-S01-Z1 04/25/07	18MC-UP-S01-Z2 04/25/07	18MC-BC01-Z1 06/14/07	18MC-BC02-Z1 06/14/07	18MC-BC03-Z1 06/15/07	18MC-BC03-Z1/D 06/15/07	18MC-BC04-Z1 06/14/07	18MC-BC05-Z1 06/15/07	18MC-BC06-Z1 06/13/07
Pesticides by Method SW8081A (mg/Kg)												
4,4'-DDD	0.00029	0.005		0.012 U	0.0022 U	--	--	0.013 U	0.0021 U	--	--	--
4,4'-DDE	0.00029	0.003		0.012 U	0.0022 U	--	--	0.013 U	0.0021 U	--	--	--
4,4'-DDT	0.00029	0.004		0.012 U	0.0022 U	--	--	0.013 U	0.0021 U	--	--	--
Aldrin	0.0029	NA		0.012 U	0.0022 U	--	--	0.013 U	0.0010 J	--	--	--
alpha-BHC	0.0017	0.002		0.012 U	0.0022 U	--	--	0.013 U	0.00096 J	--	--	--
alpha-Chlordane	0.000029	0.003		0.012 U	0.0022 U	--	--	0.013 U	0.0021 U	--	--	--
beta-BHC	0.0017	0.002		0.012 U	0.0022 U	--	--	*0.0061 J*	0.0021 U	--	--	--
delta-BHC	0.0017	0.002		0.012 U	0.0015 J	--	--	0.013 U	0.0021 U	--	--	--
Dieldrin	0.0029	0.002		0.023	0.0022 U	--	--	*0.0063 J*	**0.0028**	--	--	--
Endosulfan I	0.00086	0.002		0.012 U	0.0022 U	--	--	0.013 U	0.0021 U	--	--	--
Endosulfan II	0.00086	0.002		0.012 U	0.0022 U	--	--	0.013 U	0.0021 U	--	--	--
Endosulfan Sulfate	NA	NA		0.012 U	0.0022 U	--	--	0.013 U	0.0013 J	--	--	--
Endrin	0.023	0.002		**0.0099 J**	0.0022 U	--	--	0.013 U	**0.0035**	--	--	--
Endrin aldehyde	NA	NA		0.012 U	0.0022 U	--	--	0.013 U	0.0021 U	--	--	--
Endrin ketone	NA	NA		0.018 J	0.0022 U	--	--	0.013 U	0.0018 J	--	--	--
gamma-BHC (Lindane)	0.0017	0.002		*0.017 J*	0.0022 U	--	--	0.013 U	0.0017 J	--	--	--
gamma-Chlordane	0.000029	0.003		0.012 U	0.0022 U	--	--	*0.0083 J*	*0.013*	--	--	--
Heptachlor	0.000023	0.002		*0.024*	0.0022 U	--	--	0.013 U	0.0021 U	--	--	--
Heptachlor epoxide	0.000023	0.002		0.012 U	0.0022 U	--	--	0.013 U	0.0021 U	--	--	--
Methoxychlor	0.017	NA		0.012 U	0.0022 U	--	--	0.013 U	0.0021 U	--	--	--
PCBs by Method SW8082 (mg/Kg)												
Aroclor 1242	0.000023	0.06[(1)]		0.023 U	0.023 U	0.022 U	0.021 U	0.050 U	1.0 U	0.38 U	0.021 U	0.11 U
Aroclor 1248	0.000023	0.06[(1)]		0.023 U	0.023 U	**0.0066 J**	0.021 U	*0.76 J*	*1.7 J*	*2.5*	**0.015 J**	*0.84*
Aroclor 1254	0.000023	0.06[(1)]		0.023 U	0.023 U	0.022 U	0.021 U	0.050 U	1.0 U	0.38 U	0.021 U	0.11 U
Aroclor 1260	0.000023	0.06[(1)]		0.023 U	0.023 U	0.022 U	0.021 U	0.050 U	1.0 U	*0.13 J*	0.021 U	0.11 U
TOTAL PCBs	0.000023	0.06		ND	ND	**0.0066**	ND	*0.76*	*1.7*	*2.63*	**0.015**	*0.84*

Key at the End of Table 5-2 series.

Table 5-2a Summary of Positive Analytical Results for Upgradient and NYS Barge Canal Sediment Samples, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B	Sample ID: / Date:	18MC-UP-S01-Z1 04/25/07	18MC-UP-S01-Z2 04/25/07	18MC-BC01-Z1 06/14/07	18MC-BC02-Z1 06/14/07	18MC-BC03-Z1 06/15/07	18MC-BC03-Z1/D 06/15/07	18MC-BC04-Z1 06/14/07	18MC-BC05-Z1 06/15/07	18MC-BC06-Z1 06/13/07
Metals by Method SW6010B (mg/Kg)												
Arsenic - Total	6	10		3.7 J	3.3 J	4.5 J	4.1	*19.6 J*	5.3 J	3.2	**6.8**	5.5
Chromium - Total	26	43		10.8 J	9.2 J	10.1 J	6.5 J	15.3 J	8.9 J	15.0 J	7.6 J	17.4 J
Copper - Total	16	32		**21.3**	11.7 12.5		8.4	*84.2*	*56.4*	**18.2**	11.3	*61.3*
Lead - Total	31	36		**33.5**	8.6	**33.1 J**	*38.6 J*	*169 J*	*67.9 J*	*64.7 J*	*38.2 J*	*190 J*
Zinc - Total	120	121		108 J	43.7 J	44.5 J	19.1 J	*192 J*	106 J	110 J	31.8 J	*253 J*

Key at the End of Table 5-2 series.

Table 5-2b Summary of Positive Analytical Results for Sediment Samples from the Upson Park Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B	Sample ID: / Date:	18MC-L01W-S01-Z1 04/18/07	18MC-L01W-S01-Z2 04/18/07	18MC-L01W-S02-Z1 04/18/07	18MC-L01W-S02-Z2 04/18/07	18MC-L01W-S03-Z1 04/18/07	18MC-L02W-S01-Z1 04/18/07	18MC-L02W-S01-Z2 04/18/07	18MC-L02W-S02-Z1 04/18/07	18MC-L02W-S02-Z2* 04/18/07	18MC-L02W-S03-Z1 04/18/07	18MC-L02W-S03-Z2 04/18/07	18MC-L03W-S01-Z1 04/19/07	18MC-L03W-S02-Z1 04/19/07	18MC-L03W-S03-Z1 04/19/07	18MC-L04W-S01-Z1 04/19/07
TOC by Method 415.1 Lloyd Kahn (mg/kg)																		
TOC	NA	NA		6490	29200	--	--	--	--	--	22400 J	31500	--	--	--	16400	--	--
SVOCs by Method SW8270C (mg/Kg)																		
2-Methylnaphthalene	0.98	NA		--	--	0.21 U	0.0090 J	--	--	--	0.19 U	--	--	--	--	0.20 U	--	--
2-Methylphenol	NA	NA		--	--	0.21 U	0.21 U	--	--	--	0.19 U	--	--	--	--	0.20 U	--	--
4-Methylphenol	NA	NA		--	--	0.41 U	0.42 U	--	--	--	0.38 U	--	--	--	--	0.40 U	--	--
Acenaphthene	4	NA		--	--	0.21 U	0.016 J	--	--	--	0.19 U	--	--	--	--	0.20 U	--	--
Acenaphthylene	NA	NA		--	--	0.21 U	0.038 J	--	--	--	0.015 J	--	--	--	--	0.0090 J	--	--
Anthracene	3.1	0.06		--	--	0.012 J	0.045 J	--	--	--	0.19 U	--	--	--	--	0.20 U	--	--
Benzaldehyde	NA	NA		--	--	0.21 U	0.21 U	--	--	--	0.19 U	--	--	--	--	0.20 U	--	--
Benzo(a)anthracene	0.34	0.11		--	--	0.070 J	**0.15 J**	--	--	--	0.026 J	--	--	--	--	0.047 J	--	--
Benzo(a)pyrene	0.037	0.15		--	--	**0.068 J**	**0.15 J**	--	--	--	0.024 J	--	--	--	--	**0.051 J**	--	--
Benzo(b)fluoranthene	0.037	NA		--	--	**0.097 J**	**0.17 J**	--	--	--	**0.074 J**	--	--	--	--	**0.062 J**	--	--
Benzo(ghi)perylene	NA	NA		--	--	0.039 J	0.12 J	--	--	--	0.023 J	--	--	--	--	0.039 J	--	--
Benzo(k)fluoranthene	0.037	NA		--	--	0.030 J	**0.056 J**	--	--	--	0.19 U	--	--	--	--	0.019 J	--	--
Biphenyl	NA	NA		--	--	0.21 U	0.21 U	--	--	--	0.19 U	--	--	--	--	0.20 U	--	--
Bis(2-ethylhexyl) phthalate	5.8	239		--	--	0.21 U	0.21 U	--	--	--	0.19 U	--	--	--	--	0.20 U	--	--
Butyl benzyl phthalate	NA	NA		--	--	0.21 U	0.21 U	--	--	--	0.19 U	--	--	--	--	0.20 U	--	--
Carbazole	NA	NA		--	--	0.21 U	0.012 J	--	--	--	0.19 U	--	--	--	--	0.20 U	--	--
Chrysene	0.037	0.17		--	--	**0.075 J**	**0.16 J**	--	--	--	0.032 J	--	--	--	--	**0.045 J**	--	--
Dibenzo(a,h)anthracene	NA	0.03		--	--	0.011 J	0.029 J	--	--	--	0.0080 J	--	--	--	--	0.012 J	--	--
Dibenzofuran	NA	NA		--	--	0.21 U	0.013 J	--	--	--	0.19 U	--	--	--	--	0.20 U	--	--
Dimethyl phthalate	NA	NA		--	--	0.21 U	0.21 U	--	--	--	0.19 U	--	--	--	--	0.20 U	--	--
Di-n-butyl phthalate	NA	NA		--	--	0.21 U	0.21 U	--	--	--	0.19 U	--	--	--	--	0.20 U	--	--
Di-n-octyl phthalate	NA	NA		--	--	0.21 U	0.21 U	--	--	--	0.19 U	--	--	--	--	0.20 U	--	--
Fluoranthene	29	0.42		--	--	0.12 J	0.33	--	--	--	0.038 J	--	--	--	--	0.046 J	--	--
Fluorene	0.23	0.08		--	--	0.21 U	0.022 J	--	--	--	0.19 U	--	--	--	--	0.20 U	--	--
Indeno(1,2,3-cd)pyrene	0.037	NA		--	--	0.033 J	**0.10 J**	--	--	--	0.019 J	--	--	--	--	0.035 J	--	--
Naphthalene	0.86	0.18		--	--	0.21 U	0.010 J	--	--	--	0.19 U	--	--	--	--	0.20 U	--	--
N-nitrosodiphenylamine	NA	NA		--	--	0.21 U	0.032 J	--	--	--	0.19 U	--	--	--	--	0.20 U	--	--
Phenanthrene	3.4	0.2		--	--	0.035 J	**0.22**	--	--	--	0.011 J	--	--	--	--	0.024 J	--	--
Pyrene	28	0.2		--	--	0.10 J	**0.28**	--	--	--	0.032 J	--	--	--	--	0.053 J	--	--
TOTAL PAHs	NA	1.61				0.69	**1.9**				0.3					0.44		
Pesticides by Method SW8081A (mg/Kg)																		
4,4'-DDD	0.00029	0.005		--	--	0.0020 U	**0.0014 J**	--	--	--	0.0093 U	--	--	--	--	0.0020 U	--	--
4,4'-DDE	0.00029	0.003		--	--	**0.0016 J**	0.0021 U	--	--	--	*0.0032 J*	--	--	--	--	0.0020 U	--	--
4,4'-DDT	0.00029	0.004		--	--	0.0020 U	**0.0021 J**	--	--	--	*0.0067 J*	--	--	--	--	**0.0021 J**	--	--
Aldrin	0.0029	NA		--	--	0.0011 J	0.00076 J	--	--	--	0.0026 J	--	--	--	--	0.0020 U	--	--
alpha-BHC	0.0017	0.002		--	--	0.0020 U	0.0021 U	--	--	--	0.0093 U	--	--	--	--	0.0020 U	--	--
alpha-Chlordane	0.000029	0.003		--	--	0.0020 U	0.0021 U	--	--	--	0.0093 U	--	--	--	--	**0.0020**	--	--
beta-BHC	0.0017	0.002		--	--	0.0020 U	0.0021 U	--	--	--	0.0093 U	--	--	--	--	0.0020 U	--	--
delta-BHC	0.0017	0.002		--	--	0.0020 U	0.0021 U	--	--	--	0.0093 U	--	--	--	--	0.00048 J	--	--
Dieldrin	0.0029	0.002		--	--	**0.0026 J**	0.0021 U	--	--	--	0.0093 U	--	--	--	--	0.0020 U	--	--
Endosulfan I	0.00086	0.002		--	--	0.0020 U	0.0021 U	--	--	--	0.0093 U	--	--	--	--	*0.0022 J*	--	--
Endosulfan II	0.00086	0.002		--	--	0.0020 U	0.00038 J	--	--	--	0.0093 U	--	--	--	--	**0.00088 J**	--	--
Endosulfan Sulfate	NA	NA		--	--	0.0020 U	0.0021 U	--	--	--	0.0093 U	--	--	--	--	0.0020 U	--	--

Key at the End of Table 5-2 series.

Table 5-2b Summary of Positive Analytical Results for Sediment Samples from the Upson Park Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B	Sample ID: / Date:	18MC-L04 W-S02-Z1 04/20/07	18MC-L04 W-S02-Z2 04/20/07	18MC-L04 W-S03-Z1 04/20/07	18MC-L05 W-S01-Z1 04/19/07	18MC-L05 W-S02-Z1 04/19/07	18MC-L05 W-S02-Z2 04/19/07	18MC-L05 W-S03-Z1 04/19/07	18MC-L05 W-S03-Z2 04/19/07	18MC-L05 W-S03-Z3 04/19/07
TOC by Method 415.1 Lloyd Kahn (mg/kg)												
TOC	NA	NA		25400	46400	--	--	33700	30900	--	--	--
SVOCs by Method SW8270C (mg/Kg)												
2-Methylnaphthalene	0.98	NA		2.4 U	0.20 U	--	--	1.1 U	1.3 U	--	--	--
2-Methylphenol	NA	NA		2.4 U	0.20 U	--	--	1.1 U	1.3 U	--	--	--
4-Methylphenol	NA	NA		4.7 U	0.39 U	--	--	2.0 U	2.5 U	--	--	--
Acenaphthene	4	NA		2.4 U	0.20 U	--	--	1.1 U	0.097 J	--	--	--
Acenaphthylene	NA	NA		2.4 U	0.20 U	--	--	1.1 U	0.086 J	--	--	--
Anthracene	3.1	0.06		**0.28 J**	0.0090 J	--	--	**0.11 J**	**0.34 J**	--	--	--
Benzaldehyde	NA	NA		2.4 U	0.20 U	--	--	1.1 U	1.3 U	--	--	--
Benzo(a)anthracene	0.34	0.11		*1.0 J*	0.048 J	--	--	*0.40 J*	*1.4*	--	--	--
Benzo(a)pyrene	0.037	0.15		*0.91 J*	**0.042 J**	--	--	*0.36 J*	*1.2 J*	--	--	--
Benzo(b)fluoranthene	0.037	NA		**1.2 J**	**0.050 J**	--	--	**0.48 J**	**2.1 J**	--	--	--
Benzo(ghi)perylene	NA	NA		0.75 J	0.040 J	--	--	0.29 J	0.63 J	--	--	--
Benzo(k)fluoranthene	0.037	NA		**0.32 J**	0.015 J	--	--	**0.15 J**	1.3 U	--	--	--
Biphenyl	NA	NA		2.4 U	0.20 U	--	--	1.1 U	1.3 U	--	--	--
Bis(2-ethylhexyl) phthalate	5.8	239		2.4 U	0.20 U	--	--	1.1 U	1.3 U	--	--	--
Butyl benzyl phthalate	NA	NA		2.4 U	0.20 U	--	--	1.1 U	1.3 U	--	--	--
Carbazole	NA	NA		0.13 J	0.20 U	--	--	0.043 J	0.17 J	--	--	--
Chrysene	0.037	0.17		*0.97 J*	**0.043 J**	--	--	*0.46 J*	*1.3*	--	--	--
Dibenzo(a,h)anthracene	NA	0.03		**0.17 J**	0.0080 J	--	--	**0.062 J**	**0.15 J**	--	--	--
Dibenzofuran	NA	NA		2.4 U	0.20 U	--	--	1.1 U	1.3 U	--	--	--
Dimethyl phthalate	NA	NA		2.4 U	0.20 U	--	--	1.1 U	1.3 U	--	--	--
Di-n-butyl phthalate	NA	NA		2.4 U	0.20 U	--	--	1.1 U	1.3 U	--	--	--
Di-n-octyl phthalate	NA	NA		2.4 U	0.010 J	--	--	1.1 U	0.060 J	--	--	--
Fluoranthene	29	0.42		**2.2 J**	0.097 J	--	--	**1.0 J**	**3.4**	--	--	--
Fluorene	0.23	0.08		2.4 U	0.20 U	--	--	1.1 U	**0.13 J**	--	--	--
Indeno(1,2,3-cd)pyrene	0.037	NA		**0.62 J**	0.037 J	--	--	**0.26 J**	**0.59 J**	--	--	--
Naphthalene	0.86	0.18		2.4 U	0.20 U	--	--	1.1 U	1.3 U	--	--	--
N-nitrosodiphenylamine	NA	NA		2.4 U	0.20 U	--	--	1.1 U	1.3 U	--	--	--
Phenanthrene	3.4	0.2		**1.1 J**	0.040 J	--	--	**0.55 J**	**1.9**	--	--	--
Pyrene	28	0.2		**1.7 J**	0.083 J	--	--	**0.74 J**	**2.2**	--	--	--
TOTAL PAHs	NA	1.61		**11**	0.51			**4.9**	**16**			
Pesticides by Method SW8081A (mg/Kg)												
4,4'-DDD	0.00029	0.005		0.024 U	0.0020 U	--	--	0.021 U	*0.013 J*	--	--	--
4,4'-DDE	0.00029	0.003		*0.018 J*	0.0020 U	--	--	0.021 U	0.025 U	--	--	--
4,4'-DDT	0.00029	0.004		0.024 U	**0.0014 J**	--	--	*0.020 J*	*0.023 J*	--	--	--
Aldrin	0.0029	NA		**0.0066 J**	0.0020 U	--	--	0.021 U	**0.010 J**	--	--	--
alpha-BHC	0.0017	0.002		*0.0080 J*	0.0020 U	--	--	*0.0071 J*	*0.0084 J*	--	--	--
alpha-Chlordane	0.000029	0.003		0.024 U	0.0020 U	--	--	*0.014 J*	*0.019 J*	--	--	--
beta-BHC	0.0017	0.002		0.024 U	0.0020 U	--	--	0.021 U	*0.014 J*	--	--	--
delta-BHC	0.0017	0.002		0.024 U	0.0020 U	--	--	0.021 U	0.025 U	--	--	--
Dieldrin	0.0029	0.002		0.024 U	0.0020 U	--	--	0.021 U	0.025 U	--	--	--
Endosulfan I	0.00086	0.002		0.024 U	0.0020 U	--	--	0.021 U	0.025 U	--	--	--
Endosulfan II	0.00086	0.002		0.024 U	0.00052 J	--	--	*0.0046 J*	0.025 U	--	--	--
Endosulfan Sulfate	NA	NA		0.024 U	0.0020 U	--	--	0.021 U	0.025 U	--	--	--

Key at the End of Table 5-2 series.

Table 5-2b Summary of Positive Analytical Results for Sediment Samples from the Upson Park Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B	Sample ID: / Date:	18MC-L01W-S01-Z1 04/18/07	18MC-L01W-S01-Z2 04/18/07	18MC-L01W-S02-Z1 04/18/07	18MC-L01W-S02-Z2 04/18/07	18MC-L01W-S03-Z1 04/18/07	18MC-L02W-S01-Z1 04/18/07	18MC-L02W-S01-Z2 04/18/07	18MC-L02W-S02-Z1 04/18/07	18MC-L02W-S02-Z2* 04/18/07	18MC-L02W-S03-Z1 04/18/07	18MC-L02W-S03-Z2 04/18/07	18MC-L03W-S01-Z1 04/19/07	18MC-L03W-S02-Z1 04/19/07	18MC-L03W-S03-Z1 04/19/07	18MC-L04W-S01-Z1 04/19/07
Endrin	0.023	0.002		--	--	0.0020 U	0.0021 U	--	--	--	0.0093 U	--	--	--	--	0.0020 U	--	--
Endrin aldehyde	NA	NA		--	--	0.0020 U	0.0021 U	--	--	--	0.0093 U	--	--	--	--	0.0020 U	--	--
Endrin ketone	NA	NA		--	--	0.0020 U	0.0021 U	--	--	--	0.0093 U	--	--	--	--	0.0020 U	--	--
gamma-BHC (Lindane)	0.0017	0.002		--	--	0.00057 J	0.0021 U	--	--	--	0.0093 U	--	--	--	--	0.0020 U	--	--
gamma-Chlordane	0.000029	0.003		--	--	*0.0050 J*	0.0021 U	--	--	--	0.0093 U	--	--	--	--	0.0020 U	--	--
Heptachlor	0.000023	0.002		--	--	0.0020 U	0.0021 U	--	--	--	0.0093 U	--	--	--	--	0.0020 U	--	--
Heptachlor epoxide	0.000023	0.002		--	--	**0.0011 J**	0.0021 U	--	--	--	0.0093 U	--	--	--	--	0.0020 U	--	--
Methoxychlor	0.017	NA		--	--	0.0020 U	0.0021 U	--	--	--	0.0093 U	--	--	--	--	0.0020 U	--	--
PCBs by Method SW8082 (mg/Kg)																		
Aroclor 1242	0.000023	0.06(1)		0.021 U	0.019 U	0.020 U	0.021 U	0.019 U	0.023 U	0.022 U	0.019 U	0.025 U	0.020 U	0.019 U	0.049 U	0.020 U	0.024 U	0.028 U
Aroclor 1248	0.000023	0.06(1)		0.021 U	0.019 U	**0.045**	**0.0069 J**	0.019 U	0.023 U	0.022 U	**0.013 J**	0.025 U	0.020 U	0.019 U	*0.73*	0.020 U	**0.034**	0.028 U
Aroclor 1254	0.000023	0.06(1)		0.021 U	0.019 U	0.020 U	0.021 U	*0.10*	0.023 U	0.022 U	0.019 U	0.025 U	0.020 U	0.019 U	0.049 U	0.020 U	**0.048**	*0.061*
Aroclor 1260	0.000023	0.06(1)		0.021 U	0.019 U	0.020 U	0.021 U	0.019 U	0.023 U	0.022 U	0.019 U	0.025 U	0.020 U	0.019 U	0.049 U	0.020 U	*0.071*	0.028 U
TOTAL PCBs	0.000023	0.06		ND	ND	**0.045**	**0.0069**	*0.1*	ND	ND	**0.013**	ND	ND	ND	*0.73*	ND	*0.153*	*0.061*
Select Metals by Method SW6010B (mg/Kg)																		
Arsenic - Total	6	10		*10.5*	**6.2**	*13.9*	*17.8*	*14.4*	**6.6**	**7.9**	*10.5*	*11.1*	*11.8*	5.5	**8.6 J**	4.3 J	4.9 J	4.9
Chromium - Total	26	43		9.9 J	9.5 J	*76.6 J*	20.6 J	13.3 J	8.6 J	13.2 J	24.6 J	7.8 J	8.2 J	6.3 J	**35.1 J**	5.4 J	**27.4 J**	**32.4 J**
Copper - Total	16	32		*34.5 J*	**20.7 J**	*106 J*	*46.3 J*	*42.0 J*	**21.7 J**	*71.1 J*	*55.5 J*	**29.5 J**	*81.2 J*	**17.7 J**	*122 J*	**16.3 J**	*120 J*	*146*
Lead - Total	31	36		*411*	*127*	*412*	*1660*	*227*	*88.8*	*204*	*951 J*	*138 J*	*87.0*	28.9	*552 J*	*75.1 J*	*232 J*	*220 J*
Zinc - Total	120	121		*1030 J*	73.1 J	*213 J*	*176 J*	*240 J*	64.8 J	*149 J*	*140 J*	*124 J*	*141 J*	48.5 J	*511 J*	60.5 J	*490 J*	*460 J*

Key at the End of Table 5-2 series.

Table 5-2b Summary of Positive Analytical Results for Sediment Samples from the Upson Park Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B	Sample ID: / Date:	18MC-L04 W-S02-Z1 04/20/07	18MC-L04 W-S02-Z2 04/20/07	18MC-L04 W-S03-Z1 04/20/07	18MC-L05 W-S01-Z1 04/19/07	18MC-L05 W-S02-Z1 04/19/07	18MC-L05 W-S02-Z2 04/19/07	18MC-L05 W-S03-Z1 04/19/07	18MC-L05 W-S03-Z2 04/19/07	18MC-L05 W-S03-Z3 04/19/07
Endrin	0.023	0.002		0.024 U	0.0020 U	--	--	0.021 U	0.025 U	--	--	--
Endrin aldehyde	NA	NA		0.024 U	0.0020 U	--	--	0.021 U	0.025 U	--	--	--
Endrin ketone	NA	NA		0.024 U	0.0020 U	--	--	0.021 U	0.025 U	--	--	--
gamma-BHC (Lindane)	0.0017	0.002		*0.0076 J*	0.0020 U	--	--	*0.0062 J*	*0.0089 J*	--	--	--
gamma-Chlordane	0.000029	0.003		0.024 U	0.0020 U	--	--	0.021 U	0.025 U	--	--	--
Heptachlor	0.000023	0.002		0.024 U	0.0020 U	--	--	0.021 U	0.025 U	--	--	--
Heptachlor epoxide	0.000023	0.002		0.024 U	0.0020 U	--	--	0.021 U	0.025 U	--	--	--
Methoxychlor	0.017	NA		**0.12 J**	0.0020 U	--	--	**0.032 J**	**0.067 J**	--	--	--
PCBs by Method SW8082 (mg/Kg)												
Aroclor 1242	0.000023	0.06[(1)]		0.024 U	0.020 U	0.019 U	0.026 U	0.021 U	0.025 U	0.028 U	0.027 U	0.028 U
Aroclor 1248	0.000023	0.06[(1)]		**0.055**	0.020 U	0.019 U	*0.064*	**0.042**	*0.18*	0.028 U	0.027 U	**0.011 J**
Aroclor 1254	0.000023	0.06[(1)]		**0.045**	0.020 U	0.019 U	*0.062*	**0.028**	*0.16*	*0.33*	*0.14*	**0.023 J**
Aroclor 1260	0.000023	0.06[(1)]		**0.046**	0.020 U	0.019 U	0.026 U	0.021 U	0.025 U	0.028 U	0.027 U	0.028 U
TOTAL PCBs	0.000023	0.06		*0.146*	ND	ND	*0.126*	*0.07*	*0.34*	*0.33*	*0.14*	**0.034**
Select Metals by Method SW6010B (mg/Kg)												
Arsenic - Total	6	10		**7.7**	**6.9**	5.1 4.9		5.8 J	5.5	5.2	**7.1**	3.8
Chromium - Total	26	43		**34.7 J**	6.7 J	10.0 J	22.2 J	11.3 J	20.3 J	*146 J*	*61.8 J*	20.6 J
Copper - Total	16	32		*84.5*	**22.0**	**24.7**	*124*	**29.2 J**	*103*	*702*	*424*	*176*
Lead - Total	31	36		*292 J*	*79.6 J*	*46.7 J*	*198 J*	*159 J*	*183 J*	*857 J*	*459 J*	*173 J*
Zinc - Total	120	121		*215 J*	90.9 J	80.0 J	*419 J*	*209 J*	*296 J*	*1300 J*	*1020 J*	*591 J*

Key at the End of Table 5-2 series.

Table 5-2c Summary of Positive Analytical Results for Sediment Samples from the White Transportation Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B	Sample ID: / Date:	18MC-AS01-S01-Z1 04/25/07	18MC-AS01-S01-Z2 04/25/07	18MC-L01E-S01-Z1 04/20/07	18MC-L01E-S03-Z1 04/20/07	18MC-L01E-S03-Z2 04/20/07	18MC-L02E-S01-Z1 04/20/07	18MC-L02E-S02-Z1 04/20/07	18MC-L02E-S03-Z1 04/20/07	18MC-L03E-S01-Z1 04/20/07	18MC-L03E-S02-Z1 04/20/07	18MC-L03E-S03-Z1* 04/20/07
TOC by Method 415.1 Lloyd Kahn (mg/kg)														
TOC	NA	NA		--	--	193000	51400	--	--	14000	--	--	38500	--
SVOCs by Method SW8270C (mg/Kg)														
2-Methylnaphthalene	0.98	NA		0.039 J	0.22 U	0.21 U	0.068 J	--	--	0.17 U	--	--	2.3 U	--
2-Methylphenol	NA	NA		0.20 U	0.22 U	0.21 U	0.22 U	--	--	0.17 U	--	--	2.3 U	--
4-Methylphenol	NA	NA		0.39 U	0.43 U	0.41 U	0.42 U	--	--	0.34 U	--	--	4.5 U	--
Acenaphthene	4	NA		0.0080 J	0.22 U	0.014 J	0.018 J	--	--	0.046 J	--	--	0.35 J	--
Acenaphthylene	NA	NA		0.092 J	0.026 J	0.040 J	0.062 J	--	--	0.014 J	--	--	0.34 J	--
Anthracene	3.1	0.06		**0.066 J**	0.029 J	0.057 J	**0.077 J**	--	--	**0.21**	--	--	**1.2 J**	--
Benzaldehyde	NA	NA		0.20 U	0.22 U	0.21 U	0.22 U	--	--	0.17 U	--	--	2.3 U	--
Benzo(a)anthracene	0.34	0.11		*0.38*	**0.16 J**	**0.33**	**0.32**	--	--	*0.54*	--	--	*3.1*	--
Benzo(a)pyrene	0.037	0.15		*0.43*	**0.15 J**	*0.30*	*0.34*	--	--	*0.49*	--	--	*2.7*	--
Benzo(b)fluoranthene	0.037	NA		**0.81 J**	**0.22**	**0.43 J**	**0.46 J**	--	--	**0.68 J**	--	--	**3.6 J**	--
Benzo(ghi)perylene	NA	NA		0.26	0.084 J	0.21	0.21 J	--	--	0.27	--	--	1.4 J	--
Benzo(k)fluoranthene	0.037	NA		0.20 U	**0.073 J**	**0.11 J**	**0.15 J**	--	--	**0.22 J**	--	--	**1.1 J**	--
Biphenyl	NA	NA		0.20 U	0.22 U	0.21 U	0.22 U	--	--	0.17 U	--	--	2.3 U	--
Bis(2-ethylhexyl) phthalate	5.8	239		0.20 U	0.22 U	0.21 U	0.22 U	--	--	0.17 U	--	--	2.3 U	--
Butyl benzyl phthalate	NA	NA		0.20 U	0.22 U	0.21 U	0.073 J	--	--	0.17 U	--	--	2.3 U	--
Carbazole	NA	NA		0.056 J	0.020 J	0.036 J	0.049 J	--	--	0.068 J	--	--	2.3 U	--
Chrysene	0.037	0.17		*0.44*	**0.17 J**	*0.32*	*0.32*	--	--	*0.54*	--	--	*0.40 J*	--
Dibenzo(a,h)anthracene	NA	0.03		**0.070 J**	0.025 J	**0.057 J**	**0.060 J**	--	--	**0.064 J**	--	--	**0.42 J**	--
Dibenzofuran	NA	NA		0.018 J	0.22 U	0.010 J	0.030 J	--	--	0.021 J	--	--	0.19 J	--
Dimethyl phthalate	NA	NA		0.20 U	0.22 U	0.21 U	0.22 U	--	--	0.17 U	--	--	2.3 U	--
Di-n-butyl phthalate	NA	NA		0.20 U	0.22 U	0.21 U	0.22 U	--	--	0.17 U	--	--	2.3 U	--
Di-n-octyl phthalate	NA	NA		0.20 U	0.22 U	0.0090 J	0.013 J	--	--	0.0080 J	--	--	2.3 U	--
Fluoranthene	29	0.42		**0.92**	0.42	**0.69**	**0.68**	--	--	**1.5**	--	--	**8**	--
Fluorene	0.23	0.08		0.016 J	0.22 U	0.016 J	0.031 J	--	--	0.068 J	--	--	*0.43 J*	--
Indeno(1,2,3-cd)pyrene	0.037	NA		**0.24**	**0.080 J**	**0.19 J**	**0.19 J**	--	--	**0.26**	--	--	**1.3 J**	--
Naphthalene	0.86	0.18		0.028 J	0.22 U	0.014 J	0.042 J	--	--	0.17 U	--	--	2.3 U	--
N-nitrosodiphenylamine	NA	NA		0.20 U	0.22 U	0.21 U	0.22 U	--	--	0.17 U	--	--	2.3 U	--
Phenanthrene	3.4	0.2		**0.32**	0.15 J	**0.32**	**0.40**	--	--	**0.83**	--	--	*5*	--
Pyrene	28	0.2		**0.66**	**0.27**	**0.50**	**0.44**	--	--	**0.86**	--	--	**4.9**	--
TOTAL PAHs	NA	1.61		**4.8**	**1.8**	**3.6**	**3.8**	--	--	**6.6**	--	--	**37**	--
Pesticides by Method SW8081A (mg/Kg)														
4,4'-DDD	0.00029	0.005		0.0020 U	0.0022 U	0.021 U	*0.062*	--	--	0.017 U	--	--	*0.016 J*	--
4,4'-DDE	0.00029	0.003		*0.0031*	0.0022 U	*0.0087 J*	*0.068*	--	--	*0.18 J*	--	--	*0.026 J*	--
4,4'-DDT	0.00029	0.004		**0.0022**	0.0022 U	*0.021*	*0.056 J*	--	--	0.017 U	--	--	0.023 U	--
Aldrin	0.0029	NA		0.00094 J	0.0022 U	0.021 U	0.021 U	--	--	**0.19**	--	--	**0.0077 J**	--
alpha-BHC	0.0017	0.002		0.0020 U	0.0022 U	0.021 U	*0.0072 J*	--	--	*0.0068 J*	--	--	*0.0082 J*	--
alpha-Chlordane	0.000029	0.003		0.0020 U	0.0022 U	0.021 U	0.021 U	--	--	*0.014 J*	--	--	*0.012 J*	--
beta-BHC	0.0017	0.002		0.0020 U	0.0022 U	0.021 U	0.021 U	--	--	*0.14 J*	--	--	*0.0091 J*	--
delta-BHC	0.0017	0.002		0.0013 J	0.0013 J	0.021 U	0.021 U	--	--	0.017 U	--	--	0.023 U	--
Dieldrin	0.0029	0.002		0.0020 U	0.0022 U	0.021 U	0.021 U	--	--	*0.37*	--	--	*0.0082 J*	--
Endosulfan I	0.00086	0.002		0.00071 J	0.00073 J	0.021 U	0.021 U	--	--	*0.027 J*	--	--	0.023 U	--
Endosulfan II	0.00086	0.002		0.0020 U	0.0022 U	0.021 U	0.021 U	--	--	0.017 U	--	--	0.023 U	--
Endosulfan Sulfate	NA	NA		0.0020 U	0.0022 U	0.021 U	0.021 U	--	--	0.017 U	--	--	0.023 U	--
Endrin	0.023	0.002		0.0020 U	0.0022 U	0.021 U	0.021 U	--	--	0.017 U	--	--	0.023 U	--
Endrin aldehyde	NA	NA		0.0020 U	0.0018 J	0.021 U	0.021 U	--	--	0.017 U	--	--	0.023 U	--

Key at the End of Table 5-2 series.

Table 5-2c Summary of Positive Analytical Results for Sediment Samples from the White Transportation Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B	Sample ID: / Date:	18MC-AS01-S01-Z1 04/25/07	18MC-AS01-S01-Z2 04/25/07	18MC-L01E-S01-Z1 04/20/07	18MC-L01E-S03-Z1 04/20/07	18MC-L01E-S03-Z2 04/20/07	18MC-L02E-S01-Z1 04/20/07	18MC-L02E-S02-Z1 04/20/07	18MC-L02E-S03-Z1 04/20/07	18MC-L03E-S01-Z1 04/20/07	18MC-L03E-S02-Z1 04/20/07	18MC-L03E-S03-Z1* 04/20/07
Endrin ketone	NA	NA		0.0020 U	0.0022 U	0.021 U	0.021 U	--	--	0.017 U	--	--	0.023 U	--
gamma-BHC (Lindane)	0.0017	0.002		0.0020 U	0.0022 U	0.021 U	0.021 U	--	--	*0.022 J*	--	--	*0.0091 J*	--
gamma-Chlordane	0.000029	0.003		0.0020 U	0.0022 U	0.021 U	0.021 U	--	--	*0.16 J*	--	--	*0.014 J*	--
Heptachlor	0.000023	0.002		0.0020 U	0.0022 U	0.021 U	0.021 U	--	--	0.017 U	--	--	0.023 U	--
Heptachlor epoxide	0.000023	0.002		0.0020 U	0.0022 U	0.021 U	0.021 U	--	--	0.017 U	--	--	*0.0082 J*	--
Methoxychlor	0.017	NA		0.0016 J	0.0022 U	**0.031 J**	**0.024**	--	--	0.017 U	--	--	**0.070 J**	--
PCBs by Method SW8082 (mg/Kg)														
Aroclor 1242	0.000023	0.06[1]		0.020 U	0.022 U	0.020 U	0.021 U	0.018 U	0.11 U	0.017 U	0.018 U	0.020 U	0.023 U	0.021 U
Aroclor 1248	0.000023	0.06[1]		0.020 U	**0.0066 J**	0.020 U	**0.026**	**0.053**	*1.5*	**0.016 J**	0.018 U	**0.039**	*0.32*	0.021 U
Aroclor 1254	0.000023	0.06[1]		**0.051**	0.022 U	**0.035**	0.021 U	*0.13*	*2.3*	**0.016 J**	**0.010 J**	*0.096*	*0.28*	*0.067*
Aroclor 1260	0.000023	0.06[1]		0.020 U	0.022 U	0.020 U	0.021 U	0.018 U	0.11 U	0.017 U	**0.024**	*0.10*	*0.12*	**0.031**
TOTAL PCBs	0.000023	0.06		**0.051**	**0.0066**	**0.035**	**0.026**	*0.183*	*3.8*	**0.032**	**0.034**	*0.235*	*0.72*	*0.098*
Metals by Method SW6010B/SW7471 (mg/Kg)														
Aluminum - Total	NA	NA		6670 J	6830 J	--	--	--	--	--	--	--	--	--
Antimony - Total	2	NA		0.75 J	0.72 UJ	--	--	--	--	--	--	--	--	--
Arsenic - Total	6	10		**8.9 J**	4.5 J	1.2 J	**6.5**	3.4 5.2		2.9	**6.3**	4.1 J	4.4	**6.1 J**
Barium - Total	NA	NA		103	179	--	--	--	--	--	--	--	--	--
Beryllium - Total	NA	NA		0.68 J	0.57 J	--	--	--	--	--	--	--	--	--
Cadmium - Total	0.6	1		0.56	0.36	--	--	--	--	--	--	--	--	--
Calcium - Total	NA	NA		30500 J	93800 J	--	--	--	--	--	--	--	--	--
Chromium - Total	26	43		13.6 J	10.1 J	8.3 J	9.8 J	10.6 J	**41.0 J**	7.7 J	15.1 J	19.5 J	24.7 J	10.8 J
Cobalt - Total	NA	NA		7.2 J	8.6 J	--	--	--	--	--	--	--	--	--
Copper - Total	16	32		*45.6*	12.5	*57.6*	*59.6*	*131*	*361*	*46.3*	*53.3*	*70.2 J*	*272 J*	*44.5 J*
Iron - Total	20000	NA		19100 18500		--	--	--	--	--	--	--	--	--
Lead - Total	31	36		*148*	**33.1 J**	*145 J*	*113 J*	*170 J*	*807 J*	*176 J*	*166 J*	*175 J*	*592 J*	*202 J*
Magnesium - Total	NA	NA		7290 J	16900 J	--	--	--	--	--	--	--	--	--
Manganese - Total	460	NA		**1590 J**	**2490 J**	--	--	--	--	--	--	--	--	--
Mercury - Total	0.15	0.18		0.113	0.174	--	--	--	--	--	--	--	--	--
Nickel - Total	16	23		*26.3 J*	14.8 J	--	--	--	--	--	--	--	--	--
Potassium - Total	NA	NA		1380 J	1930 J	--	--	--	--	--	--	--	--	--
Selenium - Total	NA	NA		0.88 J	0.78 U	--	--	--	--	--	--	--	--	--
Silver - Total	1	NA		0.23 J	0.20 U	--	--	--	--	--	--	--	--	--
Sodium - Total	NA	NA		115 J	120 J	--	--	--	--	--	--	--	--	--
Vanadium - Total	NA	NA		17.4 J	15.4 J	--	--	--	--	--	--	--	--	--
Zinc - Total	120	121		*129 J*	44.5 J	*292 J*	*131 J*	*158 J*	*498 J*	88.4 J	108 J	*275 J*	*5190 J*	112 J

Key at the End of Table 5-2 series.

Table 5-2d Summary of Positive Analytical Results for Sediment Samples from the Former United Paperboard Company Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B		Sample ID:	18MC-L06-S01-Z1	18MC-L06-S02-Z1	18MC-L06-S02-Z2	18MC-L06-S03-Z1*	18MC-L06-S03-Z2	18MC-L07-S01-Z1*	18MC-L07-S02-Z1	18MC-L07-S03-Z1	18MC-L08-S01-Z1	18MC-L08-S02-Z1	18MC-L08-S03-Z1	18MC-L09-S01-Z1	18MC-L09-S02-Z1
				Date:	04/23/07	04/19/07	04/19/07	04/19/07	04/19/07	04/23/07	04/23/07	04/23/07	04/23/07	04/23/07	04/23/07	04/23/07	04/23/07
TOC by Method 415.1 Lloyd Kahn (mg/kg)																	
TOC	NA	NA			--	37400	27800	--	--	--	80500	--	--	34500	--	--	50600
SVOCs by Method SW8270C (mg/Kg)																	
2-Methylnaphthalene	0.98	NA			--	0.25 U	0.21 U	--	--	--	3.2 U	--	--	0.055 J	--	--	0.019 J
2-Methylphenol	NA	NA			--	0.25 U	0.21 U	--	--	--	3.2 U	--	--	0.27 U	--	--	0.27 U
4-Methylphenol	NA	NA			--	0.48 U	0.41 U	--	--	--	6.2 U	--	--	0.52 U	--	--	0.52 U
Acenaphthene	4	NA			--	0.25 U	0.21 U	--	--	--	3.2 U	--	--	0.060 J	--	--	0.11 J
Acenaphthylene	NA	NA			--	0.25 U	0.21 U	--	--	--	0.18 J	--	--	0.076 J	--	--	0.10 J
Anthracene	3.1	0.06			--	0.016 J	0.010 J	--	--	--	**0.46 J**	--	--	**0.11 J**	--	--	**0.42**
Benzaldehyde	NA	NA			--	0.25 U	0.21 U	--	--	--	3.2 U	--	--	0.034 J	--	--	0.27 U
Benzo(a)anthracene	0.34	0.11			--	0.072 J	0.046 J	--	--	--	*1.9 J*	--	--	*0.58*	--	--	*1.5*
Benzo(a)pyrene	0.037	0.15			--	**0.062 J**	0.035 J	--	--	--	*1.6 J*	--	--	*0.57*	--	--	*1.4*
Benzo(b)fluoranthene	0.037	NA			--	**0.12 J**	**0.061 J**	--	--	--	**2.8 J**	--	--	**0.81 J**	--	--	**2.4 J**
Benzo(ghi)perylene	NA	NA			--	0.034 J	0.020 J	--	--	--	1.0 J	--	--	0.34	--	--	0.68
Benzo(k)fluoranthene	0.037	NA			--	0.25 U	0.21 U	--	--	--	3.2 U	--	--	**0.21 J**	--	--	0.27 U
Biphenyl	NA	NA			--	0.25 U	0.21 U	--	--	--	3.2 U	--	--	0.27 U	--	--	0.27 U
Bis(2-ethylhexyl) phthalate	5.8	239			--	0.25 U	0.21 U	--	--	--	3.2 U	--	--	0.092 J	--	--	0.98
Butyl benzyl phthalate	NA	NA			--	0.25 U	0.21 U	--	--	--	3.2 U	--	--	0.27 U	--	--	0.27 U
Carbazole	NA	NA			--	0.011 J	0.21 U	--	--	--	0.13 J	--	--	0.091 J	--	--	0.17 J
Chrysene	0.037	0.17			--	**0.082 J**	**0.040 J**	--	--	--	*1.8 J*	--	--	*0.58*	--	--	*1.5*
Dibenzo(a,h)anthracene	NA	0.03			--	0.010 J	0.21 U	--	--	--	**0.33 J**	--	--	**0.10 J**	--	--	**0.21 J**
Dibenzofuran	NA	NA			--	0.25 U	0.21 U	--	--	--	3.2 U	--	--	0.040 J	--	--	0.044 J
Dimethyl phthalate	NA	NA			--	0.25 U	0.21 U	--	--	--	3.2 U	--	--	0.27 U	--	--	0.27 U
Di-n-butyl phthalate	NA	NA			--	0.25 U	0.21 U	--	--	--	3.2 U	--	--	0.27 U	--	--	0.27 U
Di-n-octyl phthalate	NA	NA			--	0.25 U	0.21 U	--	--	--	3.2 U	--	--	0.011 J	--	--	0.27 U
Fluoranthene	29	0.42			--	0.17 J	0.089 J	--	--	--	**3.7**	--	--	**1.2**	--	--	**3.2**
Fluorene	0.23	0.08			--	0.25 U	0.21 U	--	--	--	3.2 U	--	--	0.048 J	--	--	**0.12 J**
Indeno(1,2,3-cd)pyrene	0.037	NA			--	0.031 J	0.018 J	--	--	--	**0.92 J**	--	--	**0.32**	--	--	**0.66**
Naphthalene	0.86	0.18			--	0.25 U	0.21 U	--	--	--	3.2 U	--	--	0.060 J	--	--	0.029 J
N-nitrosodiphenylamine	NA	NA			--	0.25 U	0.21 U	--	--	--	3.2 U	--	--	0.27 U	--	--	0.27 U
Phenanthrene	3.4	0.2			--	0.088 J	0.043 J	--	--	--	**2.0 J**	--	--	**0.58**	--	--	**1.6**
Pyrene	28	0.2			--	0.11 J	0.066 J	--	--	--	**2.6 J**	--	--	**0.78**	--	--	**2.1**
TOTAL PAHs	NA	1.61			--	0.8	0.43	--	--	--	**19**	--	--	**6.4**	--	--	**16**
Pesticides by Method SW8081A (mg/Kg)																	
4,4'-DDD	0.00029	0.005			--	0.024 U	0.020 U	--	--	--	0.032 U	--	--	0.0052 U	--	--	0.13 U
4,4'-DDE	0.00029	0.003			--	0.024 U	*0.011 J*	--	--	--	*0.042 J*	--	--	0.0052 U	--	--	*0.81*
4,4'-DDT	0.00029	0.004			--	*0.015 J*	0.020 U	--	--	--	*0.042*	--	--	*0.0086*	--	--	0.13 U
Aldrin	0.0029	NA			--	0.024 U	0.020 U	--	--	--	**0.042 J**	--	--	0.0052 U	--	--	**1.5 J**
alpha-BHC	0.0017	0.002			--	0.024 U	*0.0069 J*	--	--	--	0.032 U	--	--	0.0052 U	--	--	0.13 U
alpha-Chlordane	2.9E-05	0.003			--	0.024 U	0.020 U	--	--	--	*0.017 J*	--	--	0.0052 U	--	--	0.13 U
beta-BHC	0.0017	0.002			--	0.024 U	0.020 U	--	--	--	*0.046 J*	--	--	0.0052 U	--	--	*2.9 J*
delta-BHC	0.0017	0.002			--	0.024 U	0.020 U	--	--	--	0.032 U	--	--	0.0052 U	--	--	0.13 U
Dieldrin	0.0029	0.002			--	*0.0067 J*	0.020 U	--	--	--	*0.083 J*	--	--	0.0052 U	--	--	*1.8 J*
Endosulfan I	0.00086	0.002			--	0.024 U	0.020 U	--	--	--	*0.0071 J*	--	--	*0.0036 J*	--	--	*0.17 J*

Key at the End of Table 5-2 series.

Table 5-2d Summary of Positive Analytical Results for Sediment Samples from the Former United Paperboard Company Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B		Sample ID:	18MC-L09-S02-Z2	18MC-L09-S03-Z1	18MC-L10-S01-Z1 *	18MC-L10-S03-Z1	18MC-L11-S01-Z1	18MC-L11-S02-Z1	18MC-L11-S03-Z1
				Date:	04/23/07	04/23/07	04/23/07	04/23/07	04/24/07	04/24/07	04/24/07
TOC by Method 415.1 Lloyd Kahn (mg/kg)											
TOC	NA	NA			5390	--	--	--	--	53300	--
SVOCs by Method SW8270C (mg/Kg)											
2-Methylnaphthalene	0.98	NA			0.19 U	--	--	--	--	0.35 J	--
2-Methylphenol	NA	NA			0.19 U	--	--	--	--	2.9 U	--
4-Methylphenol	NA	NA			0.38 U	--	--	--	--	5.7 U	--
Acenaphthene	4	NA			0.19 U	--	--	--	--	1.3 J	--
Acenaphthylene	NA	NA			0.19 U	--	--	--	--	0.69 J	--
Anthracene	3.1	0.06			0.19 U	--	--	--	--	*4.1*	--
Benzaldehyde	NA	NA			0.19 U	--	--	--	--	2.9 U	--
Benzo(a)anthracene	0.34	0.11			0.013 J	--	--	--	--	*9.5*	--
Benzo(a)pyrene	0.037	0.15			0.19 U	--	--	--	--	*7.1*	--
Benzo(b)fluoranthene	0.037	NA			0.011 J	--	--	--	--	**9.7**	--
Benzo(ghi)perylene	NA	NA			0.19 U	--	--	--	--	3.3	--
Benzo(k)fluoranthene	0.037	NA			0.19 U	--	--	--	--	**2.5 J**	--
Biphenyl	NA	NA			0.19 U	--	--	--	--	2.9 U	--
Bis(2-ethylhexyl) phthalate	5.8	239			0.19 --		--	--	--	2.9 U	--
Butyl benzyl phthalate	NA	NA			0.19 U	--	--	--	--	2.9 U	--
Carbazole	NA	NA			0.19 U	--	--	--	--	1.7 J	--
Chrysene	0.037	0.17			0.19 U	--	--	--	--	*7.8*	--
Dibenzo(a,h)anthracene	NA	0.03			0.19 U	--	--	--	--	**1.0 J**	--
Dibenzofuran	NA	NA			0.19 U	--	--	--	--	1.1 J	--
Dimethyl phthalate	NA	NA			0.19 U	--	--	--	--	2.9 U	--
Di-n-butyl phthalate	NA	NA			0.19 U	--	--	--	--	2.9 U	--
Di-n-octyl phthalate	NA	NA			0.19 U	--	--	--	--	2.9 U	--
Fluoranthene	29	0.42			0.015 J	--	--	--	--	**20**	--
Fluorene	0.23	0.08			0.19 U	--	--	--	--	*2.2 J*	--
Indeno(1,2,3-cd)pyrene	0.037	NA			0.19 U	--	--	--	--	**3.3**	--
Naphthalene	0.86	0.18			0.19 U	--	--	--	--	**0.67 J**	--
N-nitrosodiphenylamine	NA	NA			0.19 U	--	--	--	--	2.9 U	--
Phenanthrene	3.4	0.2			0.19 U	--	--	--	--	*15*	--
Pyrene	28	0.2			0.010 J	--	--	--	--	**12**	--
TOTAL PAHs	NA	1.61			0.049	--	--	--	--	**100**	--
Pesticides by Method SW8081A (mg/Kg)											
4,4'-DDD	0.00029	0.005			**0.0014 J**	--	--	--	--	0.028 U	--
4,4'-DDE	0.00029	0.003			0.0019 U	--	--	--	--	0.028 U	--
4,4'-DDT	0.00029	0.004			0.0019 U	--	--	--	--	*0.030 J*	--
Aldrin	0.0029	NA			0.0014 J	--	--	--	--	**0.0091 J**	--
alpha-BHC	0.0017	0.002			0.00081 J	--	--	--	--	*0.010 J*	--
alpha-Chlordane	2.9E-05	0.003			0.0019 U	--	--	--	--	*0.017 J*	--
beta-BHC	0.0017	0.002			0.0019 U	--	--	--	--	*0.016 J*	--
delta-BHC	0.0017	0.002			0.0019 U	--	--	--	--	0.028 U	--
Dieldrin	0.0029	0.002			0.0019 U	--	--	--	--	0.028 U	--
Endosulfan I	0.00086	0.002			0.00062 J	--	--	--	--	0.028 U	--

Key at the End of Table 5-2 series.

Table 5-2d Summary of Positive Analytical Results for Sediment Samples from the Former United Paperboard Company Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B	Sample ID: / Date:	18MC-L06-S01-Z1 04/23/07	18MC-L06-S02-Z1 04/19/07	18MC-L06-S02-Z2 04/19/07	18MC-L06-S03-Z1* 04/19/07	18MC-L06-S03-Z2 04/19/07	18MC-L07-S01-Z1* 04/23/07	18MC-L07-S02-Z1 04/23/07	18MC-L07-S03-Z1 04/23/07	18MC-L08-S01-Z1 04/23/07	18MC-L08-S02-Z1 04/23/07	18MC-L08-S03-Z1 04/23/07	18MC-L09-S01-Z1 04/23/07	18MC-L09-S02-Z1 04/23/07
Endosulfan II	0.00086	0.002		--	0.024 U	0.020 U	--	--	--	0.032 U	--	--	0.0052 U	--	--	0.13 U
Endosulfan Sulfate	NA	NA		--	0.024 U	0.020 U	--	--	--	0.032 U	--	--	0.0052 U	--	--	0.13 U
Endrin	0.023	0.002		--	0.024 U	0.020 U	--	--	--	**0.013 J**	--	--	0.0052 U	--	--	0.13 U
Endrin aldehyde	NA	NA		--	0.024 U	0.020 U	--	--	--	0.032 U	--	--	0.0052 U	--	--	0.13 U
Endrin ketone	NA	NA		--	0.024 U	0.020 U	--	--	--	0.032 U	--	--	0.0052 U	--	--	0.13 U
gamma-BHC (Lindane)	0.0017	0.002		--	0.024 U	0.020 U	--	--	--	0.032 U	--	--	0.0052 U	--	--	*0.61 J*
gamma-Chlordane	2.9E-05	0.003		--	0.024 U	0.020 U	--	--	--	0.032 U	--	--	0.0052 U	--	--	*0.75 J*
Heptachlor	2.3E-05	0.002		--	0.024 U	0.020 U	--	--	--	0.032 U	--	--	0.0052 U	--	--	0.13 U
Heptachlor epoxide	2.3E-05	0.002		--	0.024 U	0.020 U	--	--	--	0.032 U	--	--	0.0052 U	--	--	0.13 U
Methoxychlor	0.017	NA		--	0.024 U	0.020 U	--	--	--	0.032 U	--	--	0.0052 U	--	--	0.13 U
PCBs by Method SW8082 (mg/Kg)																
Aroclor 1242	2.3E-05	0.06[(1)]		0.024 U	0.024 U	0.020 U	0.020 U	0.022 U	0.026 U	3.2 U	0.036 U	0.056 U	0.026 U	1.3 U	*33*	*8.8*
Aroclor 1248	2.3E-05	0.06[(1)]		0.024 U	**0.027**	*0.22*	**0.049**	**0.056**	0.026 U	*23*	*0.37*	0.056 U	**0.024 J**	*35*	2.1 U	1.3 U
Aroclor 1254	2.3E-05	0.06[(1)]		0.024 U	**0.020 J**	0.020 U	**0.035**	**0.034**	*0.10*	3.2 U	*0.39*	0.056 U	**0.016 J**	1.3 U	2.1 U	*2.1*
Aroclor 1260	2.3E-05	0.06[(1)]		0.024 U	0.024 U	*0.65*	0.020 U	0.022 U	*0.23*	3.2 U	0.036 U	0.056 U	0.026 U	1.3 U	2.1 U	1.3 U
TOTAL PCBs	2.3E-05	0.06		ND	**0.047**	*0.87*	*0.084*	*0.09*	*0.33*	*23*	*0.76*	ND	**0.04**	*35*	*33*	*10.9*
Select Metals by Method SW6010B (mg/Kg)																
Arsenic - Total	6	10		**8.1**	5.2 4.0		5.0	5.9	**8.4**	5.1	*13.7*	*20.6*	4.5	**9.9**	*12.1*	3.3
Chromium - Total	26	43		**40.2 J**	8.9 J	10.4 J	12.3 J	11.5 J	**39.9 J**	*52.3 J*	*105 J*	*75.0 J*	7.9 J	*43.1 J*	*115*	26.0
Copper - Total	16	32		*265 J*	**18.5**	*54.2*	*68.6*	*54.0*	*206 J*	*134 J*	*458 J*	*609 J*	**17.1 J**	*123 J*	*857*	*122*
Lead - Total	31	36		*368*	**31.9 J**	*61.3 J*	*170 J*	*125 J*	*323*	*408*	*628*	*658*	*46.4*	*284*	*1470*	*526*
Zinc - Total	120	121		*410 J*	74.2 J	116 J	*147 J*	*130 J*	*590 J*	*289 J*	*1170 J*	*2120 J*	52.4 J	*654 J*	*2640*	*243*

Key at the End of Table 5-2 series.

Table 5-2d Summary of Positive Analytical Results for Sediment Samples from the Former United Paperboard Company Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B		Sample ID:	18MC-L09-S02-Z2	18MC-L09-S03-Z1	18MC-L10-S01-Z1 *	18MC-L10-S03-Z1	18MC-L11-S01-Z1	18MC-L11-S02-Z1	18MC-L11-S03-Z1
				Date:	04/23/07	04/23/07	04/23/07	04/23/07	04/24/07	04/24/07	04/24/07
Endosulfan II	0.00086	0.002			0.0019 U	--	--	--	--	0.028 U	--
Endosulfan Sulfate	NA	NA			0.0019 U	--	--	--	--	0.028 U	--
Endrin	0.023	0.002			0.0011 J	--	--	--	--	0.028 U	--
Endrin aldehyde	NA	NA			0.0019 U	--	--	--	--	0.028 U	--
Endrin ketone	NA	NA			0.0019 U	--	--	--	--	0.028 U	--
gamma-BHC (Lindane)	0.0017	0.002			0.0019 U	--	--	--	--	*0.013 J*	--
gamma-Chlordane	2.9E-05	0.003			0.0019 U	--	--	--	--	*0.016 J*	--
Heptachlor	2.3E-05	0.002			0.0019 U	--	--	--	--	0.028 U	--
Heptachlor epoxide	2.3E-05	0.002			**0.0017 J**	--	--	--	--	0.028 U	--
Methoxychlor	0.017	NA			0.0019 U	--	--	--	--	0.028 U	--
PCBs by Method SW8082 (mg/Kg)											
Aroclor 1242	2.3E-05	0.06[(1)]			0.019 U	2.3 U	0.14 U	0.027 U	0.14 U	0.029 U	0.024 U
Aroclor 1248	2.3E-05	0.06[(1)]			0.019 U	*41*	*1.9*	*0.26*	*1.0*	*0.28*	*0.50*
Aroclor 1254	2.3E-05	0.06[(1)]			0.019 U	*20*	*0.85*	*0.30*	*0.65*	*0.097*	*0.092*
Aroclor 1260	2.3E-05	0.06[(1)]			0.019 U	2.3 U	0.14 U	0.027 U	0.14 U	0.029 U	0.024 U
TOTAL PCBs	2.3E-05	0.06			ND	*61*	*2.75*	*0.56*	*1.65*	*0.377*	*0.592*
Select Metals by Method SW6010B (mg/Kg)											
Arsenic - Total	6	10			**9.4**	*21.2*	*26.9*	**6.8**	**7.1**	*18.6*	*32.0*
Chromium - Total	26	43			14.9	*85.3*	*75.8 J*	*61.8*	*84.7*	19.5 10.5	
Copper - Total	16	32			*162*	*54900*	*397*	*329*	*477 J*	*394 J*	*65.7 J*
Lead - Total	31	36			*213*	*15000*	*1070*	*737*	*920 J*	*2530 J*	*98.3 J*
Zinc - Total	120	121			*131*	*21400*	*1900*	*595*	*855 J*	*7660 J*	99.5 J

Key at the End of Table 5-2 series.

Table 5-2e Summary of Positive Analytical Results for Sediment Samples from the Former Flintkote Plant Site, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B	Sample ID:	18MC-L12-S01-Z1	18MC-L12-S02-Z1	18MC-L12-S03-Z1	18MC-L13-S01-Z1	18MC-L13-S02-Z1	18MC-L13-S03-Z1	18MC-L14E-S01-Z1	18MC-L14E-S02-Z1	18MC-L14E-S02-Z2	18MC-L14E-S03-Z1	18MC-L14W-S01-Z1	18MC-L14W-S02-Z1	18MC-L14W-S03-Z1	18MC-L14W-S03-Z2	18MC-L15E-S01-Z1*
			Date:	04/24/07	04/24/07	04/24/07	04/24/07	04/24/07	04/24/07	04/24/07	04/24/07	04/24/07	04/24/07	04/24/07	04/24/07	04/24/07	04/24/07	04/24/07
TOC by Method 415.1 Lloyd Kahn (mg/kg)																		
TOC	NA	NA		--	59300	--	--	48300	--		51000	79000	--	--	24700	--	--	--
SVOCs by Method SW8270C (mg/Kg)																		
2-Methylnaphthalene	#NAME?	NA		--	0.38 U	--	--	0.37 U	--	--	3.1 U	5.4 U	--	--	0.19 U	--	--	--
2-Methylphenol	NA	NA		--	0.38 U	--	--	0.37 U	--	--	3.1 U	5.4 U	--	--	0.19 U	--	--	--
4-Methylphenol	NA	NA		--	0.75 U	--	--	0.71 U	--	--	6.0 U	10 U	--	--	0.36 U	--	--	--
Acenaphthene	#NAME?	NA		--	0.38 U	--	--	0.018 J	--	--	0.24 J	5.4 U	--	--	0.19 U	--	--	--
Acenaphthylene	NA	NA		--	0.38 U	--	--	0.030 J	--	--	0.43 J	5.4 U	--	--	0.19 U	--	--	--
Anthracene	#NAME?	0.06		--	0.38 U	--	--	**0.070 J**	--	--	**1.1 J**	**0.71 J**	--	--	0.19 U	--	--	--
Benzaldehyde	NA	NA		--	0.38 U	--	--	0.37 U	--	--	3.1 U	5.4 U	--	--	0.19 U	--	--	--
Benzo(a)anthracene	#NAME?	0.11		--	0.039 J	--	--	**0.30 J**	--	--	*3.4*	*1.4 J*	--	--	0.013 J	--	--	--
Benzo(a)pyrene	#NAME?	0.15		--	0.031 J	--	--	*0.28 J*	--	--	*2.7 J*	*0.96 J*	--	--	0.010 J	--	--	--
Benzo(b)fluoranthene	#NAME?	NA		--	**0.059 J**	--	--	**0.40**	--	--	**4.8 J**	**1.3 J**	--	--	0.011 J	--	--	--
Benzo(ghi)perylene	NA	NA		--	0.016 J	--	--	0.16 J	--	--	1.4 J	0.50 J	--	--	0.19 U	--	--	--
Benzo(k)fluoranthene	#NAME?	NA		--	0.38 U	--	--	**0.10 J**	--	--	3.1 U	**0.33 J**	--	--	0.19 U	--	--	--
Biphenyl	NA	NA		--	0.38 U	--	--	0.37 U	--	--	3.1 U	5.4 U	--	--	0.19 U	--	--	--
Bis(2-ethylhexyl) phthalate	#NAME?	239		--	0.42	--	--	0.21 J	--	--	1.3 J	**22**	--	--	0.072 J	--	--	--
Butyl benzyl phthalate	NA	NA		--	0.38 U	--	--	0.37 U	--	--	3.1 U	5.4 U	--	--	0.19 U	--	--	--
Carbazole	NA	NA		--	0.38 U	--	--	0.026 J	--	--	0.29 J	5.4 U	--	--	0.19 U	--	--	--
Chrysene	#NAME?	0.17		--	**0.039 J**	--	--	*0.29 J*	--	--	*2.9 J*	*1.1 J*	--	--	0.010 J	--	--	--
Dibenzo(a,h)anthracene	NA	0.03		--	0.38 U	--	--	**0.043 J**	--	--	**0.35 J**	5.4 U	--	--	0.19 U	--	--	--
Dibenzofuran	NA	NA		--	0.38 U	--	--	0.37 U	--	--	0.15 J	5.4 U	--	--	0.19 U	--	--	--
Dimethyl phthalate	NA	NA		--	0.38 U	--	--	0.37 U	--	--	3.1 U	1.4 J	--	--	0.19 U	--	--	--
Di-n-butyl phthalate	NA	NA		--	0.38 U	--	--	0.37 U	--	--	3.1 U	2.9 J	--	--	0.19 U	--	--	--
Di-n-octyl phthalate	NA	NA		--	0.38 U	--	--	0.37 U	--	--	3.1 U	0.74	--	--	0.19 U	--	--	--
Fluoranthene	#NAME?	0.42		--	0.053 J	--	--	**0.58**	--	--	**7.8**	**2.7 J**	--	--	0.022 J	--	--	--
Fluorene	#NAME?	0.08		--	0.38 U	--	--	0.021 J	--	--	*0.27 J*	5.4 U	--	--	0.19 U	--	--	--
Indeno(1,2,3-cd)pyrene	#NAME?	NA		--	0.38 U	--	--	**0.15 J**	--	--	**1.3 J**	**0.41 J**	--	--	0.19 U	--	--	--
Naphthalene	#NAME?	0.18		--	0.38 U	--	--	0.37 U	--	--	3.1 U	5.4 U	--	--	0.19 U	--	--	--
N-nitrosodiphenylamine	NA	NA		--	0.38 U	--	--	0.37 U	--	--	3.1 U	5.4 U	--	--	0.19 U	--	--	--
Phenanthrene	#NAME?	0.2		--	0.028 J	--	--	**0.25 J**	--	--	*4.8*	**2.0 J**	--	--	0.014 J	--	--	--
Pyrene	#NAME?	0.2		--	0.048 J	--	--	**0.38**	--	--	**4.7**	**1.6 J**	--	--	0.015 J	--	--	--
TOTAL PAHs	NA	1.61		--	0.31	--	--	**3.1**	--	--	**36**	**13**	--	--	0.095	--	--	--
Pesticides by Method SW8081A (mg/Kg)																		
4,4'-DDD	#NAME?	0.005		--	0.0038 U	--	--	0.0071 U	--	--	0.12 U	0.054 U	--	--	0.0018 U	--	--	--
4,4'-DDE	#NAME?	0.003		--	0.0038 U	--	--	0.0071 U	--	--	*0.85*	*0.30*	--	--	0.0018 U	--	--	--
4,4'-DDT	#NAME?	0.004		--	**0.0033 J**	--	--	0.0071 U	--	--	0.12 U	0.054 U	--	--	0.0018 U	--	--	--
Aldrin	#NAME?	NA		--	0.0038 U	--	--	0.0071 U	--	--	0.12 U	0.054 U	--	--	0.0018 U	--	--	--
alpha-BHC	#NAME?	0.002		--	**0.0018 J**	--	--	*0.0028 J*	--	--	*0.041 J*	*0.021 J*	--	--	0.00088 J	--	--	--
alpha-Chlordane	#NAME?	0.003		--	0.0038 U	--	--	0.0071 U	--	--	0.12 U	0.054 U	--	--	0.0018 U	--	--	--
beta-BHC	#NAME?	0.002		--	0.0038 U	--	--	0.0071 U	--	--	0.12 U	*0.70 J*	--	--	0.0018 U	--	--	--
delta-BHC	#NAME?	0.002		--	0.0038 U	--	--	0.0071 U	--	--	0.12 U	0.054 U	--	--	0.0018 U	--	--	--
Dieldrin	#NAME?	0.002		--	**0.0028 J**	--	--	0.0071 U	--	--	0.12 U	0.054 U	--	--	*0.0035*	--	--	--
Endosulfan I	#NAME?	0.002		--	*0.0041 J*	--	--	*0.0057 J*	--	--	*0.15 J*	*0.061 J*	--	--	*0.0038 J*	--	--	--
Endosulfan II	#NAME?	0.002		--	0.0038 U	--	--	0.0071 U	--	--	0.12 U	0.054 U	--	--	*0.0080 J*	--	--	--
Endosulfan Sulfate	NA	NA		--	0.0038 U	--	--	0.0071 U	--	--	0.12 U	0.054 U	--	--	0.0018 U	--	--	--

Key at the End of Table 5-2 series.

Table 5-2e Summary of Positive Analytical Results for Sediment Samples from the Former Flintkote Plant Site, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B	Sample ID: / Date:	18MC-L15E-S02-Z1 04/24/07	18MC-L15E-S03-Z1 04/24/07	18MC-L15W-S01-Z1 04/24/07	18MC-L15W-S03-Z1 04/24/07	18MC-L16E-S01-Z1 04/24/07	18MC-L16E-S02-Z1 04/24/07	18MC-L16E-S03-Z1 04/24/07
TOC by Method 415.1 Lloyd Kahn (mg/kg)										
TOC	NA	NA		100000	--	--	--	--	50200	--
SVOCs by Method SW8270C (mg/Kg)										
2-Methylnaphthalene	#NAME?	NA		**5.9**	--	--	--	--	0.023 J	--
2-Methylphenol	NA	NA		0.22 J	--	--	--	--	0.37 U	--
4-Methylphenol	NA	NA		0.60 J	--	--	--	--	0.72 U	--
Acenaphthene	#NAME?	NA		**12**	--	--	--	--	0.062 J	--
Acenaphthylene	NA	NA		0.87 J	--	--	--	--	0.13 J	--
Anthracene	#NAME?	0.06		*23*	--	--	--	--	**0.19 J**	--
Benzaldehyde	NA	NA		5.2 U	--	--	--	--	0.043 J	--
Benzo(a)anthracene	#NAME?	0.11		*43*	--	--	--	--	*0.99*	--
Benzo(a)pyrene	#NAME?	0.15		*34*	--	--	--	--	*1.0*	--
Benzo(b)fluoranthene	#NAME?	NA		**46**	--	--	--	--	**2.2 J**	--
Benzo(ghi)perylene	NA	NA		16 --		--	--	--	0.64	--
Benzo(k)fluoranthene	#NAME?	NA		**16**	--	--	--	--	0.37 U	--
Biphenyl	NA	NA		1.4 J	--	--	--	--	0.37 U	--
Bis(2-ethylhexyl) phthalate	#NAME?	239		**8.5**	--	--	--	--	0.76 --	
Butyl benzyl phthalate	NA	NA		5.2 U	--	--	--	--	0.37 U	--
Carbazole	NA	NA		15 --		--	--	--	0.098 J	--
Chrysene	#NAME?	0.17		*43*	--	--	--	--	*0.94*	--
Dibenzo(a,h)anthracene	NA	0.03		**5.2**	--	--	--	--	**0.15 J**	--
Dibenzofuran	NA	NA		10 --		--	--	--	0.030 J	--
Dimethyl phthalate	NA	NA		5.2 U	--	--	--	--	0.37 U	--
Di-n-butyl phthalate	NA	NA		5.2 U	--	--	--	--	0.37 U	--
Di-n-octyl phthalate	NA	NA		5.2 U	--	--	--	--	0.37 U	--
Fluoranthene	#NAME?	0.42		*120*	--	--	--	--	**2.2**	--
Fluorene	#NAME?	0.08		*13*	--	--	--	--	0.37 U	--
Indeno(1,2,3-cd)pyrene	#NAME?	NA		**16**	--	--	--	--	**0.55**	--
Naphthalene	#NAME?	0.18		*17*	--	--	--	--	0.026 J	--
N-nitrosodiphenylamine	NA	NA		5.2 U	--	--	--	--	0.37 U	--
Phenanthrene	#NAME?	0.2		*120*	--	--	--	--	**0.58**	--
Pyrene	#NAME?	0.2		*68*	--	--	--	--	**1.4**	--
TOTAL PAHs	NA	1.61		**590**	--	--	--	--	**11**	--
Pesticides by Method SW8081A (mg/Kg)										
4,4'-DDD	#NAME?	0.005		0.013 U	--	--	--	--	0.0038 U	--
4,4'-DDE	#NAME?	0.003		0.013 U	--	--	--	--	0.0038 U	--
4,4'-DDT	#NAME?	0.004		0.013 U	--	--	--	--	0.0038 U	--
Aldrin	#NAME?	NA		0.013 U	--	--	--	--	0.0038 U	--
alpha-BHC	#NAME?	0.002		*0.0086 J*	--	--	--	--	0.0038 U	--
alpha-Chlordane	#NAME?	0.003		0.013 U	--	--	--	--	0.0038 U	--
beta-BHC	#NAME?	0.002		0.013 U	--	--	--	--	0.0038 U	--
delta-BHC	#NAME?	0.002		*0.024 J*	--	--	--	--	*0.0044*	--
Dieldrin	#NAME?	0.002		*0.0084 J*	--	--	--	--	*0.0035 J*	--
Endosulfan I	#NAME?	0.002		0.013 U	--	--	--	--	0.0038 U	--
Endosulfan II	#NAME?	0.002		0.013 U	--	--	--	--	0.0038 U	--
Endosulfan Sulfate	NA	NA		0.013 U	--	--	--	--	0.0015 J	--

Key at the End of Table 5-2 series.

Table 5-2e Summary of Positive Analytical Results for Sediment Samples from the Former Flintkote Plant Site, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B	Sample ID: / Date:	18MC-L12-S01-Z1 04/24/07	18MC-L12-S02-Z1 04/24/07	18MC-L12-S03-Z1 04/24/07	18MC-L13-S01-Z1 04/24/07	18MC-L13-S02-Z1 04/24/07	18MC-L13-S03-Z1 04/24/07	18MC-L14E-S01-Z1 04/24/07	18MC-L14E-S02-Z1 04/24/07	18MC-L14E-S02-Z2 04/24/07	18MC-L14E-S03-Z1 04/24/07	18MC-L14W-S01-Z1 04/24/07	18MC-L14W-S02-Z1 04/24/07	18MC-L14W-S03-Z1 04/24/07	18MC-L14W-S03-Z2 04/24/07	18MC-L15E-S01-Z1* 04/24/07
Endrin	#NAME?	0.002		--	0.0038 U	--	--	0.0071 U	--	--	0.12 U	**0.018 J**	--	--	0.0018 U	--	--	--
Endrin aldehyde	NA	NA		--	0.0038 U	--	--	0.0052 J	--	--	0.12 U	0.054 U	--	--	0.0018 U	--	--	--
Endrin ketone	NA	NA		--	0.0038 U	--	--	0.0071 U	--	--	0.12 U	0.054 U	--	--	0.0018 U	--	--	--
gamma-BHC (Lindane)	#NAME?	0.002		--	0.0038 U	--	--	*0.0026 J*	--	--	*0.16 J*	*0.21 J*	--	--	0.00059 J	--	--	--
gamma-Chlordane	#NAME?	0.003		--	*0.013*	--	--	*0.027*	--	--	0.12 U	0.054 U	--	--	0.0018 U	--	--	--
Heptachlor	#NAME?	0.002		--	0.0038 U	--	--	0.0071 U	--	--	*0.33 J*	*0.19 J*	--	--	0.0018 U	--	--	--
Heptachlor epoxide	#NAME?	0.002		--	0.0038 U	--	--	*0.0058 J*	--	--	0.12 U	0.054 U	--	--	0.0018 U	--	--	--
Methoxychlor	#NAME?	NA		--	0.0038 U	--	--	0.0071 U	--	--	0.12 U	0.054 U	--	--	0.0018 U	--	--	--
PCBs by Method SW8082 (mg/Kg)																		
Aroclor 1242	#NAME?	0.06[(1)]		0.026 U	0.038 U	0.029 U	0.027 U	0.036 U	*46*	0.021 U	31 U	5.3 U	2.6 U	0.019 U	0.018 U	0.023 U	0.021 U	0.77 U
Aroclor 1248	#NAME?	0.06[(1)]		**0.023 J**	0.038 U	*0.12*	0.027 U	*0.076*	3.4 U	*0.096*	*180*	*57*	*41*	0.019 U	**0.0060 J**	0.023 U	0.021 U	*19 J*
Aroclor 1254	#NAME?	0.06[(1)]		**0.019 J**	0.038 U	*0.10*	0.027 U	**0.041**	3.4 U	*0.10*	*57*	*85*	*18*	0.019 U	0.018 U	0.023 U	0.021 U	*10 J*
Aroclor 1260	#NAME?	0.06[(1)]		0.026 U	0.038 U	0.029 U	0.027 U	0.036 U	3.4 U	0.021 U	31 U	5.3 U	2.6 U	0.019 U	0.018 U	0.023 U	0.021 U	0.77 U
TOTAL PCBs	#NAME?	0.06		**0.044**	ND	*0.22*	ND	*0.117*	*46*	*0.196*	*237*	*142*	*59*	ND	**0.006**	ND	ND	*29*
Select Metals by Method SW6010B (mg/Kg)																		
Arsenic - Total	6	10		**9.3**	2.6 J	**9.5 J**	4.5 4.8		*24.6 J*	3.1	*16.6*	*11.8*	**9.6**	5.7 5.7		*21.6*	*14.6*	*12.2 J*
Chromium - Total	26	43		*86.7*	5.5	**26.9 J**	6.6 24.7		*114 J*	5.9	**40.6**	*1200*	*43.4*	12.0 10.5		*88.4*	*466*	*54.6 J*
Copper - Total	16	32		*725 J*	**16.7 J**	*526 J*	*33.7 J*	*103 J*	*2830 J*	**16.5 J**	*1150 J*	*646 J*	*860 J*	*41.9 J*	*89.5 J*	*1550 J*	*1370 J*	*1370 J*
Lead - Total	31	36		*513 J*	*84.0 J*	*1110*	*155 J*	*176 J*	*3990*	18.2 J	*1430 J*	*709 J*	*1000 J*	*73.8 J*	11.3 J	*1780 J*	*1690 J*	*1370*
Zinc - Total	120	121		*960 J*	46.0 J	*668 J*	99.6 J	*245 J*	*7340 J*	*150 J*	*1060 J*	*1390 J*	*1970 J*	105 J	51.1 J	*2000 J*	*3170 J*	*1740 J*

Key at the End of Table 5-2 series.

Table 5-2e Summary of Positive Analytical Results for Sediment Samples from the Former Flintkote Plant Site, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B		Sample ID: 18MC-L15E-S02-Z1	18MC-L15E-S03-Z1	18MC-L15W-S01-Z1	18MC-L15W-S03-Z1	18MC-L16E-S01-Z1	18MC-L16E-S02-Z1	18MC-L16E-S03-Z1
			Date:	04/24/07	04/24/07	04/24/07	04/24/07	04/24/07	04/24/07	04/24/07
Endrin	#NAME?	0.002		0.013 U	--	--	--	--	**0.0022 J**	--
Endrin aldehyde	NA	NA		0.013 U	--	--	--	--	0.0038 U	--
Endrin ketone	NA	NA		0.013 U	--	--	--	--	0.0038 U	--
gamma-BHC (Lindane)	#NAME?	0.002		*0.015*	--	--	--	--	*0.0031 J*	--
gamma-Chlordane	#NAME?	0.003		0.013 U	--	--	--	--	0.0038 U	--
Heptachlor	#NAME?	0.002		*0.0091 J*	--	--	--	--	0.0038 U	--
Heptachlor epoxide	#NAME?	0.002		0.013 U	--	--	--	--	**0.0017 J**	--
Methoxychlor	#NAME?	NA		0.013 U	--	--	--	--	0.0038 U	--
PCBs by Method SW8082 (mg/Kg)					--				--	
Aroclor 1242	#NAME?	0.06[(1)]		0.13 U	0.57 U	0.033 U	0.021 U	*31*	0.18 U	0.41 U
Aroclor 1248	#NAME?	0.06[(1)]		*3.7*	*14*	*0.73*	**0.032**	1.6 U	*4.3*	*5.9*
Aroclor 1254	#NAME?	0.06[(1)]		*1.1*	*3.1*	*0.67*	*0.086*	*6.7*	*1.5*	*2.8*
Aroclor 1260	#NAME?	0.06[(1)]		0.13 U	0.57 U	0.033 U	0.021 U	1.6 U	0.18 U	0.41 U
TOTAL PCBs	#NAME?	0.06		*4.8*	*17.1*	*1.4*	*0.118*	*37.7*	*5.8*	*8.7*
Select Metals by Method SW6010B (mg/Kg)										
Arsenic - Total	6	10		**9.9 J**	*11.6 J*	4.1 J	**7.1 J**	*25.0 J*	**7.7 J**	*18.4 J*
Chromium - Total	26	43		**27.8 J**	*63.2 J*	*131 J*	8.7 J	*68.5 J*	**42.5 J**	*196 J*
Copper - Total	16	32		*728 J*	*6830 J*	*407 J*	*152 J*	*2640 J*	*273 J*	*1170 J*
Lead - Total	31	36		*568*	*1850*	*356*	*54.9*	*1140*	*323*	*2040*
Zinc - Total	120	121		*1030 J*	*4610 J*	*582 J*	84.7 J	*2280 J*	*696 J*	*672 J*

Key at the End of Table 5-2 series.

Table 5-2f Summary of Positive Analytical Results for Sediment Samples from Area Downstream of the Former Flintkote Plant Site, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B	Sample ID: Date:	18MC-L16W-S01-Z1 04/24/07	18MC-L16W-S03-Z1 04/25/07	18MC-L17-S01-Z1 04/25/07	18MC-L17-S02-Z1 04/25/07	18MC-L17-S03-Z1 04/25/07	18MC-L18-S01-Z1 04/25/07	18MC-L18-S02-Z1 04/25/07	18MC-L18-S02-Z2 04/25/07
TOC by Method 415.1 Lloyd Kahn (mg/kg)											
TOC	NA	NA		--	--	--	75700	--	--	36300	48300
SVOCs by Method SW8270C (mg/Kg)											
2-Methylnaphthalene	0.98	NA		--	--	--	0.37 U	--	--	61 U	0.31 U
2-Methylphenol	NA	NA		--	--	--	0.37 U	--	--	61 U	0.31 U
4-Methylphenol	NA	NA		--	--	--	0.72 U	--	--	120 U	0.61 U
Acenaphthene	4	NA		--	--	--	0.015 J	--	--	61 U	0.051 J
Acenaphthylene	NA	NA		--	--	--	0.021 J	--	--	61 U	0.31 U
Anthracene	3.1	0.06		--	--	--	0.056 J	--	--	61 U	**0.11 J**
Benzaldehyde	NA	NA		--	--	--	0.37 U	--	--	61 U	0.31 U
Benzo(a)anthracene	0.34	0.11		--	--	--	**0.17 J**	--	--	*3.0 J*	0.11 J
Benzo(a)pyrene	0.037	0.15		--	--	--	*0.18 J*	--	--	61 U	**0.088 J**
Benzo(b)fluoranthene	0.037	NA		--	--	--	**0.22 J**	--	--	61 U	**0.15 J**
Benzo(ghi)perylene	NA	NA		--	--	--	0.077 J	--	--	61 U	0.040 J
Benzo(k)fluoranthene	0.037	NA		--	--	--	**0.075 J**	--	--	61 U	0.31 U
Biphenyl	NA	NA		--	--	--	0.37 U	--	--	61 U	0.31 U
Bis(2-ethylhexyl) phthalate	5.8	239		--	--	--	0.37 U	--	--	28 UJ	0.31 U
Butyl benzyl phthalate	NA	NA		--	--	--	0.37 U	--	--	61 U	0.31 U
Carbazole	NA	NA		--	--	--	0.022 J	--	--	61 U	0.042 J
Chrysene	0.037	0.17		--	--	--	**0.16 J**	--	--	61 U	**0.10 J**
Dibenzo(a,h)anthracene	NA	0.03		--	--	--	0.026 J	--	--	61 U	0.015 J
Dibenzofuran	NA	NA		--	--	--	0.37 U	--	--	61 U	0.036 J
Dimethyl phthalate	NA	NA		--	--	--	0.37 U	--	--	61 U	0.31 U
Di-n-butyl phthalate	NA	NA		--	--	--	0.37 U	--	--	61 U	0.31 U
Di-n-octyl phthalate	NA	NA		--	--	--	0.37 U	--	--	61 U	0.31 U
Fluoranthene	29	0.42		--	--	--	0.27 J	--	--	**4.5 J**	0.32
Fluorene	0.23	0.08		--	--	--	0.017 J	--	--	61 U	0.062 J
Indeno(1,2,3-cd)pyrene	0.037	NA		--	--	--	**0.071 J**	--	--	61 U	**0.038 J**
Naphthalene	0.86	0.18		--	--	--	0.045 J	--	--	61 U	0.016 J
N-nitrosodiphenylamine	NA	NA		--	--	--	0.37 U	--	--	61 U	0.31 U
Phenanthrene	3.4	0.2		--	--	--	0.15 J	--	--	**2.7 J**	**0.36**
Pyrene	28	0.2		--	--	--	0.20 J	--	--	**2.5 J**	0.17 J
TOTAL PAHs	NA	1.61		--	--	--	**1.8**	--	--	**13**	1.6
Pesticides by Method SW8081A (mg/Kg)											
4,4'-DDD	0.00029	0.005		--	--	--	0.0036 U	--	--	0.031 U	0.0031 U
4,4'-DDE	0.00029	0.003		--	--	--	0.0036 U	--	--	0.031 U	0.0031 U
4,4'-DDT	0.00029	0.004		--	--	--	**0.0013 J**	--	--	0.031 U	0.0031 U
Aldrin	0.0029	NA		--	--	--	0.0036 U	--	--	0.031 U	0.0031 U
alpha-BHC	0.0017	0.002		--	--	--	0.0036 U	--	--	*0.018 J*	0.0031 U
alpha-Chlordane	0.000029	0.003		--	--	--	0.0036 U	--	--	0.031 U	0.0031 U

Key at the End of Table 5-2 series.

Table 5-2f Summary of Positive Analytical Results for Sediment Samples from Area Downstream of the Former Flintkote Plant Site, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria A	Screening Criteria B	Sample ID: Date:	18MC-L16W-S01-Z1 04/24/07	18MC-L16W-S03-Z1 04/25/07	18MC-L17-S01-Z1 04/25/07	18MC-L17-S02-Z1 04/25/07	18MC-L17-S03-Z1 04/25/07	18MC-L18-S01-Z1 04/25/07	18MC-L18-S02-Z1 04/25/07	18MC-L18-S02-Z2 04/25/07
beta-BHC	0.0017	0.002		--	--	--	0.0036 U	--	--	0.031 U	0.0031 U
delta-BHC	0.0017	0.002		--	--	--	0.0036 U	--	--	0.031 U	**0.0019 J**
Dieldrin	0.0029	0.002		--	--	--	0.0036 U	--	--	*0.016 J*	0.0031 U
Endosulfan I	0.00086	0.002		--	--	--	**0.0012 J**	--	--	0.031 U	0.0031 U
Endosulfan II	0.00086	0.002		--	--	--	0.0036 U	--	--	0.031 U	0.0031 U
Endosulfan Sulfate	NA	NA		--	--	--	0.0036 U	--	--	0.031 U	0.0031 U
Endrin	0.023	0.002		--	--	--	0.0036 U	--	--	0.031 U	0.0031 U
Endrin aldehyde	NA	NA		--	--	--	0.0036 U	--	--	0.031 U	0.0031 U
Endrin ketone	NA	NA		--	--	--	0.0036 U	--	--	0.031 U	0.0031 U
gamma-BHC (Lindane)	0.0017	0.002		--	--	--	0.0036 U	--	--	*0.029 J*	0.0017 J
gamma-Chlordane	0.000029	0.003		--	--	--	0.0036 U	--	--	*0.019 J*	0.0031 U
Heptachlor	0.000023	0.002		--	--	--	0.0036 U	--	--	0.031 U	0.0031 U
Heptachlor epoxide	0.000023	0.002		--	--	--	0.0036 U	--	--	*0.0086 J*	0.0031 U
Methoxychlor	0.017	NA		--	--	--	0.0036 U	--	--	0.031 U	0.0031 U
PCBs by Method SW8082 (mg/Kg)											
Aroclor 1242	0.000023	0.06[(1)]		0.65 U	0.028 U	0.034 U	0.036 U	0.022 U	0.040 U	*1.2*	**0.020 J**
Aroclor 1248	0.000023	0.06[(1)]		*5.8*	**0.013 J**	0.034 U	0.036 U	*0.14*	*0.078*	0.061 U	0.031 U
Aroclor 1254	0.000023	0.06[(1)]		*4.5*	**0.031**	0.034 U	0.036 U	*0.13*	**0.034 J**	*0.23*	0.031 U
Aroclor 1260	0.000023	0.06[(1)]		0.65 U	0.028 U	0.034 U	0.036 U	*0.14*	0.040 U	0.061 U	0.031 U
TOTAL PCBs	0.000023	0.06		*10.3*	**0.044**	ND	ND	*0.41*	*0.112*	*1.43*	**0.02**
Select Metals by Method SW6010B (mg/Kg)											
Arsenic - Total	6	10		5.7 J	*10.3 J*	*11.6*	**6.9**	*15.1 J*	2.8 B	**9.7**	4.0
Chromium - Total	26	43		*75.8 J*	11.0 J	*46.2 J*	**26.8 J**	22.1 J	9.0 J	21.8 J	10.2 J
Copper - Total	16	32		*138 J*	**28.6**	*227*	*170*	*473*	**26.7**	*1370*	**31.8**
Lead - Total	31	36		*206*	*62.7*	*410 J*	*235 J*	*320*	*43.9 J*	*576 J*	**32.6 J**
Zinc - Total	120	121		*272 J*	50.8 J	*653*	*273*	*1140 J*	72.1	*889*	89.6

Key at the End of Table 5-2 series.

Table 5-2 Key

Screening Criteria

A: 1999, Technical Guidance for Screening Contaminated Sediments, NYSDEC Division of Fish, Wildlife and Marine Resources, Albany, New York. The listed levels for organic compounds were calculated using the lower confidence limit of total organic carbon measured in the site sediments (28,834 mg/Kg). The most stringent (lowest) available value of Human Health, Benthic Acute Toxicity, Benthic Chronic Toxicity, and Wildlife Bioaccumulation criteria were used for screening organic compound data. The Lowest Effect Level was used for screening the metals data.

B: Sediment Guidance Values for use in assessing contaminated sediment in New York State (Draft - not yet published) (mg/kg based on dry weight).

Notes for Screening Criteria

(1) Screening value applies to the sum of the Aroclors.

Parameter	Level of Protection with most stringent criteria available
2-Methylnaphthalene	Benthic chronic
Acenaphthene	Benthic chronic
Anthracene	Benthic chronic
Benzo(a)anthracene	Benthic chronic
Benzo(a)pyrene	Human Health
Benzo(b)fluoranthene	Human Health
Benzo(k)fluoranthene	Human Health
Bis(2-ethylhexyl) phthalate	Benthic chronic
Chrysene	Human Health
Fluoranthene	Benthic chronic
Fluorene	Benthic chronic
Indeno(1,2,3-cd)pyrene	Human Health
Naphthalene	Benthic chronic
Phenanthrene	Benthic chronic
Pyrene	Benthic chronic
PCB	Human Health

Parameter	Level of Protection with most stringent criteria available
4,4'-DDD	Human Health
4,4'-DDE	Human Health
4,4'-DDT	Human Health
Aldrin	Human Health
alpha-Chlordane	Human Health
beta-BHC	Human Health & Benthic Chronic
delta-BHC	Human Health & Benthic Chronic
gamma-BHC (Lindane)	Human Health & Benthic Chronic
Dieldrin	Human Health
Endosulfan I	Benthic chronic
Endosulfan II	Benthic chronic
Endrin	Human Health & Wildlife
gamma-Chlordane	Human Health
Heptachlor	Human Health
Heptachlor epoxide	Human Health
Methoxychlor	Benthic chronic

Other notes

* A duplicate sample was analyzed at this location. The highest of the two results are listed here for each parameter.

Key:

-- =	Sample not analyzed for this parameter.
J =	Estimated value.
mg/kg =	Milligrams per kilogram.
NA =	Not available.
PAH =	Polynuclear aromatic hydrocarbon.
PCB =	Polychlorinated biphenyls.
SVOC =	Semivolatile organic compound.
TOC =	Total organic carbon.
U =	Parameter not detected (practical quantitation limit listed).
UJ =	Parameter not detected (practical quantitation limit listed)/Estimated.
129 J	Cells shaded gray with bolded black text exceed screening values listed on column A.
129 J	Cells shaded teal with bolded white text exceed screening values listed on column B.
129 J	Cells shaded teal with white italicized text exceed both screening values listed on columns A & B.

Table 5-3a Summary of Positive TCLP Results for Sediment Samples, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

		Property:	Upson Park	White Transportation	Former United Paperboard Company			
	Screening	Sample ID:	18MC-L01W-S02-Z2	18MC-L02E-S01-Z1	18MC-L09-S01-Z1	18MC-L09-S03-Z1	18MC-L10-S01-Z1	18MC-L11-S02-Z1
Analyte	Criteria [1]	Date:	04/18/07	04/20/07	04/23/07	04/23/07	04/23/07	04/24/07
TCLP Metals by method SW1311/6010 (mg/L)								
TCLP Barium	100		0.362	0.375	0.381	0.828	0.61	0.258
TCLP Cadmium	1		0.0049	0.01	0.0604	0.00036 U	0.0152	0.00036 U
TCLP Chromium	5		0.00084 U	0.00084 U	0.0018 J	0.002 J	0.0072	0.00084 U
TCLP Lead	5		0.613 U	0.793	**5.12**	0.0561 U	0.523 U	0.717

(1) NYSDEC, Division of Solid and Hazardous Materials, Identification and Listing of Hazardous Wastes (6 NYCRR 371).

Key:

J = Estimated value.
mg/L = Milligram per liter.
TCLP = Toxicity characteristic leachate procedure.
U = Parameter not detected (practical quantitation limit listed).
5.12 Shaded and bolded cells represent positive results exceeding the screening value.

Table 5-3a Summary of Positive TCLP Results for Sediment Samples, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria [1]	Property: / Sample ID: / Date:	Former Flinkote Plant										
			18MC-L12-S03-Z1 04/24/07	18MC-L13-S03-Z1 04/24/07	18MC-L14E-S02-Z1 04/24/07	18MC-L14E-S02-Z2 04/24/07	18MC-L14E-S03-Z1 04/24/07	18MC-L14W-S03-Z1 04/24/07	18MC-L14W-S03-Z2 04/24/07	18MC-L15E-S01-Z1 04/24/07	18MC-L15E-S03-Z1 04/24/07	18MC-L16E-S01-Z1 04/24/07	18MC-L16E-S03-Z1 04/24/07
TCLP Metals by method SW1311/6010 (mg/L)													
TCLP Barium	100		0.569	0.609	0.733	0.457	0.636	0.584	0.78	0.627	0.557	0.74	0.634
TCLP Cadmium	1		0.0056	0.0362	0.0148	0.0311	0.043	0.165	0.077	0.0226	0.0604	0.0516	0.0143
TCLP Chromium	5		0.00084 U	0.00084 U	0.00084 U	0.00084 U	0.00084 U	0.00084 U	0.00084 U	0.00084 U	0.00084 U	0.0004 U	0.0085 U
TCLP Lead	5		1.3	**6.2**	1.24	0.958	3.93	**8.03**	**5.9**	1.68	**8.04**	1.75	0.683

(1) NYSDEC, Division of Solid and Hazardous Materials, Identification and Listing of Hazardous Wastes (6 NYCRR 371).

Key:

J = Estimated value.

mg/L = Milligram per liter.

TCLP = Toxicity characteristic leachate procedure.

U = Parameter not detected (practical quantitation limit listed).

5.9 Shaded and bolded cells represent positive results exceeding the screening value.

Table 5-3b Summary of Positive TCLP Results for Soil Samples, Eighteenmile Creek Corridor Site Supplemental Remedial Investigation

Analyte	Screening Criteria [1]	Property: / Sample ID: / Date:	Upson Park							White Transportation		
			18MC-L02W-S04-Z3 04/18/07	18MC-L02W-S05-Z2 04/18/07	18MC-L02W-S06-Z2 04/18/07	18MC-L03W-S05-Z1 04/19/07	18MC-L03W-S05-Z2 04/19/07	18MC-SB14-Z1 04/26/07	18MC-SB14-Z2 04/26/07	18MC-L02E-S05-Z1 04/20/07	18MC-L02E-S05-Z2 04/20/07	18MC-MW13-Z1 06/07/07
TCLP Metals by method SW1311/6010 (mg/L)												
TCLP Barium	100		1.96	2.92	0.401	1.01	1.8	0.124	0.688	1.06	1.57	0.879
TCLP Cadmium	1		0.0942	0.0014	0.0055	0.00036 U	0.0071	0.0853	0.102	0.0316	0.0365	0.0155
TCLP Chromium	5		0.0054	0.0056	0.0072	0.00084 U	0.00084 U	0.0042	0.0084	0.0014 J	0.00084 U	0.026
TCLP Lead	5		0.393 U	0.0199 U	0.151 U	0.0193	0.275	4.39	**322**	0.887	1.45	0.355

(1) NYSDEC, Division of Solid and Hazardous Materials, Identification and Listing of Hazardous Wastes (6 NYCRR 371).

Key:

J = Estimated value.
mg/L = Milligram per liter.
TCLP = Toxicity characteristic leachate procedure.
U = Parameter not detected (practical quantitation limit listed).
59 Shaded and bolded cells represent positive results exceeding the screening value.

Table 5-3b Summary of Positive TCLP Results for Soil Samples, Eighteenmile Creek Corridor Site Supplemental Remedial Investigation

Analyte	Screening Criteria (1)	Property:	Former United Paperboard Company						Across Former United Paperboard Company		Downtream of Former Flinkote Plant Site
		Sample ID:	18MC-L09-S04-Z1	18MC-L09-S04-Z2	18MC-L09-S05-Z1	18MC-L09-S05-Z2	18MC-MW05-Z1	18MC-SB15-Z1	18MC-SS18	18MC-SS19	18MC-L16W-S04-Z2
		Date:	04/23/07	04/23/07	04/23/07	04/23/07	06/15/07	04/27/07	06/06/07	06/06/07	04/25/07
TCLP Metals by method SW1311/6010 (mg/L)											
TCLP Barium	100		1	0.261	0.486	0.697	0.00022 U	1.69	1.34	0.579	0.61
TCLP Cadmium	1		0.0116	0.0026	0.0035	0.0141	0.0033	0.389	0.0088	0.0011	0.0068
TCLP Chromium	5		0.0166	0.00084 U	0.0012 J	0.0018 J	0.00084 U	0.0036 J	0.00084 U	0.00084 U	0.00084 U
TCLP Lead	5		**59**	0.615 U	0.172 U	0.682 U	**18.2**	**27.9**	0.209	0.0076	0.0694 U

(1) NYSDEC, Division of Solid and Hazardous Materials, Identification and Listing of Hazardous Wastes (6 NYCRR 371).

Key:

J = Estimated value.

mg/L = Milligram per liter.

TCLP = Toxicity characteristic leachate procedure.

U = Parameter not detected (practical quantitation limit listed).

18.2 Shaded and bolded cells represent positive results exceeding the screening value.

Table 5-4a Summary of Positive Analytical Results for Surface Soil Samples from the Upson Park Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Date:	18MC-SS14 04/16/07	18MC-SS15 04/16/07	18MC-SS16 04/16/07	18MC-SS17* 04/16/07
SVOCs by Method SW8270C (mg/Kg)							
2-Methylnaphthalene	NA	NA		0.22 U	4.6 U	4.5 U	2.1 U
Acenaphthene	500 b	20		0.22 U	4.6 U	4.5 U	0.23 J
Acenaphthylene	500 b	100 af		0.22 U	0.22 J	4.5 U	2.1 U
Acetophenone	NA	NA		0.22 U	4.6 U	4.5 U	2.1 U
Anthracene	500 b	100 af		0.015 J	4.6 U	0.25 J	0.44 J
Benzo(a)anthracene	5.6	1 cf		0.058 J	0.77 J	0.78 J	0.72 J
Benzo(a)pyrene	1 f	1 c		0.049 J	0.75 J	0.81 J	0.63 J
Benzo(b)fluoranthene	5.6	1 cf		0.074 J	**1.2 J**	**1.2 J**	0.87 J
Benzo(ghi)perylene	500 b	100 f		0.035 J	0.45 J	0.48 J	0.29 J
Benzo(k)fluoranthene	56	0.8 cf		0.023 J	4.6 U	0.38 J	0.28 J
Biphenyl	NA	NA		0.22 U	4.6 U	4.5 U	2.1 U
Butyl benzyl phthalate	NA	NA		0.22 U	4.6 U	4.5 U	2.1 U
Carbazole	NA	NA		0.22 U	4.6 U	4.5 U	0.20 J
Chrysene	56	1cf		0.050 J	0.61 J	0.82 J	0.71 J
Dibenzo(a,h)anthracene	0.56	0.33 bf		0.011 J	4.6 U	4.5 U	0.10 J
Dibenzofuran	350	7 f		0.22 U	4.6 U	4.5 U	0.13 J
Di-n-octyl phthalate	NA	NA		0.22 U	4.6 U	4.5 U	2.1 U
Fluoranthene	500 b	100 af		0.12 J	1.0 J	1.9 J	1.8 J
Fluorene	500 b	30		0.22 U	4.6 U	4.5 U	0.18 J
Indeno(1,2,3-cd)pyrene	5.6	0.5 cf		0.028 J	0.40 J	0.46 J	0.26 J
Naphthalene	500 b	12 f		0.22 U	4.6 U	4.5 U	0.12 J
Phenanthrene	500 b	100 f		0.057 J	0.41 J	0.93 J	1.7 J
Pyrene	500 b	100 f		0.074 J	0.71 J	1.1 J	1.0 J
TOTAL PAHs	NA	NA		0.59	6.5	9.1	9.3
Pesticide by Method SW8081A (mg/Kg)							
4,4'-DDD	92	0.0033 bd		0.010 U	0.011 U	**0.0044 J**	0.010 U
4,4'-DDE	62	0.0033 bd		0.0033 J	**0.0070 J**	**0.016 J**	**0.0087 J**
4,4'-DDT	47	0.0033 bd		**0.0077 J**	0.011 U	**0.020 J**	**0.011 J**
Aldrin	0.68	0.005 c		0.010 U	0.0034 J	0.022 U	0.010 U
alpha-BHC	3.4	0.02		0.010 U	0.011 U	0.022 U	0.010 U
alpha-Chlordane	24	0.094		0.010 U	0.011 U	0.022 U	0.010 U
delta-BHC	500 b	0.04		0.010 U	0.011 U	0.0053 J	0.010 U
Dieldrin	1.4	0.005 c		0.010 U	0.011 U	**0.010 J**	0.010 U
Endosulfan II	200 i	2.4 df		0.010 U	0.0095 J	0.022 U	0.010 U
Endosulfan Sulfate	200 i	2.4 df		0.010 U	0.0052 J	0.022 U	0.010 U
Endrin	89	0.014		0.010 U	0.0038 J	0.022 U	0.010 U
Endrin aldehyde	NA	NA		0.010 U	0.011 U	0.022 U	0.010 U
Endrin ketone	NA	NA		0.0031 J	0.0043 J	0.022 U	0.010 U
gamma-BHC (Lindane)	9.2	0.1		0.010 U	0.0032 J	0.022 U	0.010 U
gamma-Chlordane	NA	NA		0.010 U	0.011 U	0.022 U	0.010 U
Methoxychlor	NA	NA		0.010 U	0.011 U	0.022 U	0.010 U
PCBs by Method SW8082 (mg/Kg)							
Aroclor 1248	1.0	0.10		0.021 U	**0.15**	0.022 U	0.0097 J
Aroclor 1254	1.0	0.10		0.021 U	**0.22**	0.022 U	0.020 U
Aroclor 1260	1.0	0.10		0.021 U	**0.29**	0.022 U	0.020 U
Aroclor 1268	1.0	0.10		0.021 U	0.023 U	0.022 U	0.020 U
TOTAL PCBs	1.0	0.10		ND	**0.66**	ND	0.0097
Metals by Method SW6010B/SW7471 (mg/Kg)							
Aluminum - Total	15800 (1)	15800 (1)		15100 J	10100 J	4390 J	4230 J
Antimony - Total	2.17 (2)	2.17 (2)		0.68 U	1.4 J	2.1 J	0.92 J
Arsenic - Total	16 f	13c		4.7	5.6	9.1	6.9
Barium - Total	400	350c		85.7 J	107 J	79.2 J	60.3 J

Table 5-4a Summary of Positive Analytical Results for Surface Soil Samples from the Upson Park Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: Date:	18MC-SS14 04/16/07	18MC-SS15 04/16/07	18MC-SS16 04/16/07	18MC-SS17* 04/16/07
Beryllium - Total	590	7.2		0.64	0.48	0.41	0.49
Cadmium - Total	9.3	2.5c		0.39	2.1	0.58	0.70
Calcium - Total	9190 (1)	9190 (1)		8630	**21200**	**64800**	**95900**
Chromium - Total	400 h	1be		**18.3**	**44.6**	**10.9**	**12.2**
Cobalt - Total	13.3 (1)	13.3 (1)		8.1	8.8	4.0	4.0
Copper - Total	270	50		17.0	**92.5**	45.3	31.8
Iron - Total	25600 (1)	25600 (1)		20400	20800	13100	13600 J
Lead - Total	1000	63 c		22.1 J	**151 J**	**177 J**	**93.3 J**
Magnesium - Total	5130 (1)	5130 (1)		4660	**8560**	**25100**	**39400**
Manganese - Total	10000 d	1600 c		712	449	488	441
Mercury - Total	2.8 j	0.18 c		0.048	**0.554**	0.077	0.075
Nickel - Total	310	30		17.5	28.0	15.5	12.4
Potassium - Total	1890 (1)	1890 (1)		1800	1550	1160	1230
Selenium - Total	1500	3.9 c		0.75 U	0.80 U	0.80 U	0.73 U
Silver - Total	1500	2		0.19 U	0.73	0.23 J	0.18 U
Sodium - Total	211 (1)	211 (1)		**1010**	120 J	157 J	142 J
Vanadium - Total	31 (1)	31 (1)		27.8	19.6	15.9	11.4
Zinc - Total	10000 d	109 c		69.7 J	**608 J**	**166 J**	**136 J**

Key at the End of Table 5-4 series.

Table 5-4b Summary of Positive Analytical Results for Surface Soil Samples from the White Transportation Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: Date:	18MC-SS10 04/16/07	18MC-SS11 04/16/07	18MC-SS12 04/16/07	18MC-SS13 04/16/07
SVOCs by method SW8270C (mg/Kg)							
2-Methylnaphthalene	NA	NA		2.4 U	0.10 J	0.79	0.11 J
Acenaphthene	500 b	20		2.4 U	0.19 U	0.20 U	2.0 U
Acenaphthylene	500 b	100 af		0.23 J	0.010 J	0.20 U	2.0 U
Acetophenone	NA	NA		2.4 U	0.19 U	0.022 J	2.0 U
Anthracene	500 b	100 af		0.25 J	0.0080 J	0.024 J	2.0 U
Benzo(a)anthracene	5.6	1 cf		**1.2 J**	0.039 J	0.084 J	0.11 J
Benzo(a)pyrene	1 f	1 c		**1.1 J**	0.039 J	0.073 J	2.0 U
Benzo(b)fluoranthene	5.6	1 cf		**2.0 J**	0.068 J	0.20 J	2.0 U
Benzo(ghi)perylene	500 b	100 f		0.60 J	0.024 J	0.076 J	2.0 U
Benzo(k)fluoranthene	56	0.8 cf		0.65 J	0.025 J	0.20 U	2.0 U
Biphenyl	NA	NA		2.4 U	0.014 J	0.10 J	2.0 U
Butyl benzyl phthalate	NA	NA		2.4 U	0.19 U	0.064 J	2.0 U
Carbazole	NA	NA		0.15 J	0.0090 J	0.023 J	2.0 U
Chrysene	56	1cf		**1.2 J**	0.056 J	0.19 J	2.0 U
Dibenzo(a,h)anthracene	0.56	0.33 bf		0.18 J	0.0080 J	0.018 J	2.0 U
Dibenzofuran	350	7 f		2.4 U	0.027 J	0.19 J	2.0 U
Di-n-octyl phthalate	NA	NA		2.4 U	0.0080 J	0.016 J	2.0 U
Fluoranthene	500 b	100 af		2.3 J	0.078 J	0.14 J	0.12 J
Fluorene	500 b	30		2.4 U	0.19 U	0.028 J	2.0 U
Indeno(1,2,3-cd)pyrene	5.6	0.5 cf		**0.51 J**	0.020 J	0.047 J	2.0 U
Naphthalene	500 b	12 f		2.4 U	0.048 J	0.32	2.0 U
Phenanthrene	500 b	100 f		0.83 J	0.098 J	0.53	0.16 J
Pyrene	500 b	100 f		1.5 J	0.053 J	0.15 J	2.0 U
TOTAL PAHs	NA	NA		12	0.57	1.9	0.39
Pesticide by method SW8081A (mg/Kg)							
4,4'-DDD	92	0.0033 bd		**0.0083 J**	0.0092 U	**0.016 J**	0.021 U
4,4'-DDE	62	0.0033 bd		**0.034**	**0.0057 J**	0.0096 U	0.021 U
4,4'-DDT	47	0.0033 bd		**0.054 J**	**0.0079 J**	**0.010 J**	0.021 U
Aldrin	0.68	0.005 c		0.024 U	0.0092 U	0.0096 U	0.021 U
alpha-BHC	3.4	0.02		0.024 U	0.0092 U	0.0033 J	0.021 U
alpha-Chlordane	24	0.094		0.024 U	0.0092 U	0.0096 U	0.021 U
delta-BHC	500 b	0.04		0.024 U	0.0092 U	0.0096 U	0.021 U
Dieldrin	1.4	0.005 c		0.024 U	0.0092 U	0.0040 J	**0.011 J**
Endosulfan II	200 i	2.4 df		0.024 U	0.0092 U	0.013 J	0.021 U
Endosulfan Sulfate	200 i	2.4 df		0.024 U	0.0092 U	0.0096 U	0.021 U
Endrin	89	0.014		0.024 U	0.0092 U	0.0096 U	0.021 U
Endrin aldehyde	NA	NA		0.024 U	0.0092 U	0.0096 U	0.021 U
Endrin ketone	NA	NA		0.024 U	0.0092 U	0.0096 U	0.021 U
gamma-BHC (Lindane)	9.2	0.1		0.024 U	0.0092 U	0.0033 J	0.021 U
gamma-Chlordane	NA	NA		0.024 U	0.0092 U	0.0096 U	0.021 U
Methoxychlor	NA	NA		0.024 U	0.0092 U	0.0096 U	0.021 U
PCBs by method SW8082 (mg/Kg)							
Aroclor 1248	1.0	0.10		0.024 U	0.018 U	0.077 U	0.041 U
Aroclor 1254	1.0	0.10		0.024 U	0.018 U	0.077 U	0.041 U
Aroclor 1260	1.0	0.10		0.024 U	0.020	**0.19**	**0.67**
Aroclor 1268	1.0	0.10		0.024 U	0.018 U	0.077 U	0.041 U
TOTAL PCBs	1.0	0.10		ND	0.02	**0.19**	**0.67**
Metals by method SW6010B/7471 (mg/Kg)							
Aluminum - Total	15800 (1)	15800 (1)		9880 J	2350 J	2200 J	2190 J
Antimony - Total	2.17 (2)	2.17 (2)		**5.5 J**	0.60 U	1.7 J	1.3 J
Arsenic - Total	16 f	13c		**14.3**	6.1	**14.9**	**13.6**
Barium - Total	400	350c		185 J	32.2 J	67.6 J	71.7 J
Beryllium - Total	590	7.2		0.64	0.49	0.53	0.34
Cadmium - Total	9.3	2.5c		2.4	0.54	2.3	**8.3**
Calcium - Total	9190 (1)	9190 (1)		**69500**	**27800**	3640	1850
Chromium - Total	400 h	1be		**30.2**	**8.1**	**13.7**	**46.4**
Cobalt - Total	13.3 (1)	13.3 (1)		9.0	3.7	4.1	5.9

Table 5-4b Summary of Positive Analytical Results for Surface Soil Samples from the White Transportation Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: Date:	18MC-SS10 04/16/07	18MC-SS11 04/16/07	18MC-SS12 04/16/07	18MC-SS13 04/16/07
Copper - Total	270	50		**118**	24.2	**90.9**	**76.4**
Iron - Total	25600 (1)	25600 (1)		**27000**	12500	22300	**55200**
Lead - Total	1000	63 c		**716 J**	**265 J**	**182 J**	**117 J**
Magnesium - Total	5130 (1)	5130 (1)		**17600**	**13600**	1370	511
Manganese - Total	10000 d	1600 c		880	195	506	328
Mercury - Total	2.8 j	0.18 c		**0.343**	0.010 J	0.041	0.041
Nickel - Total	310	30		**46.8**	14.1	13.4	**42.2**
Potassium - Total	1890 (1)	1890 (1)		1790	365	313	199
Selenium - Total	1500	3.9 c		1.2 J	0.66 U	0.71 U	1.1 J
Silver - Total	1500	2		0.67 J	0.17 U	0.18 U	0.18 U
Sodium - Total	211 (1)	211 (1)		199 J	80.3 J	58.1 J	111 J
Vanadium - Total	31 (1)	31 (1)		21.7	8.3	9.4	9.3
Zinc - Total	10000 d	109 c		**366 J**	81.5 J	104 J	**497 J**

Table 5-4c Summary of Positive Analytical Results for Surface Soil Samples from the Former United Paperboard Company Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	B		Sample ID: 18MC-SS01	18MC-SS02	18MC-SS03	18MC-SS04	18MC-SS05	18MC-SS06	18MC-SS07	18MC-SS08	18MC-SS09	18MC-SS18	18MC-SS19	18MC-SS20
			Date:	04/16/07	04/16/07	04/16/07	04/16/07	04/16/07	04/16/07	04/16/07	04/16/07	04/16/07	04/16/07	06/06/07	06/06/07
SVOCs by Method SW8270C (mg/Kg)															
2-Methylnaphthalene	NA	NA		0.031 J	0.012 J	3.8 U	0.014 J	0.020 J	0.026 J	4.7 U	22 U	26 U	98 U	3.7 J	0.63 J
Acenaphthene	500 b	20		0.25 U	0.039 J	3.8 U	0.021 J	0.055 J	0.040 J	4.7 U	22 U	26 U	7.3 J	7.2 J	2.1 U
Acenaphthylene	500 b	100 af		0.045 J	0.10 J	3.8 U	0.040 J	0.12 J	0.24	0.26 J	22 U	26 U	98 U	88 U	0.16 J
Acetophenone	NA	NA		0.25 U	0.20 U	3.8 U	0.21 U	0.018 J	0.22 U	4.7 U	22 U	26 U	98 U	88 U	2.1 U
Anthracene	500 b	100 af		0.038 J	0.15 J	3.8 U	0.079 J	0.18 J	0.19 J	0.26 J	22 U	1.1 J	18 J	20 J	0.21 J
Benzo(a)anthracene	5.6	1 cf		0.16 J	0.64	0.42 J	0.24	0.88	0.75	0.99 J	22 U	**6.6 J**	**50 J**	**54 J**	0.95 J
Benzo(a)pyrene	1 f	1 c		0.16 J	0.65	0.37 J	0.19 J	1.0	0.82	0.89 J	22 U	**7.2 J**	**36 J**	**46 J**	0.93 J
Benzo(b)fluoranthene	5.6	1 cf		0.26 J	0.96 J	0.60 J	0.29 J	**1.3 J**	**1.3 J**	**1.5 J**	22 U	**12 J**	**55 J**	**60 J**	**1.4 J**
Benzo(ghi)perylene	500 b	100 f		0.10 J	0.38	0.22 J	0.084 J	0.55	0.44	0.41 J	22 U	4.9 J	26 J	32 J	0.74 J
Benzo(k)fluoranthene	56	0.8 cf		0.071 J	0.38 J	3.8 U	0.10 J	0.56 J	0.42 J	0.59 J	22 U	**4.3 J**	**13 J**	**23 J**	0.50 J
Biphenyl	NA	NA		0.25 U	0.20 U	3.8 U	0.21 U	0.26 U	0.22 U	4.7 U	22 U	26 U	98 U	88 U	2.1 U
Butyl benzyl phthalate	NA	NA		0.25 U	0.20 U	3.8 U	0.21 U	0.26 U	0.22 U	4.7 U	22 U	26 U	98 U	88 U	2.1 U
Carbazole	NA	NA		0.020 J	0.081 J	3.8 U	0.052 J	0.084 J	0.086 J	4.7 U	22 U	26 U	14 J	17 J	0.15 J
Chrysene	56	1cf		0.16 J	0.70	0.29 J	0.22	0.89	0.79	0.95 J	22 U	**7.8 J**	**43 J**	**54 J**	**1.1 J**
Dibenzo(a,h)anthracene	0.56	0.33 bf		0.024 J	0.096 J	3.8 U	0.027 J	0.17 J	0.12 J	4.7 U	22 U	**1.1 J**	**7.6 J**	**9.2 J**	0.22 J
Dibenzofuran	350	7 f		0.012 J	0.021 J	3.8 U	0.028 J	0.026 J	0.020 J	4.7 U	22 U	26 U	6.0 J	**7.3 J**	0.19 J
Di-n-octyl phthalate	NA	NA		0.015 J	0.015 J	3.8 U	0.010 J	0.035 J	0.22 U	4.7 U	22 U	26 U	98 U	88 U	2.1 U
Fluoranthene	500 b	100 af		0.31	1.6	0.64 J	0.65	1.9	1.6	2.0 J	22 U	18 J	**110**	**120**	2.0 J
Fluorene	500 b	30		0.25 U	0.044 J	3.8 U	0.057 J	0.060 J	0.047 J	4.7 U	22 U	26 U	98 U	5.6 J	2.1 U
Indeno(1,2,3-cd)pyrene	5.6	0.5 cf		0.092 J	0.35	0.20 J	0.086 J	**0.53**	0.40	0.48 J	22 U	**3.7 J**	**25 J**	**30 J**	**0.65 J**
Naphthalene	500 b	12 f		0.027 J	0.018 J	3.8 U	0.0090 J	0.023 J	0.029 J	4.7 U	22 U	26 U	8.7 J	9.0 J	0.37 J
Phenanthrene	500 b	100 f		0.12 J	0.63	0.24 J	0.53	0.66	0.58	0.73 J	22 U	5.7 J	100	**110**	1.3 J
Pyrene	500 b	100 f		0.20 J	0.95	0.39 J	0.33	1.2	1.1	1.2 J	22 U	11 J	77 J	94	1.5 J
TOTAL PAHs	NA	NA		1.8	7.7	7.7	3	10	8.9	10	ND	83	580	670	12
Pesticide by Method SW8081A (mg/Kg)															
4,4'-DDD	92	0.0033 bd		0.012 U	0.010 U	0.019 U	0.020 U	0.026 U	0.022 U	**0.018 J**	0.021 U	0.024 U	--	--	--
4,4'-DDE	62	0.0033 bd		**0.015**	**0.0094 J**	**0.022 J**	**0.0097 J**	**0.023 J**	**0.017 J**	**0.037**	**0.011 J**	**0.047**	--	--	--
4,4'-DDT	47	0.0033 bd		**0.020 J**	**0.013**	**0.034**	**0.024 J**	**0.024 J**	**0.027**	**0.12**	**0.037 J**	**0.031**	--	--	--
Aldrin	0.68	0.005 c		0.012 U	0.0026 J	0.019 U	0.020 U	0.026 U	0.022 U	0.023 U	0.021 U	**0.0059 J**	--	--	--
alpha-BHC	3.4	0.02		0.012 U	0.010 U	0.0064 J	0.020 U	0.0093 J	0.022 U	0.023 U	0.021 U	0.0088 J	--	--	--
alpha-Chlordane	24	0.094		0.012 U	0.010 U	0.019 U	0.020 U	0.026 U	0.022 U	0.013 J	0.021 U	0.024 U	--	--	--
delta-BHC	500 b	0.04		0.0085 J	0.010 U	0.019 U	0.020 U	0.026 U	0.022 U	0.023 U	0.021 U	0.0064 J	--	--	--
Dieldrin	1.4	0.005 c		0.012 U	**0.0086 J**	**0.023**	**0.010 J**	0.026 U	0.022 U	**0.013 J**	0.021 U	0.024 U	--	--	--
Endosulfan II	200 i	2.4 df		0.0027 J	0.010 U	0.019 U	0.020 U	0.026 U	0.022 U	0.023 U	0.021 U	0.024 U	--	--	--
Endosulfan Sulfate	200 i	2.4 df		0.012 U	0.010 U	0.019 U	0.020 U	0.026 U	0.022 U	0.023 U	0.021 U	0.024 U	--	--	--
Endrin	89	0.014		0.012 U	0.010 U	0.019 U	0.020 U	0.026 U	0.022 U	0.023 U	0.021 U	0.024 U	--	--	--
Endrin aldehyde	NA	NA		0.012 U	0.010 U	0.019 U	0.020 U	0.026 U	0.022 U	0.023 U	0.097 J	0.024 U	--	--	--
Endrin ketone	NA	NA		0.012 U	0.010 U	0.019 U	0.020 U	0.026 U	0.022 U	0.023 U	0.0073 J	0.024 U	--	--	--
gamma-BHC (Lindane)	9.2	0.1		0.012 U	0.010 U	0.019 U	0.020 U	0.026 U	0.022 U	0.023 U	0.021 U	0.024 U	--	--	--
gamma-Chlordane	NA	NA		0.012 U	0.010 U	0.019 U	0.020 U	0.026 U	0.022 U	0.0097 J	0.021 U	0.024 U	--	--	--
Methoxychlor	NA	NA		0.012 U	0.010 U	0.041 J	0.020 U	0.054 J	0.022 U	0.086 J	0.021 U	0.18 J	--	--	--

Key at the End of Table 5-4 series.

Table 5-4c Summary of Positive Analytical Results for Surface Soil Samples from the Former United Paperboard Company Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: 18MC-SS01 Date: 04/16/07	18MC-SS02 04/16/07	18MC-SS03 04/16/07	18MC-SS04 04/16/07	18MC-SS05 04/16/07	18MC-SS06 04/16/07	18MC-SS07 04/16/07	18MC-SS08 04/16/07	18MC-SS09 04/16/07	18MC-SS18 04/16/07	18MC-SS19 06/06/07	18MC-SS20 06/06/07
PCBs by Method SW8082 (mg/Kg)														
Aroclor 1248	1.0	0.10	**0.20**	0.020 U	0.019 U	0.020 U	0.026 U	0.022 U	0.023 U	0.21 U	0.024 U	0.048 U	0.022 U	0.021 U
Aroclor 1254	1.0	0.10	**0.14**	0.020 U	0.019 U	0.020 U	0.076	0.058	0.023 U	0.21 U	**0.13**	0.048 U	0.022 U	0.021 U
Aroclor 1260	1.0	0.10	0.025 U	0.020 U	0.019 U	0.020 U	0.026 U	0.022 U	0.090	**0.14 J**	0.024 U	0.048 U	0.022 U	0.021 U
Aroclor 1268	1.0	0.10	0.025 U	0.020 U	0.019 U	0.020 U	0.026 U	0.022 U	0.023 U	0.21 U	0.024 U	0.068	**0.11**	0.021 U
TOTAL PCBs	1.0	0.10	**0.34**	ND	ND	ND	0.076	0.058	0.09	**0.14**	**0.13**	0.068	**0.11**	ND
Metals by Method SW6010B/7471 (mg/Kg)														
Aluminum - Total	15800 (1)	15800 (1)	4560 J	6480 J	4940 J	6810 J	6000 J	6860 J	5740 J	2290 J	3390 J	1080 J	3580 J	5530 J
Antimony - Total	2.17 (2)	2.17 (2)	**9.3 J**	0.66 U	0.62 U	0.67 U	**2.6 J**	1.6 J	0.78 J	**3.1 J**	0.84 U	1.8 J	**5.8 J**	0.69 U
Arsenic - Total	16 f	13c	**66.0**	4.7	4.4	3.6	9.0	**17.2**	8.3	3.6	4.5	8.5	**16.1**	**19.8**
Barium - Total	400	350c	143 J	73.1 J	224 J	72.4 J	73.2 J	94.9 J	82.7 J	65.3 J	52.4 J	**4920**	**6410**	61.3
Beryllium - Total	590	7.2	0.79	0.45	0.31	0.41	0.44	0.61	0.45	0.16 J	0.41	0.12 J	0.19 J	0.58
Cadmium - Total	9.3	2.5c	1.7	0.51	0.75	0.59	0.67	0.93	1.0	**12.7**	0.62	**3.7**	**6.6**	0.59
Calcium - Total	9190 (1)	9190 (1)	5440	**95600**	**90900**	**106000**	**54000**	**58100**	**59700**	**66800**	**217000**	6030	**26700**	**44600**
Chromium - Total	400 h	1be	**21.2**	**10.1**	**9.9**	**9.7**	**13.5**	**21.2**	**15.5**	**8.9**	**10.1**	**35.5 J**	**108 J**	**11.8 J**
Cobalt - Total	13.3 (1)	13.3 (1)	5.6	5.4	4.6	5.7	6.3	6.4	6.1	2.9	2.6	3.7	6.2	8.7
Copper - Total	270	50	**146**	25.6	26.5	20.9	**111**	**70.3**	**64.2**	**125**	**50.2**	48.5 J	**81.0 J**	**53.8 J**
Iron - Total	25600 (1)	25600 (1)	**37100**	16000	9530	13500	15700	22500	14000	8650	10400	**33700**	**63100**	24300
Lead - Total	1000	63 c	**271 J**	42.2 J	**308 J**	51.3 J	**384 J**	**152 J**	**303 J**	**133 J**	**158 J**	**845**	**1470**	**74.1**
Magnesium - Total	5130 (1)	5130 (1)	843	**13000**	**43400**	**10100**	**14400**	**13400**	**24000**	**30500**	**114000**	1310	**6060**	**12300**
Manganese - Total	10000 d	1600 c	114	781	668	933	724	777	1000	554	1120	299	461	652
Mercury - Total	2.8 j	0.18 c	**0.360**	0.078	0.078	0.049	**0.242**	0.135	0.134	0.149	0.135	**0.501**	**0.437**	0.074
Nickel - Total	310	30	**31.1**	14.5	16.7	12.9	22.7	17.9	28.4	9.8	10.4	18.3	**30.3**	21.3
Potassium - Total	1890 (1)	1890 (1)	931	1770	1030	1340	1750	1520	953	650	980	267	486	1370
Selenium - Total	1500	3.9 c	**11.5**	0.72 U	0.68 U	0.73 U	0.88 U	0.86 J	0.82 J	0.74 U	0.92 U	1.7 U	0.77 U	0.75 U
Silver - Total	1500	2	0.56 J	0.18 U	0.17 U	0.19 U	0.32 J	0.20 U	0.27 J	0.29 J	0.23 U	0.43 U	0.20 U	0.19 U
Sodium - Total	211 (1)	211 (1)	73.3 J	92.5 J	129 J	117 J	148 J	108 J	123 J	89.4 J	**543**	201 J	**368**	115 J
Vanadium - Total	31 (1)	31 (1)	**34.9**	13.8	19.9	14.6	13.8	16.7	15.8	6.9	14.4	8.7	23.7	14.4
Zinc - Total	10000 d	109 c	**296 J**	85.8 J	**172 J**	57.2 J	**182 J**	**241 J**	**216 J**	**227 J**	**161 J**	**1960 J**	**3310 J**	99.0 J

Key at the End of Table 5-4 series.

Table 5-4 Key

Notes for Soil Cleanup Objectives

For Soil Cleanup Objective A (New York State Department of Environmental Conservation, Subpart 375-6: Remedial Program Soil Cleanup Objectives, *Restricted Use: Commercial* , December 2006.)

b = The SCOs for commercial use were capped at a maximum value of 500 ppm.

d = The SCOs for metals were capped at a maximum value of 10,000 ppm.

f = For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

h = The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for total species of the contaminant is below the specific SCO.

j = This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts).

i = This SCO is for the sum of endosulfan I, II, and endosulfan sulfate.

For Soil Cleanup Objective B (New York State Department of Environmental Conservation, Subpart 375-6: Remedial Soil Cleanup Objective, *Unrestricted Use,* December 2006)

a = The SCOs for unrestricted use were capped at a maximum value of 100 ppm.

b = For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.

c = For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.

d = SCO is the sum of endosulfan I, endosulfan II, and endosulfan sulfate.

f = Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8(b) with "NS". Where such contaminants appear in Table 375-6.8(a), the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.

Additional Notes for Metals Soil Cleanup Objectives

(1) NYS background (95th percentile), Source-Distant Data Set from NYS Brownfield Cleanup Program, Technical Support Document, Appendix D, September 2006.

(2) Eastern United States background (95th percentile) from Shacklette and Boerngen 1984.

Other Notes

* A duplicate sample was analyzed at this location. The highest of the two results are listed here for each parameter.

Key:

-- =	Sample not analyzed for this parameter.
J =	Estimated value.
mg/kg =	Milligram per kilogram.
NA =	Not available.
PAH =	Polynuclear aromatic hydrocarbon.
PCB =	Polychlorinated biphenyls.
SVOC =	Semivolatile organic compound.
U =	Parameter not detected (practical quantitation limit listed).
UJ =	Parameter not detected (practical quantitation limit listed)/Estimated.
120 J	Analytical result exceeds SCO A (commercial use) and SCO listed on Column B (unrestricted use) (Column A SCOs are higher than the corresponding Column B SCOs; therefore if the result exceeds the Column A SCO it also exceeds the Column B SCO).
120 J	Analytical result exceeds Screening SCO listed on Column B (unrestricted use).

Table 5-5a Summary of Positive Analytical Results for Off Bank Soil Samples from the Upson Park Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-L01W-S04-Z1 0-2 inches 04/18/07	18MC-L01W-S04-Z2 0.9-2 ft 04/18/07	18MC-L01W-S04-Z3 2-3 ft 04/18/07	18MC-L01W-S05-Z1 0-2 inches 04/18/07	18MC-L01W-S05-Z2 1-2 ft 04/18/07	18MC-L01W-S05-Z3 2-3 ft 04/18/07	18MC-L01W-S06-Z1 0-2 inches 04/18/07	18MC-L01W-S06-Z2 1-2 ft 04/18/07	18MC-L02W-S04-Z1 0-2 inches 04/18/07	18MC-L02W-S04-Z2 1.5-2 ft 04/18/07
SVOCs by Method SW8270C (mg/Kg)													
2-Methylnaphthalene	NA	NA		--	--	--	0.21 U	--	--	--	--	0.0090 J	--
Acenaphthene	500 b	20		--	--	--	0.21 U	--	--	--	--	0.0090 J	--
Acenaphthylene	500 b	100 af		--	--	--	0.019 J	--	--	--	--	0.091 J	--
Acetophenone	NA	NA		--	--	--	0.21 U	--	--	--	--	0.22 U	--
Anthracene	500 b	100 af		--	--	--	0.012 J	--	--	--	--	0.050 J	--
Benzaldehyde	NA	NA		--	--	--	0.21 U	--	--	--	--	0.22 U	--
Benzo(a)anthracene	5.6	1 cf		--	--	--	0.072 J	--	--	--	--	0.22	--
Benzo(a)pyrene	1 f	1c		--	--	--	0.089 J	--	--	--	--	0.25	--
Benzo(b)fluoranthene	5.6	1 cf		--	--	--	0.16 J	--	--	--	--	0.32 J	--
Benzo(ghi)perylene	500 b	100 f		--	--	--	0.045 J	--	--	--	--	0.12 J	--
Benzo(k)fluoranthene	56	0.8 cf		--	--	--	0.21 U	--	--	--	--	0.12 J	--
Biphenyl	NA	NA		--	--	--	0.21 U	--	--	--	--	0.22 U	--
Bis(2-ethylhexyl) phthalate	NA	NA		--	--	--	0.21 U	--	--	--	--	0.22 U	--
Butyl benzyl phthalate	NA	NA		--	--	--	0.21 U	--	--	--	--	0.22 U	--
Carbazole	NA	NA		--	--	--	0.21 U	--	--	--	--	0.020 J	--
Chrysene	56	1 cf		--	--	--	0.076 J	--	--	--	--	0.23	--
Dibenzo(a,h)anthracene	0.56	0.33 bf		--	--	--	0.012 J	--	--	--	--	0.032 J	--
Dibenzofuran	350	7 f		--	--	--	0.21 U	--	--	--	--	0.22 U	--
Di-n-butyl phthalate	NA	NA		--	--	--	0.21 U	--	--	--	--	0.22 U	--
Di-n-octyl phthalate	NA	NA		--	--	--	0.21 U	--	--	--	--	0.012 UJ	--
Fluoranthene	500 b	100 af		--	--	--	0.12 J	--	--	--	--	0.37	--
Fluorene	500 b	30		--	--	--	0.21 U	--	--	--	--	0.020 J	--
Indeno(1,2,3-cd)pyrene	5.6	0.5cf		--	--	--	0.040 J	--	--	--	--	0.11 J	--
Naphthalene	500 b	12 f		--	--	--	0.21 U	--	--	--	--	0.014 J	--
Phenanthrene	500 b	100 f		--	--	--	0.043 J	--	--	--	--	0.18 J	--
Pyrene	500 b	100 f		--	--	--	0.077 J	--	--	--	--	0.23	--
TOTAL PAHs	NA	NA					0.76					2.4	
Pesticides by Method SW8081A (mg/Kg)													
4,4'-DDD	92	0.0033 bd		--	--	--	0.010 U	--	--	--	--	0.021 U	--
4,4'-DDE	62	0.0033 bd		--	--	--	**0.0061 J**	--	--	--	--	**0.0081 J**	--
4,4'-DDT	47	0.0033 bd		--	--	--	**0.0098 J**	--	--	--	--	0.021 U	--
Aldrin	0.68	0.005 c		--	--	--	0.010 U	--	--	--	--	**0.0051 J**	--
alpha-BHC	3.4	0.02		--	--	--	0.0035 J	--	--	--	--	0.021 U	--
alpha-Chlordane	24	0.094		--	--	--	0.010 U	--	--	--	--	0.021 U	--
beta-BHC	3	0.036		--	--	--	0.010 U	--	--	--	--	0.021 U	--
delta-BHC	500 b	0.04		--	--	--	0.010 U	--	--	--	--	0.021 U	--
Dieldrin	1.4	0.005 c		--	--	--	0.010 U	--	--	--	--	0.021 U	--
Endosulfan I	200 i	2.4 df		--	--	--	0.010 U	--	--	--	--	0.021 U	--
Endosulfan II	200 i	2.4 df		--	--	--	0.010 U	--	--	--	--	0.021 U	--

Key at the end of Table 5-5 series.

Table 5-5a Summary of Positive Analytical Results for Off Bank Soil Samples from the Upson Park Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-L02W-S04-Z3 2.5-3 ft 04/18/07	18MC-L02W-S05-Z1 0-2 inches 04/18/07	18MC-L02W-S05-Z2 0.2-1 ft 04/18/07	18MC-L02W-S05-Z3 1-2 ft 04/18/07	18MC-L02W-S06-Z1 0-2 inches 04/18/07	18MC-L02W-S06-Z2 1-2 ft 04/18/07	18MC-L02W-S06-Z3 2-2.5 ft 04/18/07	18MC-L03W-S04-Z1 0-2 inches 04/19/07	18MC-L03W-S04-Z2 2-3 ft 04/19/07	18MC-L03W-S05-Z1 0-2 inches 04/19/07
SVOCs by Method SW8270C (mg/Kg)													
2-Methylnaphthalene	NA	NA		--	--	--	--	--	--	--	1.2 U	--	--
Acenaphthene	500 b	20		--	--	--	--	--	--	--	1.2 U	--	--
Acenaphthylene	500 b	100 af		--	--	--	--	--	--	--	0.12 J	--	--
Acetophenone	NA	NA		--	--	--	--	--	--	--	1.2 U	--	--
Anthracene	500 b	100 af		--	--	--	--	--	--	--	0.14 J	--	--
Benzaldehyde	NA	NA		--	--	--	--	--	--	--	1.2 U	--	--
Benzo(a)anthracene	5.6	1 cf		--	--	--	--	--	--	--	0.67 J	--	--
Benzo(a)pyrene	1 f	1c		--	--	--	--	--	--	--	0.73 J	--	--
Benzo(b)fluoranthene	5.6	1 cf		--	--	--	--	--	--	--	0.94 J	--	--
Benzo(ghi)perylene	500 b	100 f		--	--	--	--	--	--	--	0.64 J	--	--
Benzo(k)fluoranthene	56	0.8 cf		--	--	--	--	--	--	--	0.28 J	--	--
Biphenyl	NA	NA		--	--	--	--	--	--	--	1.2 U	--	--
Bis(2-ethylhexyl) phthalate	NA	NA		--	--	--	--	--	--	--	1.2 U	--	--
Butyl benzyl phthalate	NA	NA		--	--	--	--	--	--	--	1.2 U	--	--
Carbazole	NA	NA		--	--	--	--	--	--	--	0.13 J	--	--
Chrysene	56	1 cf		--	--	--	--	--	--	--	0.73 J	--	--
Dibenzo(a,h)anthracene	0.56	0.33 bf		--	--	--	--	--	--	--	0.14 J	--	--
Dibenzofuran	350	7 f		--	--	--	--	--	--	--	1.2 U	--	--
Di-n-butyl phthalate	NA	NA		--	--	--	--	--	--	--	1.2 U	--	--
Di-n-octyl phthalate	NA	NA		--	--	--	--	--	--	--	1.2 U	--	--
Fluoranthene	500 b	100 af		--	--	--	--	--	--	--	1.6	--	--
Fluorene	500 b	30		--	--	--	--	--	--	--	0.047 J	--	--
Indeno(1,2,3-cd)pyrene	5.6	0.5cf		--	--	--	--	--	--	--	**0.56 J**	--	--
Naphthalene	500 b	12 f		--	--	--	--	--	--	--	1.2 U	--	--
Phenanthrene	500 b	100 f		--	--	--	--	--	--	--	0.99 J	--	--
Pyrene	500 b	100 f		--	--	--	--	--	--	--	1.2	--	--
TOTAL PAHs	NA	NA									8.8		
Pesticides by Method SW8081A (mg/Kg)													
4,4'-DDD	92	0.0033 bd		--	--	--	--	--	--	--	**0.014 J**	--	--
4,4'-DDE	62	0.0033 bd		--	--	--	--	--	--	--	**0.019 J**	--	--
4,4'-DDT	47	0.0033 bd		--	--	--	--	--	--	--	**0.036 J**	--	--
Aldrin	0.68	0.005 c		--	--	--	--	--	--	--	0.023 U	--	--
alpha-BHC	3.4	0.02		--	--	--	--	--	--	--	0.0082 J	--	--
alpha-Chlordane	24	0.094		--	--	--	--	--	--	--	0.023 U	--	--
beta-BHC	3	0.036		--	--	--	--	--	--	--	0.023 U	--	--
delta-BHC	500 b	0.04		--	--	--	--	--	--	--	0.023 U	--	--
Dieldrin	1.4	0.005 c		--	--	--	--	--	--	--	**0.010 J**	--	--
Endosulfan I	200 i	2.4 df		--	--	--	--	--	--	--	0.023 U	--	--
Endosulfan II	200 i	2.4 df		--	--	--	--	--	--	--	0.023 U	--	--

Key at the end of Table 5-5 series.

Table 5-5a Summary of Positive Analytical Results for Off Bank Soil Samples from the Upson Park Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-L03W-S05-Z2 2-3 ft 04/19/07	18MC-L03W-S06-Z1 0-2 inches 04/19/07	18MC-L03W-S06-Z2 1.5-2.5 ft 04/19/07	18MC-L04W-S04-Z1 0-2 inches 04/20/07	18MC-L04W-S04-Z2 1.5-2.3 ft 04/20/07	18MC-L04W-S05-Z1 0-2 inches 04/20/07	18MC-L04W-S05-Z2 0.7-1.5 ft 04/20/07	18MC-L05W-S04-Z1 0-2 inches 04/20/07	18MC-L05W-S04-Z2 0.7-1.5 ft 04/20/07
SVOCs by Method SW8270C (mg/Kg)												
2-Methylnaphthalene	NA	NA		--	--	--	0.13 J	--	--	--	0.014 J	--
Acenaphthene	500 b	20		--	--	--	0.16 J	--	--	--	0.19 U	--
Acenaphthylene	500 b	100 af		--	--	--	0.40 J	--	--	--	0.011 J	--
Acetophenone	NA	NA		--	--	--	2.2 UJ	--	--	--	0.19 UJ	--
Anthracene	500 b	100 af		--	--	--	0.90 J	--	--	--	0.015 J	--
Benzaldehyde	NA	NA		--	--	--	2.2 U	--	--	--	0.19 U	--
Benzo(a)anthracene	5.6	1 cf		--	--	--	**4.4**	--	--	--	0.091 J	--
Benzo(a)pyrene	1 f	1c		--	--	--	**2.3**	--	--	--	0.082 J	--
Benzo(b)fluoranthene	5.6	1 cf		--	--	--	**3.5 J**	--	--	--	0.14 J	--
Benzo(ghi)perylene	500 b	100 f		--	--	--	1.4 J	--	--	--	0.076 J	--
Benzo(k)fluoranthene	56	0.8 cf		--	--	--	**1.0 J**	--	--	--	0.19 U	--
Biphenyl	NA	NA		--	--	--	2.2 U	--	--	--	0.19 U	--
Bis(2-ethylhexyl) phthalate	NA	NA		--	--	--	2.2 U	--	--	--	0.19 U	--
Butyl benzyl phthalate	NA	NA		--	--	--	2.2 U	--	--	--	0.19 U	--
Carbazole	NA	NA		--	--	--	0.30 J	--	--	--	0.0090 J	--
Chrysene	56	1 cf		--	--	--	**3.6**	--	--	--	0.087 J	--
Dibenzo(a,h)anthracene	0.56	0.33 bf		--	--	--	**0.43 J**	--	--	--	0.021 J	--
Dibenzofuran	350	7 f		--	--	--	0.14 J	--	--	--	0.19 U	--
Di-n-butyl phthalate	NA	NA		--	--	--	2.2 U	--	--	--	0.19 U	--
Di-n-octyl phthalate	NA	NA		--	--	--	2.2 U	--	--	--	0.19 U	--
Fluoranthene	500 b	100 af		--	--	--	9.5	--	--	--	0.17 J	--
Fluorene	500 b	30		--	--	--	0.24 J	--	--	--	0.19 U	--
Indeno(1,2,3-cd)pyrene	5.6	0.5cf		--	--	--	**1.3 J**	--	--	--	0.062 J	--
Naphthalene	500 b	12 f		--	--	--	0.28 J	--	--	--	0.0080 J	--
Phenanthrene	500 b	100 f		--	--	--	4.9	--	--	--	0.076 J	--
Pyrene	500 b	100 f		--	--	--	7.6	--	--	--	0.14 J	--
TOTAL PAHs	NA	NA					42				0.98	
Pesticides by Method SW8081A (mg/Kg)												
4,4'-DDD	92	0.0033 bd		--	--	--	0.021 U	--	--	--	**0.0034 J**	--
4,4'-DDE	62	0.0033 bd		--	--	--	**0.034 J**	--	--	--	0.0027 J	--
4,4'-DDT	47	0.0033 bd		--	--	--	**0.021 J**	--	--	--	**0.0074 J**	--
Aldrin	0.68	0.005 c		--	--	--	0.021 U	--	--	--	0.0018 U	--
alpha-BHC	3.4	0.02		--	--	--	0.0072 J	--	--	--	0.0018 U	--
alpha-Chlordane	24	0.094		--	--	--	0.021 U	--	--	--	0.0018 U	--
beta-BHC	3	0.036		--	--	--	0.021 U	--	--	--	0.0018 U	--
delta-BHC	500 b	0.04		--	--	--	0.021 U	--	--	--	0.00048 J	--
Dieldrin	1.4	0.005 c		--	--	--	0.021 U	--	--	--	0.0018 U	--
Endosulfan I	200 i	2.4 df		--	--	--	0.021 U	--	--	--	0.0018 U	--
Endosulfan II	200 i	2.4 df		--	--	--	0.011 J	--	--	--	0.0020	--

Key at the end of Table 5-5 series.

Table 5-5a Summary of Positive Analytical Results for Off Bank Soil Samples from the Upson Park Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B		Sample ID:	18MC-L01W-S04-Z1	18MC-L01W-S04-Z2	18MC-L01W-S04-Z3	18MC-L01W-S05-Z1	18MC-L01W-S05-Z2	18MC-L01W-S05-Z3	18MC-L01W-S06-Z1	18MC-L01W-S06-Z2	18MC-L02W-S04-Z1	18MC-L02W-S04-Z2
				Depth:	0-2 inches	0.9-2 ft	2-3 ft	0-2 inches	1-2 ft	2-3 ft	0-2 inches	1-2 ft	0-2 inches	1.5-2 ft
				Date:	04/18/07	04/18/07	04/18/07	04/18/07	04/18/07	04/18/07	04/18/07	04/18/07	04/18/07	04/18/07
Endosulfan Sulfate	200 i	2.4 df		--	--	--	0.010 U	--	--	--	--	--	0.021 U	--
Endrin	89	0.014		--	--	--	0.010 U	--	--	--	--	--	0.0086 J	--
Endrin aldehyde	NA	NA		--	--	--	0.010 U	--	--	--	--	--	0.021 U	--
Endrin ketone	NA	NA		--	--	--	0.010 U	--	--	--	--	--	0.021 U	--
gamma-BHC (Lindane)	9.2	0.1		--	--	--	0.010 U	--	--	--	--	--	0.021 U	--
gamma-Chlordane	NA	NA		--	--	--	0.010 U	--	--	--	--	--	0.0068 J	--
Heptachlor epoxide	NA	NA		--	--	--	0.010 U	--	--	--	--	--	0.021 U	--
Methoxychlor	NA	NA		--	--	--	0.010 U	--	--	--	--	--	0.021 U	--
PCBs by Method SW8082 (mg/Kg)														
Aroclor 1248	1.0	0.10		0.034	0.020 U	0.019 U	0.020 U	0.022 U	0.021 U	0.022 U	0.020 U	**0.30**	0.020 U	
Aroclor 1254	1.0	0.10		0.045	0.023	0.019 U	0.037	0.034	0.021	**0.18**	0.020 U	**0.22**	**0.24**	
Aroclor 1260	1.0	0.10		0.058	0.020 U	0.019 U	0.020 U	0.022 U	0.056	0.022 U	0.020 U	0.021 U	0.020 U	
Aroclor 1262	1.0	0.10		0.019 U	0.020 U	0.019 U	0.020 U	0.022 U	0.021 U	0.022 U	0.020 U	0.021 U	0.020 U	
Aroclor 1268	1.0	0.10		0.019 U	0.020 U	0.019 U	0.020 U	0.022 U	0.021 U	0.022 U	0.020 U	0.021 U	0.080	
TOTAL PCBs	1.0	0.10		**0.137**	0.023	ND	0.037	0.034	0.077	**0.18**	ND	**0.52**	**0.32**	
Metals by Method SW6010B (mg/Kg)														
Aluminum - Total	15800 (1)	15800 (1)		7200	3930	6280	5240	3500	9790	4510	3790	8060 J	7830 J	
Antimony - Total	2.17 (2)	2.17 (2)		0.61 U	0.69 U	0.63 U	0.67 U	0.72 U	0.71 U	**96.6 J**	**2.2 J**	0.70 UJ	1.9 J	
Arsenic - Total	16 f	13 c		5.5	3.8	3.5	5.3	3.8	5.2	**40.1**	9.9	5.3	7.5	
Barium - Total	400	350 c		116	48.3	65.6	57.9	35.6	74.8	69.1	87.8	81.1 J	122 J	
Beryllium - Total	590	7.2		0.84	0.30	0.30	0.29	0.16 J	0.39	0.19 U	0.27	0.36	0.39	
Cadmium - Total	9.3	2.5 c		0.35	0.38	0.34	0.72	0.53	1.6	0.45 J	0.55	2.2	2.3	
Calcium - Total	9190 (1)	9190 (1)		**11100**	**77800**	**76200**	**57600**	**72600**	**24400**	**40100**	**17900**	**29900**	**21700**	
Chromium - Total	400 h	1 be		**17 J**	**9.8 J**	**9.4 J**	**14.2 J**	**9.9 J**	**34.5 J**	**15.8 J**	**15.0 J**	**36.3 J**	**31.8 J**	
Cobalt - Total	13.3 (1)	13.3 (1)		4.2	3.0	5.1	4.4	3.1	7.8	5.3	4.5	7.4 J	7.1 J	
Copper - Total	270	50		28.5 J	23.6 J	21.9 J	37.1 J	26.6 J	**182 J**	43.1 J	**65.1 J**	**88.7 J**	**153 J**	
Iron - Total	25600 (1)	25600 (1)		14900	9970	12800	11500	8330	18800	8910	14300	16500 J	18100 J	
Lead - Total	1000	63 c		18.8	36.3	36.0	**362**	47.8	**122**	**884**	**268**	**97.9 J**	**160 J**	
Magnesium - Total	5130 (1)	5130 (1)		4040	**39400**	**24600**	**30300**	**40300**	**10600**	**14800**	**5250**	**13700 J**	**8780 J**	
Manganese - Total	10000 d	1600 c		124	442	608	478	427	320	300	167	418 J	382 J	
Mercury - Total	2.8 j	0.18 c		**0.194**	0.024	0.061	0.046	0.042	**0.442**	0.040	0.050	**0.341**	**0.565**	
Nickel - Total	310	30		10.9	8.0	13.6	13.1	8.3	26.6	18.6	15.1	23.4 J	23.3 J	
Potassium - Total	1890 (1)	1890 (1)		1020	932	1190	1160	861	1180	755	661	1230	1170	
Selenium - Total	1500	3.9 c		0.67 U	0.75 U	0.69 U	0.74 U	0.79 U	0.77 U	3.8 U	2.6 J	0.76 U	0.72 U	
Silver - Total	1500	2		0.18 J	0.19 U	0.18 U	0.31 J	0.35 J	0.78	0.97 U	0.18 U	0.93	**3.8**	
Sodium - Total	211 (1)	211 (1)		165	123 J	97.5 J	108 J	107 J	**249**	200 U	177	131 J	132 J	
Thallium - Total	16.3 (2)	16.3 (2)		0.75 U	0.84 U	0.77 U	0.82 U	0.88 U	0.86 U	4.3 U	0.78 U	0.85 U	0.81 U	
Vanadium - Total	31 (1)	31 (1)		13.2	8.4	12.2	10.5	7.5	16.9	14.4	15.7	14.9	15.4	
Zinc - Total	10000 d	109 c		91.3 J	95.8 J	79.9 J	**200 J**	**124 J**	**717 J**	**199 J**	**210 J**	**525 J**	**546 J**	

Key at the end of Table 5-5 series.

Table 5-5a Summary of Positive Analytical Results for Off Bank Soil Samples from the Upson Park Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B		Sample ID: 18MC-L02W-S04-Z3 Depth: 2.5-3 ft Date: 04/18/07	18MC-L02W-S05-Z1 0-2 inches 04/18/07	18MC-L02W-S05-Z2 0.2-1 ft 04/18/07	18MC-L02W-S05-Z3 1-2 ft 04/18/07	18MC-L02W-S06-Z1 0-2 inches 04/18/07	18MC-L02W-S06-Z2 1-2 ft 04/18/07	18MC-L02W-S06-Z3 2-2.5 ft 04/18/07	18MC-L03W-S04-Z1 0-2 inches 04/19/07	18MC-L03W-S04-Z2 2-3 ft 04/19/07	18MC-L03W-S05-Z1 0-2 inches 04/19/07
Endosulfan Sulfate	200 i	2.4 df		--	--	--	--	--	--	--	0.023 U	--	--
Endrin	89	0.014		--	--	--	--	--	--	--	0.023 U	--	--
Endrin aldehyde	NA	NA		--	--	--	--	--	--	--	0.023 U	--	--
Endrin ketone	NA	NA		--	--	--	--	--	--	--	0.023 U	--	--
gamma-BHC (Lindane)	9.2	0.1		--	--	--	--	--	--	--	0.023 U	--	--
gamma-Chlordane	NA	NA		--	--	--	--	--	--	--	0.023 U	--	--
Heptachlor epoxide	NA	NA		--	--	--	--	--	--	--	0.023 U	--	--
Methoxychlor	NA	NA		--	--	--	--	--	--	--	0.023 U	--	--
PCBs by Method SW8082 (mg/Kg)													
Aroclor 1248	1.0	0.10		0.23 U	0.022 U	0.021 U	0.020 U	0.024 U	0.021 U	0.020 U	0.023 U	0.024 U	0.026 U
Aroclor 1254	1.0	0.10		**2.8**	0.095	0.021 U	0.020 U	0.024 U	0.021 U	0.012 J	0.023 U	0.024 U	0.026 U
Aroclor 1260	1.0	0.10		0.23 U	0.022 U	0.021 U	0.020 U	0.024 U	**0.16 J**	0.020 U	**0.18**	0.045	0.026 U
Aroclor 1262	1.0	0.10		0.23 U	0.022 U	0.021 U	0.020 U	0.024 U	0.021 U	0.020 U	0.023 U	0.024 U	0.026 U
Aroclor 1268	1.0	0.10		**1.2**	0.087	**0.11**	0.020 U	0.024 U	0.021 U	0.020 U	0.042	0.013 J	0.026 U
TOTAL PCBs	1.0	0.10		**4**	**0.182**	**0.11**	ND	ND	**0.16**	0.012	**0.222**	0.058	ND
Metals by Method SW6010B (mg/Kg)													
Aluminum - Total	15800 (1)	15800 (1)		3740 J	6630 J	6630 J	9210 J	3570 J	2920 J	4270 J	5790	2230	6410
Antimony - Total	2.17 (2)	2.17 (2)		**24.1 J**	**12.4 J**	**17.5 J**	**5.1 J**	**3.1 J**	1.7 J	0.66 UJ	**5.8 J**	1.8 J	**19.1 J**
Arsenic - Total	16 f	13 c		**42.9**	**16.6**	**19.5**	9.9	**17.3**	10.2	5.9	**15.6 J**	5.4 J	**19.4 J**
Barium - Total	400	350 c		**3060 J**	**829 J**	**1270 J**	**558 J**	67.9 J	78.8 J	39.0 J	**394**	86.7	**2360**
Beryllium - Total	590	7.2		0.31	0.41	0.36	0.48	0.19 J	0.22 J	0.27	0.46	0.19 J	0.26 J
Cadmium - Total	9.3	2.5 c		**21.7**	**2.9**	**7.0**	2.0	0.65	1.8	0.83	**2.9**	0.29 J	**8.8**
Calcium - Total	9190 (1)	9190 (1)		**13600**	**211000**	**172000**	**172000**	**21100**	**47300**	**124000**	**123000**	**209000**	**76700**
Chromium - Total	400 h	1 be		**918 J**	**34.4 J**	**34.1 J**	**19.3 J**	**16.4 J**	**48.4 J**	**13.3 J**	**28.9 J**	**7.1 J**	**85.8 J**
Cobalt - Total	13.3 (1)	13.3 (1)		**26.3 J**	5.6 J	5.2 J	6.0 J	5.5 J	6.0 J	4.0 J	5.8	1.3	5.5
Copper - Total	270	50		**2960 J**	**471 J**	**304 J**	**166 J**	48.1 J	**103 J**	26.0 J	**1640 J**	36.4 J	**495 J**
Iron - Total	25600 (1)	25600 (1)		**246000 J**	**32200 J**	**39800 J**	23600 J	8420 J	21200 J	10800 J	21800	6450	**50000**
Lead - Total	1000	63 c		**1390 J**	**921 J**	**1150 J**	**407 J**	**308 J**	**980 J**	**98.4 J**	**597 J**	**82.5 J**	**3480 J**
Magnesium - Total	5130 (1)	5130 (1)		4120 J	**14800 J**	**17100 J**	**9990 J**	**8310 J**	**9340 J**	**53100 J**	**20300**	**41100**	**18100**
Manganese - Total	10000 d	1600 c		1540 J	**1670 J**	**2060 J**	**3110 J**	247 J	381 J	539 J	343	94.1	715
Mercury - Total	2.8 j	0.18 c		**1.4**	**0.445**	**0.527**	**0.674**	0.067	0.086	0.057	**0.680**	**0.469**	**3.5**
Nickel - Total	310	30		**116 J**	17.0 J	19.8 J	14.6 J	21.9 J	**37.8 J**	10.7 J	23.4	4.9	27.0
Potassium - Total	1890 (1)	1890 (1)		342	1830	1500	**2320**	693	886	1350	973	947	628
Selenium - Total	1500	3.9 c		**6.3**	0.78 U	0.74 U	0.73 U	0.87 J	1.1 J	0.72 U	0.78 U	0.89 U	0.90 U
Silver - Total	1500	2		**79.5**	**3.9**	**6.4**	**2.5**	0.22 U	0.19 U	0.18 U	**3.5**	0.48 J	**2.6**
Sodium - Total	211 (1)	211 (1)		**410**	203	**293**	175	131 J	108 J	153 J	78.8 J	46.9 U	**257**
Thallium - Total	16.3 (2)	16.3 (2)		1.6 J	0.87 U	0.82 U	0.82 U	0.95 U	0.84 U	0.80 U	0.87 U	1.0 U	1.0 U
Vanadium - Total	31 (1)	31 (1)		10.7	13.2	13.2	15.6	15.7	11.4	8.7	14.5	4.4	11.0
Zinc - Total	10000 d	109 c		**5700 J**	**1000 J**	**1910 J**	**601 J**	**195 J**	**408 J**	**158 J**	**891 J**	102 J	**6540 J**

Key at the end of Table 5-5 series.

Table 5-5a Summary of Positive Analytical Results for Off Bank Soil Samples from the Upson Park Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B		Sample ID:	18MC-L03W-S05-Z2	18MC-L03W-S06-Z1	18MC-L03W-S06-Z2	18MC-L04W-S04-Z1	18MC-L04W-S04-Z2	18MC-L04W-S05-Z1	18MC-L04W-S05-Z2	18MC-L05W-S04-Z1	18MC-L05W-S04-Z2
				Depth:	2-3 ft	0-2 inches	1.5-2.5 ft	0-2 inches	1.5-2.3 ft	0-2 inches	0.7-1.5 ft	0-2 inches	0.7-1.5 ft
				Date:	04/19/07	04/19/07	04/19/07	04/20/07	04/20/07	04/20/07	04/20/07	04/20/07	04/20/07
Endosulfan Sulfate	200 i	2.4 df			--	--	--	0.021 U	--	--	--	0.0018 U	--
Endrin	89	0.014			--	--	--	0.021 U	--	--	--	0.0018 U	--
Endrin aldehyde	NA	NA			--	--	--	0.021 U	--	--	--	0.0018 U	--
Endrin ketone	NA	NA			--	--	--	0.021 U	--	--	--	0.0018 U	--
gamma-BHC (Lindane)	9.2	0.1			--	--	--	0.021 U	--	--	--	0.00058 J	--
gamma-Chlordane	NA	NA			--	--	--	0.021 U	--	--	--	0.0018 U	--
Heptachlor epoxide	NA	NA			--	--	--	0.021 U	--	--	--	0.0018 U	--
Methoxychlor	NA	NA			--	--	--	0.14 J	--	--	--	0.019 J	--
PCBs by Method SW8082 (mg/Kg)													
Aroclor 1248	1.0	0.10			0.022 U	0.012 J	0.020 U	0.022 U	0.019 U	0.020 U	0.018 U	0.018 U	0.017 U
Aroclor 1254	1.0	0.10			0.022 U	0.026	0.029	0.022 U	0.019 U	0.016 J	0.018 U	0.018 U	0.017 U
Aroclor 1260	1.0	0.10			0.022 U	0.022 U	0.020 U	0.022 U	0.019 U	0.020 U	0.018 U	0.018 U	0.017 U
Aroclor 1262	1.0	0.10			0.022 U	0.022 U	0.020 U	0.022 U	0.019 U	0.020 U	0.018 U	0.018 U	0.017 U
Aroclor 1268	1.0	0.10			0.0093 J	0.022 U	0.020 U	0.022 U	0.019 U	0.020 U	0.018 U	0.018 U	0.017 U
TOTAL PCBs	1.0	0.10			0.0093	0.038	0.029	ND	ND	0.016	ND	ND	ND
Metals by Method SW6010B (mg/Kg)													
Aluminum - Total	15800 (1)	15800 (1)			6370	2960	3420	5860 J	2770 J	3810 J	4530 J	4130 J	3900 J
Antimony - Total	2.17 (2)	2.17 (2)			**20.4**	0.72 U	0.64 U	0.68 U	0.61 U	0.60 U	0.60 U	0.63 U	0.57 U
Arsenic - Total	16 f	13 c			**29.7 J**	5.6 J	5.1 J	6.7	3.0	6.7	4.7	5.7	5.8
Barium - Total	400	350 c			**1660**	24.5	17.8	79.6 J	50.7 J	11.9 J	8.7 J	10.6 J	10.2 J
Beryllium - Total	590	7.2			0.35	0.29	0.29	0.38	0.34	0.28	0.40	0.40	0.36
Cadmium - Total	9.3	2.5 c			**8.3**	0.22 J	0.27	0.65	0.30	0.17 J	0.11 J	0.14 J	0.15 J
Calcium - Total	9190 (1)	9190 (1)			**99200**	**70700**	**134000**	**99400 J**	**183000 J**	**144000 J**	**156000 J**	**150000 J**	**135000 J**
Chromium - Total	400 h	1 be			**103 J**	**6.9 J**	**6.1 J**	**9.9 J**	**4.6 J**	**6.2 J**	**6.5 J**	**6.4 J**	**5.6 J**
Cobalt - Total	13.3 (1)	13.3 (1)			8.6	4.1	4.2	5.2	3.0	4.2	4.2	4.8	5.1
Copper - Total	270	50			**871 J**	14.0 J	11.0 J	44.3	10.4	10.6	6.6	11.3	14.6
Iron - Total	25600 (1)	25600 (1)			**124000**	9300	8240	14300	19400	9180	7570	9180	8660
Lead - Total	1000	63 c			**2320 J**	**160 J**	**103 J**	**169 J**	11.3 J	24.0 J	14.7 J	22.3 J	25.5 J
Magnesium - Total	5130 (1)	5130 (1)			**20600**	**16800**	**19100**	**38100 J**	**63100 J**	**30300 J**	**28100 J**	**30500 J**	**30200 J**
Manganese - Total	10000 d	1600 c			1180	417	388	**1690 J**	**3350 J**	302 J	321 J	334 J	312 J
Mercury - Total	2.8 j	0.18 c			0.097	0.069	0.067	**0.275 J**	0.010 J	0.115 J	0.022 J	0.118 J	**0.187 J**
Nickel - Total	310	30			**34.9**	14.2	10.3	13.1	5.3	11.3	9.7	10.6	11.0
Potassium - Total	1890 (1)	1890 (1)			851	1430	1710	1410	1250	**2270**	**2810**	**2610**	**2340**
Selenium - Total	1500	3.9 c			0.74 U	0.79 U	0.70 U	0.74 U	0.67 U	0.66 U	0.66 U	0.68 U	0.63 U
Silver - Total	1500	2			**5.1**	0.24 J	0.18 U	0.24 J	0.17 U	0.17 U	0.17 U	0.17 U	0.19 J
Sodium - Total	211 (1)	211 (1)			**398**	105 J	112 J	119 J	135 J	165	207	158 J	174
Thallium - Total	16.3 (2)	16.3 (2)			0.83 U	0.88 U	0.78 U	0.83 U	0.74 U	0.74 U	0.74 U	0.76 U	0.70 U
Vanadium - Total	31 (1)	31 (1)			15.6	6.7	6.0	12.0	10.1	6.6	6.7	6.7	6.1
Zinc - Total	10000 d	109 c			**4170 J**	77.4 J	52.9 J	**135 J**	12.7 J	36.3 J	15.7 J	39.2 J	37.6 J

Key at the end of Table 5-5 series.

Table 5-5b Summary of Positive Analytical Results for Off Bank Soil Samples from the White Transportation Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B		Sample ID: / Depth: / Date:	18MC-L02E-S04-Z1 0-2 inches 04/20/07	18MC-L02E-S04-Z2 1-1.5 ft 04/20/07	18MC-L02E-S05-Z1 0-2 inches 04/20/07	18MC-L02E-S05-Z2* 0.8-1.5 ft 04/20/07	18MC-L03E-S04-Z1 0-2 inches 04/20/07	18MC-L03E-S04-Z2 0.5-2 ft 04/20/07	18MC-L03E-S05-Z1 0-2 inches 04/20/07	18MC-L03E-S05-Z2 0.5-1.2 ft 04/20/07	18MC-L03E-S05-Z3 1.3-2 ft 04/20/07
SVOCs by Method SW8270C (mg/Kg)													
2-Methylnaphthalene	NA	NA		0.023 J	--	--	--	--	--	0.040 J	--	--	
Acenaphthene	500 b	20		0.017 J	--	--	--	--	--	0.23 U	--	--	
Acenaphthylene	500 b	100 af		0.057 J	--	--	--	--	--	0.23 U	--	--	
Acetophenone	NA	NA		0.19 UJ	--	--	--	--	--	0.23 UJ	--	--	
Anthracene	500 b	100 af		0.071 J	--	--	--	--	--	0.010 J	--	--	
Benzaldehyde	NA	NA		0.19 U	--	--	--	--	--	0.23 U	--	--	
Benzo(a)anthracene	5.6	1 cf		0.31	--	--	--	--	--	0.036 J	--	--	
Benzo(a)pyrene	1 f	1c		0.30	--	--	--	--	--	0.032 J	--	--	
Benzo(b)fluoranthene	5.6	1 cf		0.43 J	--	--	--	--	--	0.059 J	--	--	
Benzo(ghi)perylene	500 b	100 f		0.16 J	--	--	--	--	--	0.023 J	--	--	
Benzo(k)fluoranthene	56	0.8 cf		0.14 J	--	--	--	--	--	0.23 U	--	--	
Biphenyl	NA	NA		0.19 U	--	--	--	--	--	0.23 U	--	--	
Bis(2-ethylhexyl) phthalate	NA	NA		0.19 U	--	--	--	--	--	0.23 U	--	--	
Butyl benzyl phthalate	NA	NA		0.19 U	--	--	--	--	--	0.23 U	--	--	
Carbazole	NA	NA		0.035 J	--	--	--	--	--	0.23 U	--	--	
Chrysene	56	1 cf		0.32	--	--	--	--	--	0.040 J	--	--	
Dibenzo(a,h)anthracene	0.56	0.33 bf		0.048 J	--	--	--	--	--	0.23 U	--	--	
Dibenzofuran	350	7 f		0.012 J	--	--	--	--	--	0.23 U	--	--	
Di-n-butyl phthalate	NA	NA		0.19 U	--	--	--	--	--	0.23 U	--	--	
Di-n-octyl phthalate	NA	NA		0.19 U	--	--	--	--	--	0.23 U	--	--	
Fluoranthene	500 b	100 af		0.63	--	--	--	--	--	0.074 J	--	--	
Fluorene	500 b	30		0.022 J	--	--	--	--	--	0.23 U	--	--	
Indeno(1,2,3-cd)pyrene	5.6	0.5cf		0.15 J	--	--	--	--	--	0.021 J	--	--	
Naphthalene	500 b	12 f		0.016 J	--	--	--	--	--	0.018 J	--	--	
Phenanthrene	500 b	100 f		0.30	--	--	--	--	--	0.063 J	--	--	
Pyrene	500 b	100 f		0.44	--	--	--	--	--	0.048 J	--	--	
TOTAL PAHs	NA	NA		3.4						0.42			
Pesticides by Method SW8081A (mg/Kg)													
4,4'-DDD	92	0.0033 bd		**0.028 J**	--	--	--	--	--	**0.0040 J**	--	--	
4,4'-DDE	62	0.0033 bd		**0.11**	--	--	--	--	--	0.0022 U	--	--	
4,4'-DDT	47	0.0033 bd		**0.14**	--	--	--	--	--	**0.0063 J**	--	--	
Aldrin	0.68	0.005 c		0.018 U	--	--	--	--	--	0.0022 U	--	--	
alpha-BHC	3.4	0.02		0.0061 J	--	--	--	--	--	0.0022 U	--	--	
alpha-Chlordane	24	0.094		0.018	--	--	--	--	--	0.0022 U	--	--	
beta-BHC	3	0.036		0.018 U	--	--	--	--	--	0.00078 J	--	--	
delta-BHC	500 b	0.04		0.018 U	--	--	--	--	--	0.00082 J	--	--	
Dieldrin	1.4	0.005 c		**0.014 J**	--	--	--	--	--	0.0022 U	--	--	
Endosulfan I	200 i	2.4 df		0.018 U	--	--	--	--	--	0.0014 J	--	--	

Key at the end of Table 5-5 series.

Table 5-5b Summary of Positive Analytical Results for Off Bank Soil Samples from the White Transportation Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B		Sample ID: / Depth: / Date:	18MC-L02E-S04-Z1 0-2 inches 04/20/07	18MC-L02E-S04-Z2 1-1.5 ft 04/20/07	18MC-L02E-S05-Z1 0-2 inches 04/20/07	18MC-L02E-S05-Z2* 0.8-1.5 ft 04/20/07	18MC-L03E-S04-Z1 0-2 inches 04/20/07	18MC-L03E-S04-Z2 0.5-2 ft 04/20/07	18MC-L03E-S05-Z1 0-2 inches 04/20/07	18MC-L03E-S05-Z2 0.5-1.2 ft 04/20/07	18MC-L03E-S05-Z3 1.3-2 ft 04/20/07
Endosulfan II	200 i	2.4 df			0.018 U	--	--	--	--	--	0.0012 J	--	--
Endosulfan Sulfate	200 i	2.4 df			0.018 U	--	--	--	--	--	0.0021 J	--	--
Endrin	89	0.014			0.018 U	--	--	--	--	--	0.0022 U	--	--
Endrin aldehyde	NA	NA			0.018 U	--	--	--	--	--	0.0022 U	--	--
Endrin ketone	NA	NA			0.018 U	--	--	--	--	--	0.0022 U	--	--
gamma-BHC (Lindane)	9.2	0.1			0.018 U	--	--	--	--	--	0.0022 U	--	--
gamma-Chlordane	NA	NA			0.015 J	--	--	--	--	--	0.0022 U	--	--
Heptachlor epoxide	NA	NA			0.018 U	--	--	--	--	--	0.0022 U	--	--
Methoxychlor	NA	NA			0.044 J	--	--	--	--	--	0.0022 U	--	--
PCBs by Method SW8082 (mg/Kg)													
Aroclor 1248	1.0	0.10			0.018 U	0.018 U	0.021 U	0.018 U	0.0078 J	0.019 U	0.022 U	0.020 U	0.020 U
Aroclor 1254	1.0	0.10			0.018 U	0.018 U	0.021 U	0.018 U	0.019 U	0.019 U	0.015 J	0.012 J	0.020 U
Aroclor 1260	1.0	0.10			0.018 U	0.018 U	**0.23**	**0.46**	0.019 U	0.019 U	0.018 J	0.020 U	0.020 U
Aroclor 1262	1.0	0.10			0.018 U	0.018 U	0.021 U	0.018 U	0.019 U	0.019 U	0.022 U	0.020 U	0.020 U
Aroclor 1268	1.0	0.10			0.018 U	0.018 U	0.021 U	0.018 U	0.019 U	0.019 U	0.022 U	0.020 U	0.020 U
TOTAL PCBs	1.0	0.10			ND	ND	**0.23**	**0.46**	0.0078	ND	0.033	0.012	ND
Metals by Method SW6010B (mg/Kg)													
Aluminum - Total	15800 (1)	15800 (1)			3770 J	3750 J	4300 J	4770 J	3590 J	4080 J	5070 J	12300 J	5480 J
Antimony - Total	2.17 (2)	2.17 (2)			0.61 U	0.61 U	**2.5 J**	1.8 J	0.65 U	0.61 U	0.73 U	0.65 U	0.65 U
Arsenic - Total	16 f	13 c			7.0	7.3	**16.3**	**15.4**	5.5	4.6	7.1	3.1	10.2
Barium - Total	400	350 c			20.2 J	20.2 J	225 J	**415 J**	15.7 J	21.4 J	203 J	68.9 J	70.9 J
Beryllium - Total	590	7.2			0.26	0.38	0.29	0.41 J	0.34	0.31 J	2.5 J	0.48 J	0.45 J
Cadmium - Total	9.3	2.5 c			0.26	0.25	**5.1**	**6.6**	0.17 J	0.05 U	0.24 J	0.05 J	0.14 J
Calcium - Total	9190 (1)	9190 (1)			**126000 J**	**131000 J**	**14500 J**	**17800 J**	**133000 J**	**157000**	4010 J	1850 J	**123000**
Chromium - Total	400 h	1 be			**8.7 J**	**6.9 J**	**411 J**	**38.8 J**	**6.4 J**	**5.4 J**	**7.2 J**	**14.5 J**	**9.5 J**
Cobalt - Total	13.3 (1)	13.3 (1)			4.4	5.3	9.4	6.0 J	4.0	4.1 J	5.6 J	6.8 J	6.6 J
Copper - Total	270	50			12.9	17.4	**222**	**244 J**	13.5	12.0 J	15.1 J	9.2 J	42.0 J
Iron - Total	25600 (1)	25600 (1)			10300	10500	23500	**28000 J**	9100	8710 J	9800 J	16000 J	13100 J
Lead - Total	1000	63 c			**96.8 J**	**75.1 J**	**3750 J**	**2590 J**	38.4 J	37.5 J	9.7 J	20.7 J	**123 J**
Magnesium - Total	5130 (1)	5130 (1)			**30900 J**	**25300 J**	4420 J	2740 J	**37800 J**	**24000 J**	463 J	3500 J	**17700 J**
Manganese - Total	10000 d	1600 c			385 J	331 J	283 J	343 J	401 J	327 J	42.2 J	421 J	896 J
Mercury - Total	2.8 j	0.18 c			0.07	0.093	0.127	0.147	0.152	0.106	0.006 U	0.029	0.168
Nickel - Total	310	30			12.8	14.4	**30.4**	**34.2 J**	11.2	9.7 J	8.1 J	15.7 J	11.8 J
Potassium - Total	1890 (1)	1890 (1)			1700	1820	694	754 J	**1940**	**2070 J**	260 J	1400 J	1600 J
Selenium - Total	1500	3.9 c			0.66 U	0.67 U	0.73 U	0.83 J	0.70 U	0.67 U	0.80 U	0.72 U	0.71 U
Silver - Total	1500	2			0.27 J	0.27 J	0.40 J	0.30 J	0.21 J	0.17 U	0.20 U	0.18 U	0.28 J
Sodium - Total	211 (1)	211 (1)			187	185	148 J	**263**	189	128 J	98.1 J	70.4 J	158 J
Thallium - Total	16.3 (2)	16.3 (2)			0.74 U	0.75 U	0.82 U	0.84 U	0.79 U	0.75 U	0.90 U	0.80 U	0.80 U
Vanadium - Total	31 (1)	31 (1)			7.2	7.1	10.0	10.8 J	7.0	6.4 J	22.2 J	20.4 J	12.1 J
Zinc - Total	10000 d	109 c			97.8 J	57.8 J	**420 J**	**722 J**	29.3 J	22.7 J	18.0 J	47.5 J	98.9 J

Key at the end of Table 5-5 series.

Table 5-5c Summary of Positive Analytical Results for Off Bank Soil Samples from the Former United Paperboard Co. and Flintkote Plant Properties, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B		Sample ID:	18MC-L06-S04-Z1	18MC-L06-S04-Z2	18MC-L06-S05-Z1	18MC-L06-S05-Z2	18MC-L07-S04-Z1	18MC-L07-S04-Z2	18MC-L07-S05-Z1	18MC-L07-S05-Z2	18MC-L08-S04-Z1	18MC-L08-S04-Z2	18MC-L08-S05-Z1
				Depth:	0-2 inches	0.5-1.2 ft	0-2 inches	1-2 ft	0-2 inches	2-3 ft	0-2 inches	1.8-2.5 ft	0-2 inches	1.8-2.5 ft	0-2 inches
				Date:	04/23/07	04/23/07	04/23/07	04/23/07	04/23/07	04/23/07	04/23/07	04/23/07	04/23/07	04/23/07	04/23/07
SVOCs by Method SW8270C (mg/Kg)															
2-Methylnaphthalene	NA	NA			2.2 U	--	--	--	--	--	3.9 U	--	0.22 U	--	--
Acenaphthene	500 b	20			0.15 J	--	--	--	--	--	3.9 U	--	0.22 U	--	--
Acenaphthylene	500 b	100 af			2.2 U	--	--	--	--	--	3.9 U	--	0.22 U	--	--
Acetophenone	NA	NA			2.2 U	--	--	--	--	--	3.9 UJ	--	0.22 U	--	--
Anthracene	500 b	100 af			0.47 J	--	--	--	--	--	3.9 U	--	0.22 U	--	--
Benzaldehyde	NA	NA			2.2 U	--	--	--	--	--	3.9 U	--	0.22 U	--	--
Benzo(a)anthracene	5.6	1 cf			**1.5 J**	--	--	--	--	--	0.24 J	--	0.022 J	--	--
Benzo(a)pyrene	1 f	1c			**1.3 J**	--	--	--	--	--	3.9 U	--	0.018 J	--	--
Benzo(b)fluoranthene	5.6	1 cf			**1.6 J**	--	--	--	--	--	3.9 U	--	0.023 J	--	--
Benzo(ghi)perylene	500 b	100 f			0.72 J	--	--	--	--	--	0.18 J	--	0.018 J	--	--
Benzo(k)fluoranthene	56	0.8 cf			0.65 J	--	--	--	--	--	3.9 U	--	0.22 U	--	--
Biphenyl	NA	NA			2.2 U	--	--	--	--	--	3.9 U	--	0.22 U	--	--
Bis(2-ethylhexyl) phthalat	NA	NA			2.2 U	--	--	--	--	--	3.9 U	--	0.22 U	--	--
Butyl benzyl phthalate	NA	NA			2.2 U	--	--	--	--	--	3.9 U	--	0.22 U	--	--
Carbazole	NA	NA			0.16 J	--	--	--	--	--	3.9 U	--	0.22 U	--	--
Chrysene	56	1 cf			**1.5 J**	--	--	--	--	--	3.9 U	--	0.016 J	--	--
Dibenzo(a,h)anthracene	0.56	0.33 bf			0.20 J	--	--	--	--	--	3.9 U	--	0.22 U	--	--
Dibenzofuran	350	7 f			2.2 U	--	--	--	--	--	3.9 U	--	0.22 U	--	--
Di-n-butyl phthalate	NA	NA			2.2 U	--	--	--	--	--	3.9 U	--	0.22 U	--	--
Di-n-octyl phthalate	NA	NA			2.2 U	--	--	--	--	--	3.9 U	--	0.22 U	--	--
Fluoranthene	500 b	100 af			4.0	--	--	--	--	--	0.26 J	--	0.040 J	--	--
Fluorene	500 b	30			0.15 J	--	--	--	--	--	3.9 U	--	0.22 U	--	--
Indeno(1,2,3-cd)pyrene	5.6	0.5cf			**0.67 J**	--	--	--	--	--	3.9 U	--	0.010 J	--	--
Naphthalene	500 b	12 f			2.2 U	--	--	--	--	--	3.9 U	--	0.22 U	--	--
Phenanthrene	500 b	100 f			2.0 J	--	--	--	--	--	0.18 J	--	0.018 J	--	--
Pyrene	500 b	100 f			2.5	--	--	--	--	--	0.22 J	--	0.028 J	--	--
TOTAL PAHs	NA	NA			17	--	--	--	--	--	1.1	--	0.19	--	--
Pesticides by Method SW8081A (mg/Kg)															
4,4'-DDD	92	0.0033 bd			0.010 U	--	--	--	--	--	0.020 U	--	**0.0062 J**	--	--
4,4'-DDE	62	0.0033 bd			**0.036 J**	--	--	--	--	--	**0.12**	--	**0.032 J**	--	--
4,4'-DDT	47	0.0033 bd			**0.041**	--	--	--	--	--	0.020 U	--	**0.024**	--	--
Aldrin	0.68	0.005 c			0.010 U	--	--	--	--	--	0.020 U	--	0.0013 J	--	--
alpha-BHC	3.4	0.02			0.010 U	--	--	--	--	--	0.020 U	--	0.0013 J	--	--
alpha-Chlordane	24	0.094			0.010 U	--	--	--	--	--	0.020 U	--	0.0022 U	--	--
beta-BHC	3	0.036			0.010 U	--	--	--	--	--	**0.054 J**	--	0.0022 U	--	--
delta-BHC	500 b	0.04			0.010 U	--	--	--	--	--	0.020 U	--	0.00091 J	--	--
Dieldrin	1.4	0.005 c			0.010 U	--	--	--	--	--	**0.22 J**	--	0.0022 U	--	--
Endosulfan I	200 i	2.4 df			0.010 U	--	--	--	--	--	0.016 J	--	0.0028 J	--	--
Endosulfan II	200 i	2.4 df			0.010 U	--	--	--	--	--	0.020 U	--	0.0028 J	--	--

Key at the end of Table 5-5 series.

Table 5-5c Summary of Positive Analytical Results for Off Bank Soil Samples from the Former United Paperboard Co. and Flintkote Plant Properties, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-L08-S05-Z2 0.9-1.5 ft 04/23/07	18MC-L09-S04-Z1 0-2 inches 04/23/07	18MC-L09-S04-Z2 1.5-2.5 ft 04/23/07	18MC-L09-S05-Z1 0-2 inches 04/23/07	18MC-L09-S05-Z2 1-2 ft 04/23/07	18MC-L10-S04-Z1 0-2 inches 04/23/07	18MC-L10-S04-Z2 1-2 ft 04/23/07	18MC-L10-S05-Z1 0-2 inches 04/23/07	18MC-L10-S05-Z2 1-2 ft 04/23/07	18MC-L11-S04-Z1 0-2 inches 04/24/07	18MC-L11-S04-Z2 0.5-1.5 ft 04/24/07
SVOCs by Method SW8270C (mg/Kg)														
2-Methylnaphthalene	NA	NA		--	1.4 J	--	--	--	0.015 J	--	--	--	--	--
Acenaphthene	500 b	20		--	3.5 J	--	--	--	0.23 U	--	--	--	--	--
Acenaphthylene	500 b	100 af		--	2.3 J	--	--	--	0.011 J	--	--	--	--	--
Acetophenone	NA	NA		--	5.0 U	--	--	--	0.23 U	--	--	--	--	--
Anthracene	500 b	100 af		--	9.0	--	--	--	0.023 J	--	--	--	--	--
Benzaldehyde	NA	NA		--	5.0 U	--	--	--	0.23 U	--	--	--	--	--
Benzo(a)anthracene	5.6	1 cf		--	**26**	--	--	--	0.090 J	--	--	--	--	--
Benzo(a)pyrene	1 f	1c		--	**20**	--	--	--	0.095 J	--	--	--	--	--
Benzo(b)fluoranthene	5.6	1 cf		--	**26**	--	--	--	0.13 J	--	--	--	--	--
Benzo(ghi)perylene	500 b	100 f		--	12	--	--	--	0.065 J	--	--	--	--	--
Benzo(k)fluoranthene	56	0.8 cf		--	**7.3**	--	--	--	0.050 J	--	--	--	--	--
Biphenyl	NA	NA		--	0.39 J	--	--	--	0.23 U	--	--	--	--	--
Bis(2-ethylhexyl) phthalat	NA	NA		--	5.0 U	--	--	--	0.084 J	--	--	--	--	--
Butyl benzyl phthalate	NA	NA		--	5.0 U	--	--	--	0.23 U	--	--	--	--	--
Carbazole	NA	NA		--	4.8 J	--	--	--	0.016 J	--	--	--	--	--
Chrysene	56	1 cf		--	**23**	--	--	--	0.10 J	--	--	--	--	--
Dibenzo(a,h)anthracene	0.56	0.33 bf		--	**3.8 J**	--	--	--	0.015 J	--	--	--	--	--
Dibenzofuran	350	7 f		--	2.8 J	--	--	--	0.23 U	--	--	--	--	--
Di-n-butyl phthalate	NA	NA		--	5.0 U	--	--	--	0.23 U	--	--	--	--	--
Di-n-octyl phthalate	NA	NA		--	5.0 U	--	--	--	0.23 U	--	--	--	--	--
Fluoranthene	500 b	100 af		--	52	--	--	--	0.21 J	--	--	--	--	--
Fluorene	500 b	30		--	4.1 J	--	--	--	0.010 J	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	5.6	0.5cf		--	**11**	--	--	--	0.058 J	--	--	--	--	--
Naphthalene	500 b	12 f		--	2.8 J	--	--	--	0.011 J	--	--	--	--	--
Phenanthrene	500 b	100 f		--	44	--	--	--	0.11 J	--	--	--	--	--
Pyrene	500 b	100 f		--	40	--	--	--	0.14 J	--	--	--	--	--
TOTAL PAHs	NA	NA		--	290	--	--	--	1.1	--	--	--	--	--
Pesticides by Method SW8081A (mg/Kg)														
4,4'-DDD	92	0.0033 bd		--	0.025 U	--	--	--	0.0045 U	--	--	--	--	--
4,4'-DDE	62	0.0033 bd		--	**0.082 J**	--	--	--	**0.0060 J**	--	--	--	--	--
4,4'-DDT	47	0.0033 bd		--	**0.050**	--	--	--	**0.0093 J**	--	--	--	--	--
Aldrin	0.68	0.005 c		--	**0.0096 J**	--	--	--	0.0012 J	--	--	--	--	--
alpha-BHC	3.4	0.02		--	0.025 U	--	--	--	0.0015 J	--	--	--	--	--
alpha-Chlordane	24	0.094		--	0.025 U	--	--	--	0.0045 U	--	--	--	--	--
beta-BHC	3	0.036		--	0.025 U	--	--	--	0.0045 U	--	--	--	--	--
delta-BHC	500 b	0.04		--	0.025 U	--	--	--	0.0012 J	--	--	--	--	--
Dieldrin	1.4	0.005 c		--	0.025 U	--	--	--	0.0045 U	--	--	--	--	--
Endosulfan I	200 i	2.4 df		--	0.010 J	--	--	--	0.0045 U	--	--	--	--	--
Endosulfan II	200 i	2.4 df		--	0.036 J	--	--	--	0.0045 U	--	--	--	--	--

Key at the end of Table 5-5 series.

Table 5-5c Summary of Positive Analytical Results for Off Bank Soil Samples from the Former United Paperboard Co. and Flintkote Plant Properties, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B		Sample ID:	18MC-L11-S05-Z1	18MC-L11-S05-Z2	18MC-L13-S04-Z1	18MC-L13-S04-Z2
				Depth:	0-2 inches	0.6-1.4 ft	0-2 inches	1-1.5 ft
				Date:	04/24/07	04/24/07	04/24/07	04/24/07
SVOCs by Method SW8270C (mg/Kg)								
2-Methylnaphthalene	NA	NA			4.3 U	--	0.019 J	--
Acenaphthene	500 b	20			4.3 U	--	0.031 J	--
Acenaphthylene	500 b	100 af			4.3 U	--	0.038 J	--
Acetophenone	NA	NA			4.3 U	--	0.22 U	--
Anthracene	500 b	100 af			0.48 J	--	0.095 J	--
Benzaldehyde	NA	NA			4.3 U	--	0.035 J	--
Benzo(a)anthracene	5.6	1 cf			**2.0 J**	--	0.36	--
Benzo(a)pyrene	1 f	1c			**1.7 J**	--	0.32	--
Benzo(b)fluoranthene	5.6	1 cf			**2.3 J**	--	0.47	--
Benzo(ghi)perylene	500 b	100 f			1.1 J	--	0.18 J	--
Benzo(k)fluoranthene	56	0.8 cf			**0.92 J**	--	0.10 J	--
Biphenyl	NA	NA			4.3 U	--	0.22 U	--
Bis(2-ethylhexyl) phthalat	NA	NA			4.3 U	--	0.14 J	--
Butyl benzyl phthalate	NA	NA			4.3 U	--	0.22 U	--
Carbazole	NA	NA			0.19 J	--	0.054 J	--
Chrysene	56	1 cf			**1.6 J**	--	0.34	--
Dibenzo(a,h)anthracene	0.56	0.33 bf			0.26 J	--	0.050 J	--
Dibenzofuran	350	7 f			4.3 U	--	0.018 J	--
Di-n-butyl phthalate	NA	NA			4.3 U	--	0.22 U	--
Di-n-octyl phthalate	NA	NA			4.3 U	--	0.22 U	--
Fluoranthene	500 b	100 af			2.9 J	--	0.77	--
Fluorene	500 b	30			4.3 U	--	0.032 J	--
Indeno(1,2,3-cd)pyrene	5.6	0.5cf			**1.0 J**	--	0.16 J	--
Naphthalene	500 b	12 f			4.3 U	--	0.020 J	--
Phenanthrene	500 b	100 f			1.1 J	--	0.47	--
Pyrene	500 b	100 f			2.1 J	--	0.54	--
TOTAL PAHs	NA	NA			17	--	4	--
Pesticides by Method SW8081A (mg/Kg)								
4,4'-DDD	92	0.0033 bd			**0.0050 J**	--	0.0044 U	--
4,4'-DDE	62	0.0033 bd			**0.024 J**	--	**0.013 J**	--
4,4'-DDT	47	0.0033 bd			**0.019 J**	--	**0.013 J**	--
Aldrin	0.68	0.005 c			0.021 U	--	0.0044 U	--
alpha-BHC	3.4	0.02			0.021 U	--	0.0044 U	--
alpha-Chlordane	24	0.094			0.021 U	--	0.0044 U	--
beta-BHC	3	0.036			0.021 U	--	0.0044 U	--
delta-BHC	500 b	0.04			0.021 U	--	0.0044 U	--
Dieldrin	1.4	0.005 c			0.021 U	--	0.0044 U	--
Endosulfan I	200 i	2.4 df			0.021 U	--	0.0052 J	--
Endosulfan II	200 i	2.4 df			0.021 U	--	0.0044 U	--

Key at the end of Table 5-5 series.

Table 5-5c Summary of Positive Analytical Results for Off Bank Soil Samples from the Former United Paperboard Co. and Flintkote Plant Properties, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-L06-S04-Z1 0-2 inches 04/23/07	18MC-L06-S04-Z2 0.5-1.2 ft 04/23/07	18MC-L06-S05-Z1 0-2 inches 04/23/07	18MC-L06-S05-Z2 1-2 ft 04/23/07	18MC-L07-S04-Z1 0-2 inches 04/23/07	18MC-L07-S04-Z2 2-3 ft 04/23/07	18MC-L07-S05-Z1 0-2 inches 04/23/07	18MC-L07-S05-Z2 1.8-2.5 ft 04/23/07	18MC-L08-S04-Z1 0-2 inches 04/23/07	18MC-L08-S04-Z2 1.8-2.5 ft 04/23/07	18MC-L08-S05-Z1 0-2 inches 04/23/07
Endosulfan Sulfate	200 i	2.4 df		0.010 U	--	--	--	--	--	0.020 U	--	0.0022 U	--	--
Endrin	89	0.014		0.010 U	--	--	--	--	--	**0.016 J**	--	0.0018 J	--	--
Endrin aldehyde	NA	NA		0.010 U	--	--	--	--	--	0.020 U	--	0.0022 U	--	--
Endrin ketone	NA	NA		0.010 U	--	--	--	--	--	0.020 U	--	0.0022 U	--	--
gamma-BHC (Lindane)	9.2	0.1		0.0035 J	--	--	--	--	--	0.011 J	--	0.0012 J	--	--
gamma-Chlordane	NA	NA		0.010 U	--	--	--	--	--	0.10 J	--	0.0022 U	--	--
Heptachlor epoxide	NA	NA		0.010 U	--	--	--	--	--	0.020 U	--	0.00056 J	--	--
Methoxychlor	NA	NA		0.052 J	--	--	--	--	--	0.020 U	--	0.033 J	--	--
PCBs by Method SW8082 (mg/Kg)														
Aroclor 1248	1.0	0.10		0.021 U	0.020 U	0.046	0.073	0.022 U	0.022 U	**4.3**	0.020 U	0.022 U	0.070 U	**0.87**
Aroclor 1254	1.0	0.10		0.021 U	0.020 U	0.053	0.043	0.022 U	0.022 U	0.39 U	0.020 U	**0.26**	0.070 U	0.093 U
Aroclor 1260	1.0	0.10		0.021 U	0.020 U	0.022 U	0.020 U	0.022 U	0.022 U	0.39 U	0.020 U	0.022 U	0.070 U	0.093 U
Aroclor 1262	1.0	0.10		0.021 U	0.020 U	0.022 U	0.020 U	0.022 U	0.022 U	0.39 U	0.020 U	0.022 U	0.070 U	0.093 U
Aroclor 1268	1.0	0.10		0.021 U	0.020 U	0.022 U	0.020 U	0.022 U	0.022 U	0.39 U	0.020 U	0.022 U	0.070 U	0.093 U
TOTAL PCBs	1.0	0.10		ND	ND	0.099	**0.12**	ND	ND	**4.3**	ND	**0.26**	ND	**0.87**
Metals by Method SW6010B (mg/Kg)														
Aluminum - Total	15800 (1)	15800 (1)		7260	6300	7220	7280	3410	6300	3080	5700	5580	8980	8030
Antimony - Total	2.17 (2)	2.17 (2)		0.80 J	0.95 J	0.70 U	0.67 U	0.72 U	0.76 J	**3.9 J**	1.1 J	**3.1 J**	**47.7 J**	**4.5 J**
Arsenic - Total	16 f	13 c		5.6	7.2	5.6	4.7	5.2	9.7	10.7	**22.4**	**22.8**	**75.9**	8.2
Barium - Total	400	350 c		85.6	219	61.9	61.3	37.1	286	54.4	56.5	230	157	43.2
Beryllium - Total	590	7.2		0.53	0.44	0.42	0.43	0.22 J	0.48	0.50	0.42	0.77	2.0	0.36
Cadmium - Total	9.3	2.5 c		0.86	0.43	0.58	0.48	0.84	1.4	1.4	0.65	2.2	2.2	0.35
Calcium - Total	9190 (1)	9190 (1)		**91700 J**	**119000 J**	**51800 J**	**44000 J**	**80800 J**	**29300 J**	**21400 J**	**76500 J**	**21300 J**	**31000 J**	**50300 J**
Chromium - Total	400 h	1 be		**14.8 J**	**12.0 J**	**15.3 J**	**13.5 J**	**15.2 J**	**25.2 J**	**42.8 J**	**9.8 J**	**17.5 J**	**19.8 J**	**10.0 J**
Cobalt - Total	13.3 (1)	13.3 (1)		6.0	5.3	6.5	6.1	2.6	5.7	5.1	6.9	8.8	10.9	6.4
Copper - Total	270	50		**166 J**	41.9 J	**93.5 J**	47.2 J	29.6 J	**72.6 J**	**92.0 J**	**120 J**	**159 J**	**632 J**	30.2 J
Iron - Total	25600 (1)	25600 (1)		14700 J	12900 J	15300 J	13600 J	9380 J	12900 J	13800 J	23000 J	17600 J	**35700 J**	15600 J
Lead - Total	1000	63 c		**202**	**216**	**161**	**126**	**124**	**414**	**180**	**144**	**434**	**894**	**281**
Magnesium - Total	5130 (1)	5130 (1)		**17700 J**	**22800 J**	**12600 J**	**9200 J**	**42000 J**	5100 J	**8350 J**	**11900 J**	3930 J	3980 J	**8130 J**
Manganese - Total	10000 d	1600 c		603	429	580	547	618	739	279	543	459	190	631
Mercury - Total	2.8 j	0.18 c		**0.727 J**	**0.489 J**	**0.184 J**	**0.332 J**	0.064 J	**0.204 J**	**0.342 J**	**0.312 J**	**0.338 J**	**0.300 J**	0.038 J
Nickel - Total	310	30		18.9 J	14.3 J	17.2 J	15.1 J	9.0 J	**34.4 J**	23.2 J	16.4 J	**43.7 J**	**66.6 J**	13.6 J
Potassium - Total	1890 (1)	1890 (1)		**2680**	**2050**	1720	1480	721	1390	491	1670	1130	634	1400
Selenium - Total	1500	3.9 c		0.75 U	0.68 U	0.76 U	0.73 U	0.79 U	0.76 U	0.71 U	0.75 U	1.00 J	**5.8 J**	0.66 U
Silver - Total	1500	2		0.49 J	0.32 J	0.39 J	0.54 J	0.23 J	0.32 J	0.77	0.52 J	0.68	0.80 J	0.17 U
Sodium - Total	211 (1)	211 (1)		131 J	174	127 J	92.4 J	182 J	198	87.5 J	136 J	119 J	**456 J**	**230**
Thallium - Total	16.3 (2)	16.3 (2)		0.84 U	0.76 U	0.85 U	0.81 U	0.88 U	0.85 U	0.80 U	0.83 U	0.84 U	2.9 U	0.73 U
Vanadium - Total	31 (1)	31 (1)		13.0	12.2	14.6	14.1	10.3	16.8	10.7	16.0	17.4	29.1	12.9
Zinc - Total	10000 d	109 c		**209 J**	**135 J**	**153 J**	**127 J**	**277 J**	**628 J**	**235 J**	**184 J**	**348 J**	**798 J**	70.7 J

Key at the end of Table 5-5 series.

Table 5-5c Summary of Positive Analytical Results for Off Bank Soil Samples from the Former United Paperboard Co. and Flintkote Plant Properties, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B		Sample ID:	18MC-L08-S05-Z2	18MC-L09-S04-Z1	18MC-L09-S04-Z2	18MC-L09-S05-Z1	18MC-L09-S05-Z2	18MC-L10-S04-Z1	18MC-L10-S04-Z2	18MC-L10-S05-Z1	18MC-L10-S05-Z2	18MC-L11-S04-Z1	18MC-L11-S04-Z2
				Depth:	0.9-1.5 ft	0-2 inches	1.5-2.5 ft	0-2 inches	1-2 ft	0-2 inches	1-2 ft	0-2 inches	1-2 ft	0-2 inches	0.5-1.5 ft
				Date:	04/23/07	04/23/07	04/23/07	04/23/07	04/23/07	04/23/07	04/23/07	04/23/07	04/23/07	04/24/07	04/24/07
Endosulfan Sulfate	200 i	2.4 df		--	0.025 U	--	--	--	0.0045 U	--	--	--	--	--
Endrin	89	0.014		--	0.025 U	--	--	--	0.0045 U	--	--	--	--	--
Endrin aldehyde	NA	NA		--	0.030 J	--	--	--	0.0045 U	--	--	--	--	--
Endrin ketone	NA	NA		--	0.025 U	--	--	--	0.0045 U	--	--	--	--	--
gamma-BHC (Lindane)	9.2	0.1		--	0.025 U	--	--	--	0.0016 J	--	--	--	--	--
gamma-Chlordane	NA	NA		--	0.025 U	--	--	--	0.0045 U	--	--	--	--	--
Heptachlor epoxide	NA	NA		--	0.025 U	--	--	--	0.0045 U	--	--	--	--	--
Methoxychlor	NA	NA		--	0.40 J	--	--	--	0.0040 J	--	--	--	--	--
PCBs by Method SW8082 (mg/Kg)															
Aroclor 1248	1.0	0.10		**12**	0.025 U	0.020 U	0.073	**4.6**	0.0087 J	0.020 U	0.021 U	0.020 U	0.022 U	0.021 U
Aroclor 1254	1.0	0.10		1.0 U	0.025 U	0.020 U	**0.12**	**2.8**	0.016 J	0.014 J	0.014 J	0.020 U	0.022 U	0.021 U
Aroclor 1260	1.0	0.10		1.0 U	0.025 U	0.020 U	0.027 U	0.22 U	0.022 U	0.020 U	0.021 U	0.020 U	0.022 U	0.021 U
Aroclor 1262	1.0	0.10		1.0 U	0.025 U	0.020 U	0.027 U	0.22 U	0.022 U	0.020 U	0.021 U	0.020 U	0.022 U	0.021 U
Aroclor 1268	1.0	0.10		1.0 U	0.025 U	0.020 U	0.027 U	0.22 U	0.022 U	0.020 U	0.021 U	0.020 U	0.022 U	0.021 U
TOTAL PCBs	1.0	0.10		**12**	ND	ND	**0.19**	**7.4**	0.025	0.014	0.014	ND	ND	ND
Metals by Method SW6010B (mg/Kg)															
Aluminum - Total	15800 (1)	15800 (1)		4190	5530	3910	6770	10900	3130	5500	6310	12600	6260	1860
Antimony - Total	2.17 (2)	2.17 (2)		**3.4 J**	**13.1 J**	**980 J**	**14.6 J**	**81.5 J**	0.74 U	0.72 J	1.2 J	0.65 U	**8.3 J**	1.0 J
Arsenic - Total	16 f	13 c		**15.0**	**24.2**	**32.4**	11.7	**16.0**	8.9	**13.1**	6.0	5.3	**33.7**	8.3
Barium - Total	400	350 c		85.2	176 J	105 J	204 J	256 J	34.6 J	52.2 J	52.9 J	111 J	318	172
Beryllium - Total	590	7.2		0.42	0.59	0.35	0.39	0.47	0.49	0.62	0.39	0.61	1.1	0.30
Cadmium - Total	9.3	2.5 c		1.7	1.8	0.67	2.5	**7.2**	0.17 J	0.18 J	0.37	0.22 J	0.33	0.07 J
Calcium - Total	9190 (1)	9190 (1)		**70500 J**	**18200 J**	**100000 J**	**86100 J**	**63400 J**	**18600 J**	**14000 J**	**36900 J**	**11500 J**	3430	932
Chromium - Total	400 h	1 be		**34.4 J**	**15.4**	**10.4**	**49.8**	**36.1**	**7.7**	**10.5**	**13.7**	**16.9**	**19.0**	**5.4**
Cobalt - Total	13.3 (1)	13.3 (1)		10.3	7.2	4.2	8.2	9.1	3.5	4.9	8.7	12.1	7.9 J	1.9 J
Copper - Total	270	50		**100 J**	**505**	**500**	**121**	**1600**	24.5	28.2	**65.4**	12.9	**161 J**	28.8 J
Iron - Total	25600 (1)	25600 (1)		**36300 J**	**42300**	19500	**80500**	**63100**	8960	14600	14800	**31700**	**46900 J**	14300 J
Lead - Total	1000	63 c		**176**	**3600**	**7430**	**2120**	**3450**	32.0	49.4	59.4	61.7	**173 J**	20.4 J
Magnesium - Total	5130 (1)	5130 (1)		**29400 J**	3640	**7180**	**24500**	**12400**	5120	**6220**	**13700**	4600	1060	150
Manganese - Total	10000 d	1600 c		335	742 J	516 J	767 J	698 J	152 J	263 J	686 J	912 J	382	44.5
Mercury - Total	2.8 j	0.18 c		**0.390 J**	**0.398**	**0.213**	**0.448**	**1.7**	0.042	0.032	0.026	0.062	0.041	0.011 J
Nickel - Total	310	30		**38.3 J**	23.7	11.1	29.0	**47.7**	11.0	14.3	26.7	18.1	26.2 J	4.8 J
Potassium - Total	1890 (1)	1890 (1)		558	1100	1230	1310	925	599	893	1350	1540	**2270 J**	513 J
Selenium - Total	1500	3.9 c		0.74 U	2.0 J	0.92 J	1.2 J	2.2 J	0.81 U	0.72 U	0.73 U	1.00 J	**4.0 J**	0.93 J
Silver - Total	1500	2		0.87	0.54 J	1.5	0.42 J	**3.5**	0.21 U	0.18 U	0.19 U	0.18 U	0.46 J	0.19 U
Sodium - Total	211 (1)	211 (1)		154 J	117 J	115 J	175 J	**244**	69.2 J	88.6 J	74.2 J	71.3 J	**274**	146 J
Thallium - Total	16.3 (2)	16.3 (2)		0.83 U	1.0 U	0.83 U	1.2 J	0.86 U	0.90 U	0.80 U	0.82 U	0.80 U	0.86 U	0.85 U
Vanadium - Total	31 (1)	31 (1)		17.8	15.7	9.1	16.1	16.1	10.6	15.9	13.3	28.3	**38.1**	15.8
Zinc - Total	10000 d	109 c		**357 J**	**628**	**281**	**509**	**1790**	77.0	71.3	93.7	64.1	101 J	10.3 J

Key at the end of Table 5-5 series.

Table 5-5c Summary of Positive Analytical Results for Off Bank Soil Samples from the Former United Paperboard Co. and Flintkote Plant Properties, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B		Sample ID:	18MC-L11-S05-Z1	18MC-L11-S05-Z2	18MC-L13-S04-Z1	18MC-L13-S04-Z2
				Depth:	0-2 inches	0.6-1.4 ft	0-2 inches	1-1.5 ft
				Date:	04/24/07	04/24/07	04/24/07	04/24/07
Endosulfan Sulfate	200 i	2.4 df			0.021 U	--	0.0044 U	--
Endrin	89	0.014			0.021 U	--	0.0044 U	--
Endrin aldehyde	NA	NA			0.021 U	--	0.0044 U	--
Endrin ketone	NA	NA			0.021 U	--	0.0044 U	--
gamma-BHC (Lindane)	9.2	0.1			0.021 U	--	0.0020 J	--
gamma-Chlordane	NA	NA			0.021 U	--	0.0044 U	--
Heptachlor epoxide	NA	NA			0.021 U	--	0.0044 U	--
Methoxychlor	NA	NA			0.10 J	--	0.0044 U	--
PCBs by Method SW8082 (mg/Kg)								
Aroclor 1248	1.0	0.10			0.021 U	0.020 U	**0.12**	0.021 U
Aroclor 1254	1.0	0.10			0.041	0.020 U	**0.13**	0.021 U
Aroclor 1260	1.0	0.10			0.021 U	0.020 U	0.022 U	0.021 U
Aroclor 1262	1.0	0.10			0.021 U	0.020 U	0.022 U	0.021 U
Aroclor 1268	1.0	0.10			0.021 U	0.020 U	0.022 U	0.021 U
TOTAL PCBs	1.0	0.10			0.041	ND	**0.25**	ND
Metals by Method SW6010B (mg/Kg)								
Aluminum - Total	15800 (1)	15800 (1)			7460	1420	6240	7920
Antimony - Total	2.17 (2)	2.17 (2)			**17.6 J**	**4.3 J**	**2.7 J**	0.69 U
Arsenic - Total	16 f	13 c			**23.7**	10.4 J	11.7	12.8
Barium - Total	400	350 c			317	84.5	118	74.2
Beryllium - Total	590	7.2			0.70	0.14 J	0.41	0.24 J
Cadmium - Total	9.3	2.5 c			0.87	0.05 U	0.85	0.06 J
Calcium - Total	9190 (1)	9190 (1)			**32700**	4810	5930	2800
Chromium - Total	400 h	1 be			**18.1**	**2.6 J**	**14.7**	**9.6**
Cobalt - Total	13.3 (1)	13.3 (1)			7.9 J	1.4	6.6 J	7.3 J
Copper - Total	270	50			**176 J**	32.8 J	**145 J**	32.7 J
Iron - Total	25600 (1)	25600 (1)			24800 J	11900	15100 J	21500 J
Lead - Total	1000	63 c			**404 J**	60.5	**255 J**	7.3 J
Magnesium - Total	5130 (1)	5130 (1)			**7240**	384	2180	2420
Manganese - Total	10000 d	1600 c			**1810**	92.2	864	186
Mercury - Total	2.8 j	0.18 c			**0.221**	**0.422**	**1.0**	0.006 U
Nickel - Total	310	30			28.0 J	3.8	21.0 J	12.8 J
Potassium - Total	1890 (1)	1890 (1)			**2370 J**	1240	1220 J	866 J
Selenium - Total	1500	3.9 c			1.7 J	2.1 J	0.95 J	0.76 U
Silver - Total	1500	2			0.46 J	0.18 U	0.38 J	0.20 J
Sodium - Total	211 (1)	211 (1)			**255**	121 J	70.1 J	84.2 J
Thallium - Total	16.3 (2)	16.3 (2)			0.87 U	0.80 U	0.88 U	0.85 U
Vanadium - Total	31 (1)	31 (1)			20.5	3.5	14.2	17.8
Zinc - Total	10000 d	109 c			**264 J**	26.8 J	**468 J**	34.6 J

Key at the end of Table 5-5 series.

Table 5-5d Summary of Positive Analytical Results for Off Bank Soil Samples from the Area Downstream of the Former Flintkote Plant, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-L16W-S04-Z1 0-2 inches 04/24/07	18MC-L16W-S04-Z2 0.7-1.5 ft 04/25/07	18MC-L16W-S05-Z1 0-2 inches 04/24/07	18MC-L16W-S05-Z2 0.5-1.4 ft 04/24/07	18MC-L17-S04-Z1 0-2 inches 04/25/07	18MC-L17-S04-Z2 0.5-1.3 ft 04/25/07	18MC-L17-S05-Z1 0-2 inches 04/25/07	18MC-L17-S05-Z2 0.5-1.5 ft 04/25/07	18MC-L17-S06-Z1 0-2 inches 04/25/07
SVOCs by Method SW8270C (mg/Kg)												
2-Methylnaphthalene	NA	NA		2.0 U	--	--	--	--	--	0.031 J	--	--
Acenaphthene	500 b	20		0.12 J	--	--	--	--	--	0.055 J	--	--
Acenaphthylene	500 b	100 af		0.66 J	--	--	--	--	--	0.11 J	--	--
Acetophenone	NA	NA		2.0 U	--	--	--	--	--	0.37 U	--	--
Anthracene	500 b	100 af		0.73 J	--	--	--	--	--	0.21 J	--	--
Benzaldehyde	NA	NA		2.0 U	--	--	--	--	--	0.37 U	--	--
Benzo(a)anthracene	5.6	1 cf		**2.4**	--	--	--	--	--	0.53	--	--
Benzo(a)pyrene	1 f	1c		**2.0**	--	--	--	--	--	0.47	--	--
Benzo(b)fluoranthene	5.6	1 cf		**4.1 J**	--	--	--	--	--	0.65	--	--
Benzo(ghi)perylene	500 b	100 f		1.1 J	--	--	--	--	--	0.23 J	--	--
Benzo(k)fluoranthene	56	0.8 cf		2.0 U	--	--	--	--	--	0.21 J	--	--
Biphenyl	NA	NA		2.0 U	--	--	--	--	--	0.37 U	--	--
Bis(2-ethylhexyl) phthalate	NA	NA		2.0 U	--	--	--	--	--	0.37 U	--	--
Butyl benzyl phthalate	NA	NA		2.0 U	--	--	--	--	--	0.37 U	--	--
Carbazole	NA	NA		0.42 J	--	--	--	--	--	0.094 J	--	--
Chrysene	56	1 cf		**2.2**	--	--	--	--	--	0.51	--	--
Dibenzo(a,h)anthracene	0.56	0.33 bf		0.32 J	--	--	--	--	--	0.065 J	--	--
Dibenzofuran	350	7 f		0.12 J	--	--	--	--	--	0.046 J	--	--
Di-n-butyl phthalate	NA	NA		2.0 U	--	--	--	--	--	0.37 U	--	--
Di-n-octyl phthalate	NA	NA		2.0 U	--	--	--	--	--	0.37 U	--	--
Fluoranthene	500 b	100 af		6.0	--	--	--	--	--	1.2	--	--
Fluorene	500 b	30		0.28 J	--	--	--	--	--	0.083 J	--	--
Indeno(1,2,3-cd)pyrene	5.6	0.5cf		**1.0 J**	--	--	--	--	--	0.20 J	--	--
Naphthalene	500 b	12 f		2.0 U	--	--	--	--	--	0.041 J	--	--
Phenanthrene	500 b	100 f		3.4	--	--	--	--	--	0.76	--	--
Pyrene	500 b	100 f		3.2	--	--	--	--	--	0.67	--	--
TOTAL PAHs	NA	NA		28						6		
Pesticides by Method SW8081A (mg/Kg)												
4,4'-DDD	92	0.0033 bd		0.0031	--	--	--	--	--	0.0036 U	--	--
4,4'-DDE	62	0.0033 bd		**0.011 J**	--	--	--	--	--	0.0036 U	--	--
4,4'-DDT	47	0.0033 bd		**0.029**	--	--	--	--	--	0.0036 U	--	--
Aldrin	0.68	0.005 c		0.0018 J	--	--	--	--	--	0.0036 U	--	--
alpha-BHC	3.4	0.02		0.0020 U	--	--	--	--	--	0.0036 U	--	--
alpha-Chlordane	24	0.094		0.0026 J	--	--	--	--	--	0.0036 U	--	--
beta-BHC	3	0.036		0.0020 U	--	--	--	--	--	0.0036 U	--	--
delta-BHC	500 b	0.04		0.0013 J	--	--	--	--	--	0.0022 J	--	--
Dieldrin	1.4	0.005 c		**0.45**	--	--	--	--	--	0.0036 U	--	--
Endosulfan I	200 i	2.4 df		0.0020 U	--	--	--	--	--	0.0036 U	--	--
Endosulfan II	200 i	2.4 df		0.0015 J	--	--	--	--	--	0.0036 U	--	--

Key at the end of Table 5-5 series.

Table 5-5d Summary of Positive Analytical Results for Off Bank Soil Samples from the Area Downstream of the Former Flintkote Plant, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-L16W-S04-Z1 0-2 inches 04/24/07	18MC-L16W-S04-Z2 0.7-1.5 ft 04/25/07	18MC-L16W-S05-Z1 0-2 inches 04/24/07	18MC-L16W-S05-Z2 0.5-1.4 ft 04/24/07	18MC-L17-S04-Z1 0-2 inches 04/25/07	18MC-L17-S04-Z2 0.5-1.3 ft 04/25/07	18MC-L17-S05-Z1 0-2 inches 04/25/07	18MC-L17-S05-Z2 0.5-1.5 ft 04/25/07	18MC-L17-S06-Z1 0-2 inches 04/25/07
Endosulfan Sulfate	200 i	2.4 df		0.0020 U	--	--	--	--	--	0.0036 U	--	--
Endrin	89	0.014		0.0048	--	--	--	--	--	0.0036 U	--	--
Endrin aldehyde	NA	NA		0.0020 U	--	--	--	--	--	0.0036 U	--	--
Endrin ketone	NA	NA		0.0042 J	--	--	--	--	--	0.0036 U	--	--
gamma-BHC (Lindane)	9.2	0.1		0.0020 U	--	--	--	--	--	0.0036 U	--	--
gamma-Chlordane	NA	NA		0.0020 U	--	--	--	--	--	0.0036 U	--	--
Heptachlor epoxide	NA	NA		0.0020 U	--	--	--	--	--	0.0036 U	--	--
Methoxychlor	NA	NA		0.0020 U	--	--	--	--	--	0.0036 U	--	--
PCBs by Method SW8082 (mg/Kg)												
Aroclor 1248	1.0	0.10		0.020 U	0.024 U	0.020 U	0.020 U	0.022 U	0.021 U	0.036 U	0.023 U	0.018 U
Aroclor 1254	1.0	0.10		0.020 U	0.024 U	0.020 U	0.020 U	0.022 U	0.021 U	0.036 U	0.023 U	0.018 U
Aroclor 1260	1.0	0.10		0.020 U	0.024 U	0.020 U	0.020 U	0.022 U	0.021 U	0.036 U	0.023 U	0.018 U
Aroclor 1262	1.0	0.10		**0.13**	0.016 J	0.020 U	0.020 U	0.022 U	0.021 U	0.036 U	0.023 U	0.018 U
Aroclor 1268	1.0	0.10		0.020 U	0.024 U	0.020 U	0.020 U	0.022 U	0.021 U	0.036 U	0.023 U	0.018 U
TOTAL PCBs	1.0	0.10		**0.13**	0.016	ND	ND	ND	ND	ND	ND	ND
Metals by Method SW6010B (mg/Kg)												
Aluminum - Total	15800 (1)	15800 (1)		6210	10900 J	6450	7770	7150 J	6940 J	9790 J	8960 J	5310 J
Antimony - Total	2.17 (2)	2.17 (2)		**3.3 J**	**31.6**	0.66 U	0.64 U	0.71 U	0.66 U	1.8 J	0.78 J	0.60 UJ
Arsenic - Total	16 f	13 c		**17.1 J**	**26.9**	3.7 J	4.2 J	**14.9**	**13.3**	6.7	6.5	4.4 J
Barium - Total	400	350 c		315	135 J	61.8	71.1	127 J	105 J	114 J	91.5 J	71.5
Beryllium - Total	590	7.2		0.67	0.71	0.38	0.42	0.38	0.35	0.62	0.58	0.31 J
Cadmium - Total	9.3	2.5 c		**3.4**	0.69	0.05 J	0.05 U	0.65	0.53	1.1	0.57	0.45
Calcium - Total	9190 (1)	9190 (1)		**21700**	**23900 J**	6370	2980	**29200 J**	**68100 J**	**10200 J**	6530 J	**43300 J**
Chromium - Total	400 h	1 be		**22.2 J**	**16.1 J**	**9.5 J**	**10.6 J**	**10.7 J**	**8.4 J**	**23.1 J**	**18.7 J**	**10.2 J**
Cobalt - Total	13.3 (1)	13.3 (1)		9.6	9.4	5.9	6.5	9.0	9.8	10.9	9.9	4.7 J
Copper - Total	270	50		**140 J**	**105**	24.2 J	24.8 J	**75.7**	38.7	**111**	**61.4**	29.5
Iron - Total	25600 (1)	25600 (1)		**30700**	21300	12300	15300	18500	17400	22300	20800	11200
Lead - Total	1000	63 c		**341**	**1240 J**	20.9	15.7	**186 J**	29.2 J	**344 J**	**287 J**	**175**
Magnesium - Total	5130 (1)	5130 (1)		5020	**5700**	3020	2620	**9450**	**13900**	4750	4150	**14300 J**
Manganese - Total	10000 d	1600 c		443	700 J	723	727	**1780 J**	**2360 J**	939 J	778 J	618 J
Mercury - Total	2.8 j	0.18 c		**0.370**	**0.789**	0.054	0.048	**0.231**	0.096	**0.558**	**0.220**	0.097
Nickel - Total	310	30		**54.3**	**33.4 J**	12.5	13.8	18.8 J	12.5 J	**34.7 J**	**30.6 J**	15.2 J
Potassium - Total	1890 (1)	1890 (1)		910	1460 J	1110	1170	1610 J	978 J	**1980 J**	1790 J	886 J
Selenium - Total	1500	3.9 c		0.70 U	0.85 U	0.72 U	0.70 U	0.78 U	0.72 U	1.3 U	0.84 U	0.66 U
Silver - Total	1500	2		0.35 J	0.41 J	0.18 U	0.18 U	0.20 U	0.18 U	0.35 J	0.21 U	0.17 U
Sodium - Total	211 (1)	211 (1)		170	134 J	37.7 U	36.9 U	90.0 J	92.7 J	149 J	80.5 J	70.8 J
Thallium - Total	16.3 (2)	16.3 (2)		0.78 U	1.3 J	0.80 U	0.78 U	0.87 U	0.80 U	1.5 U	0.93 U	0.72 U
Vanadium - Total	31 (1)	31 (1)		23.0	25.8	12.6	14.9	15.8	13.8	19.3	18.0	11.0 J
Zinc - Total	10000 d	109 c		**843 J**	**202**	46.9 J	39.2 J	**138**	85.3	**371**	**198**	**141 J**

Key at the end of Table 5-5 series.

Table 5-5d Summary of Positive Analytical Results for Off Bank Soil Samples from the Area Downstream of the Former Flintkote Plant, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-L17-S07-Z1 0-2 inches 04/25/07	18MC-L18-S04-Z1 0-2 inches 04/25/07	18MC-L18-S04-Z2 0.5-1 ft 04/25/07	18MC-L18-S05-Z1 0-2 inches 04/25/07	18MC-L18-S05-Z2* 0.5-1.5 ft 04/25/07	18MC-L18-S06-Z1 0-2 inches 04/25/07	18MC-L18-S06-Z2 0.7-1.3 ft 04/25/07	18MC-L18-S07-Z1 0-2 inches 04/25/07	18MC-L18-S07-Z2 0.8-1.6 ft 04/25/07
SVOCs by Method SW8270C (mg/Kg)												
2-Methylnaphthalene	NA	NA		--	--	--	--	--	--	--	0.19 J	--
Acenaphthene	500 b	20		--	--	--	--	--	--	--	0.24	--
Acenaphthylene	500 b	100 af		--	--	--	--	--	--	--	0.15 J	--
Acetophenone	NA	NA		--	--	--	--	--	--	--	0.011 J	--
Anthracene	500 b	100 af		--	--	--	--	--	--	--	1.1	--
Benzaldehyde	NA	NA		--	--	--	--	--	--	--	0.22 U	--
Benzo(a)anthracene	5.6	1 cf		--	--	--	--	--	--	--	**3.4**	--
Benzo(a)pyrene	1 f	1c		--	--	--	--	--	--	--	**2.2**	--
Benzo(b)fluoranthene	5.6	1 cf		--	--	--	--	--	--	--	**4.5 J**	--
Benzo(ghi)perylene	500 b	100 f		--	--	--	--	--	--	--	0.98	--
Benzo(k)fluoranthene	56	0.8 cf		--	--	--	--	--	--	--	0.22 U	--
Biphenyl	NA	NA		--	--	--	--	--	--	--	0.031 J	--
Bis(2-ethylhexyl) phthalate	NA	NA		--	--	--	--	--	--	--	0.87	--
Butyl benzyl phthalate	NA	NA		--	--	--	--	--	--	--	0.084 J	--
Carbazole	NA	NA		--	--	--	--	--	--	--	0.42	--
Chrysene	56	1 cf		--	--	--	--	--	--	--	**3.1**	--
Dibenzo(a,h)anthracene	0.56	0.33 bf		--	--	--	--	--	--	--	0.32	--
Dibenzofuran	350	7 f		--	--	--	--	--	--	--	0.15 J	--
Di-n-butyl phthalate	NA	NA		--	--	--	--	--	--	--	0.10 J	--
Di-n-octyl phthalate	NA	NA		--	--	--	--	--	--	--	0.22 U	--
Fluoranthene	500 b	100 af		--	--	--	--	--	--	--	8.2	--
Fluorene	500 b	30		--	--	--	--	--	--	--	0.31	--
Indeno(1,2,3-cd)pyrene	5.6	0.5cf		--	--	--	--	--	--	--	**0.92**	--
Naphthalene	500 b	12 f		--	--	--	--	--	--	--	0.12 J	--
Phenanthrene	500 b	100 f		--	--	--	--	--	--	--	3.6	--
Pyrene	500 b	100 f		--	--	--	--	--	--	--	4.8	--
TOTAL PAHs	NA	NA									26	
Pesticides by Method SW8081A (mg/Kg)												
4,4'-DDD	92	0.0033 bd		--	--	--	--	--	--	--	0.0028 J	--
4,4'-DDE	62	0.0033 bd		--	--	--	--	--	--	--	0.0021 U	--
4,4'-DDT	47	0.0033 bd		--	--	--	--	--	--	--	0.0013 J	--
Aldrin	0.68	0.005 c		--	--	--	--	--	--	--	0.0021 U	--
alpha-BHC	3.4	0.02		--	--	--	--	--	--	--	0.0021 U	--
alpha-Chlordane	24	0.094		--	--	--	--	--	--	--	0.0033 J	--
beta-BHC	3	0.036		--	--	--	--	--	--	--	0.0021 U	--
delta-BHC	500 b	0.04		--	--	--	--	--	--	--	0.0016 J	--
Dieldrin	1.4	0.005 c		--	--	--	--	--	--	--	0.0021 U	--
Endosulfan I	200 i	2.4 df		--	--	--	--	--	--	--	0.0013 J	--
Endosulfan II	200 i	2.4 df		--	--	--	--	--	--	--	0.0021 U	--

Key at the end of Table 5-5 series.

Table 5-5d Summary of Positive Analytical Results for Off Bank Soil Samples from the Area Downstream of the Former Flintkote Plant, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-L17-S07-Z1 0-2 inches 04/25/07	18MC-L18-S04-Z1 0-2 inches 04/25/07	18MC-L18-S04-Z2 0.5-1 ft 04/25/07	18MC-L18-S05-Z1 0-2 inches 04/25/07	18MC-L18-S05-Z2* 0.5-1.5 ft 04/25/07	18MC-L18-S06-Z1 0-2 inches 04/25/07	18MC-L18-S06-Z2 0.7-1.3 ft 04/25/07	18MC-L18-S07-Z1 0-2 inches 04/25/07	18MC-L18-S07-Z2 0.8-1.6 ft 04/25/07
Endosulfan Sulfate	200 i	2.4 df		--	--	--	--	--	--	--	0.0021 U	--
Endrin	89	0.014		--	--	--	--	--	--	--	0.0021 U	--
Endrin aldehyde	NA	NA		--	--	--	--	--	--	--	0.0021 U	--
Endrin ketone	NA	NA		--	--	--	--	--	--	--	0.0021 U	--
gamma-BHC (Lindane)	9.2	0.1		--	--	--	--	--	--	--	0.0021 U	--
gamma-Chlordane	NA	NA		--	--	--	--	--	--	--	0.0021 U	--
Heptachlor epoxide	NA	NA		--	--	--	--	--	--	--	0.0021 U	--
Methoxychlor	NA	NA		--	--	--	--	--	--	--	0.0021 U	--
PCBs by Method SW8082 (mg/Kg)												
Aroclor 1248	1.0	0.10		0.020 U	0.026 U	0.022 U	0.032 U	0.026 U	0.023 U	0.039 U	0.021 U	0.021 U
Aroclor 1254	1.0	0.10		0.020 U	0.026 U	0.022 U	0.032 U	0.026 U	0.023 U	0.039 U	**0.59**	0.031
Aroclor 1260	1.0	0.10		0.020 U	0.026 U	0.022 U	0.032 U	0.026 U	0.023 U	0.039 U	**0.24 J**	0.021 U
Aroclor 1262	1.0	0.10		0.020 U	0.026 U	0.022 U	0.032 U	0.026 U	0.10	**0.53**	0.021 U	0.021 U
Aroclor 1268	1.0	0.10		0.020 U	0.026 U	0.022 U	0.032 U	0.026 U	0.023 U	0.039 U	0.021 U	0.021 U
TOTAL PCBs	1.0	0.10		ND	ND	ND	ND	ND	0.1	**0.53**	**0.83**	0.031
Metals by Method SW6010B (mg/Kg)												
Aluminum - Total	15800 (1)	15800 (1)		5670 J	7990 J	5400 J	14600 J	8870 J	4700 J	5920 J	5970 J	4930 J
Antimony - Total	2.17 (2)	2.17 (2)		0.68 UJ	0.89 U	0.70 U	**13.5 J**	**5.6 J**	1.2 J	1.6 J	0.68 UJ	0.70 U
Arsenic - Total	16 f	13 c		3.3 J	9.5	5.0	**16.0**	11.9	7.3	7.4	5.0 J	**15.4**
Barium - Total	400	350 c		44.7	109 J	52.4 J	263 J	**369 J**	0.07 UJ	202 J	78.1	165 J
Beryllium - Total	590	7.2		0.28 J	0.43	0.25 J	0.65	0.42	0.34	0.30	0.39 J	0.56
Cadmium - Total	9.3	2.5 c		0.19 J	1.0	0.31	**3.1**	1.0	0.88	0.62	0.71	0.05 U
Calcium - Total	9190 (1)	9190 (1)		**54500 J**	**10900 J**	7310 J	8420 J	**13800 J**	**20900 J**	**24700 J**	**58400 J**	4750 J
Chromium - Total	400 h	1 be		**8.5 J**	**15.8 J**	**8.8 J**	**106 J**	**51.6 J**	**264 J**	**120 J**	**49.7 J**	**171 J**
Cobalt - Total	13.3 (1)	13.3 (1)		5.4 J	8.4	5.6	11.6	9.3	**17.6**	**16.6**	6.9 J	10.4
Copper - Total	270	50		15.4	46.7	22.6	**299**	**175**	**2710**	**86.3**	47.4	22.8
Iron - Total	25600 (1)	25600 (1)		11600	18200	11000	**26800**	15600	20100	23200	13100	22300
Lead - Total	1000	63 c		23.8	**153 J**	49.1 J	**603 J**	**430 J**	**356 J**	**108 J**	**122**	8.5 J
Magnesium - Total	5130 (1)	5130 (1)		**9400 J**	3550	3410	**5140**	**7150**	**6220**	**8280**	**30300 J**	660
Manganese - Total	10000 d	1600 c		572 J	1180 J	688 J	315 J	166 J	449 J	506 J	597 J	90.3 J
Mercury - Total	2.8 j	0.18 c		0.172	**0.289**	0.083	**2.8**	**3.2**	0.160	**0.768**	0.153	0.011 J
Nickel - Total	310	30		11.7 J	29.4 J	15.7 J	**57.0 J**	23.0 J	**909 J**	**392 J**	**68.5 J**	**182 J**
Potassium - Total	1890 (1)	1890 (1)		1130 J	1520 J	918 J	1720 J	1190 J	822 J	881 J	1140 J	432 J
Selenium - Total	1500	3.9 c		0.75 U	0.97 U	0.77 U	2.5 J	1.0 U	0.80 U	0.69 U	0.75 U	0.77 U
Silver - Total	1500	2		0.19 U	0.25 U	0.19 U	**3.3**	1.2	0.39 J	0.17 U	0.24 J	0.20 U
Sodium - Total	211 (1)	211 (1)		109 J	72.3 J	52.6 J	159 J	136 J	42.0 U	87.1 J	124 J	**259**
Thallium - Total	16.3 (2)	16.3 (2)		0.83 U	1.1 U	0.86 U	1.3 U	1.0 U	0.89 U	0.77 U	0.88 J	0.86 U
Vanadium - Total	31 (1)	31 (1)		12.8 J	16.9	11.7	30.2	18.5	22.2	28.4	13.9 J	25.3
Zinc - Total	10000 d	109 c		41.8 J	**305**	70.1	**927**	**457**	**1900**	**285**	**157 J**	24.8

Key at the end of Table 5-5 series.

Table 5-5 Key

Notes for Soil Cleanup Objectives

For Soil Cleanup Objective A (New York State Department of Environmental Conservation, Subpart 375-6: Remedial Program Soil Cleanup Objectives, *Restricted Use: Commercial* , December 2006.)

b = The SCOs for commercial use were capped at a maximum value of 500 ppm.

d = The SCOs for metals were capped at a maximum value of 10,000 ppm.

f = For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

h = The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for total species of the contaminant is below the specific SCO.

j = This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts).

i = This SCO is for the sum of endosulfan I, II, and endosulfan sulfate.

For Soil Cleanup Objective B (New York State Department of Environmental Conservation, Subpart 375-6: Remedial Soil Cleanup Objective, *Unrestricted Use,* December 2006)

a = The SCOs for unrestricted use were capped at a maximum value of 100 ppm.

b = For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.

c = For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.

d = SCO is the sum of endosulfan I, endosulfan II, and endosulfan sulfate.

f = Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8(b) with "NS". Where such contaminants appear in Table 375-6.8(a), the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.

Additional Notes for Metals Soil Cleanup Objectives

(1) NYS background (95th percentile), Source-Distant Data Set from NYS Brownfield Cleanup Program, Technical Support Document, Appendix D, September 2006.

(2) Eastern United States background (95th percentile) from Shacklette and Boerngen 1984.

Other Notes

* A duplicate sample was analyzed at this location. The highest of the two results are listed here for each parameter.

Key:

-- =	Sample not analyzed for this parameter.
J =	Estimated value.
mg/kg =	Milligram per kilogram.
NA =	Not available.
PAH =	Polynuclear aromatic hydrocarbon.
PCB =	Polychlorinated biphenyls.
SVOC =	Semivolatile organic compound.
U =	Parameter not detected (practical quantitation limit listed).
UJ =	Parameter not detected (practical quantitation limit listed)/Estimated.
120 J	Analytical result exceeds SCO A (commercial use) and SCO listed on Column B (unrestricted use) (Column A SCOs are higher than the corresponding Column B SCOs; therefore if the result exceeds the Column A SCO it also exceeds the Column B SCO).
120 J	Analytical result exceeds Screening SCO listed on Column B (unrestricted use).

Table 5-6a Summary of Positive Analytical Results for Subsurface Soil Samples from the Upson Park Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B		Sample ID: / Depth: / Date:	18MC-MW14-Z1 12-14 ft 06/19/07	18MC-MW15-Z1 10-12 ft 06/12/07	18MC-MW16-Z1 8-10 ft 06/12/07	18MC-MW17-Z1 16-18 ft 06/05/07	18MC-SB11-Z1 3-4 ft 06/25/07	18MC-SB12-Z1 6-6.8 ft 04/26/07	18MC-SB12-Z2 8.5-11.6 ft 04/26/07	18MC-SB13-Z1 0.5-2 ft 04/26/07	18MC-SB13-Z2 4-6 ft 04/26/07	18MC-SB14-Z1 8-10.2 ft 04/26/07	18MC-SB14-Z2 10.2-11.5 ft 04/26/07
SVOCs by Method SW8270C (mg/Kg)															
1,4-Dioxane	130	0.1 b			0.42 U	0.44 U	1.8 U	0.38 U	--	--	--	--	--	--	--
2,4-Dichlorophenol	NA	NA			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
2-Chlorophenol	NA	NA			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
2-Methylnaphthalene	NA	NA			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
2-Methylphenol	500 b	0.33 bf			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
4-Methylphenol	500 b	0.33 bf			0.42 U	0.44 U	1.8 U	0.38 U	--	--	--	--	--	--	--
Acenaphthene	500 b	20			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Acenaphthylene	500 b	100 af			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Acetophenone	NA	NA			0.21 U	0.22 U	0.95 U	0.19 UJ	--	--	--	--	--	--	--
Anthracene	500 b	100 af			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Benzaldehyde	NA	NA			0.21 U	0.22 U	0.95 U	0.19 UJ	--	--	--	--	--	--	--
Benzo(a)anthracene	5.6	1 cf			0.21 U	0.016 J	0.95 U	0.19 U	--	--	--	--	--	--	--
Benzo(a)pyrene	1f	1 c			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Benzo(b)fluoranthene	5.6	1 cf			0.21 U	0.017 J	0.95 U	0.19 U	--	--	--	--	--	--	--
Benzo(ghi)perylene	500 b	100 f			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Benzo(k)fluoranthene	56	0.8 cf			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Biphenyl	NA	NA			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Bis(2-ethylhexyl) phthalate	NA	NA			0.086 J	0.79	0.95 U	0.19 U	--	--	--	--	--	--	--
Carbazole	NA	NA			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Chrysene	56	1 cf			0.21 U	0.0090 J	0.95 U	0.19 U	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	0.56	0.33 bf			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Dibenzofuran	350	7 f			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Diethyl phthalate	NA	NA			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Di-n-octyl phthalate	NA	NA			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Fluoranthene	500 b	100 af			0.21 U	0.018 J	0.050 J	0.19 U	--	--	--	--	--	--	--
Fluorene	500 b	30			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	5.6	0.5 cf			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Isophorone	NA	NA			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Naphthalene	500 b	12 f			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Phenanthrene	500 b	100 f			0.21 U	0.012 J	0.95 U	0.19 U	--	--	--	--	--	--	--
Phenol	500 b	0.33 b			0.21 U	0.22 U	0.95 U	0.19 U	--	--	--	--	--	--	--
Pyrene	500 b	100 f			0.21 U	0.015 J	0.038 J	0.19 U	--	--	--	--	--	--	--
TOTAL PAHs	NA	NA			ND	0.087	0.088	ND	--	--	--	--	--	--	--
PCBs by Method SW8082 (mg/Kg)															
Aroclor 1248	1.0	0.10			0.021 U	0.010 J	0.019 U	0.019 U	0.012 J	0.019 U	0.021 U	0.020 U	0.020 U	0.024 U	0.11 U
Aroclor 1254	1.0	0.10			0.021 U	0.022 U	0.019 U	0.019 U	0.023 U	0.019 U	0.021 U	0.020 U	0.020 U	0.090	0.11 U
Aroclor 1260	1.0	0.10			0.021 U	0.022 U	0.019 U	0.019 U	0.0067 J	0.019 U	0.021 U	0.020 U	0.020 U	0.024 U	0.11 U
TOTAL PCBs	1.0	0.10			ND	0.01	ND	ND	0.0187	ND	ND	ND	ND	0.09	ND

Key at the end of Table 5-5 series.

Table 5-6a Summary of Positive Analytical Results for Subsurface Soil Samples from the Upson Park Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-MW14-Z1 12-14 ft 06/19/07	18MC-MW15-Z1 10-12 ft 06/12/07	18MC-MW16-Z1 8-10 ft 06/12/07	18MC-MW17-Z1 16-18 ft 06/05/07	18MC-SB11-Z1 3-4 ft 06/25/07	18MC-SB12-Z1 6-6.8 ft 04/26/07	18MC-SB12-Z2 8.5-11.6 ft 04/26/07	18MC-SB13-Z1 0.5-2 ft 04/26/07	18MC-SB13-Z2 4-6 ft 04/26/07	18MC-SB14-Z1 8-10.2 ft 04/26/07	18MC-SB14-Z2 10.2-11.5 ft 04/26/07
Metals by Method SW601B (mg/Kg)														
Aluminum - Total	15800 (1)	15800 (1)		7370 J	3770 J	4080 J	4290 J	6350	5600 J	8340 J	1160 J	9090 J	6880 J	1410 J
Antimony - Total	2.17 (2)	2.17 (2)		0.71 U	0.72 UJ	0.63 UJ	0.59 U	1.9 J	0.65 J	0.70 UJ	1.1 J	0.66 UJ	**23.4 J**	**795 J**
Arsenic - Total	16 f	13 c		**44.6**	7.8 J	3.3 J	5.0	**14.3**	7.4	3.1	**25.4**	8.3	**39.4**	**32.6**
Barium - Total	400	350 c		90.9	59.2 J	31.6 J	18.6	124	117 J	51.9 J	213 J	54.6 J	**3260 J**	**1640 J**
Beryllium - Total	590	7.2		0.68	0.46 J	0.36 J	0.47	0.70	1.0	0.33	0.27	0.42	1.1	0.40 U
Cadmium - Total	9.3	2.5 c		0.05 U	0.05 UJ	0.08 J	0.15 J	0.96 J	0.15 J	0.11 J	0.08 J	0.11 J	**6.0**	**6.7**
Calcium - Total	9190 (1)	9190 (1)		3570	**86100 J**	**115000 J**	**160000**	**123000**	**47900**	**18900**	5320	3180	**9680**	5400
Chromium - Total	400 h	1 be		**7.9 J**	**7.9 J**	**6.1 J**	**6.5 J**	**19.2**	**6.1 J**	**10.6 J**	**5.7 J**	**10.9 J**	**61.9 J**	**103 J**
Cobalt - Total	13.3 (1)	13.3 (1)		**59.0**	7.0 J	3.9 J	4.7	6.2	4.2 J	6.5 J	2.6 J	7.5 J	**18.5 J**	**23.2 J**
Copper - Total	270	50		**84.2**	14.2 J	11.2 J	7.7 J	**82.3**	30.8 J	17.4 J	22.2 J	33.8 J	**3280 J**	**20100 J**
Iron - Total	25600 (1)	25600 (1)		18600 J	19600 J	8260 J	9230	21700 J	13700 J	12800 J	13500 J	17900 J	**105000 J**	**217000 J**
Lead - Total	1000	63 c		17.4 J	26.1 J	7.9 J	14.6	**274**	**64.2 J**	8.9 J	19.8 J	15.9 J	**946 J**	**77300 J**
Magnesium - Total	5130 (1)	5130 (1)		2380	**33700 J**	**6460 J**	**27100**	**43100**	**7810 J**	**5460 J**	2160 J	2920 J	676 J	470 J
Manganese - Total	10000 d	1600 c		**2230 J**	**2290 J**	511 J	409	579	347 J	531 J	56.6 J	1000 J	384 J	1050 J
Mercury - Total	2.8 j	0.18 c		0.023	0.007 U	0.006 U	0.008 J	**0.254**	0.050	0.009 J	0.006 J	0.019 J	**0.226**	**5.7**
Nickel - Total	310	30		25.5	9.3 J	8.0 J	9.8	21.5	13.6 J	13.7 J	8.3 J	15.3 J	**81.5 J**	**1090 J**
Potassium - Total	1890 (1)	1890 (1)		**2070**	1490 J	1450 J	**1970**	1340	775 J	1130 J	302 J	1540 J	775 J	111 U
Selenium - Total	1500	3.9 c		0.77 U	0.79 U	0.68 U	0.65 U	1.0 J	0.68 U	0.77 U	0.85 J	0.72 U	3.1 J	**8.2 J**
Silver - Total	1500	2		0.83	0.20 U	0.17 U	0.16 U	0.36 J	0.17 U	0.20 U	0.18 U	0.18 U	**41.7**	**14.6**
Sodium - Total	211 (1)	211 (1)		**1430**	**266**	**265**	189	**272**	**418**	**493**	37.0 U	168 J	**440**	**530 J**
Thallium - Total	16.3 (2)	16.3 (2)		0.86 U	0.88 UJ	0.77 UJ	0.72 U	0.89 U	0.76 U	0.86 U	0.79 U	0.81 U	1.0 J	8.7 U
Vanadium - Total	31 (1)	31 (1)		9.0	15.0 J	7.0 J	6.9	17.8	11.7 J	12.7 J	7.3 J	17.3 J	**37.3 J**	23.1 J
Zinc - Total	10000 d	109 c		63.3 J	20.3 J	15.8 J	27.5 J	**247**	44.5 J	31.9 J	22.4 J	37.6 J	**1250 J**	**5930 J**

Key at the end of Table 5-5 series.

Table 5-6b Summary of Positive Analytical Results for Subsurface Soil Samples from the White Transportation Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-MW10-Z1 10-11 ft 06/20/07	18MC-MW10-Z2 12-13 ft 06/20/07	18MC-MW11-Z1 8-10 ft 06/08/07	18MC-MW12-Z1 10-14 ft 06/06/07	18MC-MW12-Z2 12-16 ft 06/07/07	18MC-MW13-Z1 6-10 ft 06/07/07	18MC-SB06-Z1 1.5-2 ft 04/26/07	18MC-SB06-Z2 14-14.5 ft 04/26/07	18MC-SB07-Z1 1-1.7 ft 04/26/07
SVOCs by Method SW8270C (mg/Kg)												
1,4-Dioxane	130	0.1 b		0.48 U	0.55 U	**2.8**	0.39 U	**0.99**	**2.2**	--	--	--
2,4-Dichlorophenol	NA	NA		0.25 U	0.28 U	0.081 J	0.20 U	0.011 J	0.11 J	--	--	--
2-Chlorophenol	NA	NA		0.25 U	0.28 U	0.019 J	0.20 U	0.018 J	0.025 J	--	--	--
2-Methylnaphthalene	NA	NA		0.011 J	0.28 U	0.095 J	0.20 U	0.023 J	0.030 J	--	--	--
2-Methylphenol	500 b	0.33 bf		0.25 U	0.28 U	0.13 J	0.20 U	0.053 J	0.047 J	--	--	--
4-Methylphenol	500 b	0.33 bf		0.48 U	0.55 U	**1.0**	0.39 U	0.23 J	**0.56**	--	--	--
Acenaphthene	500 b	20		0.25 U	0.28 U	0.011 J	0.20 U	0.20 U	0.23 U	--	--	--
Acenaphthylene	500 b	100 af		0.016 J	0.28 U	0.21 U	0.20 U	0.20 U	0.23 U	--	--	--
Acetophenone	NA	NA		0.25 U	0.28 U	0.19 J	0.20 U	0.047 J	0.10 J	--	--	--
Anthracene	500 b	100 af		0.021 J	0.036 J	0.022 J	0.20 U	0.20 U	0.23 U	--	--	--
Benzaldehyde	NA	NA		0.25 U	0.28 U	0.22 J	0.20 U	0.090 J	0.072 J	--	--	--
Benzo(a)anthracene	5.6	1 cf		0.076 J	0.11 J	0.049 J	0.20 U	0.20 U	0.014 J	--	--	--
Benzo(a)pyrene	1f	1 c		0.080 J	0.078 J	0.039 J	0.20 U	0.20 U	0.23 U	--	--	--
Benzo(b)fluoranthene	5.6	1 cf		0.13 J	0.082 J	0.044 J	0.20 U	0.20 U	0.23 U	--	--	--
Benzo(ghi)perylene	500 b	100 f		0.25 U	0.28 U	0.023 J	0.20 U	0.20 U	0.23 U	--	--	--
Benzo(k)fluoranthene	56	0.8 cf		0.25 U	0.037 J	0.023 J	0.20 U	0.20 U	0.23 U	--	--	--
Biphenyl	NA	NA		0.25 U	0.28 U	0.033 J	0.20 U	0.090 J	0.23 U	--	--	--
Bis(2-ethylhexyl) phthalate	NA	NA		0.37	0.16 J	3.8	0.20 U	2.3	3.0	--	--	--
Carbazole	NA	NA		0.25 U	0.28 U	0.21 U	0.20 U	0.20 U	0.23 U	--	--	--
Chrysene	56	1 cf		0.086 J	0.092 J	0.052 J	0.20 U	0.20 U	0.23 U	--	--	--
Dibenzo(a,h)anthracene	0.56	0.33 bf		0.020 J	0.013 J	0.0090 J	0.20 U	0.20 U	0.23 U	--	--	--
Dibenzofuran	350	7 f		0.25 U	0.28 U	0.21 U	0.20 U	0.20 U	0.23 U	--	--	--
Diethyl phthalate	NA	NA		0.25 U	0.28 U	0.21 U	0.20 U	0.20 U	0.013 J	--	--	--
Di-n-octyl phthalate	NA	NA		0.25 U	0.28 U	0.21 U	0.20 U	0.24 J	0.23 U	--	--	--
Fluoranthene	500 b	100 af		0.13 J	0.17 J	0.10 J	0.20 U	0.014 J	0.022 J	--	--	--
Fluorene	500 b	30		0.011 J	0.019 J	0.018 J	0.20 U	0.20 U	0.010 J	--	--	--
Indeno(1,2,3-cd)pyrene	5.6	0.5 cf		0.064 J	0.042 J	0.018 J	0.20 U	0.20 U	0.23 U	--	--	--
Isophorone	NA	NA		0.25 U	0.28 U	0.085 J	0.20 U	0.025 J	0.086 J	--	--	--
Naphthalene	500 b	12 f		0.011 J	0.28 U	0.075 J	0.20 U	0.20 U	0.021 J	--	--	--
Phenanthrene	500 b	100 f		0.081 J	0.095 J	0.16 J	0.0090 J	0.034 J	0.054 J	--	--	--
Phenol	500 b	0.33 b		0.25 U	0.28 U	**10**	0.20 U	**3.4**	**9.4**	--	--	--
Pyrene	500 b	100 f		0.12 J	0.16 J	0.11 J	0.20 U	0.014 J	0.022 J	--	--	--
TOTAL PAHs	NA	NA		0.845	0.845	0.75	0.009	0.062	0.14			
PCBs by Method SW8082 (mg/Kg)												
Aroclor 1248	1.0	0.10		0.025 U	0.027 U	0.020 U	0.020 U	0.020 U	0.022 U	0.018 U	0.026 U	0.019 U
Aroclor 1254	1.0	0.10		0.025 U	0.027 U	0.020 U	0.020 U	0.020 U	0.022 U	0.018 U	0.026 U	0.019 U
Aroclor 1260	1.0	0.10		0.025 U	0.027 U	0.020 U	0.020 U	0.017 J	0.022 U	0.018 U	0.026 U	0.019 U
TOTAL PCBs	1.0	0.10		ND	ND	ND	ND	0.017	ND	ND	ND	ND

Key at the end of Table 5-5 series.

Table 5-6b Summary of Positive Analytical Results for Subsurface Soil Samples from the White Transportation Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B		Sample ID: 18MC-SB07-Z2 Depth: 10-10.5 ft Date: 04/26/07	Sample ID: 18MC-SB08-Z1 Depth: 0.5-1.2 ft Date: 04/26/07	Sample ID: 18MC-SB08-Z2 Depth: 6.5-7.2 ft Date: 04/26/07	Sample ID: 18MC-SB09-Z1 Depth: 0.5-1.5 ft Date: 04/26/07	Sample ID: 18MC-SB09-Z2 Depth: 3-3.5 ft Date: 04/26/07	Sample ID: 18MC-SB10-Z1* Depth: 1.5-2 ft Date: 04/26/07	Sample ID: 18MC-SB10-Z2 Depth: 10.5-11.5 ft Date: 04/26/07
SVOCs by Method SW8270C (mg/Kg)										
1,4-Dioxane	130	0.1 b		--	--	--	--	--	--	--
2,4-Dichlorophenol	NA	NA		--	--	--	--	--	--	--
2-Chlorophenol	NA	NA		--	--	--	--	--	--	--
2-Methylnaphthalene	NA	NA		--	--	--	--	--	--	--
2-Methylphenol	500 b	0.33 bf		--	--	--	--	--	--	--
4-Methylphenol	500 b	0.33 bf		--	--	--	--	--	--	--
Acenaphthene	500 b	20		--	--	--	--	--	--	--
Acenaphthylene	500 b	100 af		--	--	--	--	--	--	--
Acetophenone	NA	NA		--	--	--	--	--	--	--
Anthracene	500 b	100 af		--	--	--	--	--	--	--
Benzaldehyde	NA	NA		--	--	--	--	--	--	--
Benzo(a)anthracene	5.6	1 cf		--	--	--	--	--	--	--
Benzo(a)pyrene	1f	1 c		--	--	--	--	--	--	--
Benzo(b)fluoranthene	5.6	1 cf		--	--	--	--	--	--	--
Benzo(ghi)perylene	500 b	100 f		--	--	--	--	--	--	--
Benzo(k)fluoranthene	56	0.8 cf		--	--	--	--	--	--	--
Biphenyl	NA	NA		--	--	--	--	--	--	--
Bis(2-ethylhexyl) phthalate	NA	NA		--	--	--	--	--	--	--
Carbazole	NA	NA		--	--	--	--	--	--	--
Chrysene	56	1 cf		--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	0.56	0.33 bf		--	--	--	--	--	--	--
Dibenzofuran	350	7 f		--	--	--	--	--	--	--
Diethyl phthalate	NA	NA		--	--	--	--	--	--	--
Di-n-octyl phthalate	NA	NA		--	--	--	--	--	--	--
Fluoranthene	500 b	100 af		--	--	--	--	--	--	--
Fluorene	500 b	30		--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	5.6	0.5 cf		--	--	--	--	--	--	--
Isophorone	NA	NA		--	--	--	--	--	--	--
Naphthalene	500 b	12 f		--	--	--	--	--	--	--
Phenanthrene	500 b	100 f		--	--	--	--	--	--	--
Phenol	500 b	0.33 b		--	--	--	--	--	--	--
Pyrene	500 b	100 f		--	--	--	--	--	--	--
TOTAL PAHs	NA	NA								
PCBs by Method SW8082 (mg/Kg)										
Aroclor 1248	1.0	0.10		0.018 U	0.019 U	0.019 U	0.019 U	0.022 U	0.018 U	0.022 U
Aroclor 1254	1.0	0.10		0.018 U	0.039	0.019 U	0.019 U	0.022 U	0.018 U	0.022 U
Aroclor 1260	1.0	0.10		0.018 U	0.0087 J	0.019 U	**0.48**	0.022 U	0.018 U	0.022 U
TOTAL PCBs	1.0	0.10		ND	0.048	ND	**0.48**	ND	ND	ND

Key at the end of Table 5-5 series.

Table 5-6b Summary of Positive Analytical Results for Subsurface Soil Samples from the White Transportation Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-MW10-Z1 10-11 ft 06/20/07	18MC-MW10-Z2 12-13 ft 06/20/07	18MC-MW11-Z1 8-10 ft 06/08/07	18MC-MW12-Z1 10-14 ft 06/06/07	18MC-MW12-Z2 12-16 ft 06/07/07	18MC-MW13-Z1 6-10 ft 06/07/07	18MC-SB06-Z1 1.5-2 ft 04/26/07	18MC-SB06-Z2 14-14.5 ft 04/26/07	18MC-SB07-Z1 1-1.7 ft 04/26/07
Metals by Method SW601B (mg/Kg)												
Aluminum - Total	15800 (1)	15800 (1)		7340 J	10700 J	5240 J	4440 J	7560 J	7390 J	4900 J	9320 J	3910 J
Antimony - Total	2.17 (2)	2.17 (2)		1.3 J	0.93 U	0 U	0.66 U	0 U	0.85 J	0.63 UJ	0.85 UJ	**4.1 J**
Arsenic - Total	16 f	13 c		6.5	4.7	3.6 J	4.6	8.1 J	7.2 J	3.9	3.7	9.3
Barium - Total	400	350 c		65.2	88.6	48 J	31.9	77 J	73.5 J	86.4 J	87.8 J	69.8 J
Beryllium - Total	590	7.2		0.48	0.56	0.38	0.28	0.5	0.52	0.30	0.41	0.47
Cadmium - Total	9.3	2.5 c		0.14 J	0.09 J	0.13 J	0.25	0.28	0.57	0.17 J	0.27 J	1.0
Calcium - Total	9190 (1)	9190 (1)		**66100**	**50900**	**111000 J**	**32400**	**46100 J**	**67200 J**	2520	**40700**	**22500**
Chromium - Total	400 h	1 be		**14.3 J**	**15.8 J**	**10 J**	**8.6 J**	**14.1 J**	**19.8 J**	**5.2 J**	**14.1 J**	**7.0 J**
Cobalt - Total	13.3 (1)	13.3 (1)		7.2	8.2	4.3 J	4.3	7.2 J	7.7 J	2.2 J	7.5 J	4.6 J
Copper - Total	270	50		41.7	26.0	15.7 J	**68.4 J**	25.7 J	**97.5 J**	10.6 J	26.0 J	40.4 J
Iron - Total	25600 (1)	25600 (1)		16600 J	17600 J	10600 J	13400	18500 J	22500 J	12400 J	17300 J	11200 J
Lead - Total	1000	63 c		**113 J**	**66.1 J**	13.1	6.9	**96.3**	**836**	18.9 J	59.2 J	**312 J**
Magnesium - Total	5130 (1)	5130 (1)		**19500**	**14700**	**9910 J**	2380	4810 J	**10100 J**	374 J	**10600 J**	4320 J
Manganese - Total	10000 d	1600 c		408 J	372 J	633 J	670	**1750 J**	746 J	37.0 J	329 J	245 J
Mercury - Total	2.8 j	0.18 c		**0.262**	**0.304**	0.047 U	0.005 U	0.075	0.13	0.014 J	**0.318**	**0.194**
Nickel - Total	310	30		**41.8**	18.7	9.5 J	9.2	14.4 J	22.3 J	6.1 J	17.5 J	10.5 J
Potassium - Total	1890 (1)	1890 (1)		1500	1500	1590 J	1220	**2010 J**	1380 J	299 J	1220 J	769 J
Selenium - Total	1500	3.9 c		0.88 U	1.0 U	0.69 U	0.72 U	0.65 U	0.75 U	0.69 U	0.93 U	0.67 U
Silver - Total	1500	2		0.29 J	0.26 U	0.22 J	0.18 U	0.19 J	0.35 J	0.17 U	0.24 U	0.17 U
Sodium - Total	211 (1)	211 (1)		**225**	197 J	145 J	56.0 J	95.5 J	146 J	**282**	**213 J**	98.6 J
Thallium - Total	16.3 (2)	16.3 (2)		0.98 U	1.1 U	0.77 U	0.81 U	0.73 U	0.84 U	0.77 U	1.0 U	0.75 U
Vanadium - Total	31 (1)	31 (1)		14.4	19.8	9.2 J	10.2	14.8 J	16.5 J	8.0 J	16.5 J	12.4 J
Zinc - Total	10000 d	109 c		**142 J**	86.8 J	28.4 J	25.4 J	48.5 J	**290 J**	9.0 J	87.8 J	**235 J**

Key at the end of Table 5-5 series.

Table 5-6b Summary of Positive Analytical Results for Subsurface Soil Samples from the White Transportation Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B		Sample ID: 18MC-SB07-Z2 Depth: 10-10.5 ft Date: 04/26/07	18MC-SB08-Z1 0.5-1.2 ft 04/26/07	18MC-SB08-Z2 6.5-7.2 ft 04/26/07	18MC-SB09-Z1 0.5-1.5 ft 04/26/07	18MC-SB09-Z2 3-3.5 ft 04/26/07	18MC-SB10-Z1* 1.5-2 ft 04/26/07	18MC-SB10-Z2 10.5-11.5 ft 04/26/07
Metals by Method SW601B (mg/Kg)										
Aluminum - Total	15800 (1)	15800 (1)		5030 J	2970 J	10000 J	2200 J	4510 J	3950 J	5220 J
Antimony - Total	2.17 (2)	2.17 (2)		0.59 UJ	0.79 J	0.62 UJ	1.2 J	1.2 J	0.64 J	0.75 UJ
Arsenic - Total	16 f	13 c		1.1 J	10.2	11.5	12.7	8.4	12.6	6.7
Barium - Total	400	350 c		21.9 J	67.5 J	87.1 J	160 J	121 J	52.1 J	56.4 J
Beryllium - Total	590	7.2		0.25	0.47	0.57	0.44	0.31	1.4 J	0.42
Cadmium - Total	9.3	2.5 c		0.23	0.30	0.14 J	1.0	0.23 J	0.05 J	0.28
Calcium - Total	9190 (1)	9190 (1)		**42200**	3100	2020	1900	**140000**	2340	**242000**
Chromium - Total	400 h	1 be		**7.7 J**	**7.7 J**	**12.2 J**	**15.4 J**	**7.2 J**	**8.1 J**	**8.7 J**
Cobalt - Total	13.3 (1)	13.3 (1)		4.1 J	4.5 J	9.9 J	6.7 J	8.1 J	3.8 J	7.2 J
Copper - Total	270	50		4.2 J	26.2 J	21.7 J	37.8 J	22.3 J	15.2 J	**63.6 J**
Iron - Total	25600 (1)	25600 (1)		11000 J	14300 J	23200 J	25500 J	17200 J	14900 J	12300 J
Lead - Total	1000	63 c		1.7 J	31.1 J	23.0 J	60.3 J	**91.6 J**	3.1 J	62.3 J
Magnesium - Total	5130 (1)	5130 (1)		2550 J	411 J	2250 J	506 J	**16400 J**	229 J	**9350 J**
Manganese - Total	10000 d	1600 c		920 J	64.2 J	1550 J	121 J	**1640 J**	21.3 J	630 J
Mercury - Total	2.8 j	0.18 c		0.005 U	0.033	0.021	0.028	0.172	0.011 J	**0.486**
Nickel - Total	310	30		12.1 J	15.3 J	14.7 J	25.5 J	14.9 J	10.5 J	11.0 J
Potassium - Total	1890 (1)	1890 (1)		1500 J	318 J	1340 J	232 J	1550 J	226 J	1070 J
Selenium - Total	1500	3.9 c		0.65 U	0.68 U	0.67 U	0.69 U	0.79 U	0.68 U	0.82 U
Silver - Total	1500	2		0.16 U	0.17 U	0.17 U	0.17 U	0.20 U	0.17 U	0.36 J
Sodium - Total	211 (1)	211 (1)		45.3 J	154 J	35.3 U	89.8 J	86.3 J	129 J	146 J
Thallium - Total	16.3 (2)	16.3 (2)		0.73 U	0.76 U	0.88 J	0.77 U	0.89 U	0.76 U	0.92 U
Vanadium - Total	31 (1)	31 (1)		8.9 J	9.7 J	17.2 J	9.6 J	11.6 J	17.2 J	10.1 J
Zinc - Total	10000 d	109 c		20.4 J	54.1 J	44.0 J	**144 J**	56.4 J	5.2 J	**116 J**

Key at the end of Table 5-5 series.

Table 5-6c Summary of Positive Analytical Results for Subsurface Soil Samples from the United Paperboard Company Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-MW01-Z1 3-4 ft 06/21/07	18MC-MW01-Z2 12-14 ft 06/21/07	18MC-MW02-Z1 6-10 ft 06/12/07	18MC-MW02-Z2 20-22 ft 06/25/07	18MC-MW04-Z1 16-18 ft 06/22/07	18MC-MW04-Z2 24-26 ft 06/22/07	18MC-MW05-Z1 4-6 ft 06/15/07	18MC-MW05-Z2 12-14 ft 06/15/07	18MC-MW06-Z1 8-10 ft 06/20/07	18MC-MW06-Z2* 18-22 ft 06/20/07
SVOCs by Method SW8270C (mg/Kg)													
1,4-Dioxane	130	0.1 b		0.45 U	0.49 U	0.41 U	0.38 U	0.39 U	0.39 U	0.44 U	0.40 U	0.42 U	0.38 U
2,4-Dichlorophenol	NA	NA		0.23 U	0.25 U	0.21 U	0.20 U	0.20 U	0.20 U	0.22 U	0.21 U	0.22 U	0.19 U
2-Chlorophenol	NA	NA		0.23 U	0.25 U	0.21 U	0.20 U	0.20 U	0.20 U	0.22 U	0.21 U	0.22 U	0.19 U
2-Methylnaphthalene	NA	NA		0.23 U	0.024 J	0.21 U	0.20 U	0.20 U	0.20 U	0.068 J	0.21 U	0.22 U	0.19 U
2-Methylphenol	500 b	0.33 bf		0.23 U	0.25 U	0.21 U	0.20 U	0.20 U	0.20 U	0.22 U	0.21 U	0.22 U	0.19 U
4-Methylphenol	500 b	0.33 bf		0.45 U	0.020 J	0.41 U	0.38 U	0.39 U	0.39 U	0.44 U	0.40 U	0.42 U	0.38 U
Acenaphthene	500 b	20		0.23 U	0.036 J	0.21 U	0.20 U	0.20 U	0.20 U	0.066 J	0.21 U	0.22 U	0.19 U
Acenaphthylene	500 b	100 af		0.23 U	0.078 J	0.21 U	0.20 U	0.20 U	0.20 U	0.52	0.034 J	0.22 U	0.19 U
Acetophenone	NA	NA		0.23 UJ	0.25 UJ	0.21 U	0.20 UJ	0.20 UJ	0.20 UJ	0.22 U	0.21 U	0.22 U	0.19 U
Anthracene	500 b	100 af		0.23 U	0.35	0.21 U	0.20 U	0.20 U	0.20 U	0.34	0.051 J	0.22 U	0.19 U
Benzaldehyde	NA	NA		0.23 U	0.25 U	0.21 UJ	0.20 U	0.20 U	0.20 U	0.034 J	0.21 U	0.22 U	0.19 U
Benzo(a)anthracene	5.6	1 cf		0.23 U	0.66	0.21 U	0.20 U	0.20 U	0.010 J	**2.3**	0.18 J	0.020 J	0.19 U
Benzo(a)pyrene	1f	1 c		0.23 U	0.54	0.21 U	0.20 U	0.20 U	0.20 U	**2.1**	0.15 J	0.013 J	0.19 U
Benzo(b)fluoranthene	5.6	1 cf		0.23 U	0.86 J	0.011 J	0.20 U	0.20 U	0.0090 J	**3.4**	0.24	0.020 J	0.19 U
Benzo(ghi)perylene	500 b	100 f		0.23 U	0.17 J	0.21 U	0.20 U	0.20 U	0.20 U	1.1	0.21 U	0.22 U	0.19 U
Benzo(k)fluoranthene	56	0.8 cf		0.23 U	0.25 U	0.21 U	0.20 U	0.20 U	0.20 U	**1.4**	0.090 J	0.22 U	0.19 U
Biphenyl	NA	NA		0.23 UJ	0.25 UJ	0.21 U	0.20 UJ	0.20 UJ	0.20 UJ	0.015 J	0.21 U	0.22 U	0.19 U
Bis(2-ethylhexyl) phthalate	NA	NA		0.23 U	0.25 U	0.21 U	1.3	0.20 U	0.20 U	0.080 J	0.11 J	0.22 U	0.44
Carbazole	NA	NA		0.23 U	0.037 J	0.21 U	0.20 U	0.20 U	0.20 U	0.081 J	0.0080 J	0.22 U	0.19 U
Chrysene	56	1 cf		0.23 U	0.51	0.21 U	0.20 U	0.20 U	0.20 U	**2.2**	0.15 J	0.011 J	0.19 U
Dibenzo(a,h)anthracene	0.56	0.33 bf		0.23 U	0.060 J	0.21 U	0.20 U	0.20 U	0.20 U	**0.34**	0.023 J	0.22 U	0.19 U
Dibenzofuran	350	7 f		0.23 U	0.042 J	0.21 U	0.20 U	0.20 U	0.20 U	0.062 J	0.21 U	0.22 U	0.19 U
Diethyl phthalate	NA	NA		0.23 U	0.25 U	0.21 U	0.20 U	0.20 U	0.20 U	0.22 U	0.21 U	0.22 U	0.19 U
Di-n-octyl phthalate	NA	NA		0.23 U	0.25 U	0.21 U	0.20 U	0.20 U	0.20 U	0.22 U	0.21 U	0.22 U	0.19 U
Fluoranthene	500 b	100 af		0.23 U	1.2	0.013 J	0.20 U	0.20 U	0.018 J	3.7	0.36	0.022 J	0.19 U
Fluorene	500 b	30		0.23 U	0.11 J	0.21 U	0.20 U	0.20 U	0.20 U	0.090 J	0.21 U	0.22 U	0.19 U
Indeno(1,2,3-cd)pyrene	5.6	0.5 cf		0.23 U	0.19 J	0.21 U	0.20 U	0.20 U	0.20 U	**1.1**	0.072 J	0.010 J	0.19 U
Isophorone	NA	NA		0.23 U	0.25 U	0.21 U	0.20 U	0.20 U	0.20 U	0.22 U	0.21 U	0.22 U	0.19 U
Naphthalene	500 b	12 f		0.23 U	0.030 J	0.21 U	0.20 U	0.20 U	0.20 U	0.16 J	0.21 U	0.22 U	0.19 U
Phenanthrene	500 b	100 f		0.23 U	0.82	0.011 J	0.20 U	0.20 U	0.012 J	0.93	0.16 J	0.010 J	0.19 U
Phenol	500 b	0.33 b		0.23 U	0.25 U	0.21 U	0.20 U	0.20 U	0.20 U	0.22 U	0.21 U	0.22 U	0.19 U
Pyrene	500 b	100 f		0.23 U	0.78	0.21 U	0.20 U	0.20 U	0.010 J	3.2	0.24	0.021 J	0.19 U
TOTAL PAHs	NA	NA		ND	6.4	0.035	ND	ND	0.059	23	1.8	0.13	ND
PCBs by Method SW8082 (mg/Kg)													
Aroclor 1248	1.0	0.10		0.023 U	0.024 U	0.021 U	0.020 U	0.020 U	0.020 U	0.022 U	0.020 U	0.022 U	0.019 U
Aroclor 1254	1.0	0.10		0.023 U	0.024 U	0.021 U	0.020 U	0.020 U	0.020 U	0.022 U	0.020 U	0.022 U	0.019 U
Aroclor 1260	1.0	0.10		0.023 U	0.024 U	0.021 U	0.020 U	0.020 U	0.020 U	0.022 U	0.020 U	0.022 U	0.019 U
TOTAL PCBs	1.0	0.10		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals by Method SW601B (mg/Kg)													

Key at the end of Table 5-5 series.

Table 5-6c Summary of Positive Analytical Results for Subsurface Soil Samples from the United Paperboard Company Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-MW08-Z1 6-10 ft 06/11/07	18MC-MW08-Z2* 10-14 ft 06/11/07	18MC-MW09-Z1 8-9 ft 06/18/07	18MC-SB01-Z1* 6-10 ft 06/08/07	18MC-SB01-Z2 16-18 ft 06/08/07	18MC-SB02-Z1 6-8 ft 06/08/07	18MC-SB02-Z2 12-16 ft 06/08/07	18MC-SB03-Z1 2.4-2.9 ft 04/27/07	18MC-SB03-Z2 8.0-8.6 ft 04/27/07	18MC-SB04-Z1 2-2.5 ft 04/27/07
SVOCs by Method SW8270C (mg/Kg)													
1,4-Dioxane	130	0.1 b		4.7 UJ	2.7 UJ	0.39 U	--	--	--	--	--	--	--
2,4-Dichlorophenol	NA	NA		2.4 UJ	1.4 UJ	0.20 U	--	--	--	--	--	--	--
2-Chlorophenol	NA	NA		2.4 UJ	1.4 UJ	0.20 U	--	--	--	--	--	--	--
2-Methylnaphthalene	NA	NA		2.4 UJ	1.4 UJ	0.20 U	--	--	--	--	--	--	--
2-Methylphenol	500 b	0.33 bf		2.4 UJ	1.4 UJ	0.20 U	--	--	--	--	--	--	--
4-Methylphenol	500 b	0.33 bf		4.7 UJ	2.7 UJ	0.39 U	--	--	--	--	--	--	--
Acenaphthene	500 b	20		0.11 J	1.4 UJ	0.20 U	--	--	--	--	--	--	--
Acenaphthylene	500 b	100 af		2.4 UJ	1.4 UJ	0.014 J	--	--	--	--	--	--	--
Acetophenone	NA	NA		2.4 UJ	1.4 UJ	0.20 U	--	--	--	--	--	--	--
Anthracene	500 b	100 af		0.33 J	1.4 UJ	0.037 J	--	--	--	--	--	--	--
Benzaldehyde	NA	NA		2.4 UJ	1.4 UJ	0.20 U	--	--	--	--	--	--	--
Benzo(a)anthracene	5.6	1 cf		0.95 J	0.096 J	0.25	--	--	--	--	--	--	--
Benzo(a)pyrene	1f	1 c		0.75 J	0.058 J	0.22	--	--	--	--	--	--	--
Benzo(b)fluoranthene	5.6	1 cf		0.93 J	0.098 J	0.28	--	--	--	--	--	--	--
Benzo(ghi)perylene	500 b	100 f		0.46 J	1.4 UJ	0.22	--	--	--	--	--	--	--
Benzo(k)fluoranthene	56	0.8 cf		0.33 J	1.4 UJ	0.12 J	--	--	--	--	--	--	--
Biphenyl	NA	NA		2.4 UJ	1.4 UJ	0.20 U	--	--	--	--	--	--	--
Bis(2-ethylhexyl) phthalate	NA	NA		2.4 UJ	1.4 UJ	0.13 J	--	--	--	--	--	--	--
Carbazole	NA	NA		2.4 UJ	1.4 UJ	0.017 J	--	--	--	--	--	--	--
Chrysene	56	1 cf		0.94 J	0.069 J	0.22	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	0.56	0.33 bf		0.22 J	1.4 UJ	0.054 J	--	--	--	--	--	--	--
Dibenzofuran	350	7 f		2.4 UJ	1.4 UJ	0.20 U	--	--	--	--	--	--	--
Diethyl phthalate	NA	NA		2.4 UJ	1.4 UJ	0.20 U	--	--	--	--	--	--	--
Di-n-octyl phthalate	NA	NA		2.4 UJ	1.4 UJ	0.20 U	--	--	--	--	--	--	--
Fluoranthene	500 b	100 af		1.9 J	0.12 J	0.52	--	--	--	--	--	--	--
Fluorene	500 b	30		0.14 J	1.4 UJ	0.0090 J	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	5.6	0.5 cf		0.45 J	1.4 UJ	0.18 J	--	--	--	--	--	--	--
Isophorone	NA	NA		2.4 UJ	1.4 UJ	0.20 U	--	--	--	--	--	--	--
Naphthalene	500 b	12 f		0.11 J	1.4 UJ	0.20 U	--	--	--	--	--	--	--
Phenanthrene	500 b	100 f		1.4 J	0.090 J	0.20	--	--	--	--	--	--	--
Phenol	500 b	0.33 b		2.4 UJ	1.4 UJ	0.20 U	--	--	--	--	--	--	--
Pyrene	500 b	100 f		1.5 J	0.10 J	0.43	--	--	--	--	--	--	--
TOTAL PAHs	NA	NA		10	0.47	2.8							
PCBs by Method SW8082 (mg/Kg)													
Aroclor 1248	1.0	0.10		0.023 U	0.028 U	0.020 U	0.018 U	0.022 U	0.019 U	0.019 U	0.0047 J	0.064	0.013 J
Aroclor 1254	1.0	0.10		0.023 U	0.028 U	0.020 U	0.018 U	0.022 U	0.019 U	0.019 U	0.018 U	0.034	0.020 J
Aroclor 1260	1.0	0.10		0.023 U	0.028 U	0.020 U	0.018 U	0.022 U	0.019 U	0.019 U	0.018 U	0.019 U	0.026 U
TOTAL PCBs	1.0	0.10		ND	ND	ND	ND	ND	ND	ND	0.0047	0.098	**0.33**
Metals by Method SW601B (mg/Kg)													

Key at the end of Table 5-5 series.

Table 5-6c Summary of Positive Analytical Results for Subsurface Soil Samples from the United Paperboard Company Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-SB05-Z1 0.5-1.5 ft 04/27/07	18MC-SB05-Z2 5.5-6.5 ft 04/27/07	18MC-SB05-Z3 14-14.5 ft 04/27/07	18MC-SB15-Z1 1.5-2 ft 04/27/07	18MC-SB15-Z2* 10-11 ft 04/27/07
SVOCs by Method SW8270C (mg/Kg)								
1,4-Dioxane	130	0.1 b		--	--	--	--	--
2,4-Dichlorophenol	NA	NA		--	--	--	--	--
2-Chlorophenol	NA	NA		--	--	--	--	--
2-Methylnaphthalene	NA	NA		--	--	--	--	--
2-Methylphenol	500 b	0.33 bf		--	--	--	--	--
4-Methylphenol	500 b	0.33 bf		--	--	--	--	--
Acenaphthene	500 b	20		--	--	--	--	--
Acenaphthylene	500 b	100 af		--	--	--	--	--
Acetophenone	NA	NA		--	--	--	--	--
Anthracene	500 b	100 af		--	--	--	--	--
Benzaldehyde	NA	NA		--	--	--	--	--
Benzo(a)anthracene	5.6	1 cf		--	--	--	--	--
Benzo(a)pyrene	1f	1 c		--	--	--	--	--
Benzo(b)fluoranthene	5.6	1 cf		--	--	--	--	--
Benzo(ghi)perylene	500 b	100 f		--	--	--	--	--
Benzo(k)fluoranthene	56	0.8 cf		--	--	--	--	--
Biphenyl	NA	NA		--	--	--	--	--
Bis(2-ethylhexyl) phthalate	NA	NA		--	--	--	--	--
Carbazole	NA	NA		--	--	--	--	--
Chrysene	56	1 cf		--	--	--	--	--
Dibenzo(a,h)anthracene	0.56	0.33 bf		--	--	--	--	--
Dibenzofuran	350	7 f		--	--	--	--	--
Diethyl phthalate	NA	NA		--	--	--	--	--
Di-n-octyl phthalate	NA	NA		--	--	--	--	--
Fluoranthene	500 b	100 af		--	--	--	--	--
Fluorene	500 b	30		--	--	--	--	--
Indeno(1,2,3-cd)pyrene	5.6	0.5 cf		--	--	--	--	--
Isophorone	NA	NA		--	--	--	--	--
Naphthalene	500 b	12 f		--	--	--	--	--
Phenanthrene	500 b	100 f		--	--	--	--	--
Phenol	500 b	0.33 b		--	--	--	--	--
Pyrene	500 b	100 f		--	--	--	--	--
TOTAL PAHs	NA	NA						
PCBs by Method SW8082 (mg/Kg)								
Aroclor 1248	1.0	0.10		**0.80**	0.014 J	0.026 U	**550**	0.027
Aroclor 1254	1.0	0.10		0.099 U	0.023 U	0.026 U	93 U	0.026 U
Aroclor 1260	1.0	0.10		**0.17**	0.023 U	0.026 UJ	**76 J**	0.026 U
TOTAL PCBs	1.0	0.10		**0.97**	0.014	ND	**630**	0.027
Metals by Method SW601B (mg/Kg)								

Key at the end of Table 5-5 series.

Table 5-6c Summary of Positive Analytical Results for Subsurface Soil Samples from the United Paperboard Company Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: Depth: Date:	18MC-MW01-Z1 3-4 ft 06/21/07	18MC-MW01-Z2 12-14 ft 06/21/07	18MC-MW02-Z1 6-10 ft 06/12/07	18MC-MW02-Z2 20-22 ft 06/25/07	18MC-MW04-Z1 16-18 ft 06/22/07	18MC-MW04-Z2 24-26 ft 06/22/07	18MC-MW05-Z1 4-6 ft 06/15/07	18MC-MW05-Z2 12-14 ft 06/15/07	18MC-MW06-Z1 8-10 ft 06/20/07	18MC-MW06-Z2* 18-22 ft 06/20/07
Aluminum - Total	15800 (1)	15800 (1)		4270	6800	10500 J	3680	2890	2520	5470	4640	5960 J	3410 J
Antimony - Total	2.17 (2)	2.17 (2)		0.71 U	1.2 J	0.64 UJ	0.64 U	0.65 U	0.61 U	**126 J**	0.71 UJ	0.72 U	0.60 U
Arsenic - Total	16 f	13 c		4.3	11.7	9.6 J	4.2	1.9 J	4.2	**18.8**	5.5	9.1	4.9
Barium - Total	400	350 c		60.9	115	67.7 J	52.0	19.7	28.1	104	39.6	46.9	27.3
Beryllium - Total	590	7.2		1.1	0.70	0.63 J	0.21 J	0.12 J	0.17 J	0.28	0.31	0.52	0.28
Cadmium - Total	9.3	2.5 c		0.05 U	0.23 J	0.05 UJ	0.09 J	0.05 U	0.05 U	0.05 UJ	0.05 UJ	0.05 U	0.04 U
Calcium - Total	9190 (1)	9190 (1)		**215000**	**17900**	**63000 J**	**94300**	**32500**	**86500**	**69900**	**81000**	**178000**	**167000**
Chromium - Total	400 h	1 be		**3.1**	**12.7**	**12.3 J**	**6.4**	**5.4**	**4.6**	**23.5 J**	**6.3 J**	**9.4 J**	**5.9 J**
Cobalt - Total	13.3 (1)	13.3 (1)		2.3	9.7	8.4 J	4.7	3.3	4.1	3.9 J	4.9 J	8.8	4.5
Copper - Total	270	50		6.5	**68.5**	23.4 J	21.1	14.1	22.7	**345**	27.9	22.5	31.2
Iron - Total	25600 (1)	25600 (1)		2840	25200	19700 J	9540 J	7270	8380	**44600**	13800	17100 J	11600 J
Lead - Total	1000	63 c		5.5	**83.3**	41.0 J	3.9	1.7	3.3	**2540 J**	6.0 J	30.2 J	10.0 J
Magnesium - Total	5130 (1)	5130 (1)		**144000**	**6350**	**11000 J**	**9900**	**5590**	**5570**	2010	**7650**	**17500**	**12600**
Manganese - Total	10000 d	1600 c		134	230	914 J	916	357	862	239	**3280**	1450 J	1210 J
Mercury - Total	2.8 j	0.18 c		0.006 U	**2.7**	0.017 J	0.006 U	0.005 U	0.006 U	0.111	0.008 J	0.006 U	0.006 U
Nickel - Total	310	30		5.3	23.0	16.3 J	6.4	5.5	5.5	7.9 J	8.2 J	13.6	6.5
Potassium - Total	1890 (1)	1890 (1)		983	821	**2410 J**	805	403	516	**2750**	1180	**2000**	943
Selenium - Total	1500	3.9 c		0.78 U	0.89 U	0.70 U	0.70 U	0.71 U	0.67 U	0.74 U	0.78 U	0.79 U	0.66 U
Silver - Total	1500	2		0.20 U	0.24 J	0.18 U	0.18 U	0.18 U	0.17 U	0.39 J	0.20 U	0.20 U	0.17 U
Sodium - Total	211 (1)	211 (1)		**578**	170 J	126 J	176	96.9 J	122 J	**306**	64.4 J	162 J	151 J
Thallium - Total	16.3 (2)	16.3 (2)		0.87 U	1.00 U	0.78 UJ	0.79 U	0.79 U	0.74 U	0.83 UJ	0.87 UJ	0.88 U	0.73 U
Vanadium - Total	31 (1)	31 (1)		12.2	17.9	16.3 J	11.1	10.4	9.0	24.5	14.2	11.8	9.5
Zinc - Total	10000 d	109 c		2.9	**148**	59.3 J	23.2	13.2	24.4	79.5 J	17.0 J	40.3 J	18.2 J

Key at the end of Table 5-5 series.

Table 5-6c Summary of Positive Analytical Results for Subsurface Soil Samples from the United Paperboard Company Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-MW08-Z1 6-10 ft 06/11/07	18MC-MW08-Z2* 10-14 ft 06/11/07	18MC-MW09-Z1 8-9 ft 06/18/07	18MC-SB01-Z1* 6-10 ft 06/08/07	18MC-SB01-Z2 16-18 ft 06/08/07	18MC-SB02-Z1 6-8 ft 06/08/07	18MC-SB02-Z2 12-16 ft 06/08/07	18MC-SB03-Z1 2.4-2.9 ft 04/27/07	18MC-SB03-Z2 8.0-8.6 ft 04/27/07	18MC-SB04-Z1 2-2.5 ft 04/27/07
Aluminum - Total	15800 (1)	15800 (1)		6750 J	10600 J	6250 J	9000 J	5090 J	5240 J	8990 J	2850 J	5810 J	9760 J
Antimony - Total	2.17 (2)	2.17 (2)		**3.7 J**	0.91 UJ	0.65 U	0.58 U	0.68 U	1.2 J	0.61 U	0.59 U	**17.4 J**	1.3 J
Arsenic - Total	16 f	13 c		12.2 J	5.4 J	8.9	8.2 J	9.8 J	**123 J**	**28.1 J**	2.0 J	11.5	**18.4**
Barium - Total	400	350 c		115 J	83.9 J	64.0	82.5 J	243 J	119 J	63.4 J	32.3	74.3	165
Beryllium - Total	590	7.2		1.0 J	0.53 J	0.65	0.55	0.33	1.7	1.3	0.09 J	0.25	0.62
Cadmium - Total	9.3	2.5 c		0.90 J	0.15 J	0.05 U	0.21	0.25 J	0.05 U	0.41	0.11 J	0.40	0.76
Calcium - Total	9190 (1)	9190 (1)		7160 J	**44000 J**	**130000**	**47500 J**	**63300 J**	3720 J	**68800 J**	**9520**	**139000**	**21400**
Chromium - Total	400 h	1 be		**14.8 J**	**14.6 J**	**9.0 J**	**11.2 J**	**9.2 J**	**16.9 J**	**11.3 J**	**5.3**	**17.6**	**19.4**
Cobalt - Total	13.3 (1)	13.3 (1)		5.6 J	8.5 J	10.9	6.9 J	11.4 J	10.1 J	10.8 J	1.3	2.5	12.4
Copper - Total	270	50		**148 J**	31.3 J	46.8	28.2 J	45.2 J	**75.2 J**	**75.9 J**	11.0	**66.1**	**67.3**
Iron - Total	25600 (1)	25600 (1)		15600 J	19000 J	18100 J	19700 J	15600 J	**33900 J**	12500 J	5020	7980	**26400**
Lead - Total	1000	63 c		**129 J**	**79.9 J**	33.1 J	59.7	6	33.1	14.2	21.5 J	**69.3 J**	**230 J**
Magnesium - Total	5130 (1)	5130 (1)		2170 J	**12200 J**	**31700**	**7170 J**	2890 J	788 J	**8110 J**	1940	**39800**	5010
Manganese - Total	10000 d	1600 c		152 J	402 J	**2080 J**	1140 J	**4100 J**	52.2 J	859 J	141	363	1230
Mercury - Total	2.8 j	0.18 c		**0.284 J**	**0.442 J**	0.088	0.021	0.013 J	0.179	0 U	0.052 J	**0.785 J**	**0.313 J**
Nickel - Total	310	30		17.8 J	19.5 J	13.9	14.3 J	14.7 J	**30.8 J**	**34.3 J**	3.8	8.5	25.6
Potassium - Total	1890 (1)	1890 (1)		571 J	1600 J	**2250**	1620 J	1140 J	612 J	1050 J	405	844	**1910**
Selenium - Total	1500	3.9 c		1.6 J	0.97 U	0.71 U	0.63 U	0.75 U	2.3 J	0.67 U	0.64 U	0.69 U	0.93 U
Silver - Total	1500	2		0.75	0.34 J	0.20 J	0.2 J	0.53 J	0.17 U	0.2 J	0.16 U	0.18 J	0.67 J
Sodium - Total	211 (1)	211 (1)		142 J	**263**	**436**	80.7 J	142 J	139 J	81.1 J	57.3 J	**222**	112 J
Thallium - Total	16.3 (2)	16.3 (2)		0.97 UJ	1.1 UJ	0.79 U	0.71 U	0.84 U	0.74 U	0.75 U	0.72 U	0.77 U	1.0 U
Vanadium - Total	31 (1)	31 (1)		18.5 J	18.6 J	15.3	17.4 J	13.9 J	**59.9 J**	20.3 J	6.2	12.8	21.1
Zinc - Total	10000 d	109 c		**240 J**	103 J	31.3 J	69.5 J	32.2 J	62.2 J	94.8 J	27.4 J	108 J	**222 J**

Key at the end of Table 5-5 series.

Table 5-6c Summary of Positive Analytical Results for Subsurface Soil Samples from the United Paperboard Company Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Soil Cleanup Objectives A	Soil Cleanup Objectives B	Sample ID: / Depth: / Date:	18MC-SB05-Z1 0.5-1.5 ft 04/27/07	18MC-SB05-Z2 5.5-6.5 ft 04/27/07	18MC-SB05-Z3 14-14.5 ft 04/27/07	18MC-SB15-Z1 1.5-2 ft 04/27/07	18MC-SB15-Z2* 10-11 ft 04/27/07
Aluminum - Total	15800 (1)	15800 (1)		2750 J	9960 J	9000 J	3300 J	12300 J
Antimony - Total	2.17 (2)	2.17 (2)		**2.6 J**	1.4 J	0.95 J	**67.6 J**	0.87 UJ
Arsenic - Total	16 f	13 c		5.8	**15.7**	5.3	**35.1**	6.2
Barium - Total	400	350 c		52.4	113	83.7	135	215
Beryllium - Total	590	7.2		0.21 J	1.0	0.40	0.45	0.60
Cadmium - Total	9.3	2.5 c		0.43	**5.1**	0.40	**8.6**	0.32
Calcium - Total	9190 (1)	9190 (1)		4460	**54200**	**30100**	**9960**	**49000**
Chromium - Total	400 h	1 be		**8.1**	**18.6**	**17.0**	**71.9**	**34.1**
Cobalt - Total	13.3 (1)	13.3 (1)		3.0	**13.8**	7.5	**16.7**	9.6
Copper - Total	270	50		37.3	**77.5**	**57.1**	**763**	36.7
Iron - Total	25600 (1)	25600 (1)		11400	21500	17100	**234000**	22100
Lead - Total	1000	63 c		**72.6 J**	**116 J**	**148 J**	**1150 J**	**779 J**
Magnesium - Total	5130 (1)	5130 (1)		2120	**8320**	**10500**	3550	**11800**
Manganese - Total	10000 d	1600 c		102	813	314	1010	407
Mercury - Total	2.8 j	0.18 c		**0.407 J**	0.050 J	**1.0 J**	**2.9 J**	**9.6 J**
Nickel - Total	310	30		12.2	28.8	17.5	**107**	23.3
Potassium - Total	1890 (1)	1890 (1)		258	1370	1350	226	1660
Selenium - Total	1500	3.9 c		0.71 U	0.82 U	0.94 U	0.82 U	0.95 U
Silver - Total	1500	2		0.18 U	0.26 J	0.82	**3.3**	0.65 J
Sodium - Total	211 (1)	211 (1)		149 J	184 J	177 J	149 J	**239**
Thallium - Total	16.3 (2)	16.3 (2)		0.80 U	0.92 U	1.0 U	0.92 U	1.1 U
Vanadium - Total	31 (1)	31 (1)		8.2	18.4	17.8	15.4	21.9
Zinc - Total	10000 d	109 c		63.5 J	**112 J**	**158 J**	**1890 J**	**214 J**

Key at the end of Table 5-5 series.

Table 5-6 Key

Notes for Soil Cleanup Objectives

For Soil Cleanup Objective A (New York State Department of Environmental Conservation, Subpart 375-6: Remedial Program Soil Cleanup Objectives, *Restricted Use: Commercial* , December 2006.)

b = The SCOs for commercial use were capped at a maximum value of 500 ppm.

d = The SCOs for metals were capped at a maximum value of 10,000 ppm.

f = For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

h = The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for total species of the contaminant is below the specific SCO.

j = This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts).

For Soil Cleanup Objective B (New York State Department of Environmental Conservation, Subpart 375-6: Remedial Soil Cleanup Objective, *Unrestricted Use,* December 2006)

a = The SCOs for unrestricted use were capped at a maximum value of 100 ppm.

b = For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.

c = For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.

d = SCO is the sum of endosulfan I, endosulfan II, and endosulfan sulfate.

f = Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8(b) with "NS". Where such contaminants appear in Table 375-6.8(a), the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.

Additional Notes for Metals Soil Cleanup Objectives

(1) NYS background (95th percentile), Source-Distant Data Set from NYS Brownfield Cleanup Program, Technical Support Document, Appendix D, September 2006.

(2) Eastern United States background (95th percentile) from Shacklette and Boerngen 1984.

Other Notes

* A duplicate sample was analyzed at this location. The highest of the two results are listed here for each parameter.

Key:

J =	Estimated value.
-- =	Sample not analyzed for this parameter.
mg/kg =	Milligram per kilogram.
NA =	Not available.
PAH =	Polynuclear aromatic hydrocarbon.
PCB =	Polychlorinated biphenyls.
SVOC =	Semivolatile organic compound.
U =	Parameter not detected (practical quantitation limit listed).
UJ =	Parameter not detected (practical quantitation limit listed)/Estimated.
120 J	Analytical result exceeds SCO A (commercial use) and SCO listed on Column B (unrestricted use) (Column A SCOs are higher than the corresponding Column B SCOs; therefore if the result exceeds the Column A SCO it also exceeds the Column B SCO).
120 J	Analytical result exceeds Screening SCO listed on Column B (unrestricted use).

Table 5-7a Summary of Positive Analytical Results for Groundwater Samples from the Upson Park Property Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria [1]	Sample ID: Date:	18MC-MW14 07/11/07	18MC-MW15 07/11/07	18MC-MW16 07/11/07	18MC-MW17 07/11/07
VOCs by Method SW8260B (µg/L)						
1,1,1-Trichloroethane	5 p		0.5 U	0.26 J	0.5 U	0.5 U
1,1-Dichloroethane	5 p		0.4 J	0.5 U	0.5 U	0.5 U
Carbon disulfide	60 g		0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	7		0.49 J	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	5 p		**33**	0.83 J	0.5 U	0.5 U
Tetrachloroethene	5 p		1.4	0.5 UJ	0.5 UJ	0.5 UJ
Toluene	5 p		0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	5 p		0.31	0.5 U	0.5 U	0.5 U
Trichloroethene	5 p		**20**	1.2	0.5 U	0.5 U
Vinyl chloride	2		0.4 J	0.5 U	0.5 U	0.5 U
SVOCs by Method SW8270C (µg/L)						
Acetophenone	NA		5 U	5 U	5 U	5 U
Benzo(g,h,i)perylene	NA		5 U	5 U	5 U	5 U
Caprolactam	NA		5 U	5 U	5 U	5 U
Fluoranthene	50 g		5 U	5 U	5 U	5 U
Pentachlorophenol	1 s		10 U	10 U	10 U	10 U
Phenol	1 s		5 U	5 U	5 U	5 U
Pyrene	50 g		5 U	5 U	5 U	5 U
TOTAL PAHs	NA		ND	ND	ND	ND
PCBs by method SW8082C (µg/L)			None detected			
Metals by Method SW6010B/SW7470A (µg/L)						
Aluminum	NA		468	439	132	965
Aluminum - Dissolved	NA		10.2 J	7.0 U	24.1 J	19.2 J
Antimony	3		**5.5 J**	**7.2 J**	**5.1 J**	2.9 J
Antimony - Dissolved	3		10 U	10 U	10 U	10 U
Barium	1,000		78.3 J	64.2 J	47.1 J	30.8 J
Barium - Dissolved	1,000		71.8 J	57.8 J	42.8 J	25.4 J
Beryllium	3 g		2.5 U	2.5 U	2.5 U	2.5 U
Beryllium - Dissolved	3 g		2.5 U	2.5 U	2.5 U	2.5 U
Cadmium	5		0.076 J	2.5 U	0.09 J	0.069 J
Cadmium - Dissolved	5		0.064 J	2.5 U	0.061 J	2.5 U
Calcium	NA		150000 J	169000 J	145000 J	63000
Calcium - Dissolved	NA		140000 J	158000 J	123000 J	52900 J
Cobalt	NA		10.3 J	12.5 J	9.8 J	4.6 J
Cobalt - Dissolved	NA		9.4 J	11.1 J	8.2 J	3.7 J
Copper	200		7.2 J	12.6 J	7.3 J	9.4 J
Copper - Dissolved	200		6 J	8.2 J	5.6 J	4.4 J
Iron	300		**1110 J**	**1220 J**	**928 J**	**1350**
Iron - Dissolved	300		**686 J**	**682 J**	**540 J**	258
Lead	25		5 U	5 U	5 U	11.4
Lead - Dissolved	25		5 U	5 U	5 U	5 U
Magnesium	35,000 g		**41100 J**	**41800 J**	**37200 J**	14100
Magnesium - Dissolved	35,000 g		**38800 J**	**39300 J**	34100 J	11000 J
Manganese	300		199 J	82.5 J	75.6 J	72.7
Manganese - Dissolved	300		188 J	30.2 J	11.7 J	8.4
Mercury	0.7		0.2 U	0.2 U	0.2 U	0.2 U
Mercury - Dissolved	0.7		0.2 UJ	0.2 UJ	0.26 J	0.2 UJ
Nickel	100		5.1 J	10.2 J	4.5 J	3.6 J
Nickel - Dissolved	100		4.7 J	9.1 J	3.9 J	2.5 J
Potassium	NA		6830	8470	8820	2790
Potassium - Dissolved	NA		6590	8260	8560	2410
Selenium	10		15 U	2.3 J	15 U	3.9 J
Selenium - Dissolved	10		15 U	15 U	15 U	5.3 J
Silver	50		12.1	13.4	11.6	5 U
Silver - Dissolved	50		11.1	12.6	9.8	4.5 J
Sodium	20,000		**222000**	**585000**	**529000**	19300
Sodium - Dissolved	20,000		**210000**	**574000**	**499000**	19500
Vanadium	NA		0.99 J	0.85 J	0.34 J	1.7 J
Vanadium - Dissolved	NA		0.3 J	25 U	25 U	0.48 J
Zinc	2,000 g		25 U	34	25 U	28.6
Zinc - Dissolved	2,000 g		25 U	25 U	25 U	25 U

Table 5-7b Summary of Positive Analytical Results for Groundwater Samples from the White Transportation Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria [1]	Sample ID: Date:	18MC-MW10 07/10/07	18MC-MW11 07/10/07	18MC-MW12 07/11/07	18MC-MW13 07/10/07
VOCs by Method SW8260B (µg/L)						
1,1,1-Trichloroethane	5 p		0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	5 p		0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	60 g		0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	7		0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	5 p		0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	5 p		0.5 U	0.5 U	0.5 UJ	0.5 U
Toluene	5 p		0.5 U	0.42	0.5 U	0.5 U
trans-1,2-Dichloroethene	5 p		0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	5 p		0.5 U	0.33	0.5 U	0.5 U
Vinyl chloride	2		0.5 U	0.5 U	0.5 U	0.5 U
SVOCs by Method SW8270C (µg/L)						
Acetophenone	NA		5 U	5 U	5 U	5 U
Benzo(g,h,i)perylene	NA		5 U	5 U	5 U	5 U
Caprolactam	NA		5 U	5 U	0.86 J	5 U
Fluoranthene	50 g		0.54 J	5 U	1.1 J	5 U
Pentachlorophenol	1 s		10 U	10 U	10 U	10 U
Phenol	1 s		5 U	5 U	5 U	5 U
Pyrene	50 g		0.76	5 U	5 U	5 U
TOTAL PAHs	NA		1.3	ND	1.1	ND
PCBs by Method SW8082C (µg/L)			None detected			
Metals by Method SW6010B/SW7470A (µg/L)						
Aluminum	NA		405	300	113	242
Aluminum - Dissolved	NA		20 J	9.5 J	16.2 J	21.4 J
Antimony	3		**3.1 J**	**3.8 J**	**5.4 J**	1.9 J
Antimony - Dissolved	3		10 U	10 U	10 U	10 U
Barium	1,000		41.2 J	56.7 J	87.8 J	54.1 J
Barium - Dissolved	1,000		36.3 J	52 J	84.3 J	48.2 J
Beryllium	3 g		2.5 U	2.5 U	2.5 U	2.5 U
Beryllium - Dissolved	3 g		2.5 U	2.5 U	2.5 U	2.5 U
Cadmium	5		2.5 U	2.5 U	2.5 U	2.5 U
Cadmium - Dissolved	5		2.5 U	2.5 U	2.5 U	2.5 U
Calcium	NA		56800 J	80100 J	147000 J	65000 J
Calcium - Dissolved	NA		53000 J	73900 J	142000 J	58600 J
Cobalt	NA		4 J	5.3 J	11.6 J	4.4 J
Cobalt - Dissolved	NA		3.6 J	4.8 J	11.1 J	3.9 J
Copper	200		5.5 J	7 J	6 J	9 J
Copper - Dissolved	200		4.4 J	4.1 J	5.8 J	5.1 J
Iron	300		**662 J**	**645 J**	**793 J**	**561 J**
Iron - Dissolved	300		276 J	**325 J**	**620 J**	**406 J**
Lead	25		5 U	5 U	5 U	5 U
Lead - Dissolved	25		5 U	5 U	5 U	5 U
Magnesium	35,000 g		11900 J	18100 J	21400 J	12900 J
Magnesium - Dissolved	35,000 g		11100 J	17100 J	20600 J	11500 J
Manganese	300		87 J	33.5 J	**5730 J**	85.7 J
Manganese - Dissolved	300		73.1 J	9.9 J	**5490 J**	46 J
Mercury	0.7		0.2 U	0.2 U	0.2 U	0.2 U
Mercury - Dissolved	0.7		0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ
Nickel	100		2.9 J	3 J	7.1 J	2.9 J
Nickel - Dissolved	100		2.3 J	2.7 J	6.9 J	2.6 J
Potassium	NA		2630	3680	14000	2350
Potassium - Dissolved	NA		2410	3490	13800	2230
Selenium	10		2 J	3.5 J	15 U	3.6 J
Selenium - Dissolved	10		5 J	4 J	15 U	5 J
Silver	50		4.6 J	6.4	15.1	5.3
Silver - Dissolved	50		4.5 J	6	14.4	4.7 J
Sodium	20,000		**21600**	**88100**	**38300**	**24200**
Sodium - Dissolved	20,000		**20600**	**87000**	**38300**	**22500**
Vanadium	NA		1.1 J	0.5 J	0.3 J	1.4 J
Vanadium - Dissolved	NA		0.64 J	25 U	25 U	0.93 J
Zinc	2,000 g		25 U	25 U	25 U	25.7
Zinc - Dissolved	2,000 g		25 U	25 U	25 U	25 U

Table 5-7c Summary of Positive Analytical Results for Groundwater Samples from the Former United Paperboard Company Property, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

Analyte	Screening Criteria [1]	Sample ID: / Date:	18MC-MW01* 07/09/07	18MC-MW02 07/09/07	18MC-MW04 07/09/07	18MC-MW05 07/10/07	18MC-MW06 07/09/07	18MC-MW08 07/11/07
VOCs by Method SW8260B (µg/L)								
1,1,1-Trichloroethane	5 p		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	5 p		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	60 g		0.64 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	7		0.5 U	0.4 J	0.69 J	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	5 p		0.5 U	0.5 U	0.5 U	**7.1**	0.5 U	0.5 U
Tetrachloroethene	5 p		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ
Toluene	5 p		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	5 p		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	5 p		0.5 U	0.5 U	0.61	0.5 U	0.5 U	0.5 U
Vinyl chloride	2		0.5 U	0.5 U	0.5 U	0.52	0.5 U	0.5 U
SVOCs by Method SW8270C (µg/L)								
Acetophenone	NA		5 U	5 U	5 U	0.52 J	5 U	5 U
Benzo(g,h,i)perylene	NA		5 U	5 U	5 U	0.58	5 U	5 U
Caprolactam	NA		0.73 J	0.97 J	5 U	5 U	5 U	27
Fluoranthene	50 g		2.1 J	5 U	0.9 J	7.7	0.71 J	5 U
Pentachlorophenol	1 s		10 U	10 U	10 U	10 U	10 UJ	10 U
Phenol	1 s		5 U	5 U	5 U	5 U	5 U	**3.2 J**
Pyrene	50 g		1.6	0.52	3.7	12	1.4	5 U
TOTAL PAHs	NA		2.33	0.52	4.6	19.7	2.11	ND
PCBs by Method SW8082C (µg/L)			None detected					
Metals by Method SW6010B/SW7470A (µg/L)								
Aluminum	NA		153	129	156	239	149	1590
Aluminum - Dissolved	NA		7.0 U	7.0 U	7.0 U	28.74	7.0 U	7.0 U
Antimony	3		**7.6 J**	**6.6 J**	**5.6 J**	**7 J**	**5.3 J**	**5.6 J**
Antimony - Dissolved	3		**7.7 J**	**8.4 J**	10 U	**7.6 J**	10 U	10 U
Barium	1,000		54.1 J	48.3 J	75.2 J	314	51.8 J	315
Barium - Dissolved	1,000		48 J	45.5 J	69.2 J	287	50.6 J	261
Beryllium	3 g		2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	0.12 J
Beryllium - Dissolved	3 g		2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Cadmium	5		2.5 U	0.41 J	0.43 J	3.6	2.5 U	0.052 J
Cadmium - Dissolved	5		2.5 U	0.2 J	0.13 J	0.087 J	0.05 J	2.5 U
Calcium	NA		236000 J	197000 J	145000 J	231000 J	154000 J	217000 J
Calcium - Dissolved	NA		217000 J	185000 J	134000 J	215000 J	151000 J	211000 J
Cobalt	NA		15.7 J	13.4 J	10.3 J	15.4 J	11 J	15.3 J
Cobalt - Dissolved	NA		14.4 J	12.6 J	9.4 J	14.3 J	10.7 J	14.2 J
Copper	200		8.9 J	7.6 J	9.2 J	11 J	6.4 J	4.8 J
Copper - Dissolved	200		8.4 J	7.8 J	6.6 J	7.4 J	5.6 J	3.6 J
Iron	300		**1260 J**	**1070 J**	**868 J**	**2260 J**	**888 J**	**44900 J**
Iron - Dissolved	300		**919 J**	**795 J**	**577 J**	**1000 J**	**654 J**	**29700 J**
Lead	25		5 U	5 U	5 U	5.4	5 U	9
Lead - Dissolved	25		5 U	5 U	5 U	5 U	5 U	5 U
Magnesium	35,000 g		**42800 J**	**40400 J**	28200 J	**53400 J**	**37900 J**	31300 J
Magnesium - Dissolved	35,000 g		**39500 J**	**38100 J**	26400 J	**49500 J**	**37600 J**	30300 J
Manganese	300		52.8 J	206 J	104 J	**444 J**	199 J	**2030 J**
Manganese - Dissolved	300		21.6 J	174 J	83.5 J	**407 J**	165 J	**1960 J**
Mercury	0.7		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Mercury - Dissolved	0.7		0.09 J	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ
Nickel	100		6.6 J	6.3 J	5.1 J	14.1 J	5.5 J	7.5 J
Nickel - Dissolved	100		6 J	5.9 J	4.5 J	6.3 J	5.4 J	6.2 J
Potassium	NA		6650	8530	4270	7830	3150	5410
Potassium - Dissolved	NA		6260	7930	4030	7600	3140	5080
Selenium	10		15 U	0.77 J	3.8 J	15 U	15 U	15 U
Selenium - Dissolved	10		15 U	0.86 J	1.9 J	15 U	1.4 J	15 U
Silver	50		19	15.8	11.6	18.3	12.3	8.1
Silver - Dissolved	50		17.5	14.9	10.8	17.2	12.1	11.2
Sodium	20,000		**111000**	**173000**	**67200**	**113000**	**155000**	**73100**
Sodium - Dissolved	20,000		**105000**	**168000**	**64300**	**111000**	**162000**	**72800**
Vanadium	NA		0.7 J	0.24 J	0.68 J	0.56 J	0.46 J	2.5 J
Vanadium - Dissolved	NA		0.37 J	25 U	0.5 J	25 U	25 U	25 U
Zinc	2,000 g		25 U	25 U	38.1	79.3	25 U	28.9
Zinc - Dissolved	2,000 g		25 U	25 U	25 U	41.2	25 U	25 U

Table 5-7 Key

Notes for Groundwater Standards and Guidance Values:
(1) New York State Department of Environmental Conservation, Technical and Operational Guidance #1.1.1: Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998 (and subsequent addenda).

s = Sum of phenolic compounds.

g = Guidance Value.

p = Principal Organic Contaminant Standard applies.

Other Notes

* A duplicate sample was analyzed at this location. The highest of the two results are listed here for each parameter.

Key:

J = Estimated value.

µg/L = Microgram per liter.

NA = Not available.

PAH = Polynuclear aromatic hydrocarbon.

PCB = Polychlorinated biphenyl.

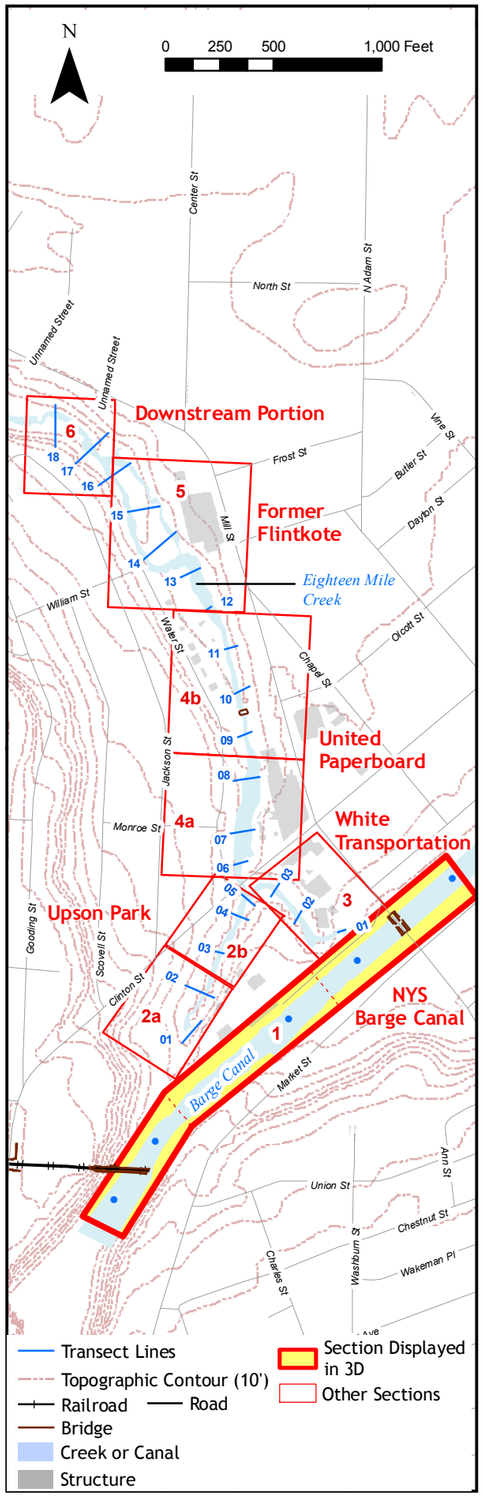
SVOC = Semivolatile organic compound.

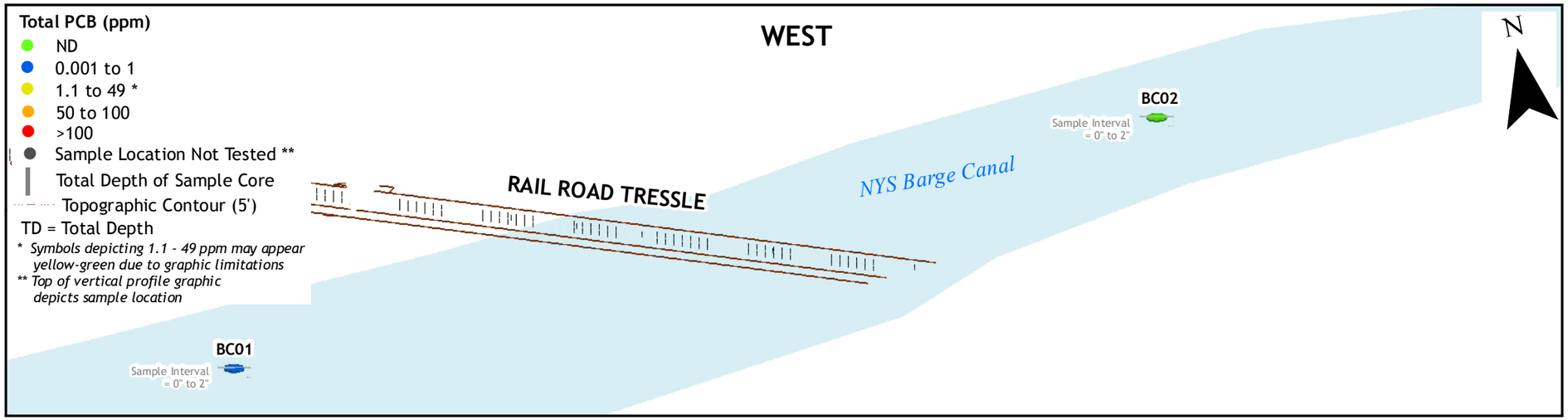
U = Parameter not detected (practical quantitation limit listed).

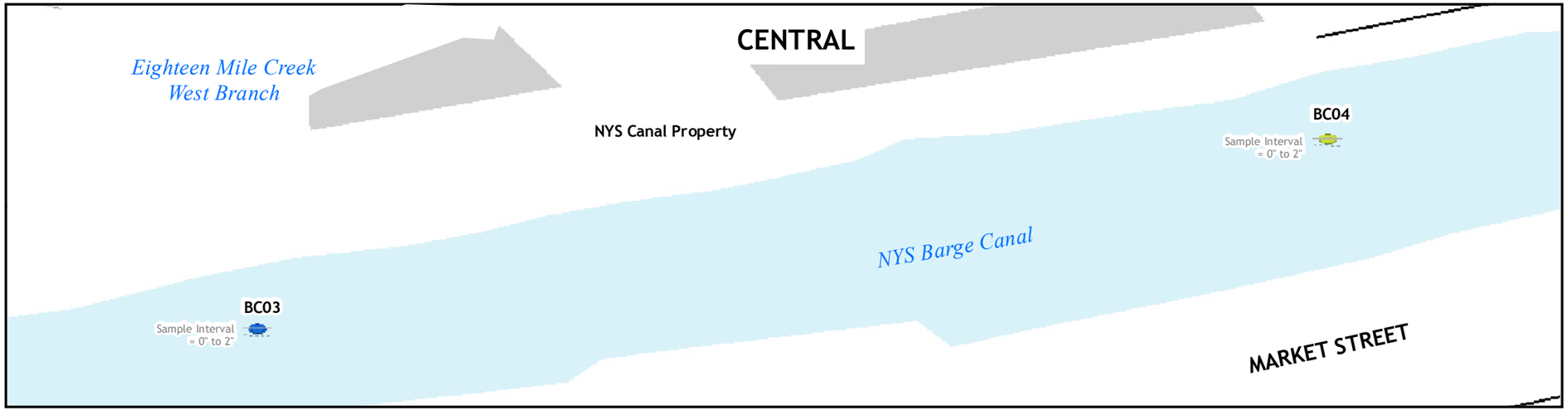
UJ = Parameter not detected (practical quantitation limit listed)/Estimated.

VOC = Volatile organic compound.

210000 Shaded and bolded cells represent analytical results exceeding the screening value.







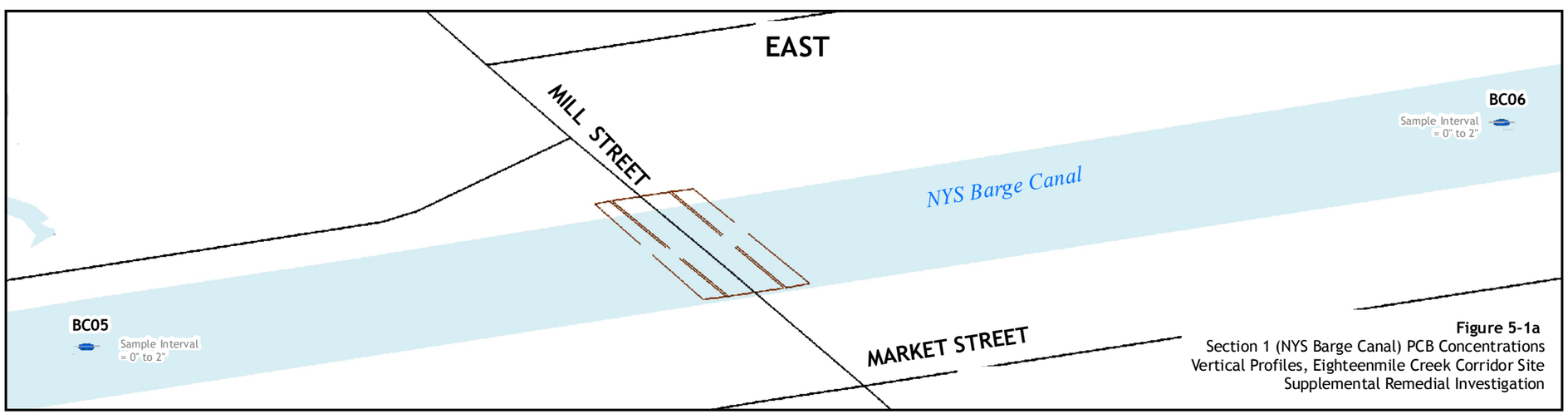
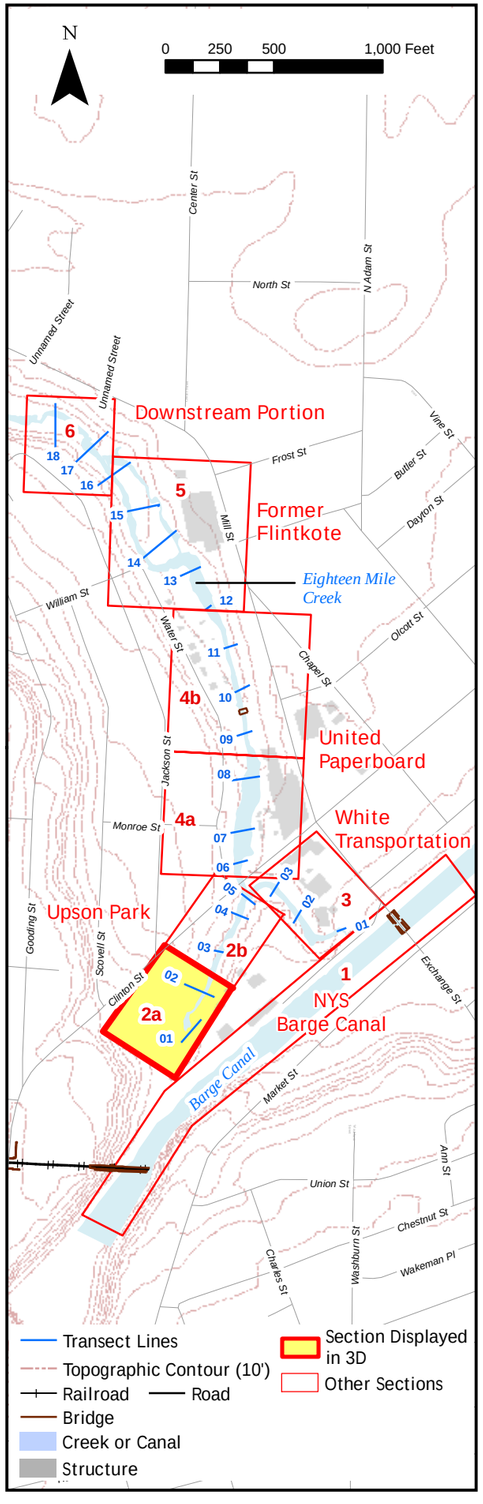


Figure 5-1a
Section 1 (NYS Barge Canal) PCB Concentrations
Vertical Profiles, Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation



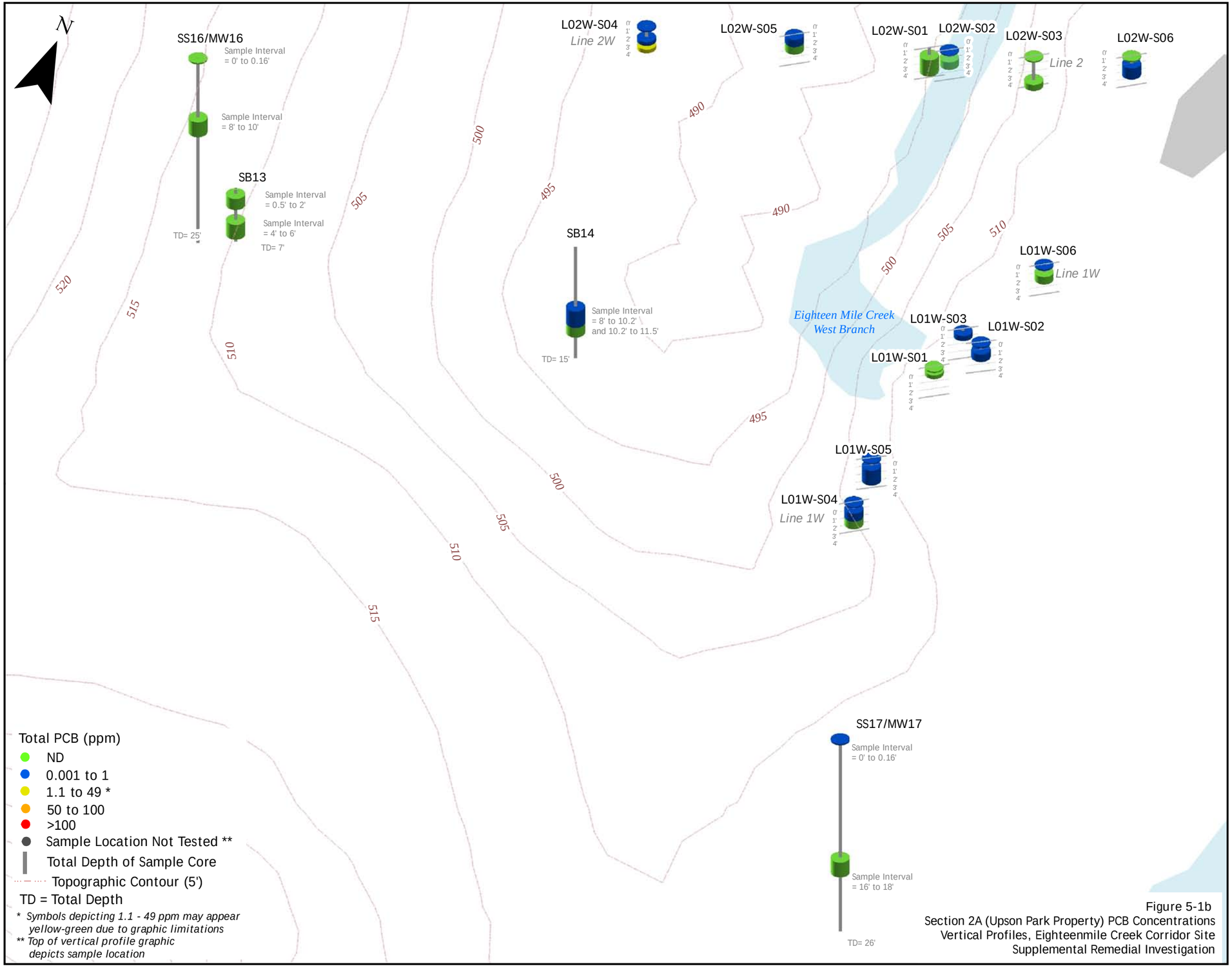
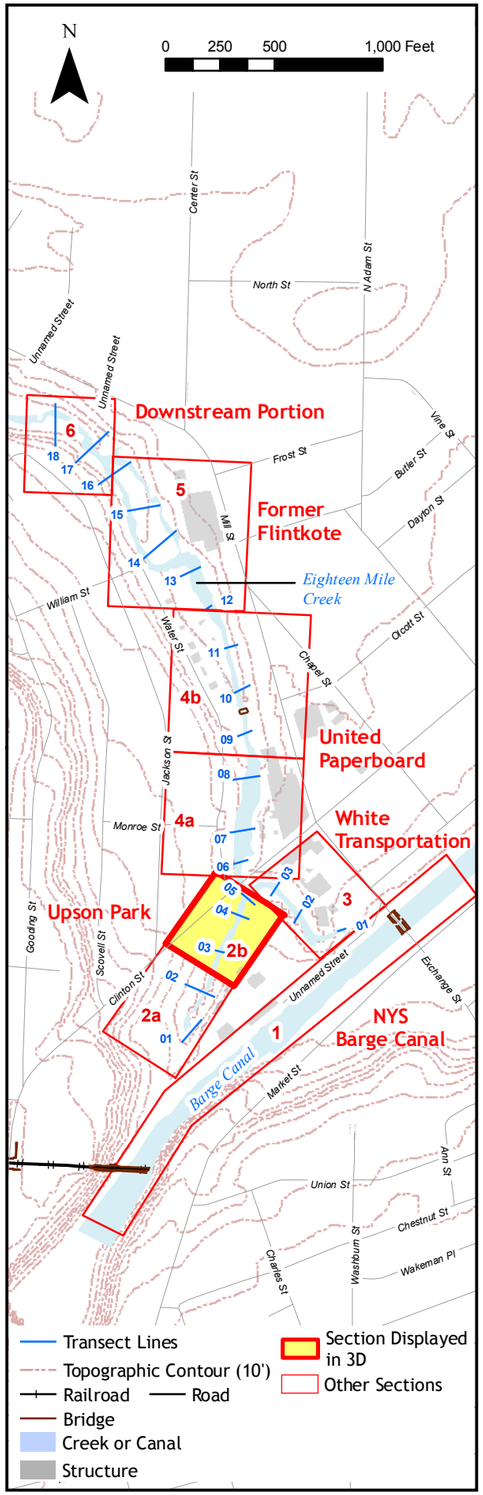


Figure 5-1b
Section 2A (Upson Park Property) PCB Concentrations
Vertical Profiles, Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation



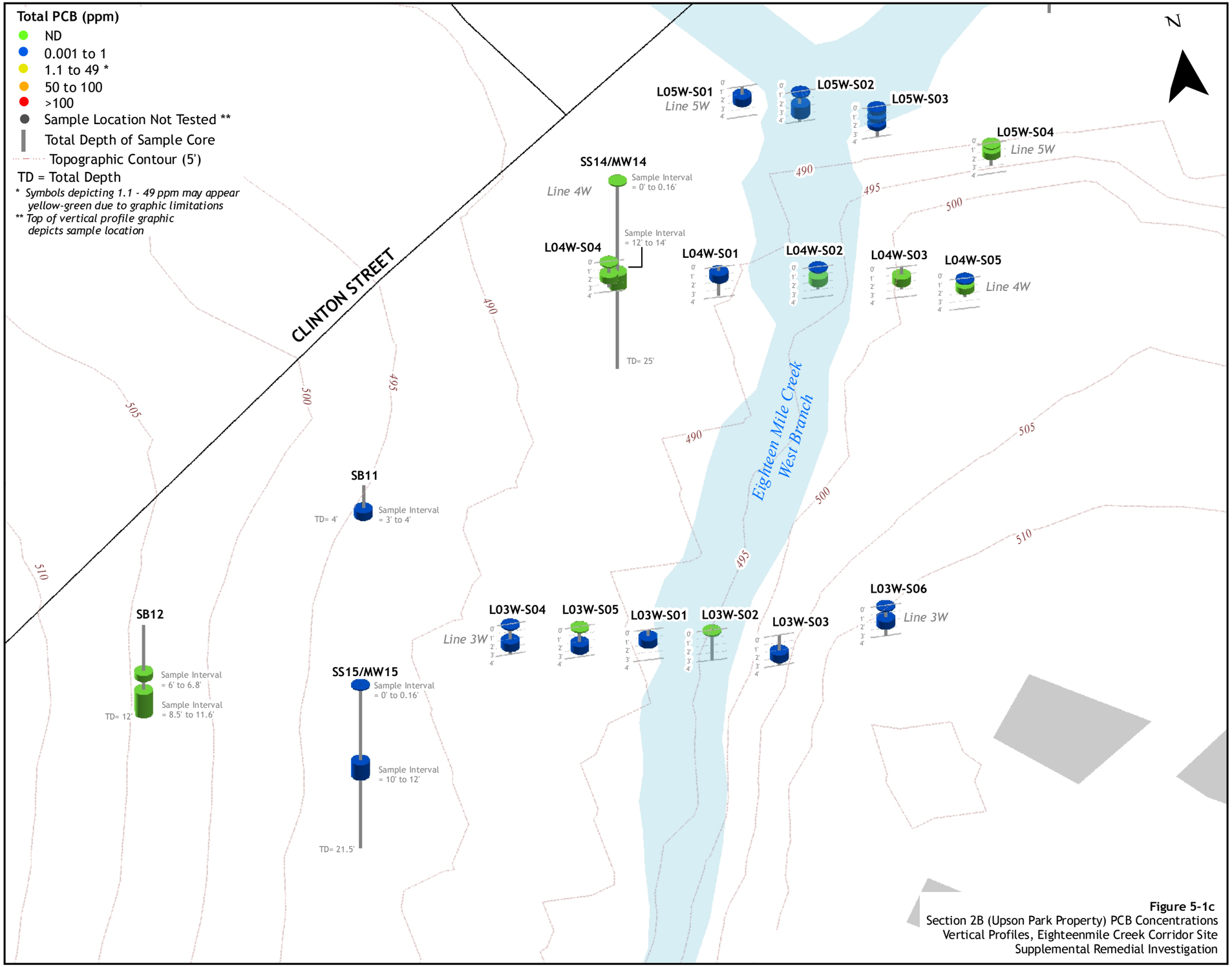


Figure 5-1c
Section 2B (Upson Park Property) PCB Concentrations
Vertical Profiles, Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation

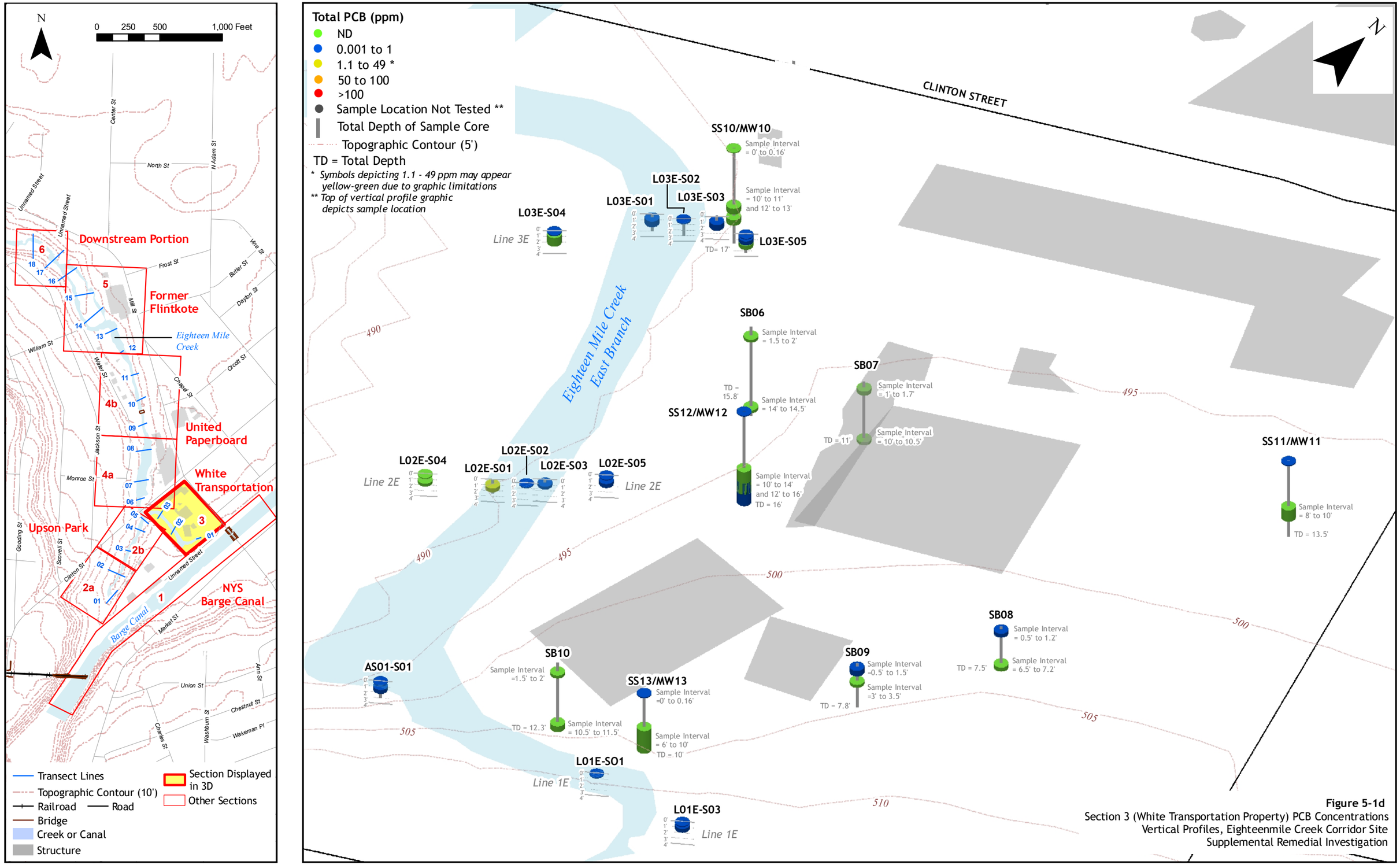
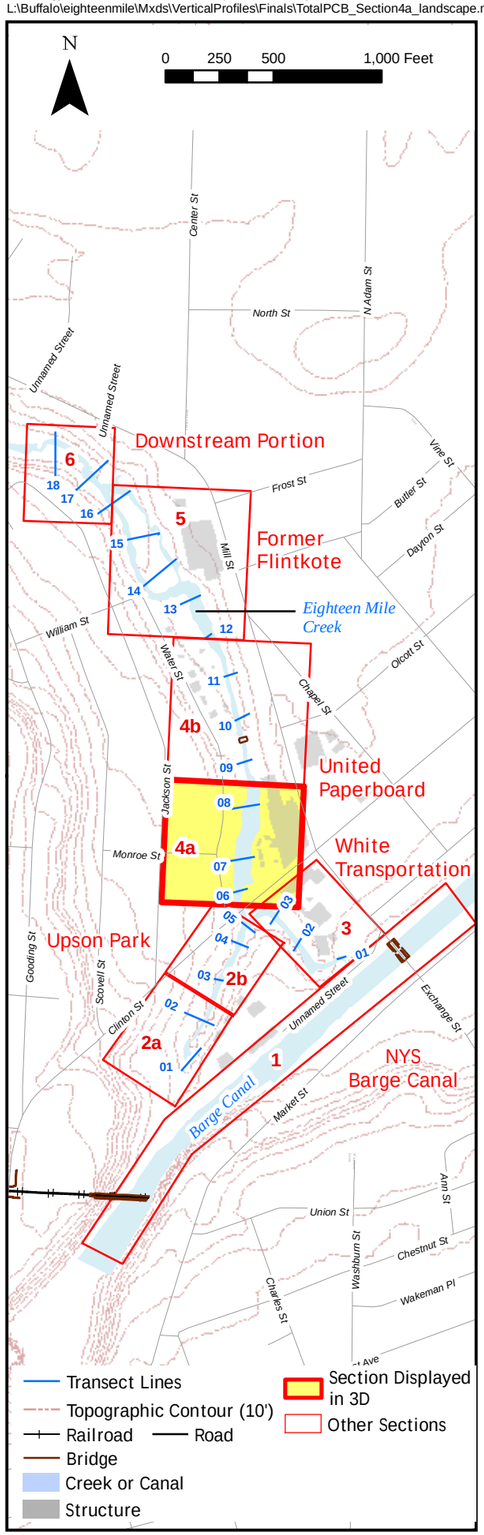


Figure 5-1d
Section 3 (White Transportation Property) PCB Concentrations
Vertical Profiles, Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation

L:\Buffalo\eighteenmile\Mxds\VerticalProfiles\Finals\TotalPCB_Section4a_landscape.mxd 04/07/2008



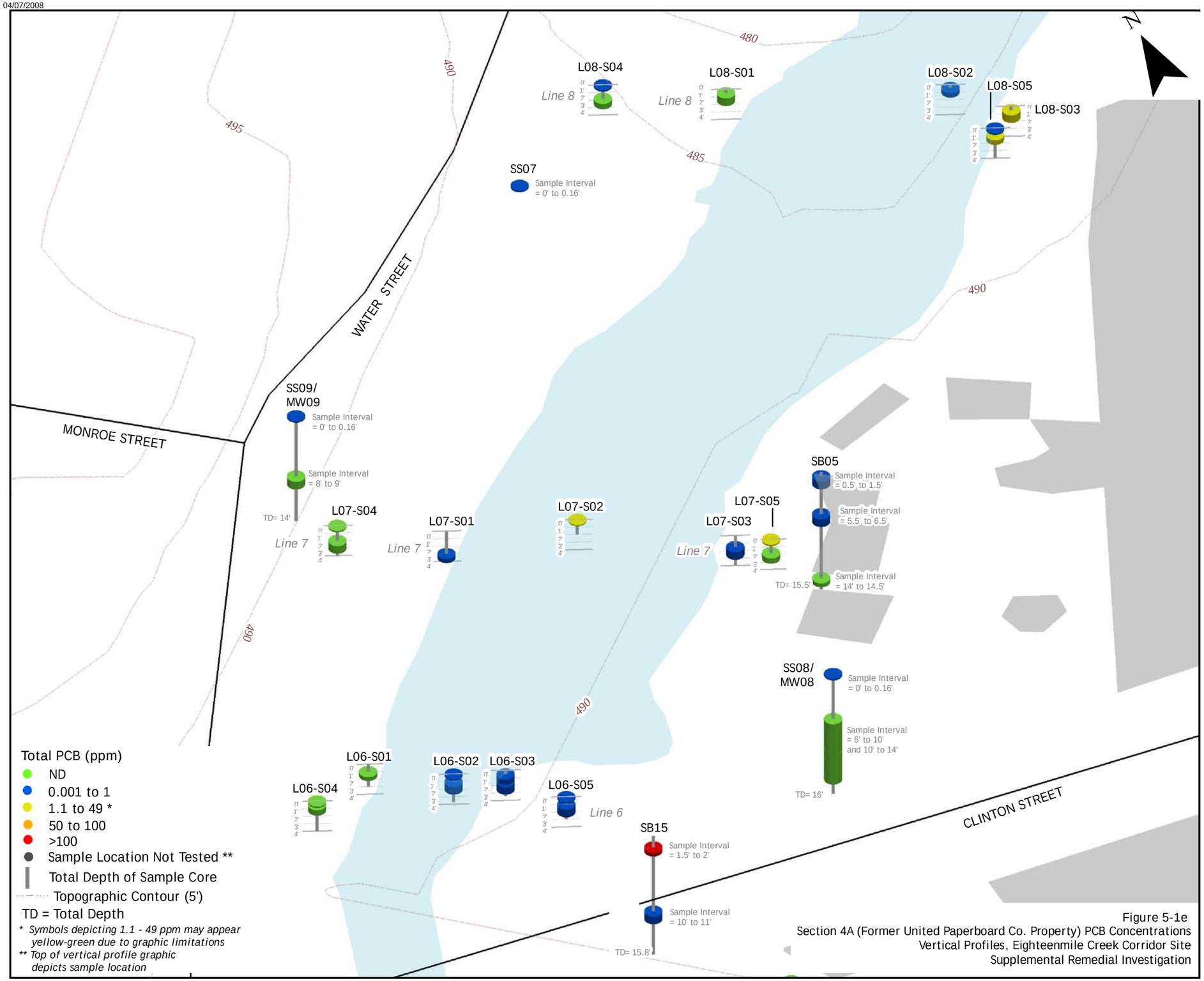
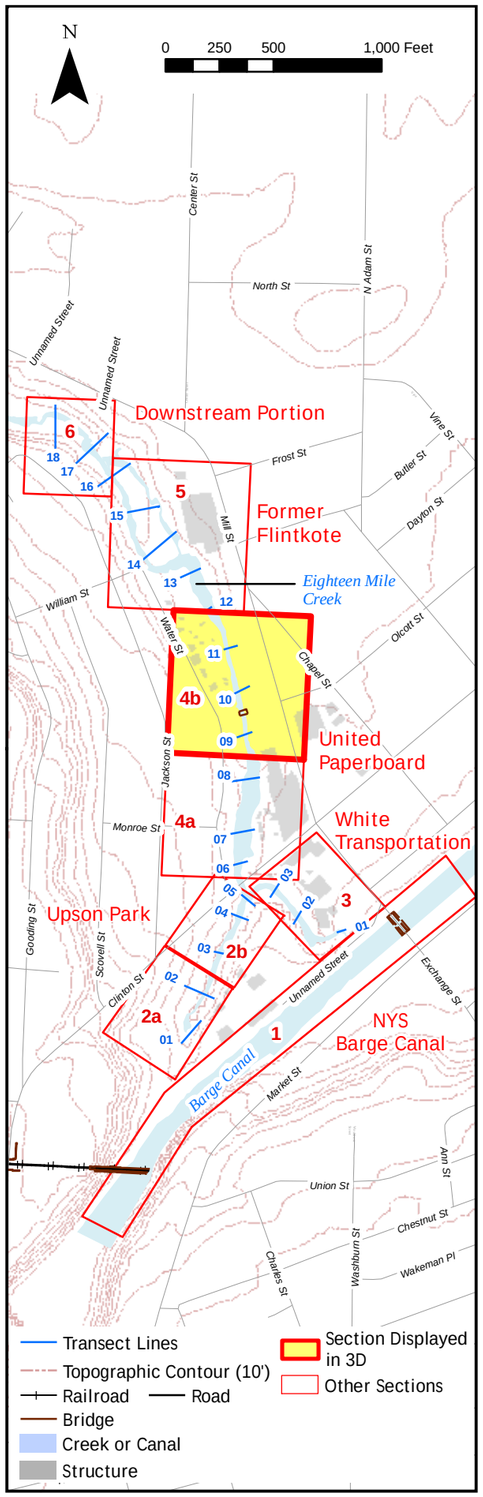
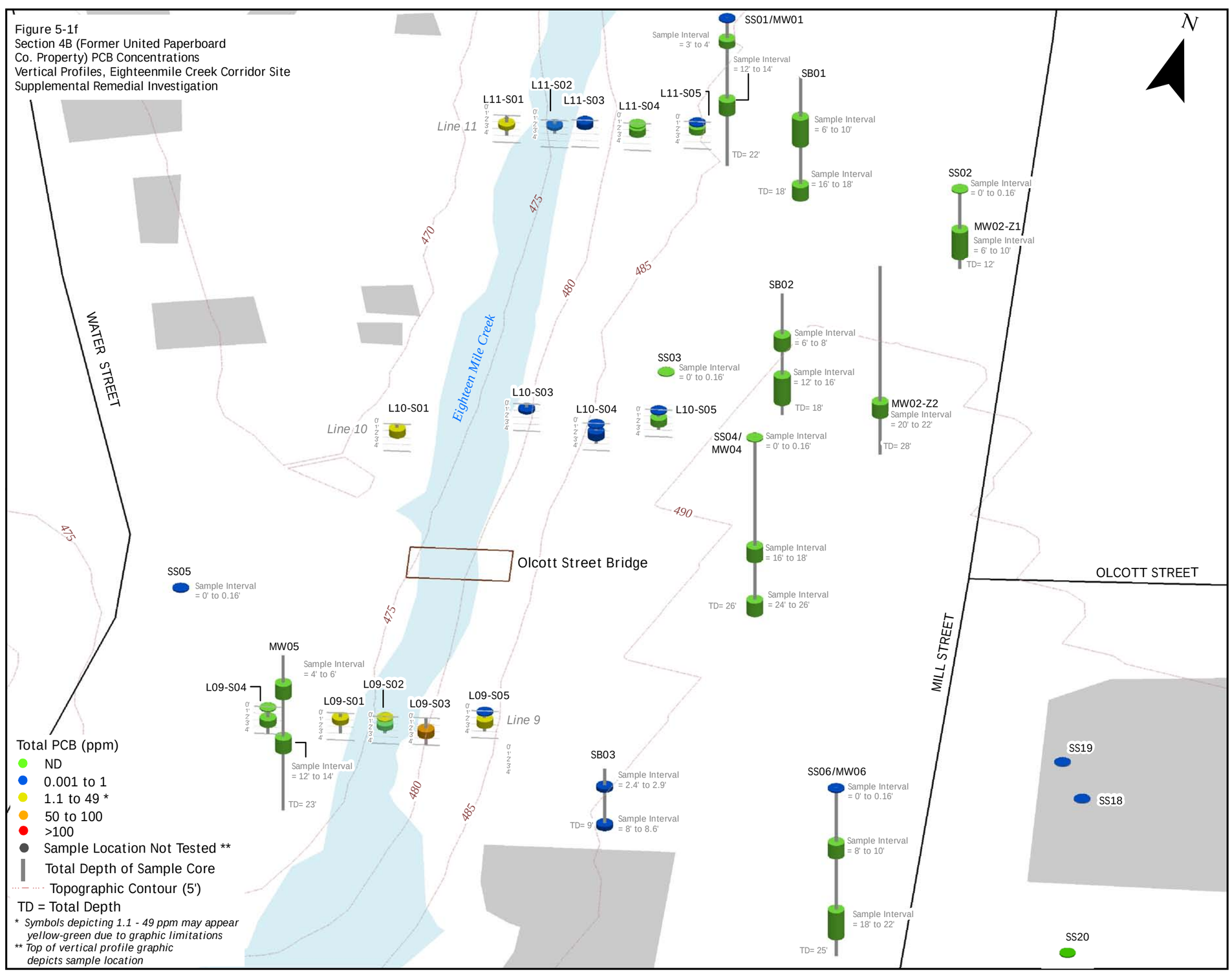
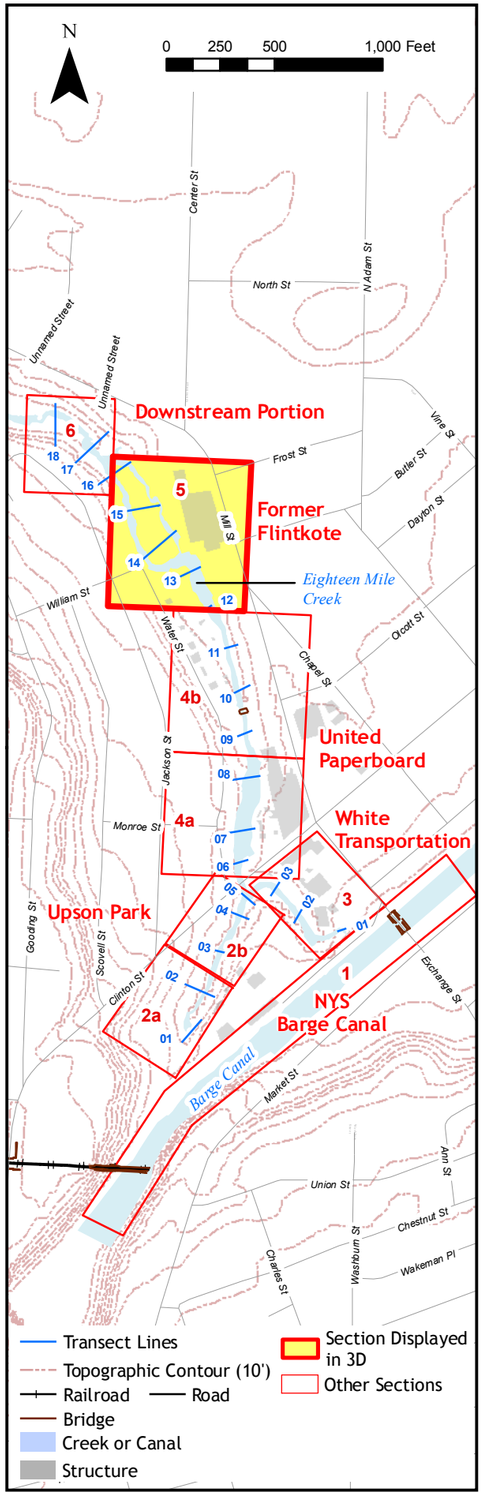


Figure 5-1e
Section 4A (Former United Paperboard Co. Property) PCB Concentrations
Vertical Profiles, Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation

Figure 5-1f
Section 4B (Former United Paperboard Co. Property) PCB Concentrations
Vertical Profiles, Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation







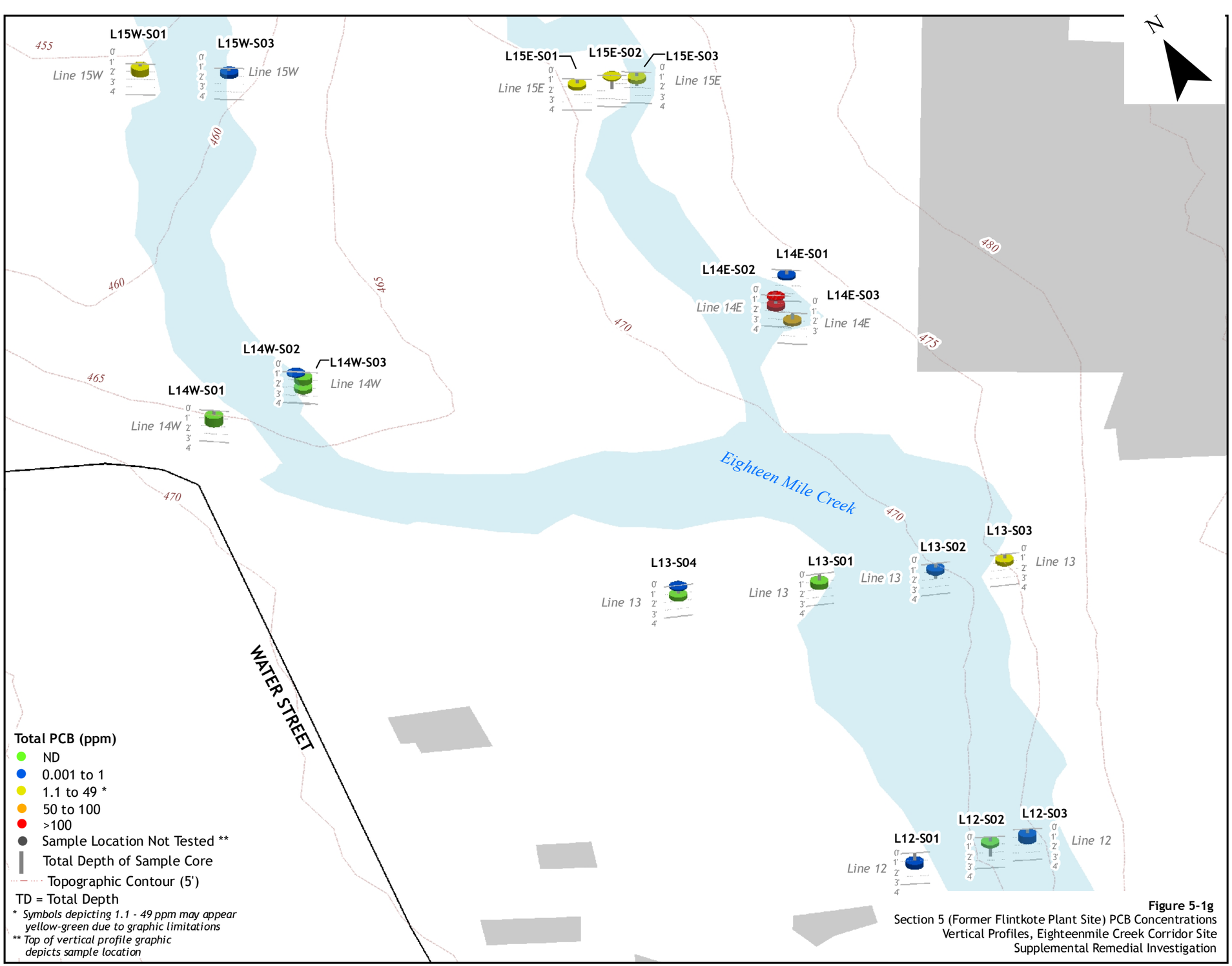
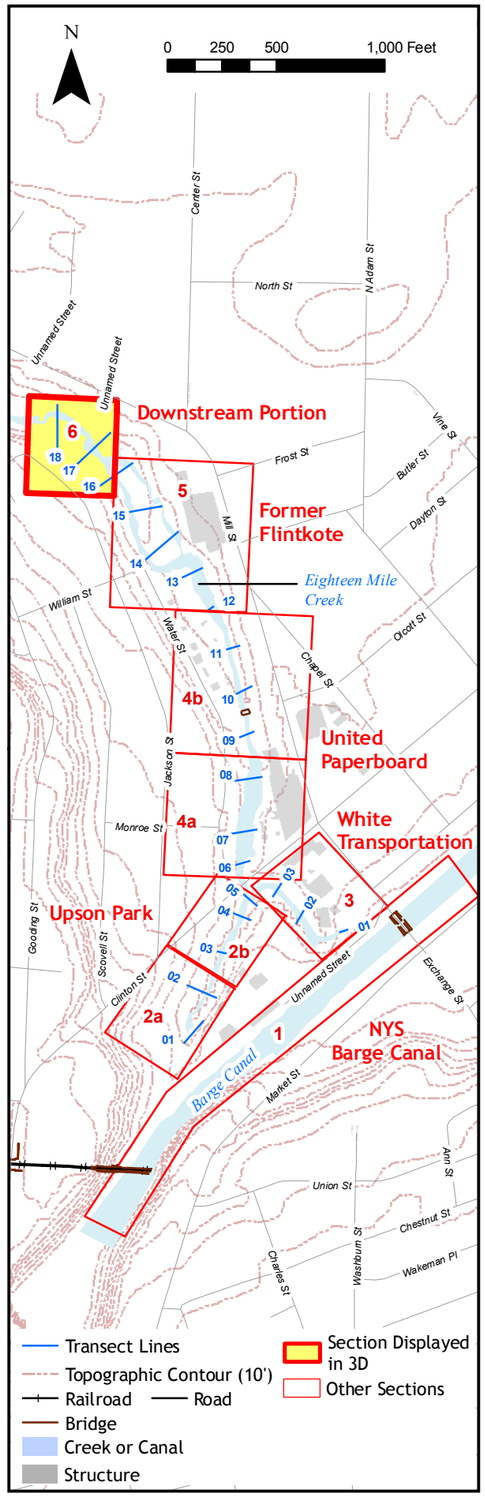


Figure 5-1g
Section 5 (Former Flintkote Plant Site) PCB Concentrations
Vertical Profiles, Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation



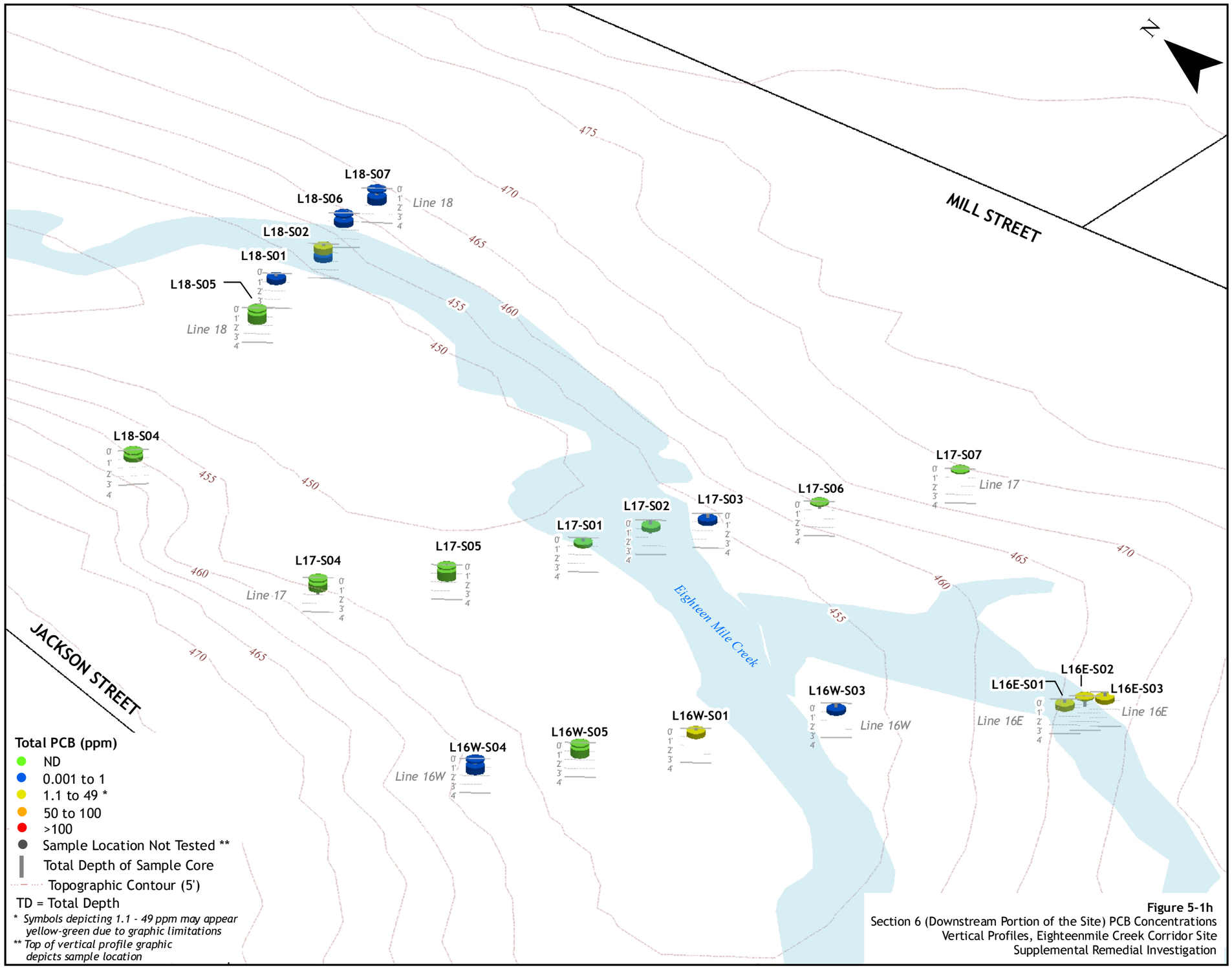
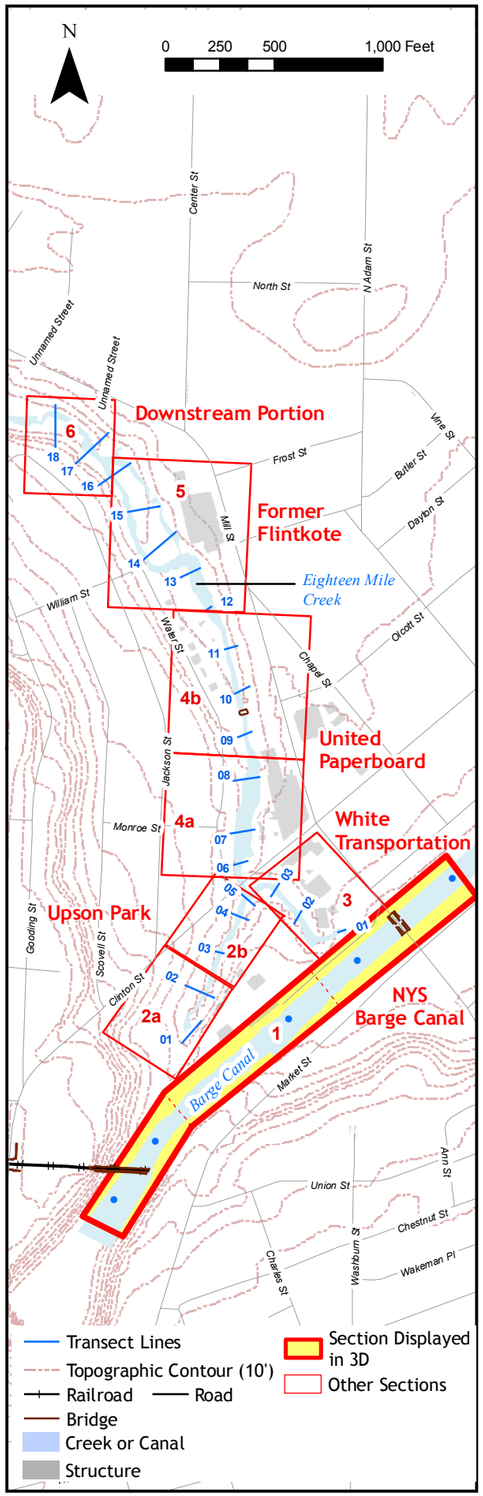


Figure 5-1h
Section 6 (Downstream Portion of the Site) PCB Concentrations
Vertical Profiles, Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation

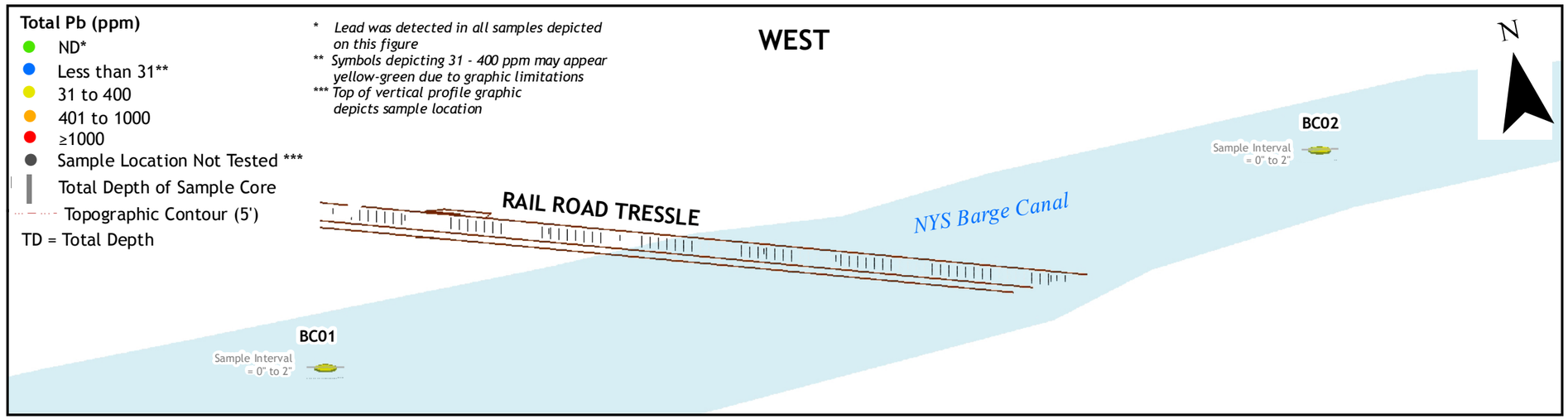


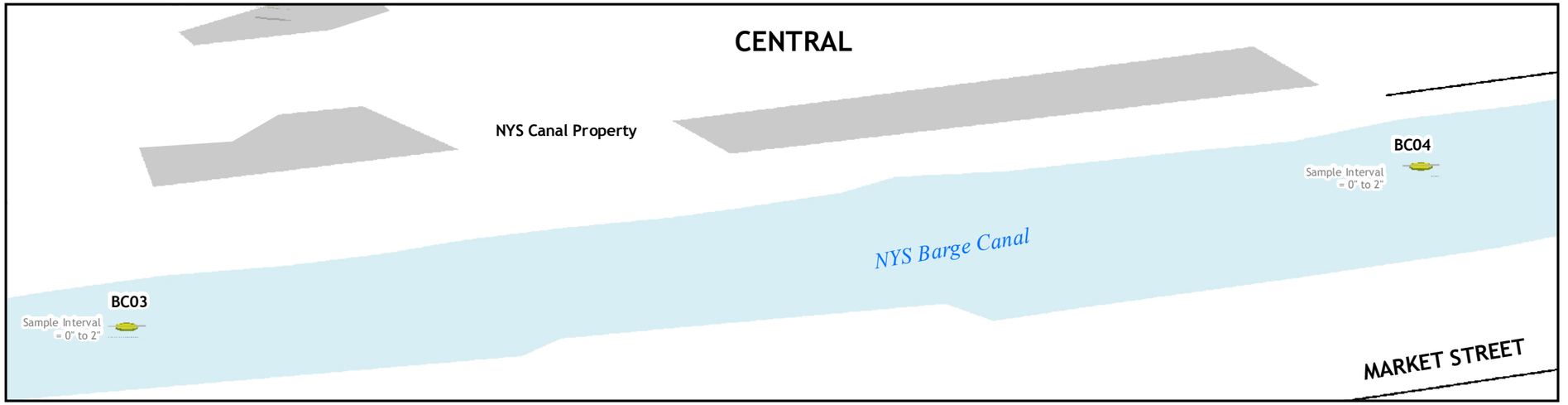
Total Pb (ppm)

- ND*
- Less than 31**
- 31 to 400
- 401 to 1000
- ≥1000
- Sample Location Not Tested ***
- Total Depth of Sample Core
- Topographic Contour (5')

TD = Total Depth

* *Lead was detected in all samples depicted on this figure*
** *Symbols depicting 31 - 400 ppm may appear yellow-green due to graphic limitations*
*** *Top of vertical profile graphic depicts sample location*





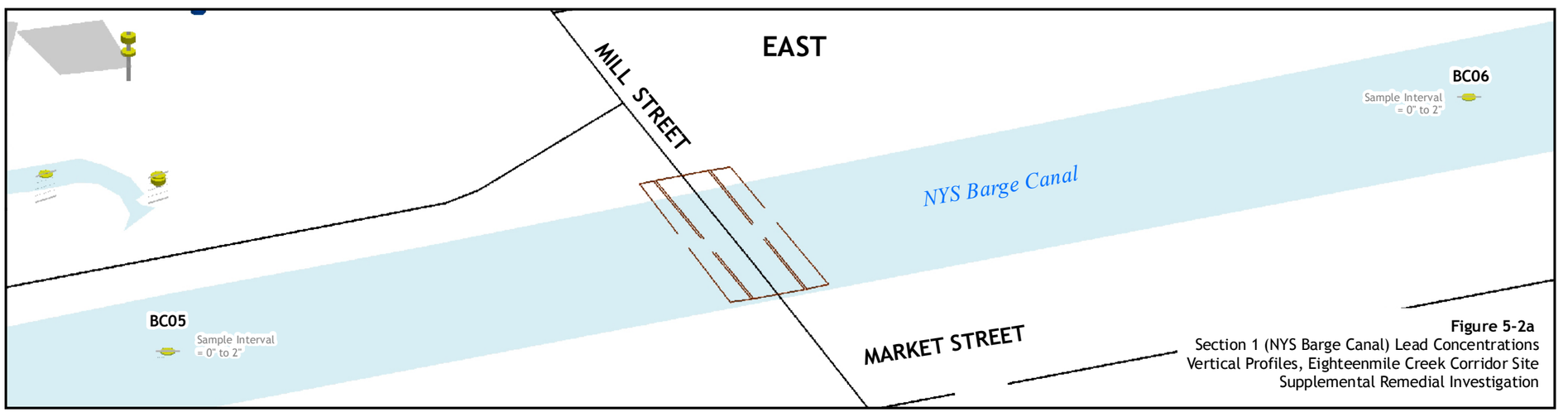
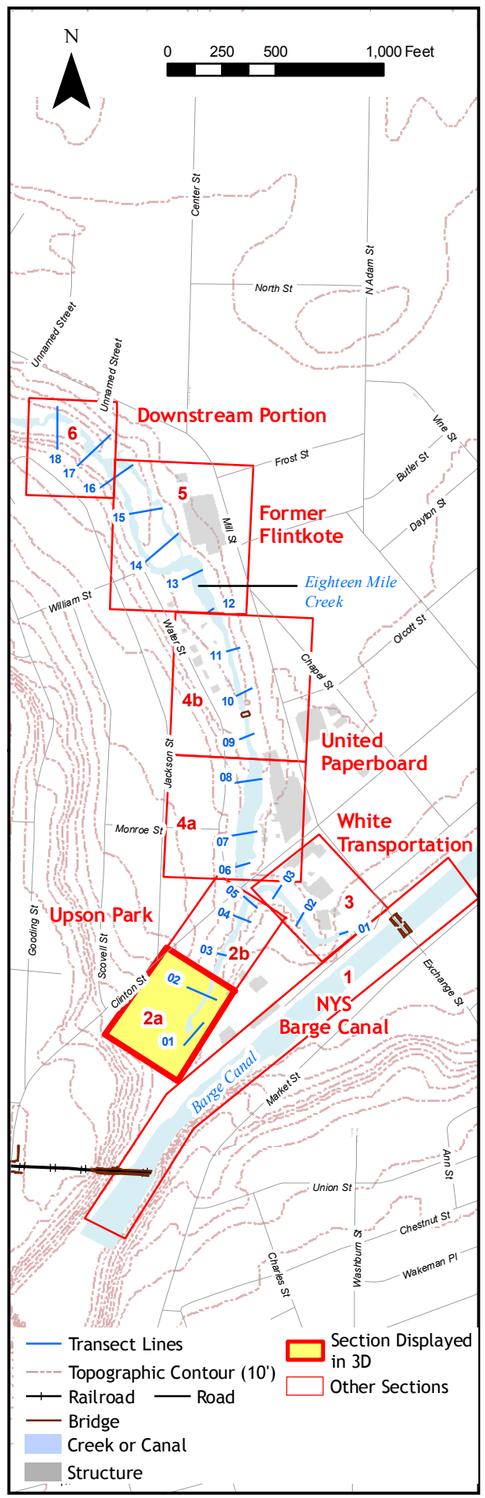


Figure 5-2a
Section 1 (NYS Barge Canal) Lead Concentrations
Vertical Profiles, Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation



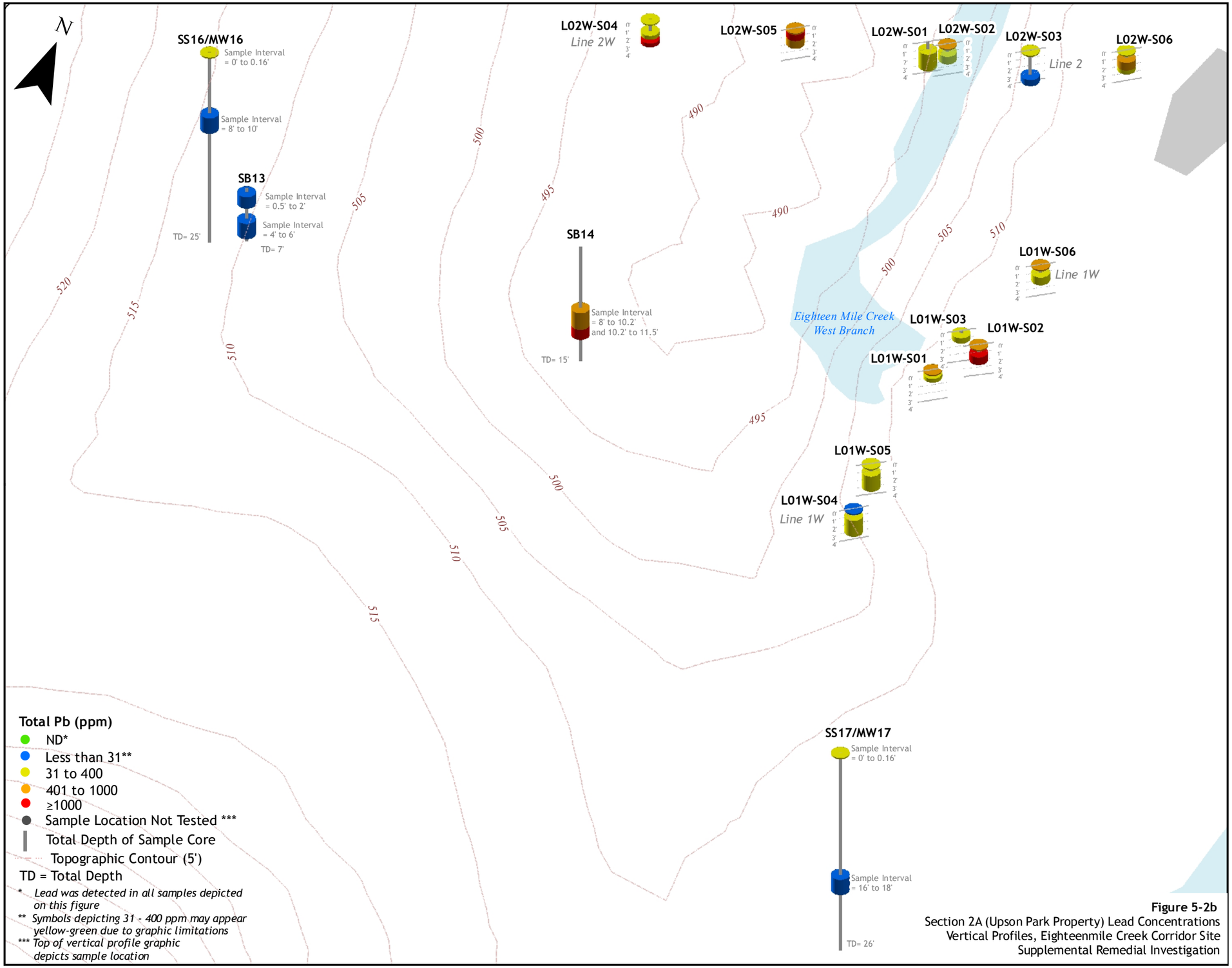
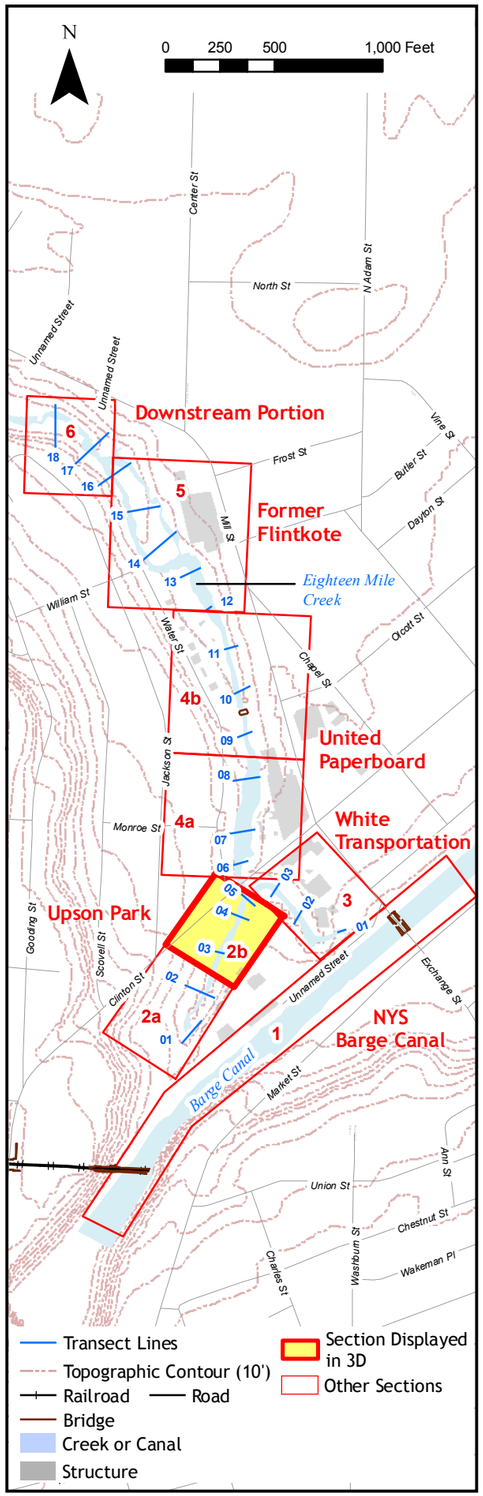


Figure 5-2b
Section 2A (Upson Park Property) Lead Concentrations
Vertical Profiles, Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation



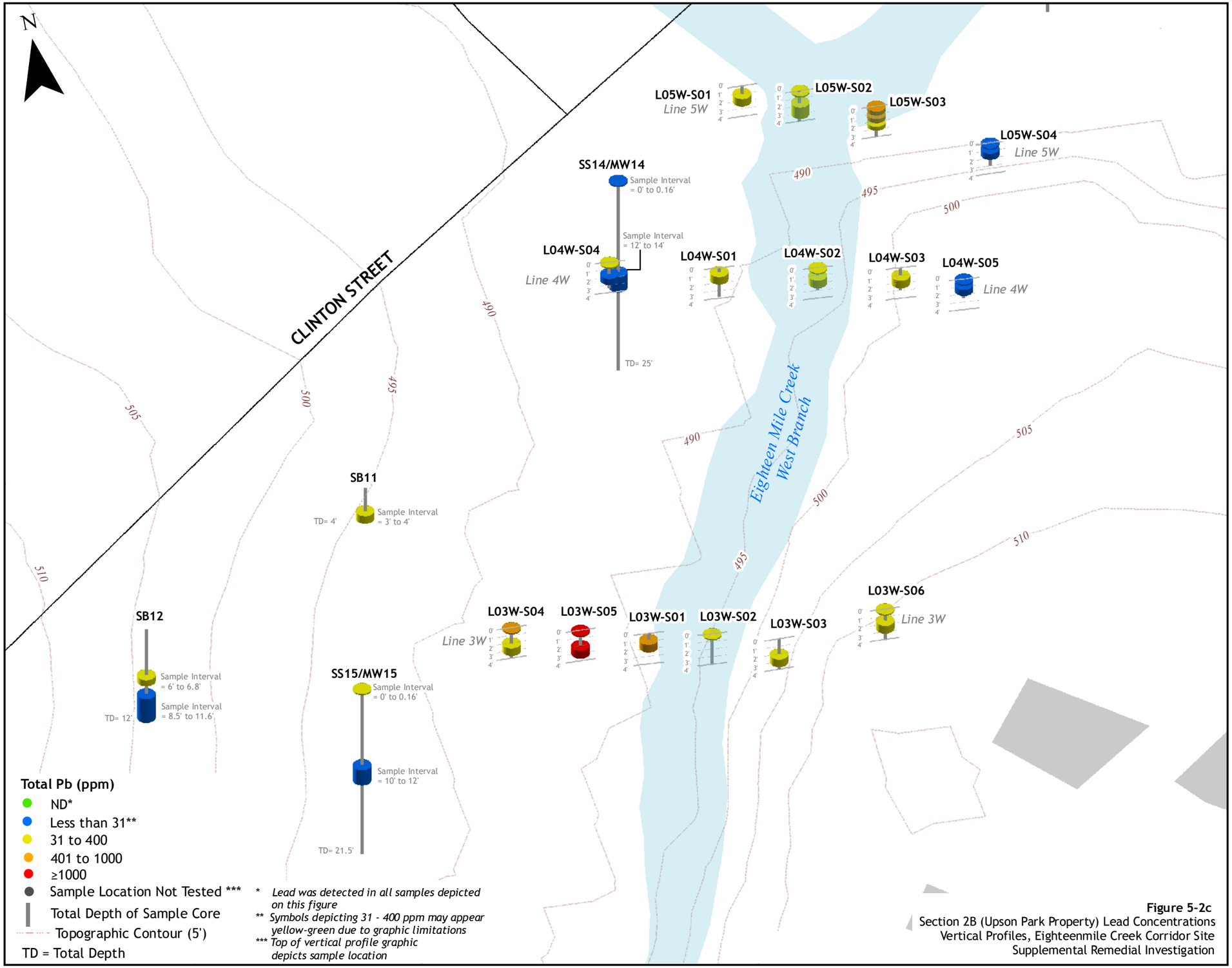
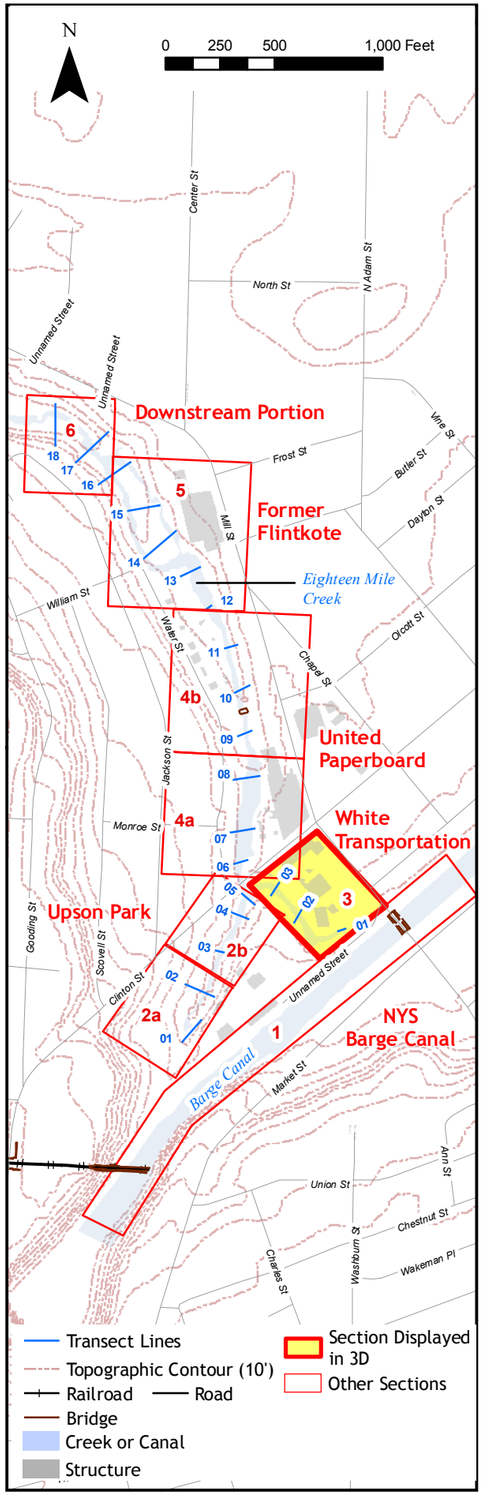


Figure 5-2c
Section 2B (Upson Park Property) Lead Concentrations
Vertical Profiles, Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation



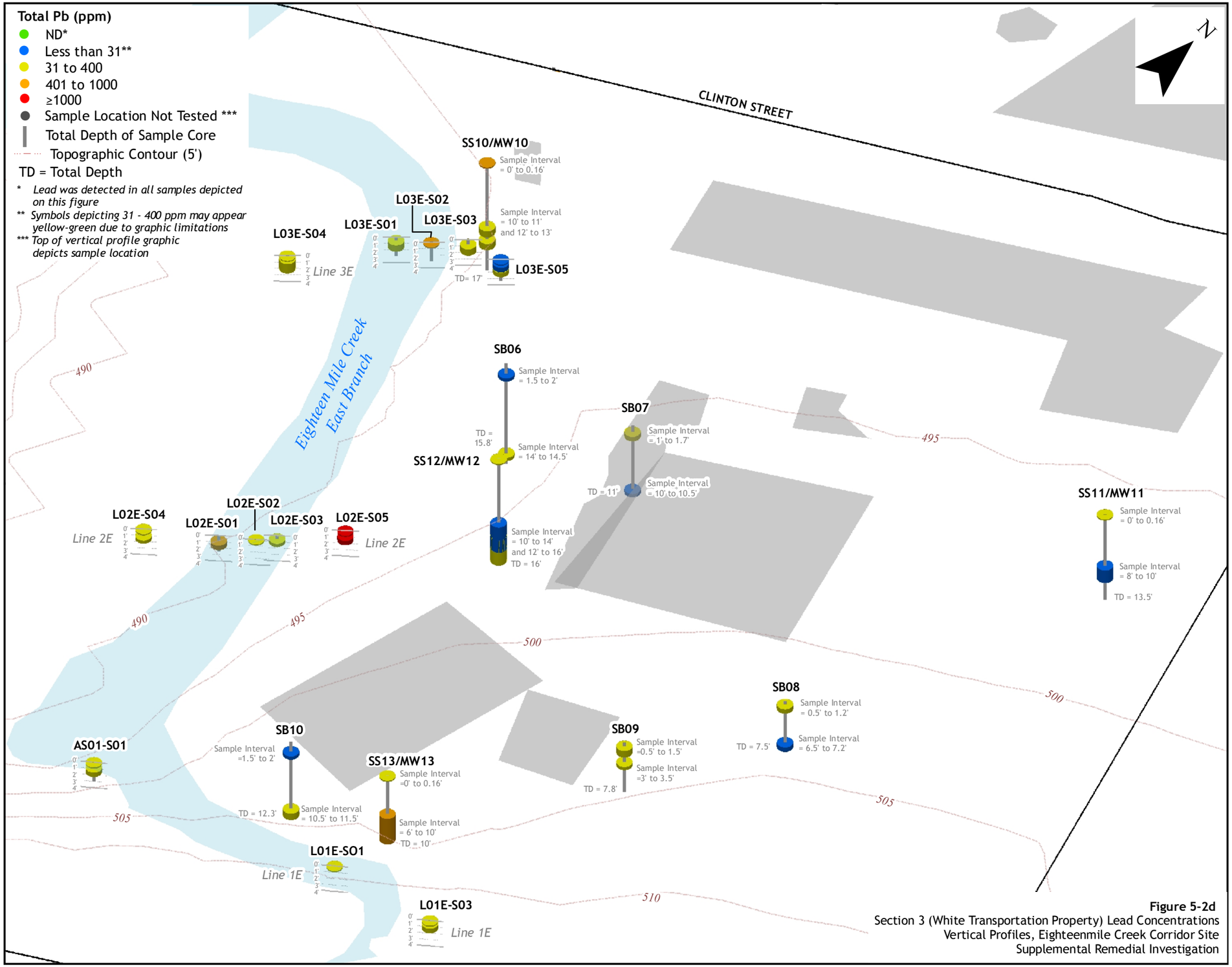
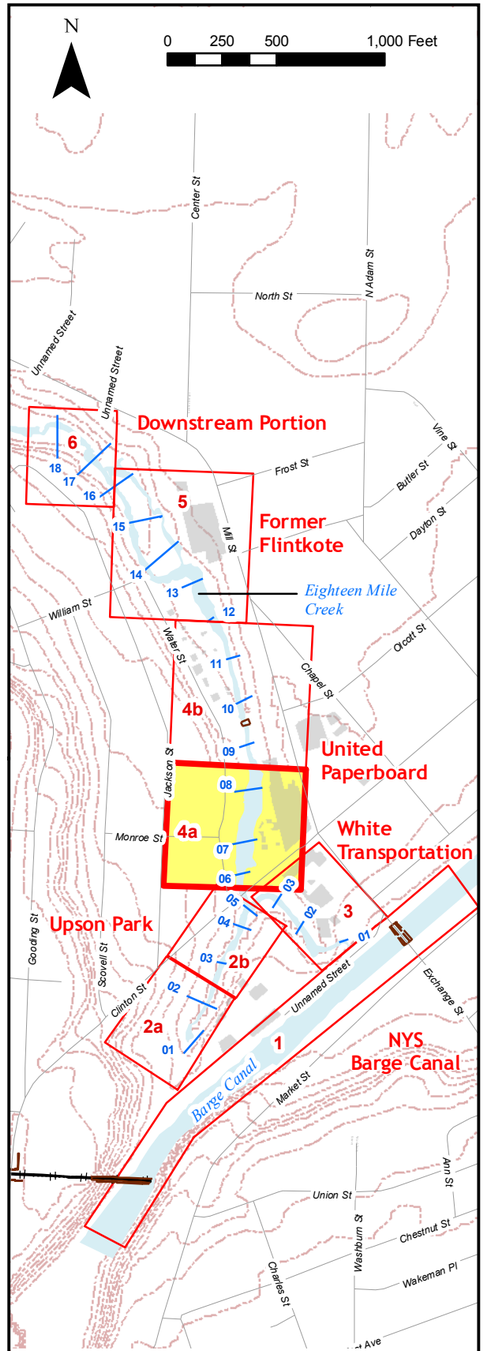


Figure 5-2d
Section 3 (White Transportation Property) Lead Concentrations
Vertical Profiles, Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation



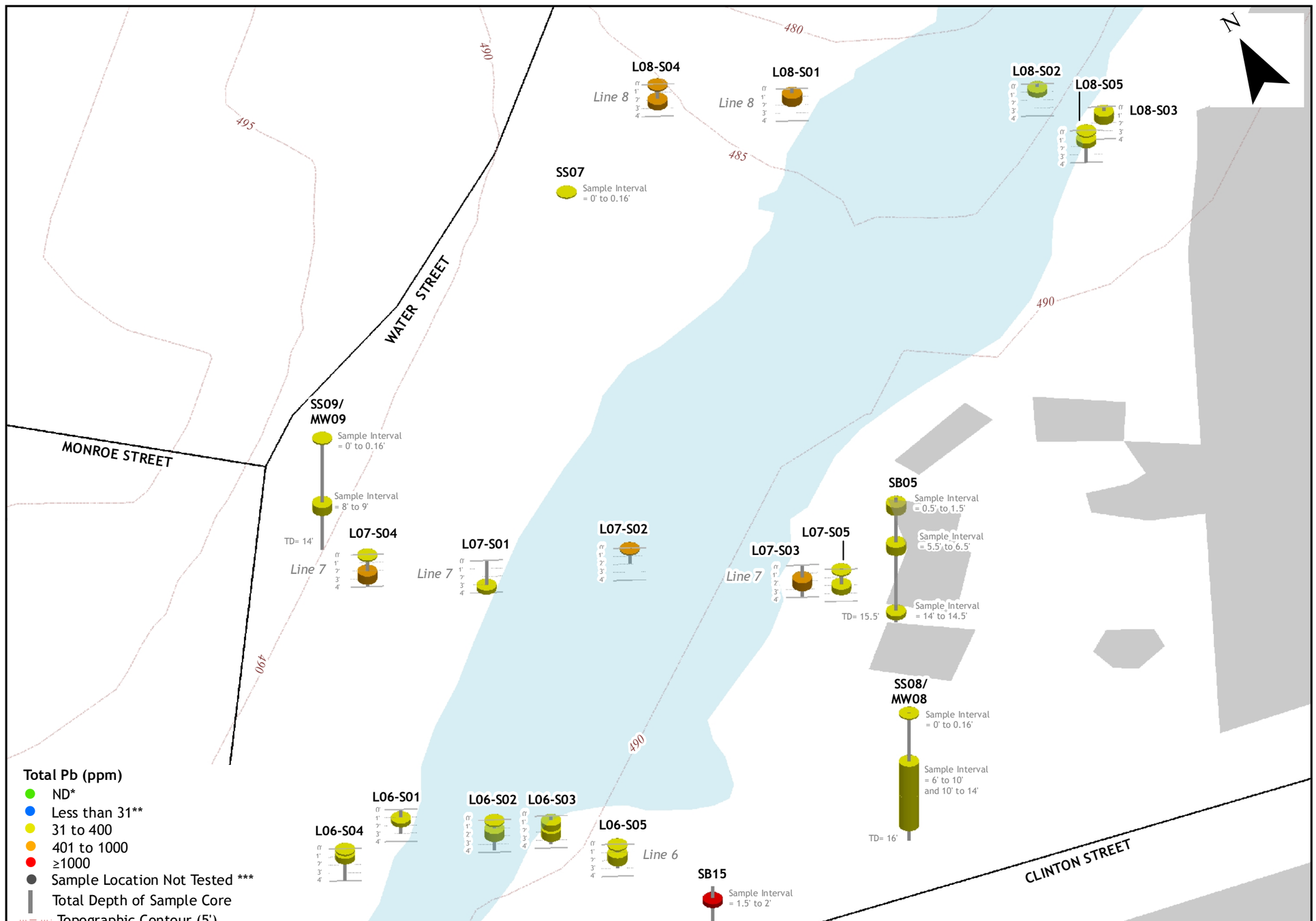
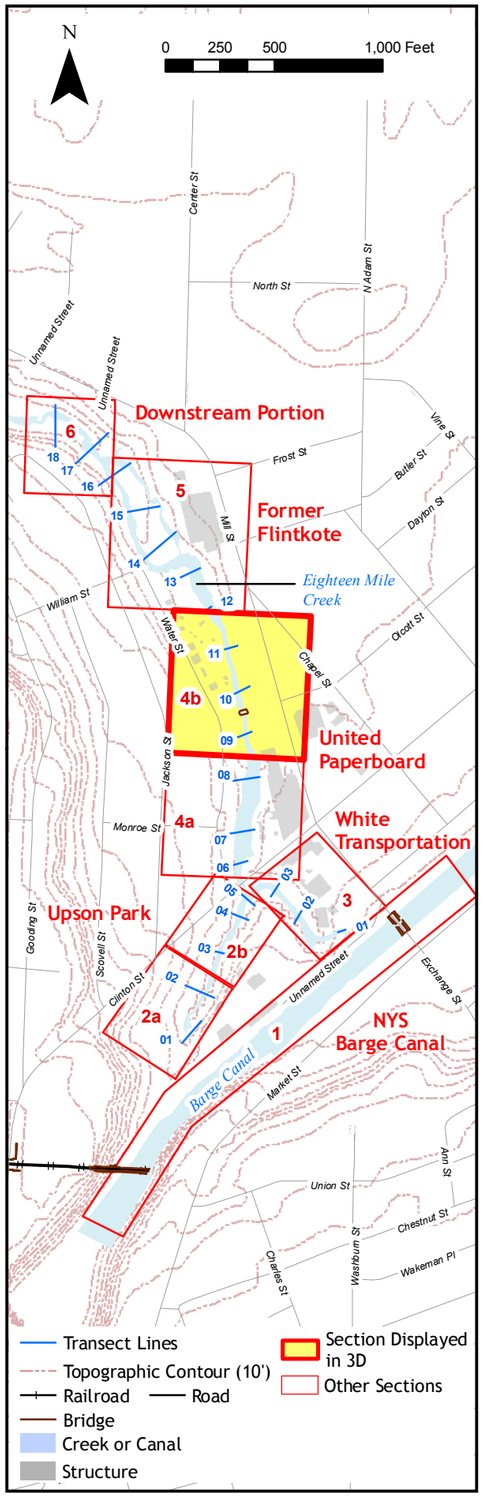
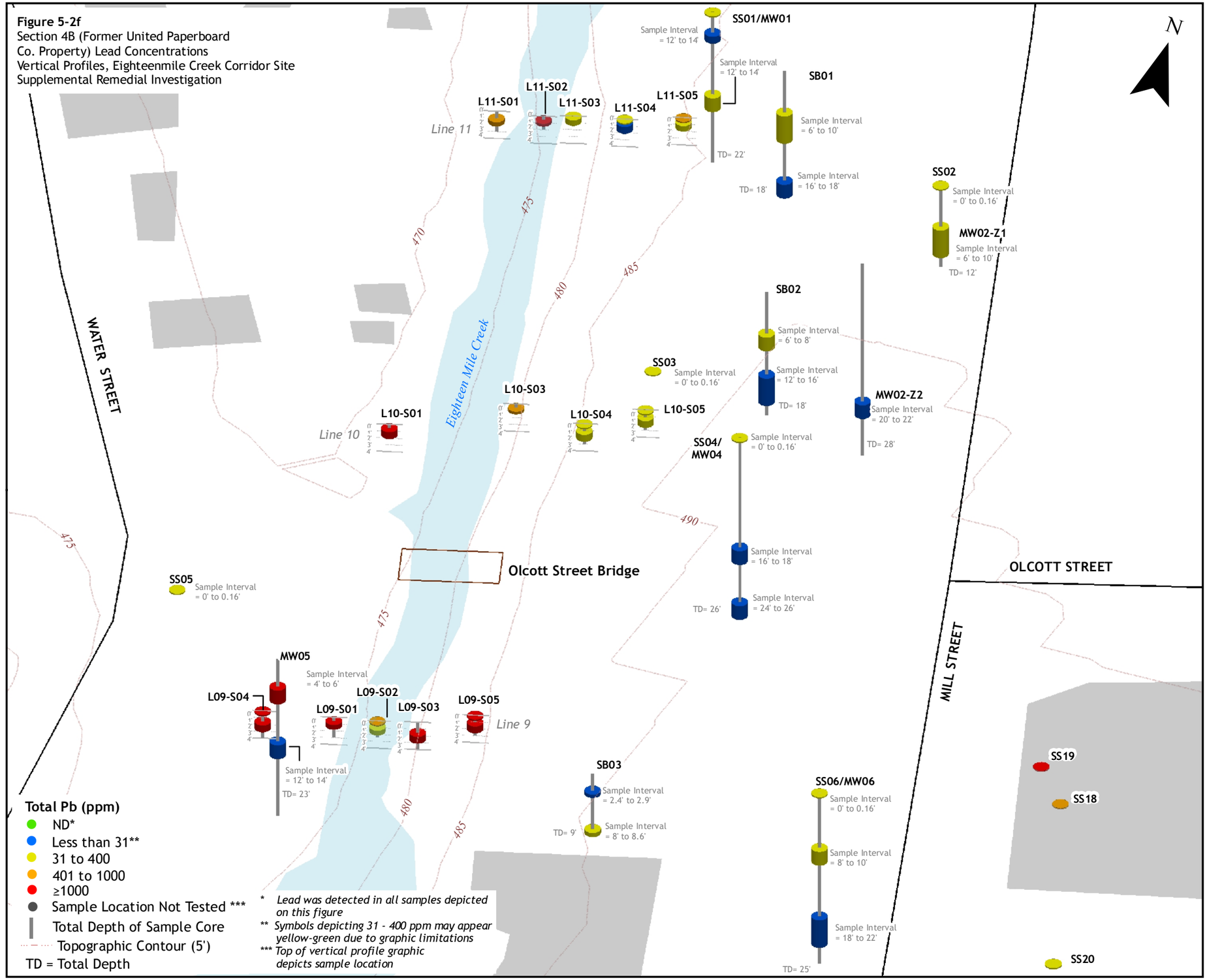
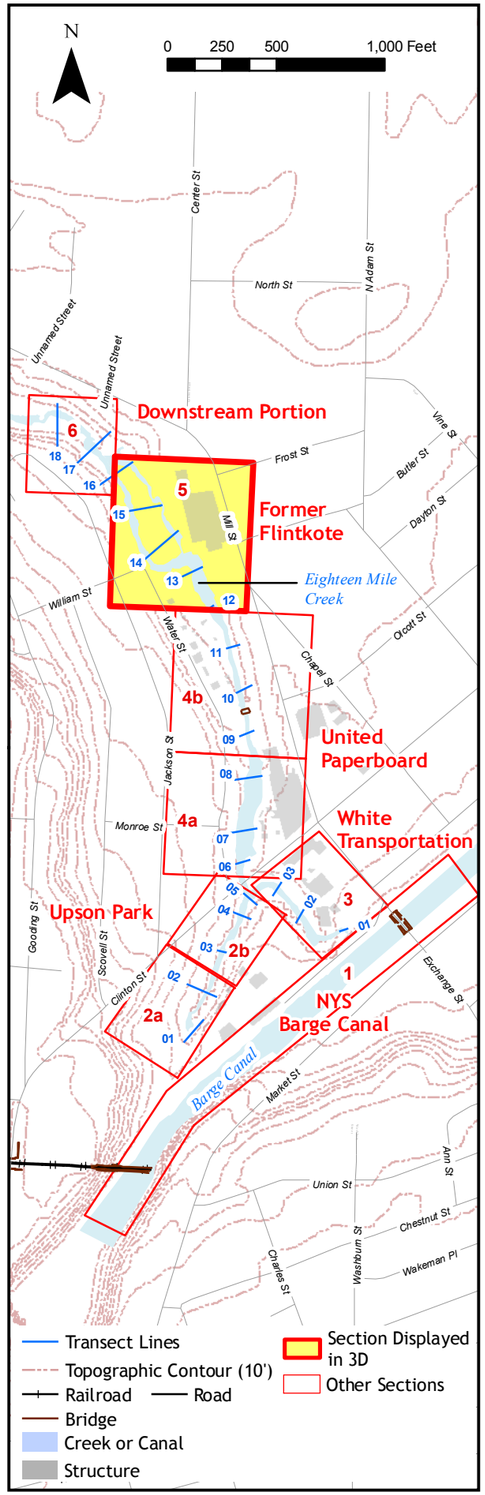


Figure 5-2e
Section 4A (Former United Paperboard Co. Property) Lead Concentrations
Vertical Profiles, Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation

Figure 5-2f
Section 4B (Former United Paperboard Co. Property) Lead Concentrations
Vertical Profiles, Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation







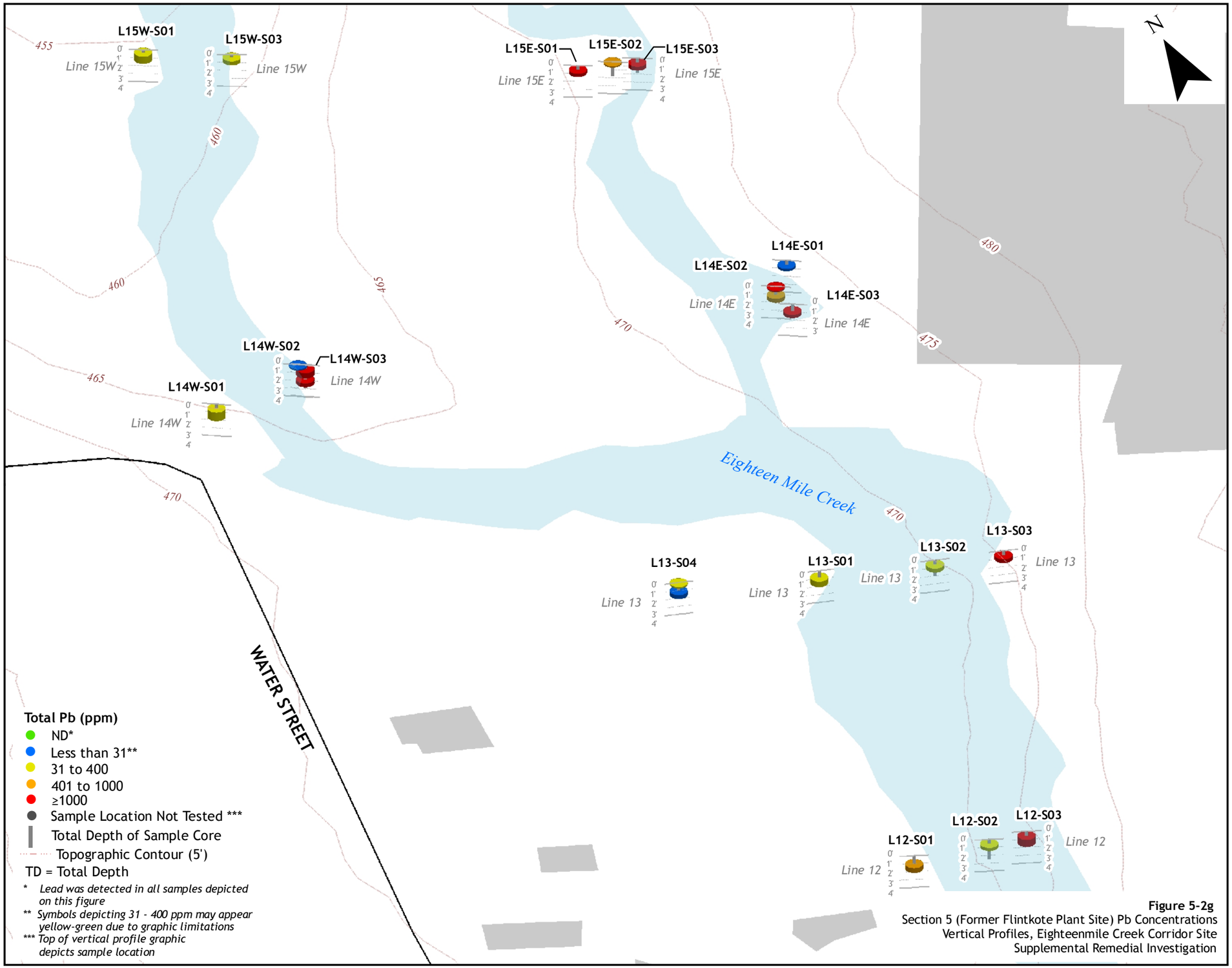
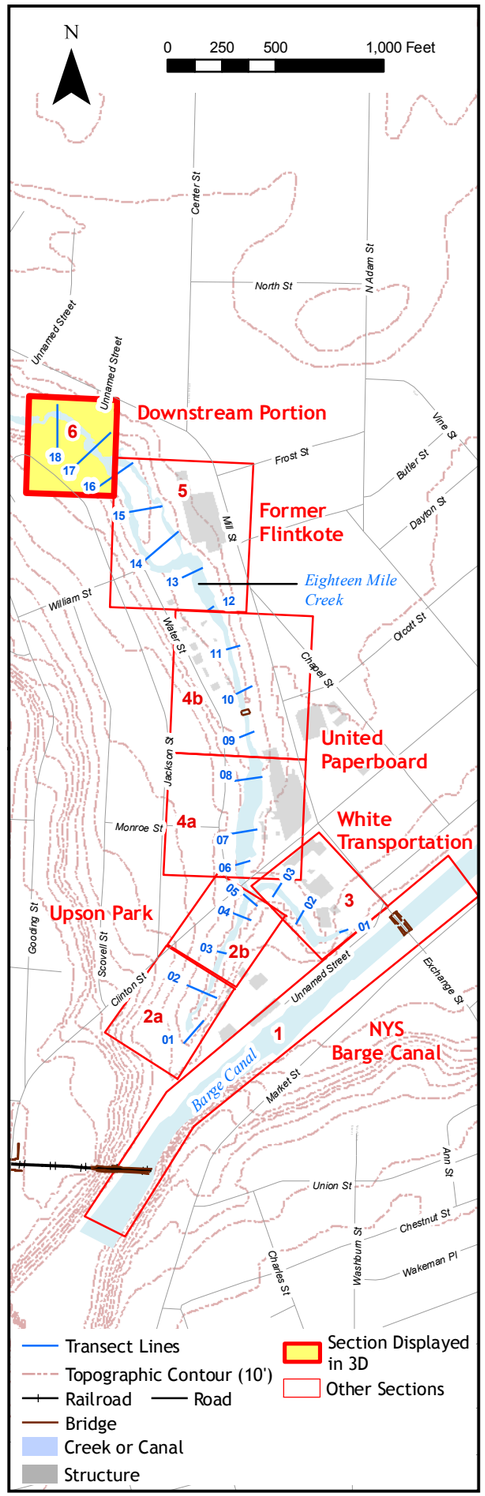


Figure 5-2g
Section 5 (Former Flintkote Plant Site) Pb Concentrations
Vertical Profiles, Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation



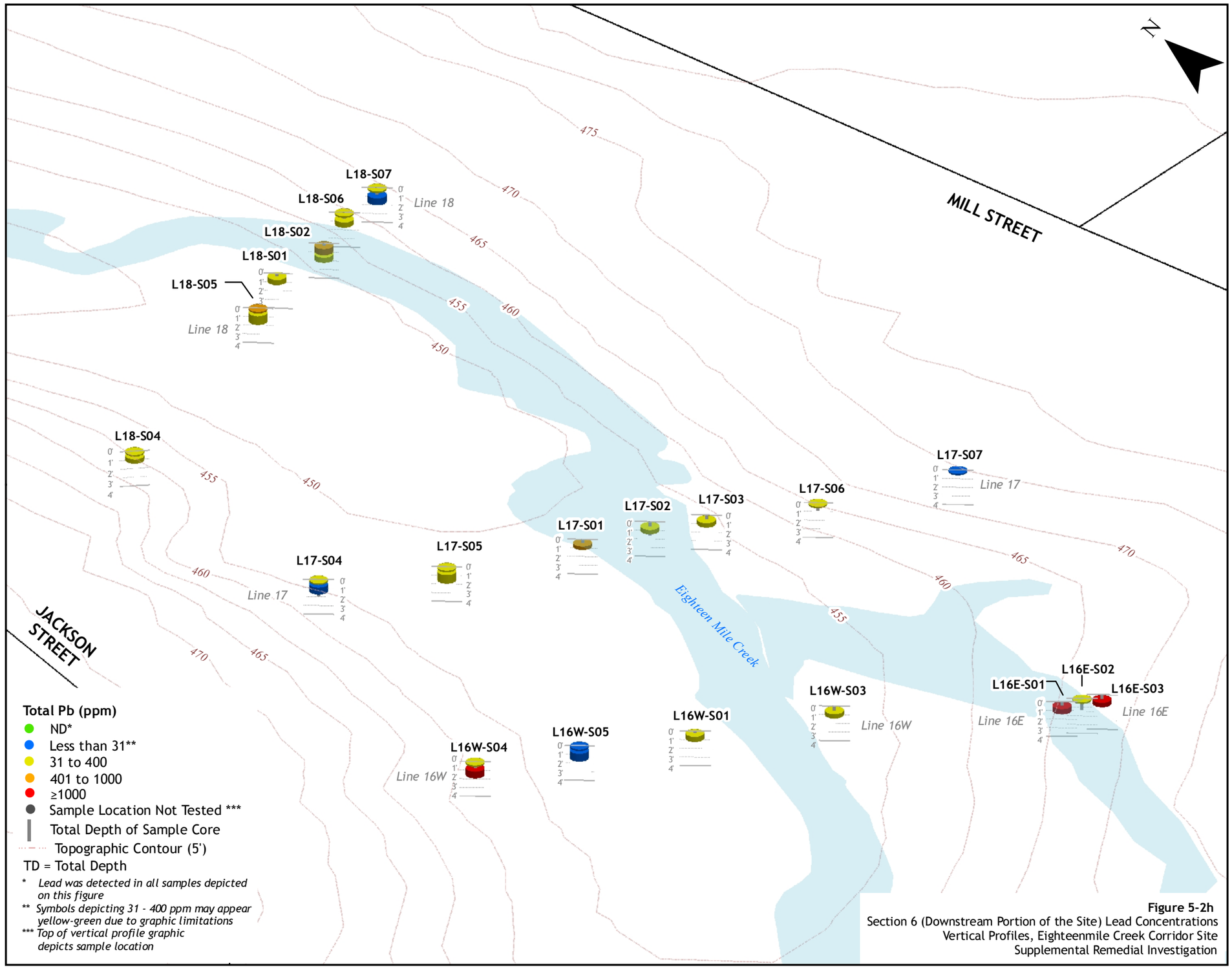


Figure 5-2h
Section 6 (Downstream Portion of the Site) Lead Concentrations
Vertical Profiles, Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation

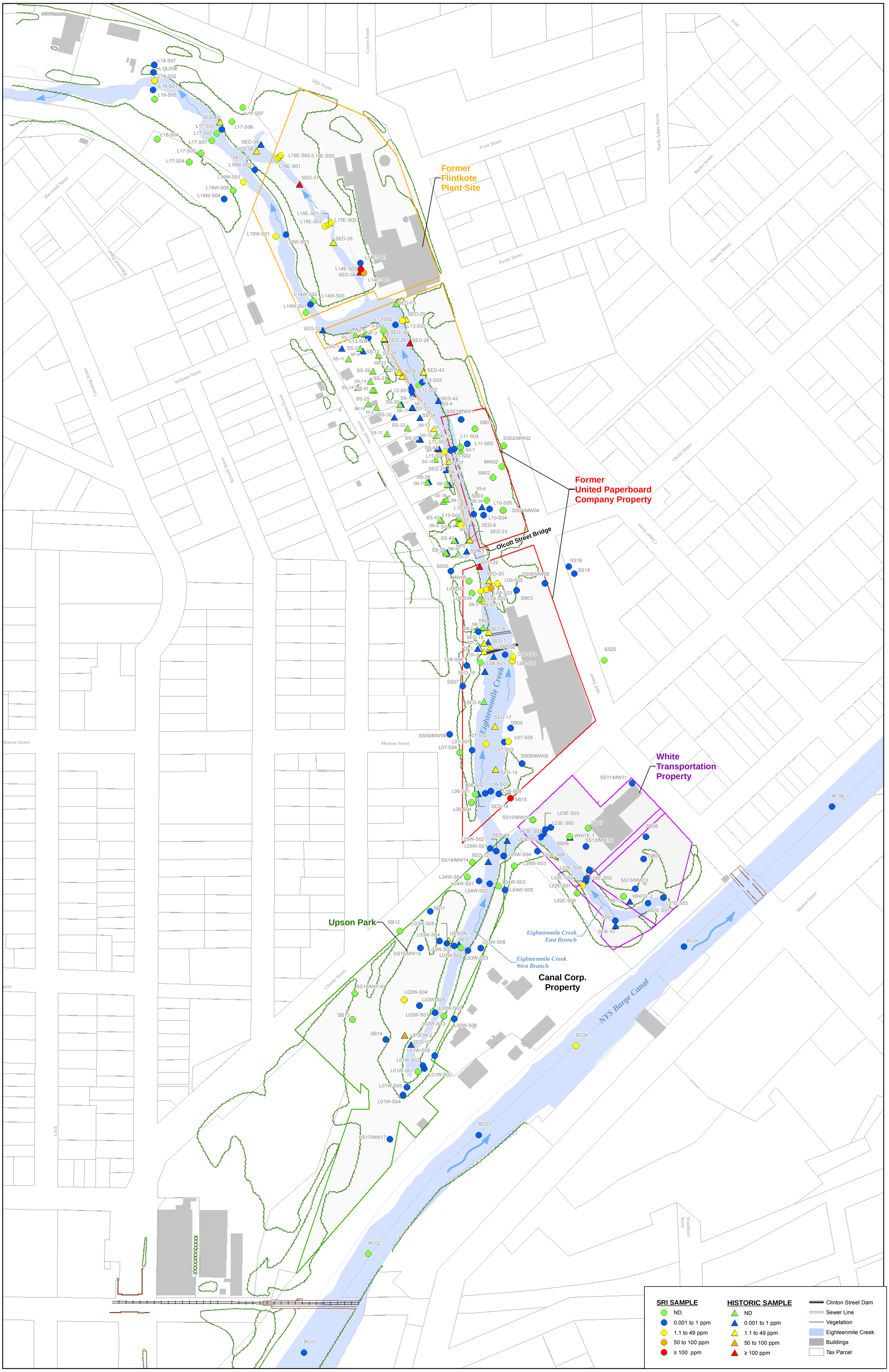


Figure 5-3
Maximum Total PCB Concentration in Sediment and Soil Samples
Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation

© Ecology & Environment, Inc. GIS Department   Project #002699.ID19.01
\\Bufsdl4\gis\Buffalo\eighteenmile\Mxds\AroclorFigures\SurveyDataOct07_Aroclor1242.mxd 4/21/2008

Figure 5-4a
Aroclor 1242 Locations
Eighteenmile Creek Corridor Site
Lockport, New York
Supplemental Remedial Investigation

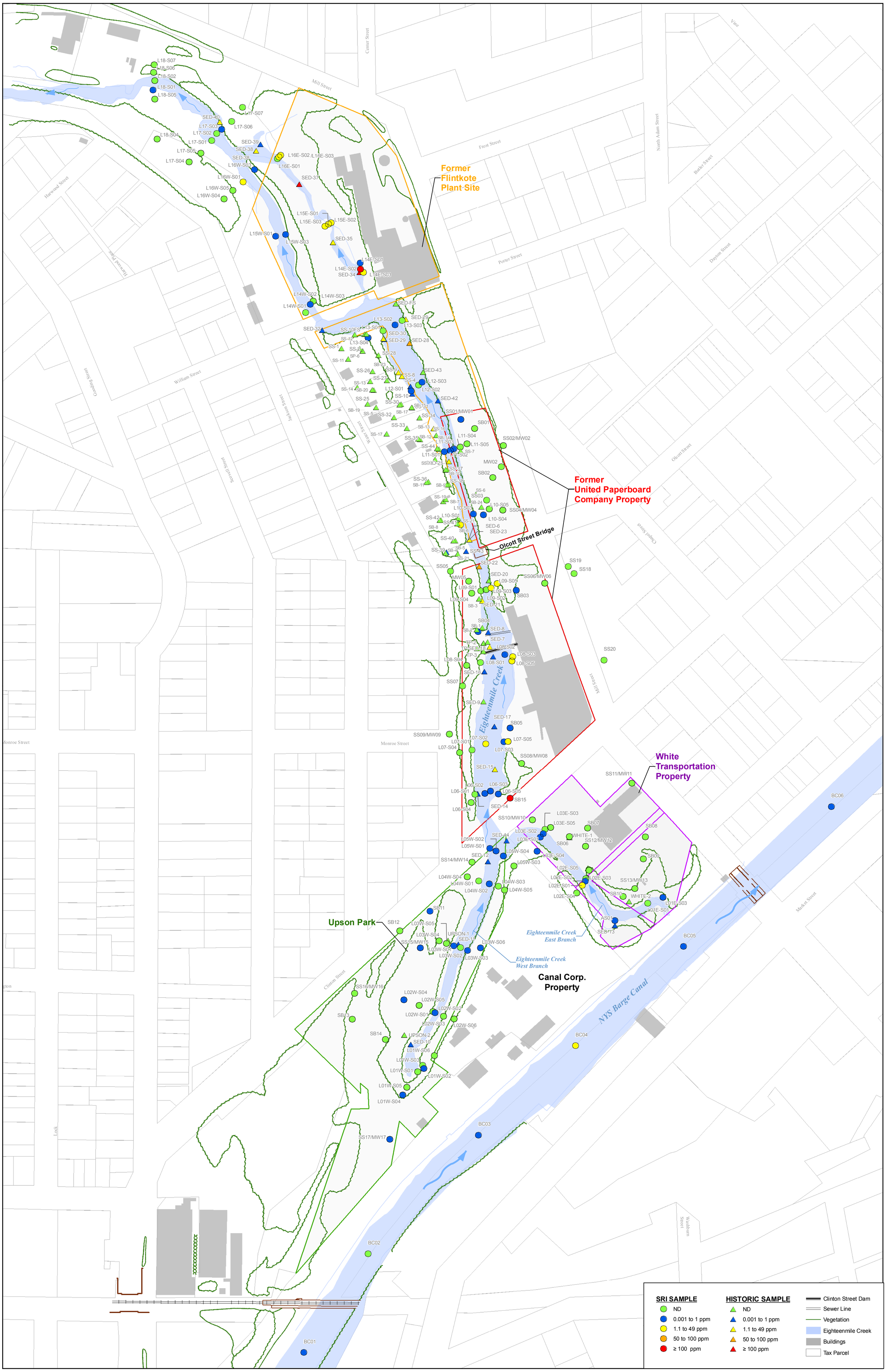


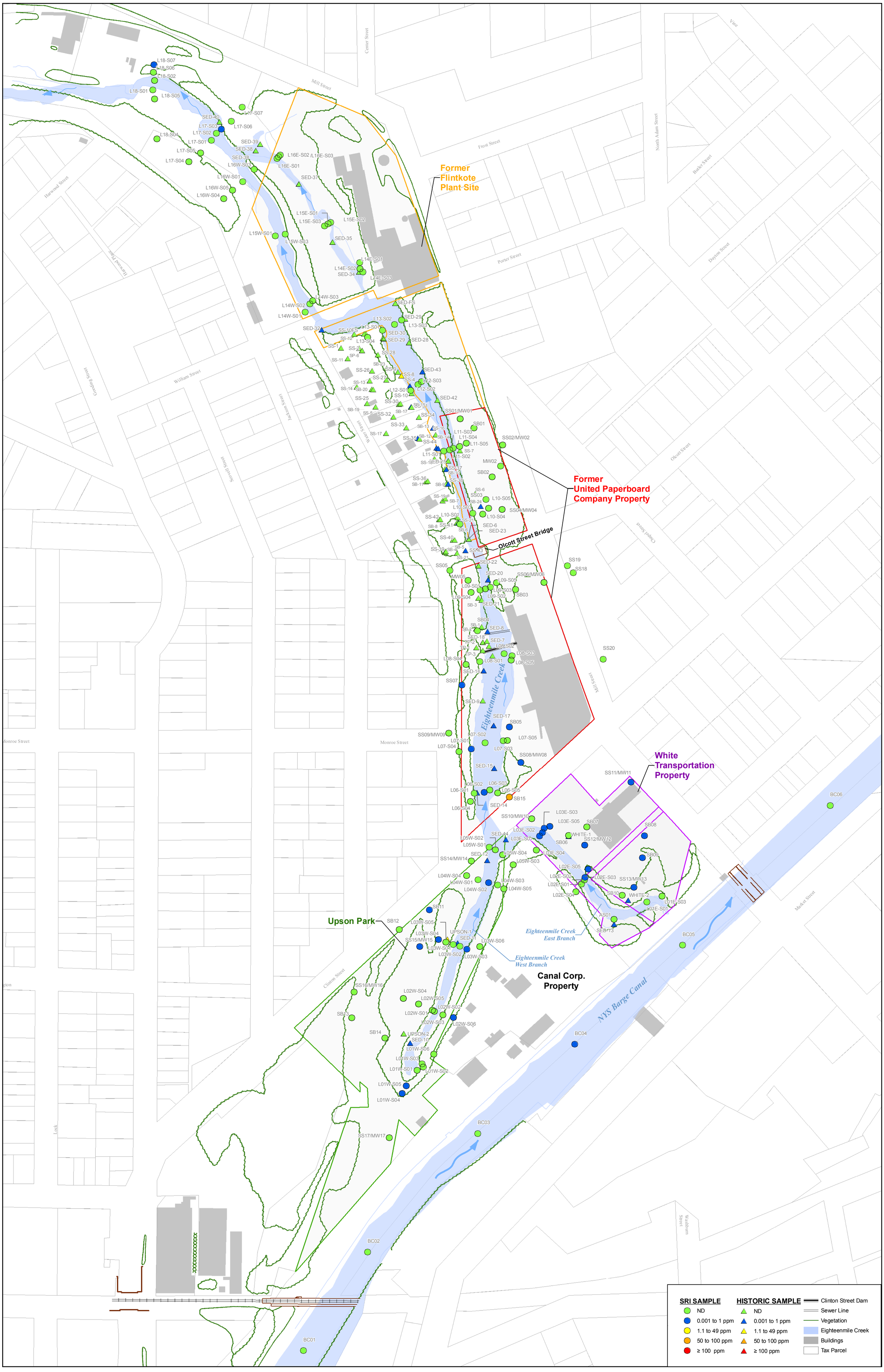
Figure 5-4b
Aroclor 1248 Locations
Eighteenmile Creek Corridor Site
Lockport, New York
Supplemental Remedial Investigation

N

1 inch equals 125 feet

0 125 250 500 Feet

Figure 5-4c
Aroclor 1254 Locations
Eighteenmile Creek Corridor Site
Lockport, New York
Supplemental Remedial Investigation

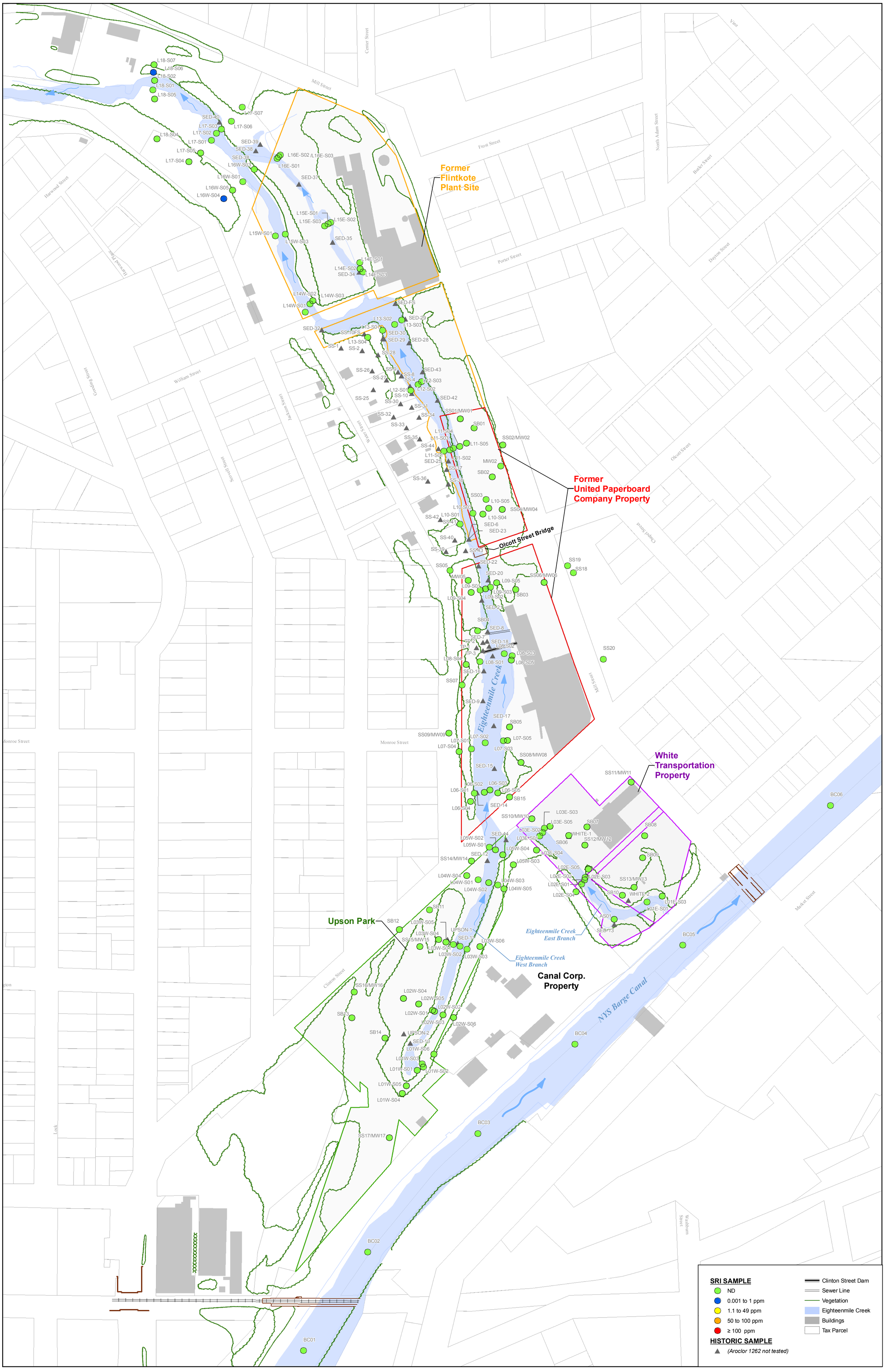


N

1 inch equals 125 feet

0 125 250 500 Feet

Figure 5-4d
Aroclor 1260 Locations
Eighteenmile Creek Corridor Site
Lockport, New York
Supplemental Remedial Investigation



SRI SAMPLE
- ND
- 0.001 to 1 ppm
- 1.1 to 49 ppm
- 50 to 100 ppm
- ≥ 100 ppm

HISTORIC SAMPLE
- (Aroclor 1262 not tested)

- Clinton Street Dam
- Sewer Line
- Vegetation
- Eighteenmile Creek
- Buildings
- Tax Parcel

N

1 inch equals 125 feet

0 125 250 500 Feet

Figure 5-4e
Aroclor 1262 Locations
Eighteenmile Creek Corridor Site
Lockport, New York
Supplemental Remedial Investigation

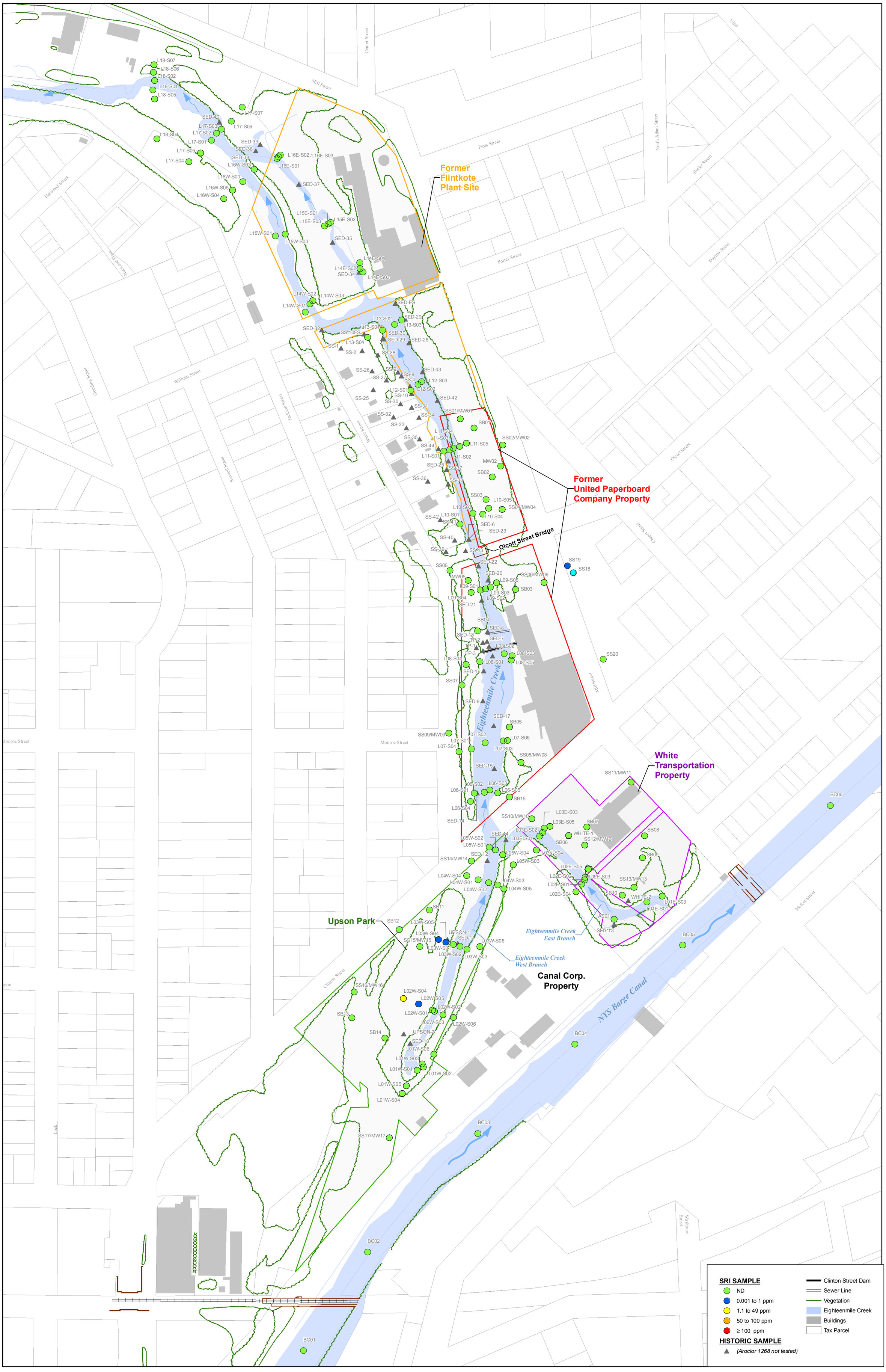


Figure 5-4f
Aroclor 1268 Locations
Eighteenmile Creek Corridor Site
Lockport, New York
Supplemental Remedial Investigaion

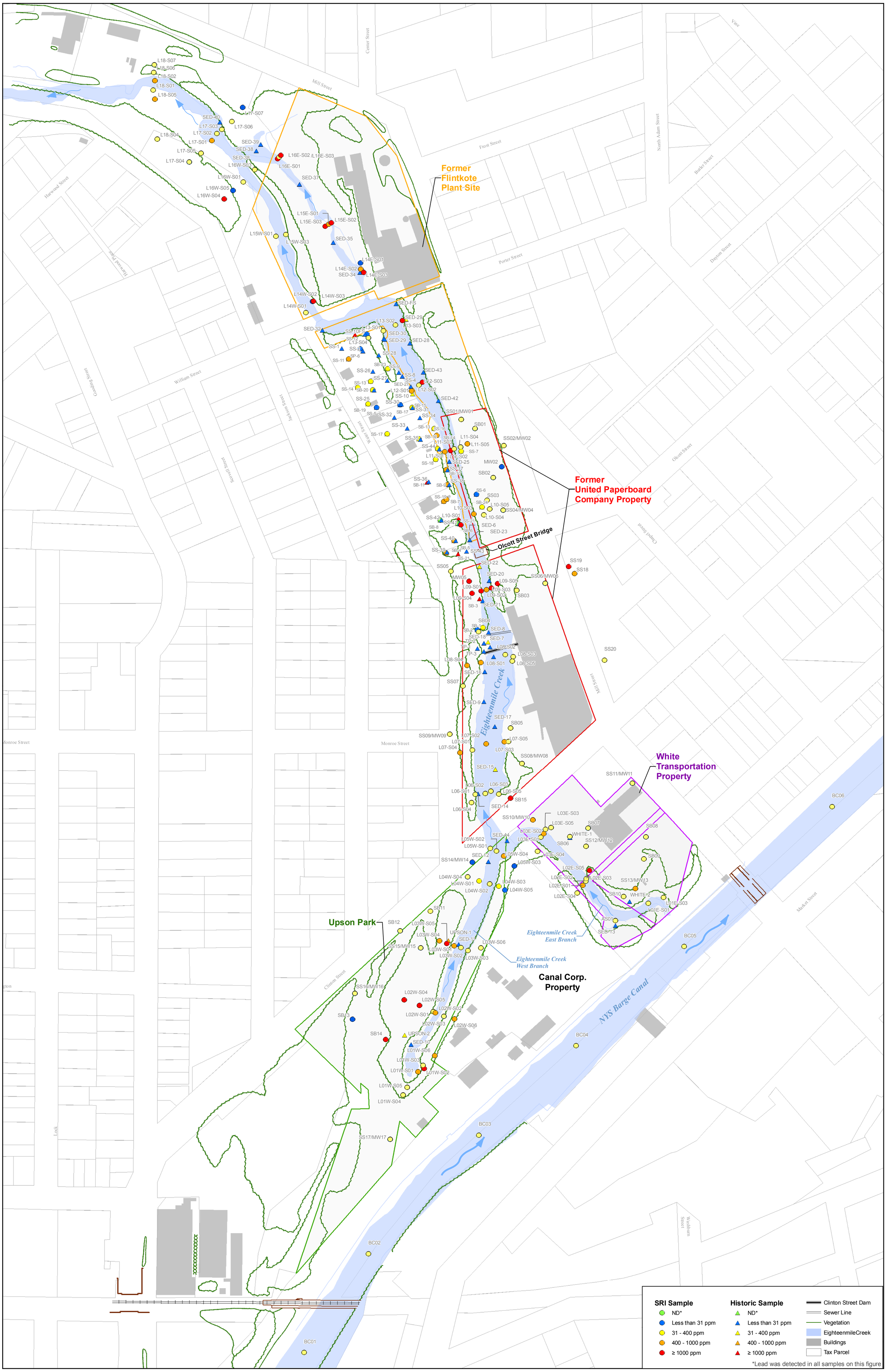


Figure 5-5
Maximum Lead Concentrations in Sediment and Soil Samples
Eighteenmile Creek Corridor Site
Supplemental Remedial Investigation

6 Fate and Transport

6.1 Introduction

This section discusses the natural mechanisms that may result in and affect migration of chemical compounds at the Eighteenmile Creek Corridor Site and the chemical persistence and behavioral characteristics of those compounds. This information is combined with Site-specific data and observations to assess the extent of migration that has occurred.

PCBs and lead were previously identified as the compounds of concern based on historical investigations conducted at the Site and surrounding areas. VOCs, SVOCs, pesticides, and other metals were also detected in sediment and soil samples collected during this SRI.

VOCs were detected in groundwater above screening criteria at the Upson Park and United Paperboard properties. PID screening during this SRI did not reveal the presence of VOCs in Site soils/fill and VOCs have historically not been a COC throughout the Corridor Site. Moreover, flow patterns in the vicinity of the wells with VOC exceedances in the groundwater suggest an off-site source for the VOCs.

SVOCs (primarily PAHs) were detected above screening criteria in sediment and soil samples; however, concentrations of these compounds were consistent with concentrations typical of urban areas. Furthermore, the presence of PAHs in soils throughout the site appears to be associated with the fill on these properties, which was also where metals and PCB contamination was found. Therefore, SVOCs will not be considered as primary COPCs at these sites because alternatives to address metals and PCBs will also address soil and soil-like material contaminated with PAHs.

Pesticides were also reported above screening criteria throughout the Corridor Site. However, these pesticide detections are considered laboratory artifacts due to matrix interferences during analysis and their presence in the samples is considered suspect. Moreover, over half of these pesticide exceedances coincide with PCB exceedances and, as such, their presence will be addressed as PCB contamination is addressed.

In addition to lead, some sediment and subsurface samples also exhibited elevated antimony, arsenic, barium, cadmium, calcium, chromium, cobalt, copper, iron, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, vanadium and zinc concentrations. However, 73% of these exceedances were collocated with PCB and lead exceedances and will, therefore, be addressed as PCB and lead contamination is addressed. The samples where other metals exceedances do not coincide with PCB and lead exceedances involved, at a minimum, chromium exceedances and they will be considered during the FS.

Below is a summary of the SRI findings:

- PCBs were not detected in the on-Site groundwater samples;
- PCBs were detected at concentrations exceeding the NYSDEC SCO in several samples throughout the Site;
- The highest Aroclor 1260 concentration was found in soil boring 18MC-SB15 installed near an area of fill found in the southeast corner of the property near Clinton Street. Low levels of Aroclor 1260 was found in the Barge Canal sediments, White Transportation sediments and soils, Upson Park sediments and soils, in the Mill Pond, and downstream of the corridor. RI samples from the Former United Paperboard Company parcels also contained Aroclor 1260;
- The highest Aroclor 1254 concentration found at the Site was in RI sample SED-22 collected south of the Olcott Street Bridge. During this SRI, the highest Aroclor 1254 concentrations were found in the Former Flintkote Plant Site (east side of millrace). Aroclor 1254 was not found in the Barge Canal samples;
- The highest Aroclor 1248 concentrations were found in the Former Flintkote Plant Site (L14E-S02) and in the Former United Paperboard Company property (SB15). Aroclor 1248 was detected above 1 ppm in sediment samples from all the areas sampled except the Upson Park property;
- Aroclor 1242 was only detected downstream of the Clinton Street Dam;
- Aroclor 1262 was only detected in two samples collected downstream of the study area at concentrations below 1 ppm;
- Aroclor 1268 was only found in the samples collected from the former coal power plant located east the Former United Paperboard Company property at the corner of Mill and Olcott streets and at four off-bank coring locations installed west of the creek in the Upson Park property;
- Although lead was present in most soil samples collected from the Eighteenmile Creek Corridor Site, the highest lead concentrations were located in the

west bank of the Upson Park property, south of the Olcott Street Bridge, and in the creek along the Former United Paperboard Company and Former Flintkote Plant Site properties; and

- Antimony, iron, manganese, and sodium were detected above the screening levels in the monitoring wells around the Site. However, iron, magnesium, manganese, and sodium are ubiquitously found in the natural formations in the area and are not considered COPCs. Antimony detections are suspect due to spectral interference and should be confirmed by inductively coupled plasma/mass spectroscopy (ICP/MS) analysis. There were no other metals found in the groundwater above screening criteria in any of the sites.

An additional field investigation was performed at the Corridor Site in late 2008/early 2009 (EEEPC 2009) to fill in gaps in the RI and SRI data and to facilitate the FS. The findings of the Additional Investigation were submitted as an addendum to the Final SRI report (EEEPC 2009). Below is a summary of the Additional Investigation findings:

- Solids detected in the water column are in the dissolved phase as evidenced by the absence of suspended solids detections in both Barge Canal and creek samples;

- Limited means of contaminant transport in the dissolved phase changing to the suspended phase and ultimately to be deposited at the Site; and

- Passive In Situ Chemical Extraction Sampler (PISCES) samples indicate little to no impact to fish from PCBs.

Based on the finding above, the Additional Investigation concluded that Barge Canal sediments do not appear to be currently a significant contributor of PCBs and metals to Eighteenmile Creek sediments in the Project Area. Therefore, the likelihood of re-contamination from the Barge Canal after creek sediments have been remediated is small.

6.2 Potential Sources of Contamination

The properties associated with the Eighteenmile Creek Corridor Site include the Barge Canal, Upson Park, the White Transportation property, the Former United Paperboard Company property, and the Former Flintkote Plant Site. Many of these properties have had manufacturing operations (e.g., paper mill, box factory, boat building, pulp mill) conducted on-Site starting as early as the mid 1880s. Each of these properties was previously identified as potential source areas that may have contributed contaminants to Eighteenmile Creek. Below is a summary of the RI and SRI findings as they related to potential source of contamination in the creek.

Upstream of the Site

There were no PCBs found in the two upstream creek sediment samples (upstream of the culverted portion of the creek). The metals concentrations were in the low end of the range of metals concentrations found in the Site creek sediments. PAH concentrations in the upstream samples were relatively high consistent with urban runoff. These findings indicate that the metals and PCB contamination in the creek does not originate upstream of the Barge Canal.

New York State Barge Canal

In addition to the seven Barge Canal samples collected during the SRI (six locations near the Corridor), nine Barge Canal samples (five locations) were collected in April 2005 by the URS Corporation. These samples were collected as part of the Remedial Investigation of the New York State Electric and Gas Substation at South Transit Street and State Road in the city of Lockport, Niagara County, New York.

PCBs. PCBs were detected in all nine URS upstream Barge Canal samples and in six of the seven SRI Barge Canal samples. Aroclor 1248 was the only congener detected consistently in both sets of samples. The highest SRI concentration (2.5 ppm) was found in the sample collected opposite of the Canal Corporation property between the East and West Branches of the creek. The highest upstream concentration from the URS investigation was 310 ppm. PCB concentrations in the canal sediments exceed the screening criteria and in some cases they also exceeded the hazardous waste level.

The relatively low Aroclor 1260 levels are consistent with levels found in Site sediments and soils. The SRI Aroclor 1248 concentration is in the low end of concentrations found in the creek sediments and the Site soils. It is however comparable to the levels found south of Clinton Street (White Transportation samples and Upson Park). These data suggest that the Barge Canal could be a chronic source of PCBs to the creek. However, the elevated PCB concentrations found further downstream indicate that the canal is not the only source. The variability of the PCB concentrations between the SRI and URS samples suggests that migration of PCB contamination in the Barge Canal is complicated and fluctuating.

Metals. Lead was detected in all canal samples. The SRI samples contained lead at concentrations comparable to the URS samples. Barge Canal lead concentrations were similar to the concentrations of lead found in many of the Eighteenmile Creek sediment samples and fall in the lower range of lead detected during the SRI. Lead concentrations exceeded the screening level in several samples. The lower lead levels found in the canal indicate that the canal is not likely the main source of lead contamination in the creek but could be contributing to the lead contamination in the creek.

Concentrations of the other metals exhibited the same patterns as the lead concentrations. Similar to lead, concentrations of the other metals found in the Barge

Canal were comparable to the low end of the concentration range found in the creek sediments.

SVOCs. SVOCs, primarily PAHs, were detected in the Barge Canal samples. Total PAH concentrations exceeded 10 ppm. PAH concentrations in the canal sediments were at the higher end of the concentration range found in the Site sediments. The relatively elevated levels of PAHs detected in the canal sediments indicate that the canal may be a contributing source of PAHs in the creek.

Upson Park

As further discussed in Section 8, the water in the West Branch of the creek in the vicinity of Upson Park, originates from a dry dock on the north side of the Barge Canal. Both gray-black slag fill and red-brown cinder fill (containing glass, metal fragments, brick fragments, rubber, and buttons) were observed in Upson Park. The reddish-brown ash-like fill was observed in the embankment along Eighteenmile Creek.

PCBs. PCBs were not present in the samples collected from the fringes of the property. The concentrations of PCBs in the vicinity of the creek were generally less than 1 ppm. The highest concentrations of total PCBs in the area were found in the two NYSDEC RI soil samples collected near the west bank of the creek (80 ppm in the subsurface and 1.6 ppm at the surface), and in a SRI off bank subsurface soil sample (4 ppm) collected at 2.5 to 3 feet BGS from a layer of fill material. These results indicate historical presence of PCBs in the property and the creek embankments. The source of these PCB concentrations is likely a combination of the Barge Canal that is feeding the creek and the fill present throughout the property.

Metals. Lead was present in all the Upson Park soil and sediment samples and in the groundwater sample from 18MC-MW17 installed in the southern portion of the property closest to the canal. Lead was not detected above the screening level in the groundwater. It was present at high concentrations (greater than 1,000 ppm) in the east bank of the creek in the deeper sediment that was mixed with fill as well as in the west side of the creek in the deeper off bank samples on transect L02 (18MC-L02W-S04-Z3 and 18MC-L02W-S05-Z2) and the subsurface sample from the fill in boring SB14. The elevated concentrations of lead in the Upson Park samples appear to be associated with the fill. The other metals appear to be associated with fill as well. TCLP analysis revealed sample 18MC-SB14-Z2 contained lead at a concentration above the hazardous waste level. Lead concentrations in the surface sediments are comparable to the concentrations found in Upson Park and several of the other sediment samples in the creek.

SVOCs. The concentration of PAHs in the surface samples only (soils and sediments) is consistent with the theory that they are the result of urban activities and runoff. Glycols were found as TICs in the groundwater at wells 18MC-MW14, -MW15, and -MW17. Glycols are often associated with de-icing activities of air-

crafts and antifreeze mixtures used for automobiles. Further investigation is required in order to identify the potential source of the glycols in the groundwater.

VOCs. VOC analyses were not performed on the soil and sediment samples due to the absence of PID readings. Chlorinated organic compounds were detected in the groundwater samples from 18MC-MW14 and -MW15. TCE and cis-1,2-DCE concentrations in well 18MC-MW14 exceeded the groundwater standard.

White Transportation

As mentioned earlier, East Branch waters originate at the spillway in the Barge Canal near the Mill Street bridge where canal waters join with water from the culverted section of Eighteenmile Creek south of the Barge Canal. During the winter months, water also originates directly from the bottom of the Canal from a bottom plug that when removed drains into the culvert that crosses beneath the Canal. Extensive slag and cinder fill was observed throughout the White Transportation property.

PCBs. Low concentrations of PCBs were found in the subsurface and off bank soils at the White Transportation property. The majority of the samples contained PCBs at concentrations below 1 ppm. The only sample with a concentration of PCBs above 1 ppm was sediment sample 18MC-L02E-S01 collected from the west bank of Eighteenmile Creek. The data suggests that this property is not a source of PCB contamination in the creek. Possible source of the low level PCBs found in the East Branch sediments is the Barge Canal, where similar levels of PCBs were found since there is a direct pathway from the Canal to the East Branch via the spillway and the plug. However, the presence of Aroclor 1254 in the White Transportation sediment samples and its absence from the SRI Barge Canal samples indicates that the Canal is not the only source of PCB contamination.

Metals. Lead was present in all the White Transportation soil and sediment samples but it was not present in the groundwater. Lead concentrations were generally lower than the concentrations found in the Upson Park samples. The only sample containing lead at a concentration greater than 1,000 ppm was a fill sample from an off bank core (18MC-L02E-S05) located east of the creek. Based on the lateral distribution of lead and the other metals concentrations at White Transportation, the presence and nature of the manmade cover (fill and slag) appears to vary around the property, with fill containing higher levels of metals near the banks of the creek and in the creek sediments where slag fragments were also present. TCLP analysis of the samples did not indicate the presence of metals at hazardous waste levels. The other metals in the soil and sediment exhibit a distribution similar to the lead.

SVOCs. The highest concentrations of PAHs in the soil and sediment were found in the samples collected in the vicinity of the trailers observed at the west end of the property. Most of the PAH contamination is present in the surface soil and

sediments. The source of PAHs at this property is suspected to be a combination of urban activities/runoff and Site-specific activities. PAHs in the groundwater were found in wells 18MC-MW10 and -MW12. The associated subsurface soils contained low levels of PAHs, indicating that the source of PAHs in the groundwater may be further upgradient. Phenols were found in the subsurface soil at concentrations exceeding the screening levels in 18MC-MW11, -MW12, and -MW13, but they were not detected in the groundwater. Similar to Upson Park, glycols were present in one well (18MC-MW12).

VOCs. VOC analyses were not performed on the soil and sediment samples due to the absence of PID readings. Trace levels of VOCs were found in one well (18MC-MW11).

Former United Paperboard Company Property

Ash fill was observed throughout the Former United Paperboard Company property on both sides of the creek.

PCBs. PCBs were found throughout the property and the creek, with concentrations increasing closer to the creek banks. The highest PCB concentration (630 ppm) detected at the Site during the SRI was found in the near surface sample from 18MC-SB15 collected from a layer of ash fill. The primary congener in the SB15 sample was Aroclor 1248. The presence of PCBs in the creek downstream of SB15 at concentrations higher than those found in the upstream sediments (Upson Park, White Transportation, and Barge Canal samples), suggests that the ash fill is a likely source of PCB contamination (especially for Aroclor 1248).

Water from the Mill Pond formed behind the dam leaks around the west side of the dam and flows adjacent to or over the top (during high flow conditions) of the abandoned transformer pad. Also at times of high flow, water from the Mill Pond has been observed to flow through the dam via a partly open gate. That would suggest a direct pathway for the contaminants. However, PCB concentrations appear to generally increase downstream of the Clinton Street Dam. Downstream United Paperboard RI sample SED-22 also contained elevated levels of PCBs (201 and 1,400 ppm). The elevated levels of PCBs found below the dam (especially Aroclors 1242 and 1254), indicate a potential source present downstream of the dam or at the vicinity of the dam.

Metals. Lead was detected in most of the soil and sediment samples in both sides of the creek, with concentrations increasing downstream of 18MC-SB15 and the Clinton Street Dam, similar to the PCBs. The SB15 sample contained lead above the hazardous waste level. All the samples collected along transect 18MC-L09 established downstream of the Mill Pond and the Dam where red cinder fill was observed, exhibit some of the highest lead concentrations found at the Site. Elevated lead concentrations were also found at 18MC-MW05 that was also established at a ridge of suspected red-brown cinder fill. This indicates that the cinder fill is a potential chronic source of lead contamination in the fill. However, PCBs

were not found in the off bank soils with elevated lead concentrations, which suggests a different source or transportation mechanism for the lead and PCBs. Most of the metals concentrations exhibited the same general distribution as lead with some exceptions where elevated zinc concentrations did not coincide with elevated lead concentrations. Lead was detected in the groundwater at two wells at levels below the groundwater standard.

Elevated lead and zinc were also found in the surface soil collected from the abandoned former coal plant building to the east of the Former United Paperboard Company property.

SVOCs. PAHs were found throughout the property in the soil and sediments, with the highest levels found along line 18MC-L09, similar to the PCBs and lead. PAHs found at this property are consistent with urban levels. PAHs were also found in the groundwater. The elevated levels of PAHs found in 18MC-MW05 are consistent with the PAH levels found in the subsurface soils. Phenols were detected in the groundwater in 18MC-MW08 but they were not found in the associated subsurface soil samples. This well is in proximity to the White Transportation property where phenols were detected in the subsurface soil but not in the groundwater. Glycols were detected in three groundwater samples (18MC-MW02, -MW06, and -MW08).

Elevated PAHs were found in the surface soil samples collected from the abandoned building across the United Paperboard property, possibly associated with historical activities at this property.

VOCs. VOC analyses were not performed on the soil and sediment samples due to the absence of PID readings. Concentration of cis-1,2-DCE exceeded the groundwater standard in well 18MC-MW05. There is not enough information at this point to identify the source of VOCs in the groundwater.

Former Flintkote Plant Site and Downstream

More than ten feet of red-brown poorly sorted cinder ash fill are present in the banks on the Former Flintkote Plant Site near Eighteenmile Creek and on the ground surface on the Former Flintkote Plant Site property.

PCBs. PCBs were found in the creek and along the banks in the vicinity of the Former Flintkote Plant Site and downstream. The highest concentrations (above 50 ppm) were found in the east side of the millrace during both the RI (SED-34 and SED-37) and the SRI (18MC-L14E-S02) sampling. This is an area of deposition with very little flow most of the year.

PCBs were detected at concentrations above the hazardous waste criterion in sediment collected from a deep basement at the Former Flintkote Plant Site. However, the PCB congeners in that sample (1242 and 1260) are different from

the congeners (1248 and 1254) detected in the creek sediments samples SED-34, SED-37, and 18MC-L14E-S02.

Downstream of the Flintkote Plant Site, PCBs were absent in the off bank samples and their presence appears to be limited in the wet creek sediments. This is consistent with PCBs found downstream of the corridor during the PCBs track-down study performed by the Niagara County. Levels detected downstream of the study area range between non-detect and 69 ppm.

Metals. Lead was detected in all the sediment and soil samples in both sides of the creek and the millrace, with concentrations exceeding the hazardous waste level at several locations. High lead concentrations that correspond with high PCB concentrations are found in the east side of the creek (L13-S03) and the east side of the millrace. Lead concentrations on the west side of the millrace coincide with areas of suspected fill but do not coincide with elevated PCBs. Lead concentrations appear to decrease downstream but remain at levels exceeding 400 ppm.

SVOCs. PAHs were present in the sediments and surface soils. The highest concentration was detected in the L15E-S02 sample. The results appear to be consistent with the rest of the samples collected during the SRI.

6.3 Potential Routes of Migration

Natural and other man-made mechanisms that can result in the migration of contaminants from their source areas include: surface water flow, infiltration, groundwater flow, subsurface utilities, volatilization, excavation, grading, and vehicular traffic. Because PCBs and lead are not readily volatilized, only surface water flow, infiltration, groundwater flow, subsurface utilities, and man-made mechanisms are discussed. The impacts of these mechanisms vary by source area and specific Site conditions.

Surface Water Flow

Surface water flow can be a mechanism that allows migration of contaminants if those contaminants are present in surface soils. Surface water flow at the Eighteenmile Creek Corridor Site is a mechanism that potentially allows lateral migration of contaminants from surficial soil into various property drainage ways that discharge into Eighteenmile Creek and could potentially discharge to Lake Ontario in Olcott, New York.

The Eighteenmile Creek watershed is located within both the Ontario and Huron plains, two relatively flat plains that are separated by the Niagara Escarpment, which runs generally east/west along the northern portion of the city of Lockport. Drainage within the watershed can be described as generally flowing to the north. The East Branch of Eighteenmile Creek initially flows to the northeast, before turning west and joining with the main branch. This is caused by a topographic high point located in the southeastern portion of the watershed. Surficial topography across the Site is predominantly low-lying with an approximately 35-foot

drop-off in elevation along the creek from the Barge Canal to the northern end of the Flintkote property.

Surface water flow at the Eighteenmile Creek Corridor Site occurs primarily during heavy precipitation events and spring snowmelts as surface runoff. Some areas are covered with vegetation (grassy and wooded areas) and some are covered by impervious surfaces. Within the grassy and wooded areas there are some exposed soils and fill. Erosion of these exposed soils and fill adjacent to the creek provides a direct route for soils/fill to migrate to the creek.

Infiltration

Infiltration of precipitation would be expected in areas not covered by relatively impermeable barriers (i.e., concrete or asphalt). Infiltration causes water-soluble compounds present in the unsaturated zone to migrate vertically downward to the groundwater table in areas where infiltration can occur. In addition, infiltration recharges the groundwater, which may increase groundwater gradients, potentially enhancing migration via groundwater flow. PCBs and lead are relatively insoluble in water and are not expected to appreciably leach into groundwater. Other contaminants detected including phenols are more soluble in water and may be subject to infiltration. Twenty-five percent of the corridor is covered by paved areas or buildings that would reduce direct infiltration and facilitate overland flow/runoff.

Groundwater Flow

Overburden groundwater flow would be expected to allow both vertical and lateral migration of contaminants located within the saturated zone. Groundwater flow is considered a significant transport mechanism for contaminants that are water-soluble. Migration via groundwater flow can allow contaminants to travel significant distances from their source area. PCBs and lead are not readily soluble in groundwater and there were no PCB detections and very few lead detections in the groundwater samples. Therefore, PCBs and lead found in Site soils do not appear to be impacting the groundwater at the Site.

Utility Corridors

Utility corridors can provide a transport mechanism for contaminants in water and loose particles that may enter/settle in the pipe bedding used to install these utilities. As the water passes around the pipe and through the pipe bedding, soil particles can be suspended and transported through the void spaces found in the bedding as these spaces provide a path of least resistance for the water. Based on historical review, the only ground utility present in the Eighteenmile Creek Corridor Site is a storm sewer crossing the creek approximately 25 to 50 feet downstream of the dam. Several sewer manholes were observed on both banks (east and west) of the creek. Although PCBs are not readily soluble in water, water flowing through pipe bedding containing PCB-laden particles can provide a means of transport for these particles into or from the creek and potentially beyond the Eighteenmile Creek Corridor Site.

Man-made Mechanisms

Considering that there were multiple surface and subsurface soil PCB detections above the SCO, it is possible PCB-laden Site soils could be transported to other areas on and off Site during daily activities in non-paved areas or if an excavation were to occur. If there are no land restrictions to prevent excavations at this Site; then exposing the contaminated material would also facilitate soil transport via surface water flow.

6.4 Contaminant Persistence and Behavioral Characteristics

In general, chemical compounds of a given chemical type behave similarly in the environment. However, significant differences in behavior of chemical compounds may be observed. Their behavior is dependent on their physical and chemical properties as well as environmental conditions, such as the presence of bacteria, pH variations, and oxidation-reduction conditions. Water solubility is a critical property affecting the environmental transport of a chemical: chemicals with low water-solubility can be rapidly leached from soil and are generally mobile in groundwater. A compound's volatilization rate from water depends on its vapor pressure and water solubility: highly water-soluble compounds generally have lower volatilization rates from water than compounds with low water solubility. Vapor pressure and Henry's Law constants are measures of volatilization behavior.

PCBs

PCBs are man-made mixtures of up to 209 individual chlorinated compounds called congeners. The compounds contain one to 10 chlorine atoms attached to biphenyl (two benzene rings consisting of hydrogen and carbon atoms) and have a general chemical formula of $C_{12}H_{10-x}Cl_x$. Most PCB congeners are colorless to light yellow oily liquids or waxy solids. The commercial mixtures are clear viscous liquids (the more highly chlorinated mixtures are more viscous). The chemicals have no known smell or taste. Many commercial PCB mixtures are known in the United States by the trade name Aroclor.

Although the physical and chemical properties vary widely across the class, PCBs have low water solubilities and low vapor pressures. They are soluble in most organic solvents, oils, and fats. PCBs are very stable compounds and do not degrade easily. Most PCBs do not mix with water and settle into riverbeds, lake bottoms, and coastal sediments. Some PCBs can exist as a vapor in air that can travel long distances and be deposited in areas far away from the point of release. In water, a small amount of PCBs might remain dissolved, but most adhere to organic particles and bottom sediments. PCBs also bind strongly to soil.

Due to their non-flammability, chemical stability, high boiling point and electrical insulating properties, PCBs were used in hundreds of industrial and commercial

applications including dielectric fluids for capacitors and transformers, heat transfer fluids, hydraulic fluids, lubricating and cutting oils, and as additives in pesticides, paints, carbonless copy "NCR" paper, adhesives, sealants, plastics, reactive flame retardants, and as a fixative for microscopy. More than 1.5 billion pounds of PCBs were manufactured in the United States before production was banned in 1977.

Their chemical and physical stability has also been responsible for their continuing low-level persistence in the environment. PCBs are generally unalterable by microorganisms or by chemical reaction (they do not readily degrade). The stable nature of PCBs also lends to accumulation in the fatty tissues of animals once the PCBs are released into the environment. These accumulations increase as the tissue from contaminated animals moves through the food web. Because of bioaccumulation, the concentration of PCBs found in fish tissues is expected to be considerably higher that the average concentration of PCBs in the water from which the fish were taken.

Acute toxic effects in the environment include death of animals, birds, or fish, and death or low growth rate in plants. Chronic effects from PCBs may include shortened lifespan, reproductive problems, lower fertility, and changes in appearance or behavior. The primary concern of PCBs in surface water is the chronic effect of bioaccumulation.

Under specific conditions PCBs may be destroyed by chemical, thermal, and biochemical processes. Because of their high thermodynamic stability, all degradation mechanisms are difficult. Intentional degradation as a treatment of unwanted PCBs generally requires high heat or catalysis. Environmental and metabolic degradation generally proceeds quite slowly relative to most other compounds.

Incineration is the conventional destruction technology for these extremely recalcitrant compounds, but other technologies, such as solvent extraction and thermal desorption, also are being applied

The predominant Aroclors detected in the Eighteenmile Creek Corridor Site soil samples were Aroclors 1242, 1248, 1254, 1260, 1262, and 1268. PCBs were not detected in the groundwater samples.

These Aroclors are generally used in electrical capacitors, electrical transformers, vacuum pumps, and gas-transmission turbines (formerly used as heat transfer fluid, hydraulic fluids, rubber plasticizer, adhesives, carbonless paper, and wax extenders). The environmental fate of Aroclors generally depends on the degree of chlorination. The Aroclors are tightly adsorbed in soil with adsorption generally increasing as the degree of chlorination of the individual congeners increase. They should not leach significantly in most aqueous soil systems although the most water soluble PCBs will be leached preferentially. In the presence of organic solvents, which may be possible at waste sites, PCBs may have a tendency

to leach through soil. Although the volatilization rate of the Aroclors may not be rapid from soil surfaces due to the tight adsorption, the total loss by volatilization over time may be significant because of the persistence and stability of them.

Metals

The polar nature of metals results in their tendency to bind to clay particles. Solubility increases with decreasing water pH. Once dissolved, they can migrate with the groundwater. They tend to accumulate, rather than degrade and they tend to form metal complexes in the presence of high heat. Oxidation of many metals will occur in groundwater, depending on the dissolved oxygen content of the water. Presence of elevated lead concentrations throughout the Site is consistent with the behavior of lead, as it accumulates in ash during the incineration process.

Comparison of TCLP data to their respective total lead concentrations gathered during this SRI showed inconsistent results. Several samples with relatively low concentrations of lead yield high TCLP results. On the other hand some samples with elevated concentrations of lead did not yield elevated TCLP concentrations. It appears that the leachability of the lead may vary with the type of source material.

SVOCs

SVOCs are persistent compounds in the environment, degrading very slowly due to their low vapor pressure, viscous texture, and extremely low water solubility. They can be mobilized by the presence of solvents (mostly VOCs), but the minimal solvent presence detected in the landfill indicates these compounds would rely primarily on infiltrating meteoric water to be mobilized from the soil into the aquifer. Their low water solubilities indicate the leaching mechanism can only serve as a very minor PAH source to groundwater. SVOCs are only minimally susceptible to biodegradation unless under controlled conditions. Thus they tend to be persistent, being most frequently susceptible to evaporation; a process that only affects most of them when the ambient temperature is warmest; usually during summer only. PAHs are products of incomplete combustion of fossil fuels and are often found in urban areas.

7 Human Health Risk Evaluation

7.1 Introduction

Section 6 summarizes the contaminants that were detected in surface and subsurface soil, stream sediment, and groundwater at the Site, possible sources of the contaminants, their migration pathways, and their potential fate. The data summary tables in Section 5 show that some chemicals are present in these media at concentrations exceeding NYS SCOs, regulatory standards, or guidance values. Although those regulatory criteria were developed to be health-protective, the mere presence of environmental contamination at higher concentrations does not necessarily pose an actual risk to human health.

For contamination to pose a human health risk, both of the following conditions must be true:

- There must be a complete pathway of exposure from the contamination to human receptors; and
- The magnitude of the receptors' exposure to contamination must be sufficient to cause an adverse health effect.

If there is no complete pathway of exposure, there will be no risk associated with the contamination. If a complete pathway exists, but the magnitude of the receptor's exposure is low, the associated risk may not be significant. Both factors need to be considered when evaluating potential human health risks posed by Site contamination.

COPCs for human health in the Eighteenmile Creek Corridor were identified by comparing the maximum concentration of a chemical detected in the samples with the SCOs described in detail in Section 5.

Soil and sediment COPCs include arsenic, chromium, cobalt, lead, manganese, and PCBs. NYSDEC does not publish health-based screening criteria for the other metals detected in soil and sediment at concentrations exceeding the alternative screening criteria (iron, calcium, potassium, magnesium, and sodium). The only metal detected in groundwater at concentrations exceeding standards prom-

ulgated for protection of human health was sodium. The levels of these essential elements (iron, calcium, potassium, magnesium, and sodium) are substantially below concentrations associated with adverse health effects and are not evaluated in this assessment.

7.2 Conceptual Site Model

7.2.1 Site Description

The Eighteenmile Creek Corridor Site is located between the Barge Canal and Harwood Street in the city of Lockport, Niagara County, New York (see Figure 1-1). It includes Eighteenmile Creek and adjacent properties in that area. The properties associated with the Eighteenmile Creek Corridor Site include Upson Park, White Transportation, United Paperboard, and the Former Flintkote Plant Site (see Figure 2-1). There is also a residential area on Water Street that borders the creek between William and Olcott Streets that may be impacted by Site-related contamination.

Upson Park is a town park owned by the City of Lockport and contains picnic areas and a walking trail along the canal. There is a parking area on the Site but no standing buildings. The White Transportation property and the Former Flintkote Plant Site are former industrial properties that are currently unused. Both properties are accessible to visitors and trespassers. The Former United Paperboard property is currently an active industrial facility occupied by Duraline Abrasives, Inc. The banks of the creek are accessible to residents of the properties along Water Street as well as visitors, anglers, and other recreational users of the stream at many locations in the Eighteenmile Creek Corridor. NYSDOH has issued an advisory against consuming fish caught from Eighteenmile Creek because of PCB contamination; however there is evidence from the Site visit (see Section 8) that fishing in the creek is common throughout the area despite the advisory.

A conceptual model of potential pathways of human exposure to contaminants in the Eighteenmile Creek Corridor is presented in Figure 7-1. An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: (1) a contaminant source; (2) contaminant release and transport mechanisms; (3) a point of exposure; (4) a route of exposure; and (5) a receptor population. An exposure pathway is considered complete when all five elements are present; a potential exposure pathway is considered incomplete when any one or more of the five elements comprising an exposure pathway is not present or does not exist. Four groups of receptors with distinctly different potentials for exposure were identified (see Figure 7-1) and are summarized below:

- Residents of the homes along Water Street with back yards abutting the creek. Eighteenmile Creek floods periodically and has deposited contaminated sediment in the backyards of some of these residences. Residents of these homes could be exposed to Site-related contaminants as a result of direct contact (dermal contact with and incidental ingestion of soil) with contaminated soils

in their yards and stream bank sediments and creek water, and through consumption of fish caught from the creek.

- Visitors to the Eighteenmile Creek Corridor. This group of receptors includes recreational users of Upson Park and visitors to the banks of the creek and the active and inactive industrial parcels along the creek. These receptors are assumed to visit these areas but not fish in the creek or consume fish from the creek. Exposure of these receptors to Site-related contaminants could occur as a result of direct contact with soils, sediment and creek water in the Corridor.

- Eighteenmile Creek Anglers. This group of receptors is similar to Site visitors but members are assumed to fish in the creek and eat their catch in addition to coming in contact with Site soils, sediment and creek water. Since PCBs are important COPCs in the Eighteenmile Creek Corridor, and because they tend to accumulate and concentrate in fish and other biota, consumption of fish from the creek could pose substantially greater health risks than simply contacting contaminated environmental media in the area.

- Site workers at the Former United Paperboard Property. This group consists of individuals working at the Former United Paperboard property. They would be exposed to Site-related contaminants mainly through direct contact with soils on the United Paperboard site.

This completes the requirements of a qualitative Human Health Risk Evaluation as described in Appendix 3B of NYSDEC's Draft DER 10 – Technical Guidance for Site Investigation and Remediation (NYSDEC 2002). Since a number of chemicals exceeded human health screening levels in each of the environmental media investigated, there appears to be reason to believe that contaminants at the Eighteenmile Creek Corridor Site could pose potentially significant risks to human health. A quantitative human health risk assessment was not conducted because NYSDOH has documented public health risks to residents living on Water Street (NYSDEC 2009) and fish advisories have been established for the creek.

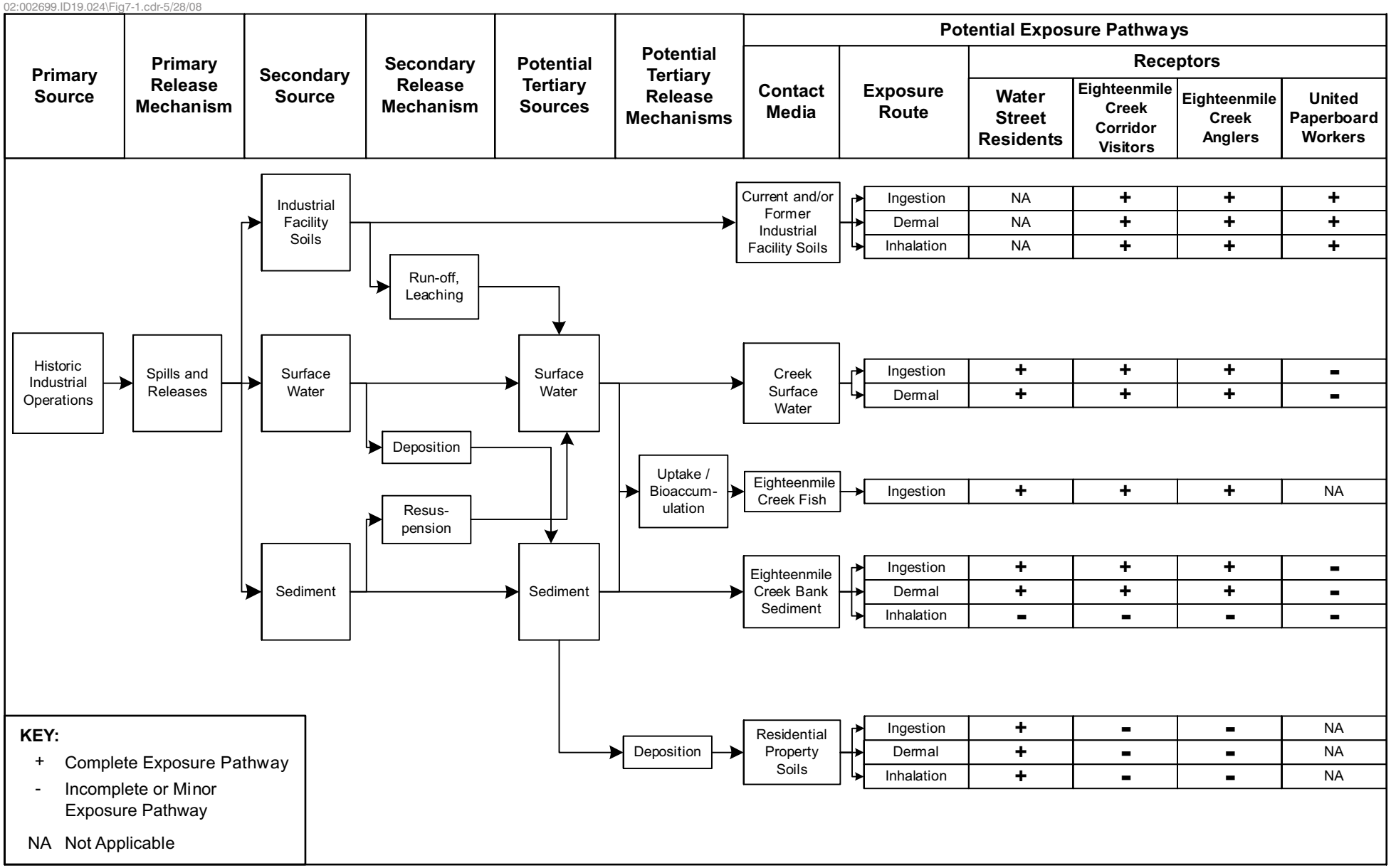


Figure 7-1 Conceptual Model of Potential Human Exposures to Contaminants in the Eighteenmile Mile Creek Corridor Site, Supplemental Remedial Investigation

8 Fish and Wildlife Impact Analysis

8.1 Introduction

This section evaluates potential impacts of Site-related contaminants on the ecological resources at the Eighteenmile Creek Corridor Site, Lockport, New York (Site No. 932121). This evaluation was conducted consistent with NYSDEC guidance for characterizing threats to fish and wildlife at inactive hazardous waste sites (NYSDEC 1994). Specifically, this evaluation satisfies Steps 1 and 2A of NYSDEC (1994), which call for a site description and exposure pathway analysis. This evaluation also is consistent with ERA guidance issued by the EPA, including:

- *Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments* (EPA 1997); and
- *Guidelines for Ecological Risk Assessment* (EPA 1998).

The principal goal of this evaluation is to determine if complete exposure pathways exist between Site-related contaminants and ecological receptors at the Site. If so, further evaluation, such as a criteria specific analysis and/or toxic effect analysis (Steps 2B and 2C in NYSDEC 1994), may be warranted.

8.2 Site Location and Description

As described in Section 3, the Eighteenmile Creek Corridor Site is located in the city of Lockport, Niagara County, New York (see Figure 8-1). The Site includes the channel and riparian zone of the creek for the first 3,000 feet downstream of the Barge Canal, and four former commercial/industrial properties adjacent to the creek. This section describes only the ecological characteristics of the Site.

8.2.1 Site Maps

Figure 8-1 shows the topography of the Eighteenmile Creek Corridor Site and surrounding area. The Site lies at the border of two relatively flat plains (the Ontario and Huron Plains) that are separated by the Niagara Escarpment, which runs generally east-to-west along the northern portion of the city of Lockport (see Figure 8-1). Eighteenmile Creek flows northward through the study area and eventually into Lake Ontario. Primarily urban, commercial, and residential land uses are

within 2 miles of the Site. Ecological community types on and near the Site are shown on Figure 8-2 and described below. Wetlands and surface water features on and near the Site are shown on Figures 8-3 and 8-4.

8.2.2 Description of Fish and Wildlife Resources

8.2.2.1 Ecological Community Types

Figure 8-2 shows community types based on Edinger et al. (2002) that occur at the Site. The community types were identified during a field reconnaissance conducted by EEEPC on October 18, 2007. Three principal community types were identified on the Site: headwater stream, successional southern hardwoods, and floodplain forest/successional southern hardwoods (see Figure 8-2). No significant or unique habitats were among them. These community types are described below.

Headwater Stream. Eighteenmile Creek has the characteristics of a headwater stream in the study area. The East Branch near the Barge Canal and White Transportation property has high flow, water depth of 1 to 3 feet at mid-channel, and rocky bottom. Building ruins are present near the headwaters of the East Branch and the initial section of the creek in this area is channelized. The source of water to this branch is a mixture of Eighteenmile Creek water from upstream of the Barge Canal and Barge Canal water (via a spillway during high-water conditions and a plug during low-water conditions in the canal). The banks of the East Branch are forested and steeply sloped, making access to the creek channel difficult in most places.

The West Branch of Eighteenmile Creek also has the characteristics of a headwater stream, including moderate to high flow velocity in most places and a bottom composed of cobble, gravel, and sand. Water depth ranged from 0.5 to 2 feet at the time of the Site visit. The channel of the West Branch is 15 to 20 feet wide in most places. The water in the West Branch originates from a dry dock on the north side of the Barge Canal. The gate between the dry dock and Barge Canal was observed to be leaking during the Site visit in October 2007; thus, water from the Barge Canal is able to enter the West Branch through the dry dock. Similar to the East Branch, the banks of the West Branch are forested and steep, making access to the creek channel difficult in most places.

The East and West Branches of Eighteenmile Creek merge immediately upstream from Clinton Street and then flow north beneath Clinton Street into a Mill Pond on the Former United Paperboard Company property (see Figure 8-2). At the time of the Site visit, the pool behind the dam was full and water was flowing through the dam via a partly open gate. Downstream of the dam, the creek channel is a series of rapidly flowing riffles and runs with a section of slower flow near the Former Flintkote Plant Site. Near the Former Flintkote Plant Site, the creek channel splits and flows around an island. Most of the flow (about 95%) follows the channel on the west side of the island. Most of the riparian zone of the creek downstream of Clinton Street is forested.

Successional Southern Hardwoods. The wooded area situated between Clinton Street and the Barge Canal at the southwest end of the Site is best described as southern successional hardwoods (SSH; see Figure 8-2). This cover type is a hardwood or mixed forest that occurs on sites that have been cleared or otherwise disturbed. According to Edinger et al. (2002), this is a broadly defined cover type and several regional variants are known. The dominant tree species present at the Site in this cover type include box elder (*Acer negundo*), black locust (*Robinia pseudoacacia*), tree-of-heaven (*Ailanthus altissima*), and Norway maple (*Acer negra*).

Floodplain Forest/Successional Southern Hardwood. The riparian zone of the creek is best described as a combination of floodplain forest and successional southern hardwoods (FF/SSH), depending on slope and elevation (see Figure 8-2). Low lying areas near the creek channel are best characterized as floodplain forest, whereas areas further from the channel at a somewhat higher elevation are best characterized as successional southern hardwoods. According to Edinger et al. (2002), the floodplain forest cover type occurs on mineral soils on low terraces of river floodplains and deltas. This cover type is characterized by its flooding regime (low areas are annually flooded in spring and high areas are flooded irregularly) and is quite variable and may be diverse. Dominant tree species present at the Site in the FF/SSH cover type include cottonwood (*Populus deltoides*), willow (*Salix spp.*), silver maple (*Acer saccharinum*), boxelder, black locust, tree-of-heaven, and Norway maple. Common understory species in the FF/SSH cover type include poison ivy *(Toxicodendron radicans*), grapevines (*Vitis spp*.), raspberry (*Rubus spp*.), and white snakeroot (*Ageratina altissima*). Burdock (*Arctium spp.*), sumac (*Rhus spp.*), and goldenrod (*Solidago spp.*) were observed in areas where the canopy of the riparian zone was incomplete or lacking. Near the downstream end of the study area, Japanese knotweed *(Polygonum cuspidatum*) was observed next to the creek channel in places.

8.2.2.2 Wetlands

Figures 8-3 and 8-4 show federal- and state-designated wetlands in the vicinity of the Eighteenmile Creek Corridor Site. According to the NWI, two reaches of Eighteenmile Creek within the study area are considered palustrine, permanently flooded, diked/impounded wetlands (PUBHh; see Figure 8-3). These two reaches are: (1) the Mill Street Pond that lies upstream of the Clinton Street Dam and (2) a portion of Eighteenmile Creek near the Former Flintkote Plant Site, where the flow becomes slower and the channel widens before the creek flows through conduits under Williams Street. No state-designated wetlands lie within the Eighteenmile Creek study area (see Figure 8-4). Figures 8-3 and 8-4 show that several federal- and state-designated wetlands are located beyond the Site boundary but within 2 miles of the Site. In particular, several large wetlands are located along the channel of Eighteenmile Creek downstream of the study area (see Figures 8-3 and 8-4). These wetlands could potentially be affected by downstream transport of Site-related contaminants.

8.2.2.3 Species of Special Concern

In October 2007, the NYS Natural Heritage Program (NHP) was contacted for information on species and habitats of concern in the Site vicinity. The NHP indicated that they have no records of known occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of the Site (see Appendix G).

Information on federally listed species in Niagara County was obtained from the United States Fish and Wildlife Service (USFWS) Web site (www.fws.gov/northeast /nyfo/es/section7.htm). The USFWS indicated that the bald eagle (*Haliaeetus leucocephalus*) and federally listed threatened eastern prairie fringed orchid (*Platanthera leucophea*) have been observed in Niagara County. The record for the eastern prairie fringed orchid is historic, not current.

The bald eagle was de-listed on August 7, 2007. While there are no Endangered Species Act requirements for the Bald Eagle after this date, the eagles continue to receive protection under the Bald and Golden Eagle Protection Act. Bald Eagles occupy riparian corridors with large diameter trees along major water bodies, feeding on fish, waterfowl, and carrion. They prefer areas with limited human activity. Given that the Eighteenmile Creek Corridor Site is located within the city of Lockport, is seems highly unlikely that eagles would use the riparian zone of the creek within the study area.

The eastern prairie fringed orchid occurs in a wide variety of habitats, from mesic prairie to wetlands such as sedge meadows, marsh edges, and bogs (USFWS 2005). It requires full sunlight for optimum growth and flowering and a grassy habitat with little or no woody encroachment. Given that most of the riparian zone of the Eighteenmile Creek Corridor Site is forested, it seems unlikely that the eastern prairie fringed orchid would occur at the Site, and none were observed during the Site reconnaissance in October 2007. Furthermore, the USFWS (2005) reports that the eastern prairie fringed orchid is not known to occur in NYS currently, although it did occur here historically (see Appendix G).

8.2.2.4 Observations of Stress

No signs of stressed vegetation or wildlife were observed at the Site during Site visits or sampling conducted there by EEEPC personnel.

8.2.3 Description of Fish and Wildlife Resource Values

8.2.3.1 Value to Associated Fauna

Eighteenmile Creek provides habitat for fish, benthic invertebrates, and other aquatic life. The riparian zone of the creek provides habitat for small- to medium-sized mammals, songbirds, and other wildlife. Wildlife and evidence of wildlife observed at the Site by EEEPC personnel include a Blue Heron (*Ardea herodias*), Black-capped Chickadee (*Poecilie atricapilla*), other songbirds, and tracks of white-tail deer (*Odocoileus virginianus*).

8.2.3.2 Value to Humans

The Eighteenmile Creek Corridor Site is used for fishing and perhaps other recreational activities. Evidence of fishing was observed on both banks of the creek between Clinton Street and the Clinton Street Dam. Along Water Street, the back yards of most residences extend right up to the creek shoreline. One residence had a small wooden dock (about 5 by 10 feet in size) on the creek on which a bench was placed, suggesting that the creek and its riparian zone is valued for aesthetic reasons.

8.2.4 Identification of Fish and Wildlife Regulatory Criteria

The following regulatory criteria and acts potentially are relevant to any RI and FS activities that may be undertaken at the Site for the purpose of assessing or reducing ecological impacts:

- Clean Water Act, 233 U.S.C. 1261 et seq. Sec 404;
- The Freshwater Wetlands Act (Article 24 Environmental Conservation Law, 6 NYCRR, Parts 663 and 664);
- Significant habitats and species of the NHP;
- NYSDEC Ambient Water Quality Standards and Guidance Values (1998); and,
- NYSDEC Technical Guidance for Screening Contaminated Sediments (1999).

In addition, ERA guidance from NYSDEC and EPA also are applicable (see Section 8.1).

8.3 Pathway Analysis

Pathway analysis is Step 2A in the Fish and Wildlife Impact Analysis (FWIA) process (NYSDEC 1994) and the first element of a contaminant-specific impact assessment. Pathway analysis is similar to the problem-formulation step in the EPA ERA process (EPA 1997, 1998). Pathways analysis identifies potential Site-related contaminants, ecological receptors, and exposure pathways. A Site conceptual model is then developed to summarize the relationship between contaminant sources, transport pathways, routes of exposure, and potential ecological receptors. The pathway analysis step for the Eighteenmile Creek Corridor Site is based on a review of existing reports and information, as described below.

8.3.1 Contaminant Sources and Migration Pathways

NYSDEC (2006a) found high concentrations of PCBs and metals in sediment of Eighteenmile Creek and the millrace adjacent to the Former Flintkote Plant; and metals-contaminated fill at Upson Park, the White Transportation property, the Former United Paperboard Company property, and the Former Flintkote Plant

Site. PCB-contaminated sediment in the Barge Canal immediately upstream of Eighteenmile Creek was identified during another investigation (URS 2004). Sediment and floodplain soil samples collected by EEEPC for this investigation (see Section 5) generally corroborate NYSDEC's findings. Based on the available data, it appears that inputs of water and suspended sediment from the Barge Canal are a source of PCBs to the creek, and that erosion and runoff from Upson Park, the White Transportation property, the Former United Paperboard property, and the Former Flintkote Plant Site are ongoing sources of metals contamination to the creek. The ultimate sources of the PCBs and metals probably are historic industrial and commercial activities on and near the Site.

8.3.2 Site-Related Contaminants

The principal contaminants found in Eighteenmile Creek sediment by NYSDEC (2006a) were PCBs, copper, lead, and zinc. Greater than 50% of the sediment samples collected from the creek by NYSDEC exceeded sediment quality benchmarks for these contaminants (see Figures 5-9, 5-12, 5-13, and 5-14 in NYSDEC 2006a). PCBs, copper, lead, and zinc also were found at elevated levels in sediment and floodplain soil samples collected by EEEPC for the current investigation (see Section 5 in this report). In addition, samples collected by EEEPC also contained PAHs and organochlorine pesticides; however, these contaminants may be from non-point sources in the creek's drainage basin, such as stormwater runoff from city streets and/or historic pesticide use, and may not have their ultimate source at the Site.

8.3.3 Ecological Receptors

Based on EEEPC's understanding of the Site, the following groups of ecological receptors have the potential be exposed to chemical contamination at the Eighteenmile Creek Corridor Site:

- Plants and soil invertebrates living in the riparian zone of the creek;
- Mammals, birds, and reptiles that use the creek and its riparian zone to satisfy their food and habitat needs; and
- Aquatic life (fish, amphibians, and benthic invertebrates) in the creek.

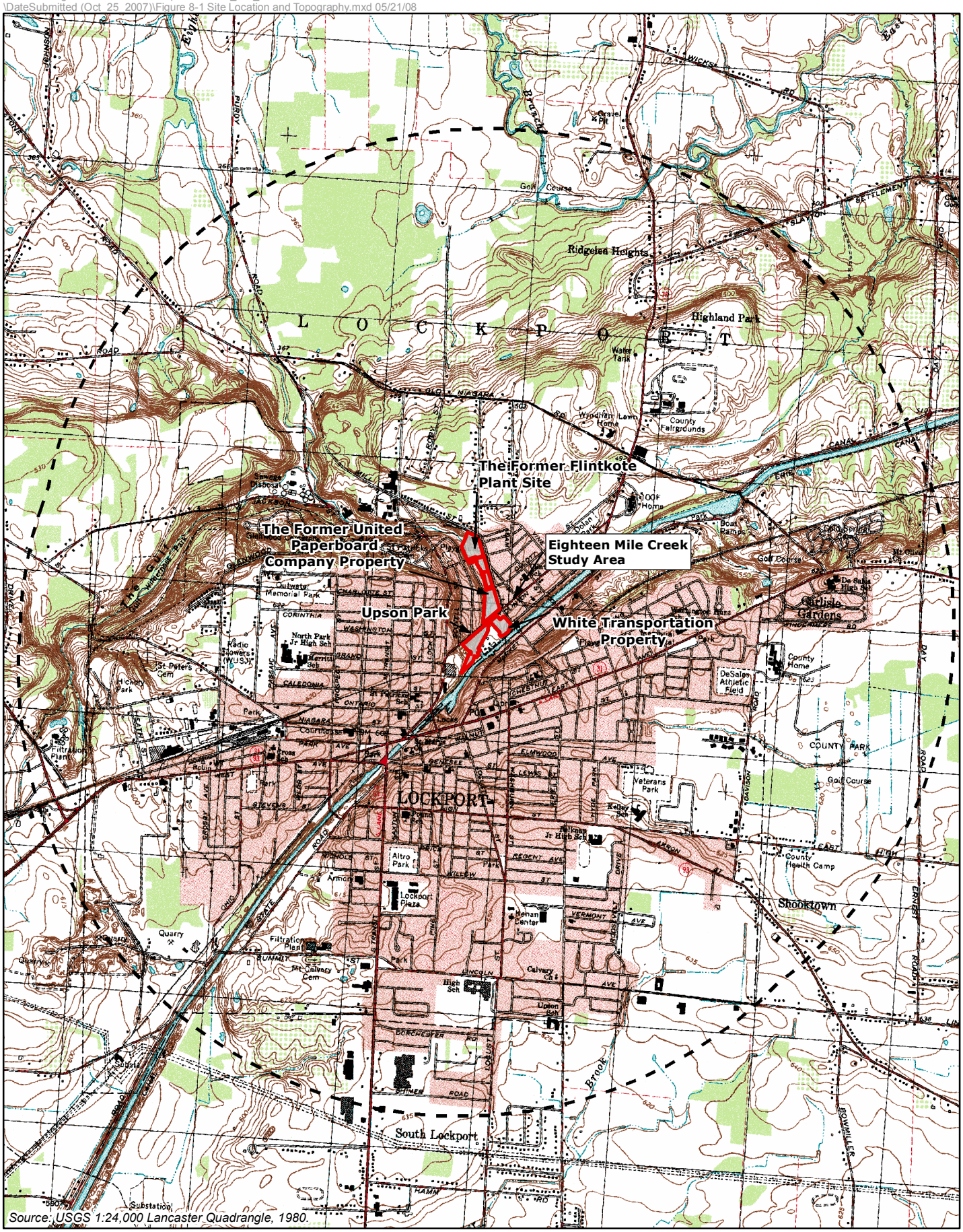
8.3.4 Preliminary Conceptual Site Model

Potential receptors and exposure pathways are summarized in the Site conceptual model shown in Figure 8-5. Plants and soil invertebrates may be exposed to Site-related chemicals by direct contact with contaminated soil and uptake of chemicals from soil. Birds, mammals, and reptiles that use the Site may be exposed to Site-related chemicals by incidental ingestion of contaminated soil and sediment, consumption of contaminated prey, and consumption of contaminated water. However, for wildlife, consumption of contaminated surface water typically accounts for only a minor fraction of total exposure. Direct contact with contaminated soil, sediment, and water also is considered a minor route of exposure for

birds, mammals, and reptiles due to the protection provided by their external coverings (i.e., fur, feathers, and scales). Fish, amphibians, and benthic invertebrates using the creek may be affected by direct contact with contaminated water and sediment, ingestion of contaminated water and sediment, and through the food chain.

8.4 Conclusions

The Eighteenmile Creek Corridor Site contains aquatic and terrestrial habitats capable of supporting a wide variety of aquatic organisms and wildlife. Both the current investigation and NYSDEC (2006a) found elevated levels of PCBs, copper, lead, and zinc in floodplain soil, sediment, and/or surface water to which these ecological receptors could be exposed. Given that exposure pathways exist between Site-related contaminants and ecological receptors at the Site, if Site soils and sediments are not remediated, or exposure pathways are not modified during site remediation to ameliorate the ecological risks, further evaluation, specifically a criteria-specific analysis and toxic effect analysis (Steps 2B and 2C in NYSDEC 1994), may be necessary to quantify these risks.



Site Boundary
Two Mile Radius

N
W
E
S

0 1,250 2,500 5,000 Feet

Figure 8-1
Topography in the Vicinity of the Eighteenmile Creek Corridor Site
City of Lockport, New York

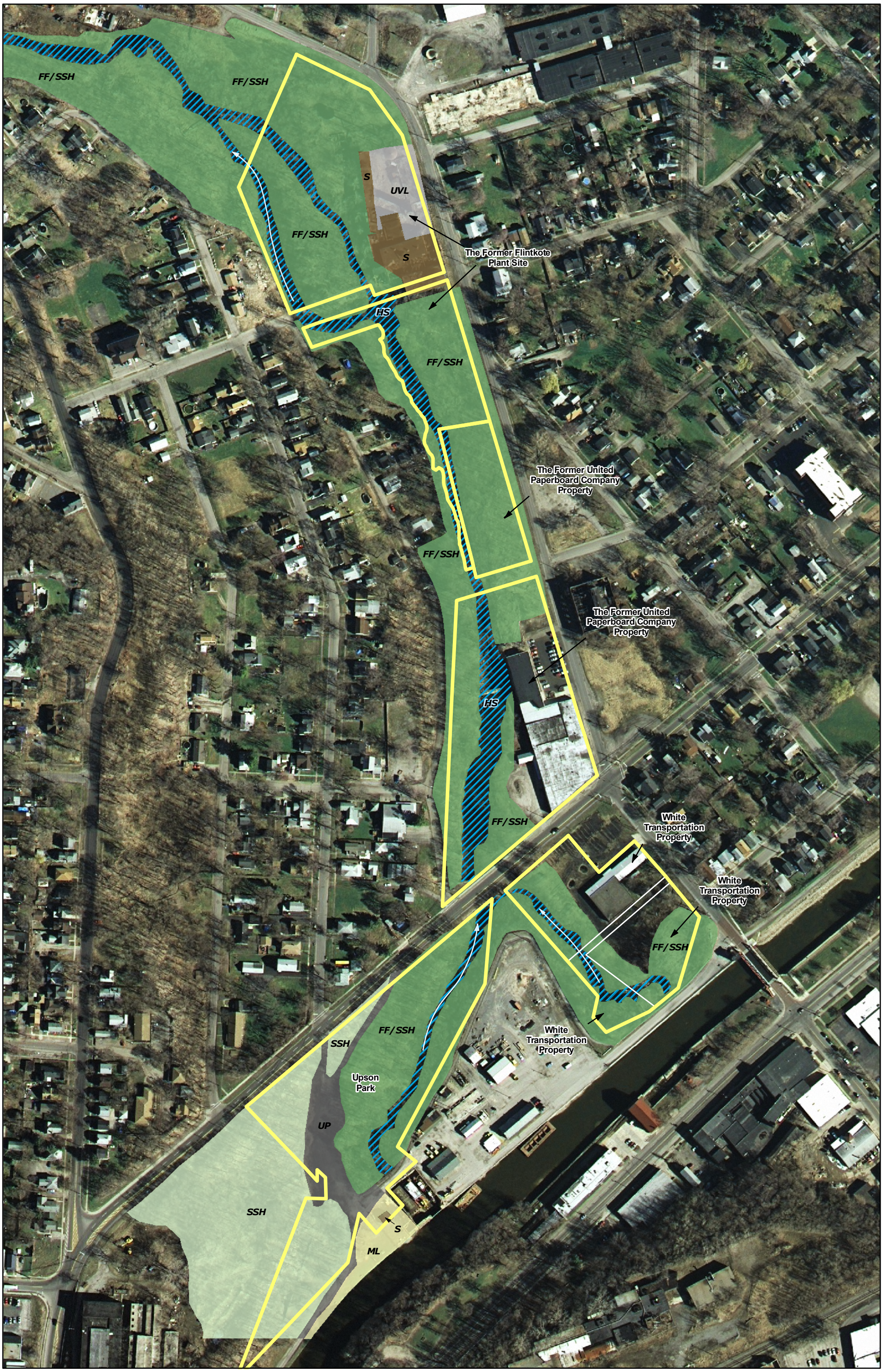
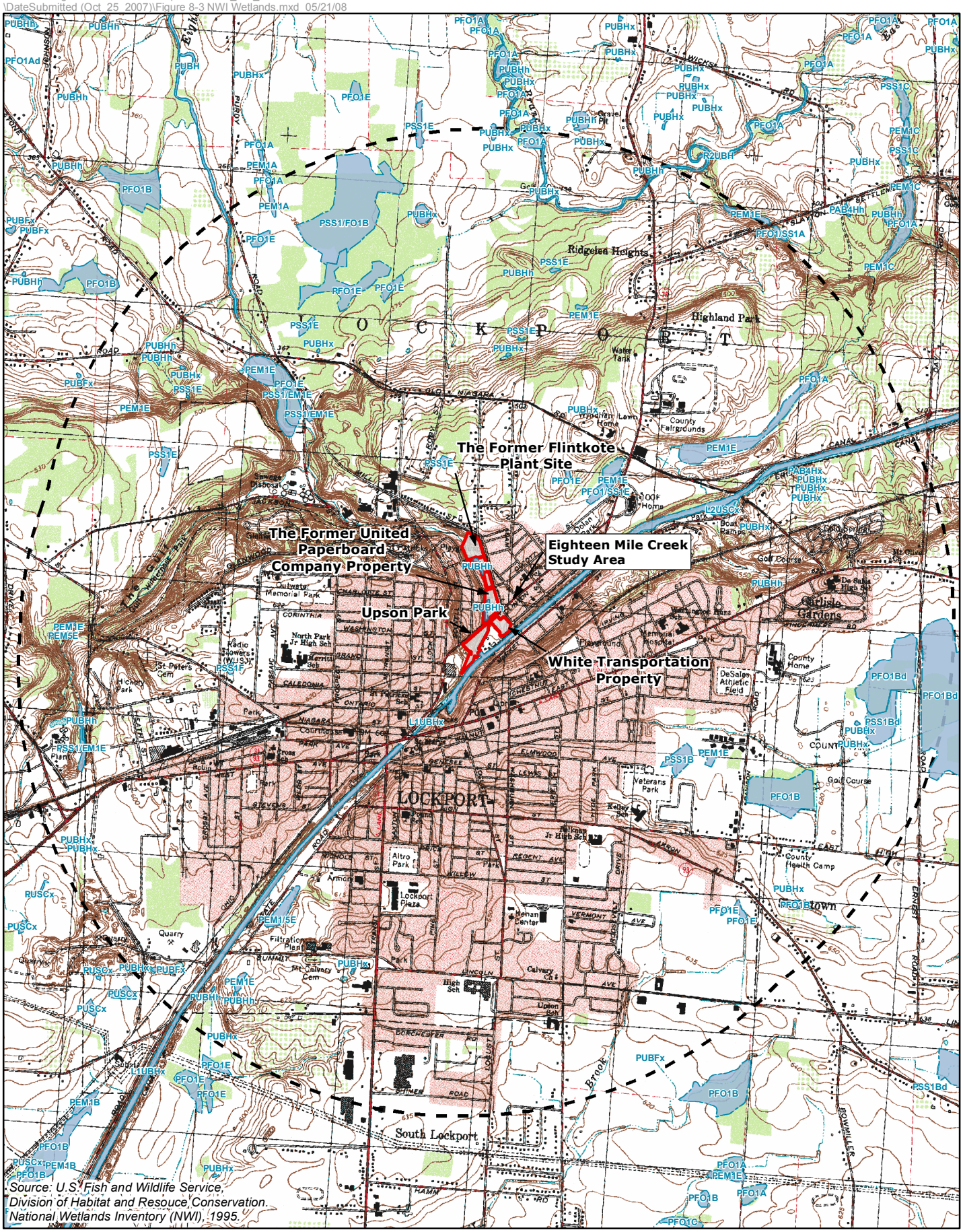


Figure 8-2
Ecological Covertypes and Drainage Pathways
Eighteenmile Creek Corridor Site
City of Lockport, New York

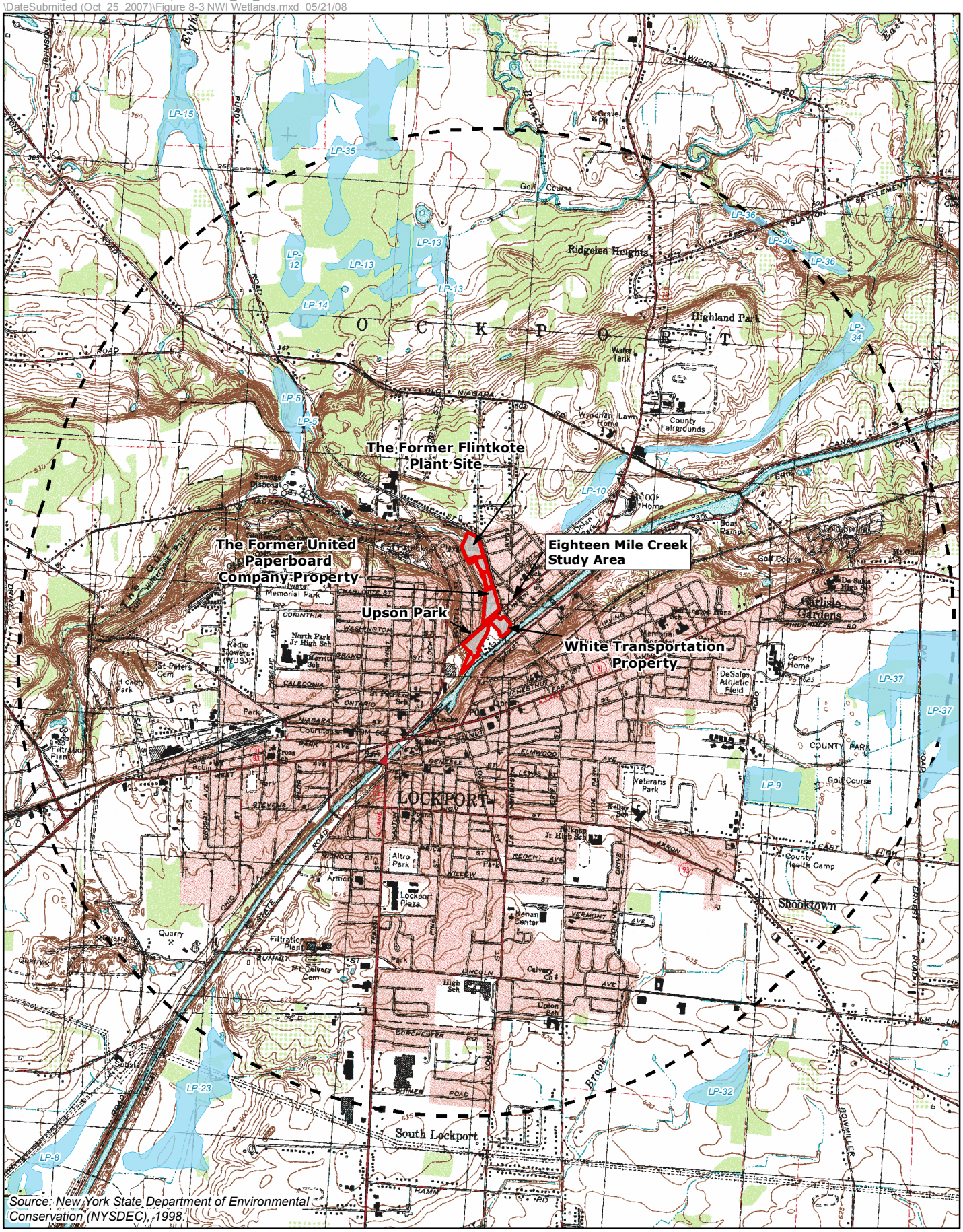
L:\Buffalo\EighteenMileCorridor\Maps\MXD\Eco_risk_Assessment
\DateSubmitted (Oct_25_2007)\Figure 8-3 NWI Wetlands.mxd 05/21/08



National Wetland Inventory Wetlands
Site Boundary
Two Mile Radius

0 1,250 2,500 5,000 Feet

Figure 8-3
NWI Wetlands in the Vicinity of the Eighteenmile Creek Corridor Site
City of Lockport, New York



Source: New York State Department of Environmental Conservation (NYSDEC), 1998.

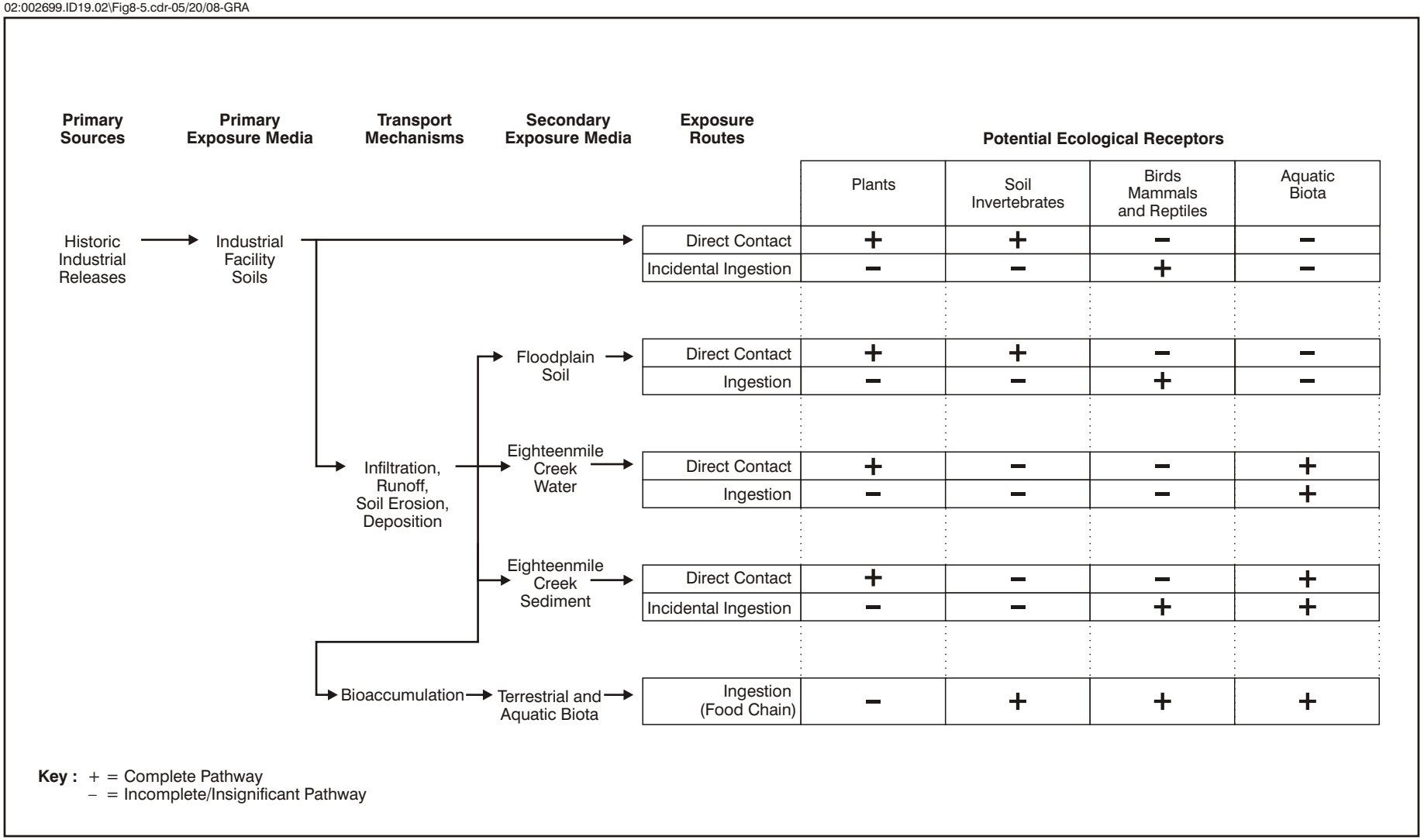
NYSDEC Freshwater Wetlands
Site Boundary
Two Mile Radius

N W E S

0 1,250 2,500 5,000 Feet

Figure 8-4
New York State Designated Wetlands in the Vicinity of the Eighteenmile Creek Corridor Site
City of Lockport, New York

02:002699.ID19.02\Fig8-5.cdr-05/20/08-GRA



SOURCE: Ecology and Environment, Inc., 2008

Figure 8-5 Preliminary Ecological Conceptual Site Model, Eighteenmile Creek Corridor Site, Supplemental Remedial Investigation

9 Conclusions and Recommendations

The SRI focused on better defining the nature and extent of contamination in the sediment as well as other media in properties adjacent to Eighteenmile Creek. The potential sources of PCBs, PAH, lead, and other related metals to Eighteenmile Creek also were assessed. The NYSDEC RI (2006a) found high concentrations of PCBs and metals in sediment in the creek and the millrace adjacent to the Former Flintkote Plant Site; and metals-contaminated fill at locations along the banks of Eighteenmile Creek. The SRI sediment and floodplain (off-bank) soil samples collected for this investigation (see Section 5) corroborate NYSDEC's findings. PCB-contaminated sediment in the Barge Canal immediately upstream (to the west) of Eighteenmile Creek was identified by another investigation performed by URS in 2004. The SRI investigation found much lower concentrations of PCBs in the Barge Canal sediment samples collected adjacent to the properties.

The headwaters of Eighteenmile Creek are generated from upstream of the Barge Canal on the East Branch. The East Branch also receives water directly from a spillway on the south wall of the canal that leads to the Eighteenmile Creek tunnel that crosses beneath the canal. Water flows over the spillway mainly during spring, summer, and fall months. In late fall, when the canal is drained, the Canal Authority removes a plug from the center of the canal and allows water to flow directly from the bottom of the canal to the Eighteenmile Creek tunnel that crosses under the Barge Canal. This provides a direct pathway for contamination from the Barge Canal to the East Branch of Eighteenmile Creek. The upstream Eighteenmile Creek SRI sample did not have PCBs or significant concentrations of metals. The upstream samples did have levels of total PAHs that were comparable to many of the samples collected farther downstream. PCBs, PAHs, lead, and other related metals were detected in SRI sediment samples collected from the Barge Canal. The concentrations were comparable to many of the other samples collected from the Eighteenmile Creek Corridor Site.

The nearby lock and the fluctuations of the water level in the Barge Canal result in complex sediment and flow dynamics and thus irregular and inconsistent contribution of contaminants from the Barge Canal to the creek. However, based on the available data, including the Additional Investigation findings (EEEPC 2009), Barge Canal sediments do not appear to be currently a significant contributor of PCBs to Eighteenmile Creek sediments. Additionally, the levels of PAHs and

metals in the Barge Canal and upstream sediment indicate they are not a source of significant contamination.

The remaining properties along the Eighteenmile Creek Corridor were characterized by areas of high contamination that appear to be related to areas of fill. The type of fill does not appear to be consistent. High levels of lead contamination are found in all fill areas, but PCB contamination was not found in all fill areas. The transport of fill material via erosion and runoff appears to be the primary mechanism for transport of PCBs and lead contamination farther downstream.

Significant areas of subsurface fill contaminated with lead were identified in Upson Park; however, the SRI data did not confirm the high levels of PCBs found during the RI. Therefore, the fill from Upson Park appears to contribute lead contamination to the creek, but does not appear to be a significant source of PCBs. PCB contamination in the East Branch appears to be from the Barge Canal since only low concentrations of PCBs were found in the subsurface and off bank soils at the White Transportation property.

On the west side of the Eighteenmile Creek Corridor, the potential fill areas show high levels of lead contamination. A high lead concentration fill area was identified on the west side of the Site near 18MC-MW05 and near line 18MC-L09. Significant levels of PCBs were not found in the samples with elevated lead levels collected from suspected fill areas on the west side of the creek. Thus the presence of PCBs in the residential area on the west side of Eighteenmile Creek is most likely due to periodic flooding that has deposited contaminated sediment and not related to the fill used at these properties.

On the east side of the Eighteenmile Creek Corridor, the potential fill areas show both high levels of PCBs and lead contamination. These fill areas with elevated contaminants coincide with elevated levels of PCBs in the sediment on the east side of the creek. An area with high concentration PCB fill was identified at the southeast corner of the Former United Paperboard Company property on the east side of the creek near Clinton Street. High concentrations of PCBs and lead were also found in the millrace adjacent to the Former Flintkote Plant Site. Based on Site hydrology, this area is clearly a depositional area with intermittent flow. However, the potential for contaminant contribution from fill at this location could not be eliminated based on the data collected.

Surface soils were collected from a building on the east side of Mill Street across from the Former United Paperboard Company property. Although contamination was found in these samples, there is no apparent transport mechanism for these soils inside the building to reach the creek. Moreover, the only Aroclor detected at this property was Aroclor 1268 in the two samples collected inside the building. Aroclor 1268 was historically used as a plasticizer in rubbers and synthetic resins and as wax extenders. Aroclor 1268, unlike the other Aroclors that are in liquid

or resin form, is a crystalline white powder. Further investigation of this former coal power plant property as a limited source of fill may be warranted.

Comparison of TCLP data to their respective total lead concentrations gathered during this SRI showed inconsistent results. It appears that the leachability of the lead may vary with the type of source material.

PAHs were detected in many sediment samples and surface soils and some groundwater samples. There were no significant levels of PAHs detected in subsurface samples. In general, the source of PAH contamination appears to be related to anthropogenic sources typical of urban and industrial areas. PAHs were found in samples associated with the fill area near 18MC-MW05 and in surface soils collected in the old building on property across Mill Street.

Chlorinated volatile organics were found in the groundwater in several wells on the west side of the creek. However, the sediment or surface soils were not analyzed for VOCs. Insufficient data exist to identify the potential source of VOC contamination in the groundwater. The impacts of groundwater contamination on the creek cannot be assessed with the data available, but groundwater clearly flows toward Eighteenmile Creek.

Antimony was detected above groundwater quality standards in most of the groundwater samples, but the levels should be confirmed by further analysis of the potential interference from high levels of iron.

Phenolic compounds were detected in several groundwater and subsurface soil samples primarily on the west side of the creek near the White Transportation property. Glycol-related compounds were detected as TICs in the groundwater samples in the same areas. The concentrations of these compounds were not very high, but their presence could be related to another potential source of contamination.

Human Health Exposure and Ecological Risk Assessments

A qualitative human health exposure risk assessment identified four groups of receptors with distinctly different potentials for human exposure to contaminants in the Eighteenmile Creek Corridor. These receptors include: residents of the homes along Water Street with back yards abutting the creek (direct contact with contaminated soils in their yards and stream bank sediments and creek water, and through consumption of fish caught from the creek); visitors to the Eighteenmile Creek Corridor (direct contact with soils, sediment, and creek water in the Corridor); Eighteenmile Creek anglers (direct contact with soils, sediment and creek water in the Corridor and through consumption of fish from the creek); and site workers at the Former United Paperboard Property (through direct contact with soils on the United Paperboard site).

The ERA determined that the Eighteenmile Creek Corridor Site contains aquatic and terrestrial habitats capable of supporting a wide variety of aquatic organisms and wildlife. These ecological receptors could be exposed to the elevated levels of PCBs, copper, lead, and zinc found in floodplain soil, sediment, and/or surface water. Given this situation, if Site soils and sediments are not remediated, or exposure pathways are not modified during site remediation to ameliorate the ecological risks, further evaluation, specifically a criteria-specific analysis and toxic effect analysis (Steps 2B and 2C in NYSDEC 1994), may be necessary to quantify these risks.

Recommendations

Additional data necessary to identify potential remedial alternatives to mitigate contamination problems may be necessary. A more detailed examination of the physical properties of the fill material and related contamination, along with a refined delineation of these fill areas may be necessary to characterize the transport and erosion of the material downstream and the extent of potential source material. Analysis of the contamination related to particle size may help predict whether the fill will deposit contamination or transport the contamination. PCB contamination has been found throughout the creek bed all the way to Lake Ontario. The presence of VOCs in the groundwater indicates a potential presence of VOCs in the soils. Testing for VOCs may be necessary for the FS. An Additional Investigation to address some of these data gaps and to complete the FS was performed at the Corridor Site in late 2008/early 2009 (EEEPC 2009). The findings of the Additional Investigation are submitted under separate cover.

10 References

Brett, C.E., D.H. Tepper, W.M. Goodman, S.T. LoDuca and B. Eckert, 1995, *Revised Stratigraphy and Correlations of the Niagaran Provincial Series (Medina, Clinton and Lockport Groups) in the Type Area of Western New York,* U.S. Geological Survey Bulletin 2086.

Ecology and Environment Engineering, P.C. (EEEPC), 2009, *Final Additional Investigation Addendum to the Supplemental Remedial Investigation Report for the Eighteenmile Creek Corridor Site (Site No. 932121), City of Lockport, New York.* Prepared for the New York State Department of Environmental Conservation by EEEPC, Lancaster, New York.

_____, 2007a, *Phase 1 Environmental Site Assessments, Eighteenmile Creek Corridor Sites: Upson Park, United Paperboard Company, and White Transportation. City of Lockport, New York*, Lancaster, New York.

_____, 2007b, Project Management Work Plan for the Supplemental Remedial Investigation and Feasibility Study at the Eighteenmile Creek Corridor Site (Site No. 932121), *City of Lockport, New York,* Prepared for the New York State Department of Environmental Conservation by EEEPC, Lancaster, New York.

Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors), 2002, *Ecological Communities of New York State. Second Edition, A revised and expanded edition of Carol Reschke's Ecological Communities of New York State* (Draft for review), New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, New York.

LaSala, A.M., Jr., 1968, *Groundwater Resources of the Erie-Niagara Basin, New York,* State of New York Conservation Department of Water Resources Commission, Basin Planning Report ENB-3.

MacDonald, D. D., L. M. Dipinto, J. Field, C. G. Ingersoll, and E. R. Long, 2000a, *Development and evaluation of consensus-based sediment effect concentrations for polychlorinated biphenyls*. Environ. Toxicol. Chem. 19:1403-1413.

MacDonald, D. D., C. G. Ingersoll, and T. A. Berger, 2000b, *Development and evaluation of consensus based sediment quality guidelines for freshwater ecosystems*. Arch. Environ. Contam. Toxicol. 39:20-31.

New York State Department of Environmental Conservation (NYSDEC) 2009, personal communication, letter from Glenn May, NYSDEC DER Region 9, April 3, 2009, re Comments on the Supplemental Remedial Investigation Report, Eighteenmile Creek Corridor Site; Site No. 932121,Lockport (C), Niagara County to Ecology and Environment Engineering, P.C.

_____, 2006a, *Remedial Investigation Report, Eighteenmile Creek Corridor, Lockport, Niagara County, New York, Site Number 932121*. Prepared by NYSDEC, Division of Environmental Remediation, 270 Michigan Avenue, Buffalo, New York.

_____, 2006b, *Record of Decision for the Former Flintkote Plant Site.*

_____, 2006c, *Remedial Program Soil Cleanup Objectives*, 6 NYCRR Subpart 375-6.8, December 14, 2006.

_____, 2003, *Sampling Report, Water Street Properties, City of Lockport, Niagara County, New York.* Division of Environmental Remediation.

_____, 2002, *Sampling Report, Former Flintkote Plant Site, 143 Water Street, City of Lockport, Niagara County, New York.* Division of Environmental Remediation.

_____, 2000, *Site Investigation Report, Former Flintkote Plant Site*.

_____, 1999, *Technical Guidance for Screening Contaminated Sediments*, NYSDEC Division of Fish, Wildlife and Marine Resources, Albany, New York.

_____, 1998, Division of Water Technical and Operational Guidance Series (1.1.1): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Division of Water, Albany, New York.

_____, 1996, *Trackdown of Chemical Contaminants to Lake Ontario from New York State Tributaries*.

_____, 1994, *Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (FWIA)*, NYSDEC Division of Fish and Wildlife, Albany, New York.

New York State Museum, 2004, *NYS Surficial Geology* web page (http://www.nysm.nysed.gov/data/surficial_alpha.html), downloaded 29 March 2004.

_____, 1991, *Geology of New York: a Short Account*, the University of the State of New York, The State Education Department, Educational Leaflet No. 28.

Shacklette, H. T. and J. G. Boerngen, 1984, Element Concentrations in Soils and Other Surficial Materials of the Continuous United States.

United States Environmental Protection Agency (USEPA), 1998, *Guidelines for Ecological Risk Assessment*, Risk Assessment Forum, USEPA, Washington, D.C., EPA/630/R-95/002F.

_____, 1997, *Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments, Interim Final*, Environmental Response Team, Edison, N.J.

United States Fish and Wildlife Service (USFWS), 2005, *Eastern Prairie Fringed Orchid Fact Sheet.* Available at www.fws.gov/midwest/endangered/plants/epfo.html.

TVGA Consultants, 2005, *Final Remedial Alternatives Report, former Flintkote Site, Site Investigation/Remedial Alternatives Report (SI/RAR), Former Flintkote Site, 198 and 300 Mill Street, City of Lockport, Niagara county, New York*, Niagara County Department of Planning and Tourism, Sanborn, New York.

_____, 2002, *Phase I Environmental Site Assessment Report For White Transportation 30-40 Mill Street, Lockport. Niagara Country, New York.*

URS Corporation, 2006, *Summary Report for PCBs Detected in NYS Barge Canal Sediments During the Investigation of NYSEG's Transit Street and State road Former MGP Sites, Sites #9-32-098 and #9-32-109, Lockport, NY,* New York State Electric And Gas, Binghamton, New York.

A Photographic Log

Photo/Frame No.:	001	**Direction of View:**	South
Date/Time:	04/16/2007; 1133 hrs	**Subject:**	Location of Surface Soil 17 and Monitoring Well 17.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	002	**Direction of View:**	Northwest
Date/Time:	04/16/2006; 1141 hrs	**Subject:**	Location of Surface Soil 16 and Monitoring Well 16.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	003	**Direction of View:**	East
Date/Time:	04/16/2007	**Subject:**	Location of Surface Soil 14 and Monitoring Well 14.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	004	**Direction of View:**	South
Date/Time:	04/16/2007; 1146	**Subject:**	Location of Surface Soil 15 and Monitoring Well 15.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	005	**Direction of View:**	East
Date/Time:	04/16/2007; 1151	**Subject:**	Location of Surface Soil 14 and Monitoring Well 14.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	006	**Direction of View:**	West
Date/Time:	04/16/2007; 1203	**Subject:**	Location of Surface Soil 12 and Monitoring Well 12.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	007	**Direction of View:**	South
Date/Time:	04/16/2007	**Subject:**	Location of Surface Soil 13 and Monitoring Well 13.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	008	**Direction of View:**	Southeast
Date/Time:	04/16/2007; 1222	**Subject:**	Location of Surface Soil 11 and Monitoring Well 11.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	009	**Direction of View:**	South
Date/Time:	04/16/2007; 1226	**Subject:**	Location of Surface Soil 10 and Monitoring Well 10. Surface Soil 10 being collected.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	010	**Direction of View:**	West
Date/Time:	04/16/2007; 1400	**Subject:**	Location of Surface Soil 08 and Monitoring Well 08.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	011	**Direction of View:**	South
Date/Time:	04/16/2007; 1416	**Subject:**	Location of Surface Soil 09.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	012	**Direction of View:**	East
Date/Time:	04/16/2007; 1421	**Subject:**	Location of Surface Soil 07.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	013	**Direction of View:**	East
Date/Time:	04/16/2007; 1429	**Subject:**	Location of Surface Soil 05.
Photographer:	Ben Cole, EEEPC		

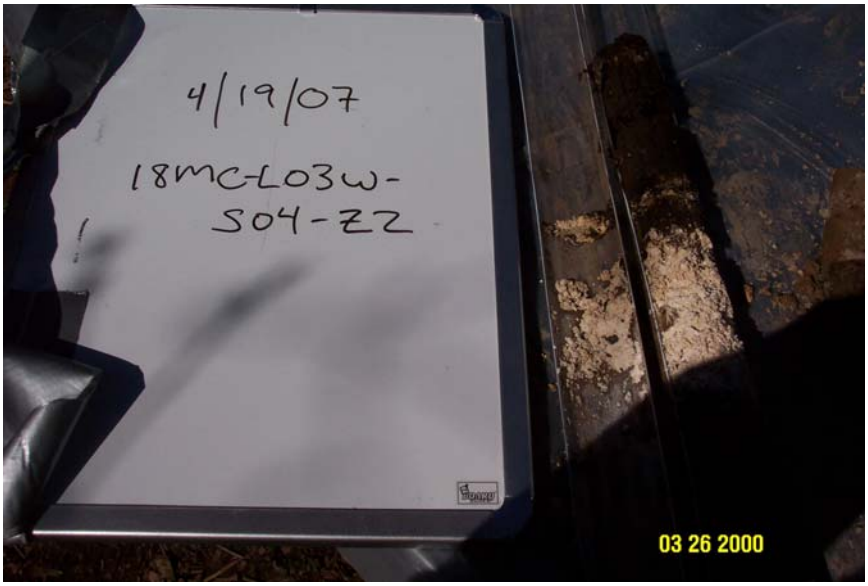
Photo/Frame No.:	014	**Direction of View:**	West
Date/Time:	04/16/2007; 1456	**Subject:**	Location of Surface Soil 01 and Monitoring Well 01.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	015	**Direction of View:**	South
Date/Time:	04/16/2007	**Subject:**	Location of Surface Soil 02.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	016	**Direction of View:**	Southwest
Date/Time:	04/16/2007; 1441	**Subject:**	Location of Surface Soil 03.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	017	**Direction of View:**	West
Date/Time:	04/16/2007; 1436	**Subject:**	Location of Surface Soil 04.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	018	**Direction of View:**	South
Date/Time:	04/16/2007; 1501	**Subject:**	Location of Surface Soil 16 and Monitoring Well 16.
Photographer:	Ben Cole, EEEPC		



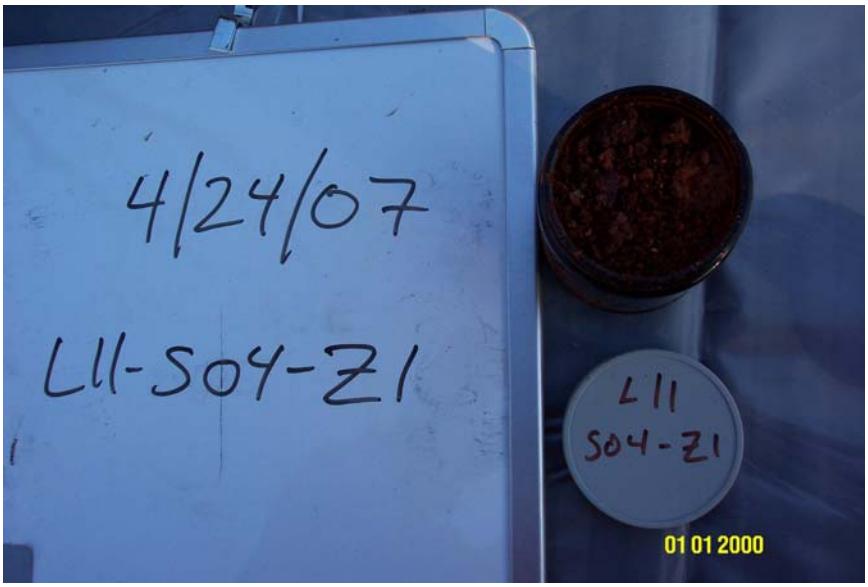
Photo/Frame No.:	019	**Direction of View:**	Down
Date/Time:	04/19/2007	**Subject:**	White slag layer found in Transect 03W, S04.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	020	**Direction of View:**	South
Date/Time:	04/19/2007; 1246	**Subject:**	Drillers collecting sample from Transect 05.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	021	**Direction of View:**	Southeast
Date/Time:	04/27/2007; 1000	**Subject:**	Soil Boring 04 location.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	022	**Direction of View:**	Down
Date/Time:	04/20/2007; 1030	**Subject:**	White slag layer found in Transect 03E, S05
Photographer:	Ben Cole, EEEPC		

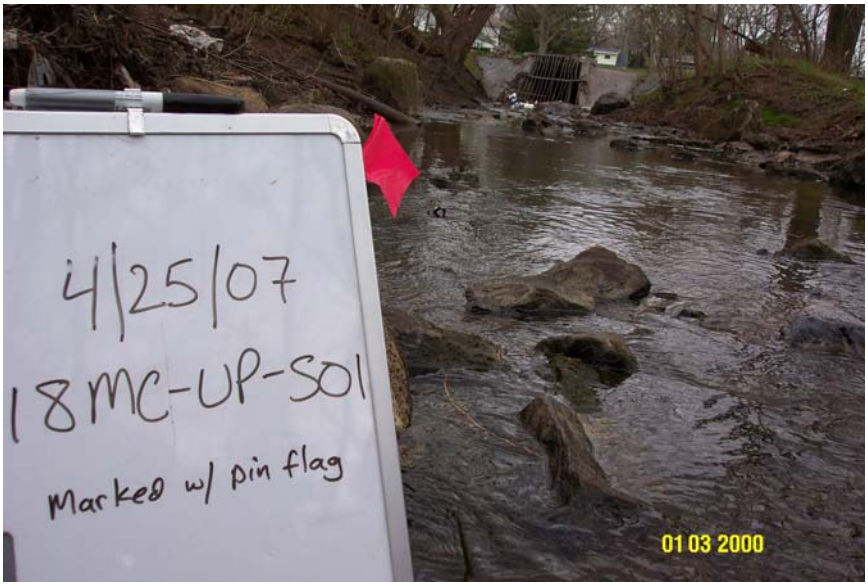
Photo/Frame No.:	023	**Direction of View:**	West
Date/Time:	04/23/2007; 1122	**Subject:**	Work platform and workers on 18 Mile Creek, upstream of Transect 08, in area of United Paperboard millpond and dam.
Photographer:	Ben Cole, EEEPC		



Photo/Frame No.:	024	**Direction of View:**	Down
Date/Time:	04/24/2007; 0756	**Subject:**	Red ash found on Transect 11, S04 at the ground surface.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	025	**Direction of View:**	Down
Date/Time:	04/24/2007; 1308	**Subject:**	Red ash found on Transect 11, S04 in the subsurface.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	026	**Direction of View:**	East
Date/Time:	04/25/2007; 1420	**Subject:**	Upstream/background sample location on 18 Mile Creek, marked with pin flag.
Photographer:	Ben Cole, EEEPC		



Photo/Frame No.:	027	**Direction of View:**	East
Date/Time:	04/25/2007; 1421	**Subject:**	Upstream/background sample location on 18 Mile Creek, marked with pin flag.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	028	**Direction of View:**	East
Date/Time:	04/25/2007; 1422	**Subject:**	Upstream/background sample location on 18 Mile Creek, marked with pin flag.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	029	**Direction of View:**	Southwest
Date/Time:	04/25/2007; 1528	**Subject:**	Location of AS01 sample, added by NYSDEC May in the field after children were observed playing at location.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	030	**Direction of View:**	East
Date/Time:	06/08/2007; 1428	**Subject:**	Monitoring Well 11 being drilled.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	031	**Direction of View:**	North
Date/Time:	06/13/2007; 1434	**Subject:**	Drillers collecting Barge Canal 06 sediment sample.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	032	**Direction of View:**	South
Date/Time:	06/14/2007; 0809	**Subject:**	Drillers collecting Barge Canal 01 sample.
Photographer:	Ben Cole, EEEPC		

Photo/Frame No.:	033	**Direction of View:**	North
Date/Time:	06/26/2007; 0900	**Subject:**	Drill rig set up on MW-16
Photographer:	Marcy Werth, EEEPC		

Photo/Frame No.:	034	**Direction of View:**	Down
Date/Time:	06/26/2007; 1600	**Subject:**	MW-16 core, from 15 to 25 feet bgs.
Photographer:	Marcy Werth, EEEPC		

Photo/Frame No.:	035	**Direction of View:**	North
Date/Time:	06/26/2007; 1510	**Subject:**	Drillers coring MW-16.
Photographer:	Marcy Werth, EEEPC		

Photo/Frame No.:	036	**Direction of View:**	North
Date/Time:	07/11/2007; 1500	**Subject:**	Purging Monitoring Well 17.
Photographer:	Ben Cole, EEEPC		

B Borehole and Monitoring Well Logs

Monitoring Wells (18MC-MW01, 18MC-MW02, 18MC-MW04, 18MC-MW05, 18MC-MW06, and 18MC-MW08 through 18MC-MW17)

Soil Borings (18MC-SB01 through 18MC-SB15)

Borehole Record for MW-01

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR MW-01

Project Name 18 Mile Creek

Site Location Cockpost, NY, Mill St, S of Flintkote, E of 18 MC

Date Started/Finished 6/21/07

Drilling Company SSB

Driller's Name Ken Fuller

Geologist's Name Ben Cole

Geologist's Signature

Rig Type (s) 550

Drilling Method (s) split spoon/hollow augers

Bit Size (s) 4.25" Auger Size (s) 8"

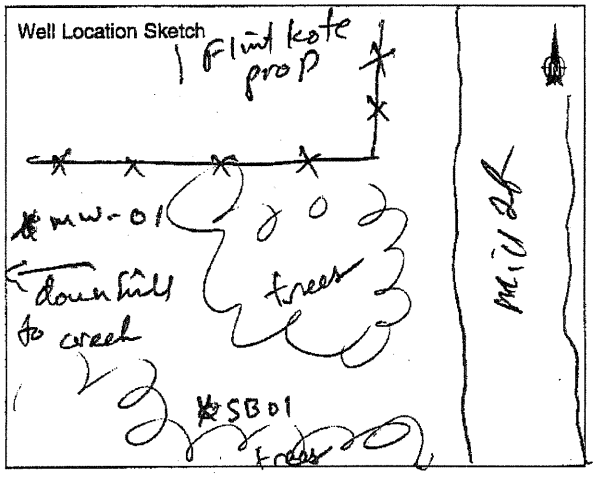
Auger/Split Spoon Refusal N/A

Total Depth of Borehole Is 22'

Total Depth of Corehole Is 22'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1		2 2 / 2 3	sl, gr	1100		1.4'		N/A	0	
2										
3		5 6 / 6 8	sl, gr			1.2'			0	18MC-MW01-21 3-4' 1108 sample may contain asbestos
4										
5		1 1 / 1 3	sl, gr			1.3			0	
6										
7		10 6 / 1 1	sl, gr			1.1'			0	
8										
9		2 2 / 2 2	sl, gr			0.8'			0	
10										
11		1 2 / 1 2	sl, gr			1.4'			0	
12										
13		2 1 / 2 2	sl, gr			1.1'			0	18MC-MW01-22 12-14' 1130
14										
15		1 2 / 2 3	SL, GR CL			1.0'			0	
16 to 18		16 10 / 18 8	CL, SL			1.4'			0	

MW-01

SCREENED WELL

Lock Number 3232

Inner Casing Material PVC

Inner Casing Inside Diameter 2 inches

Stick-up 2.5 ft

GROUND SURFACE

Top of Grout 0 ft

Top of Seal at 8 ft

Top of Sand Pack 10 ft

Top of Screen at 12 ft

Bottom of Screen at 22 ft

Bottom of Hole at 22 ft

Bottom of Sandpack at 22

Quantity of Material Used:
Bentonite Pellets
Cement Portland
Borehole 8 DB inches Diameter (9 1/4 ID)
Cement/ Bentonite chips
Grout

Screen Slot Size 0.010

Screen Type
☒ PVC 2"
☐ Stainless Steel

Pack Type/Size:
☒ Sand #0
☐ Gravel
☐ Natural

OPEN-HOLE WELL

Stick-up ft

Inner Casing Material

Inner Casing Inside Diameter inches

Outer Casing Diameter inches

Borehole Diameter ft

Bedrock ft

Bottom of Rock Socket/ Outer Casing ft

Bottom of Inner Casing ft

Corehole Diameter

Bottom of Corehole ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-1' black to very dark brown fn sandy soil, few fn gravel, dry	☒	○	○
2	1-2' orange-brown mixed sandy fill, trc fn gravel, dry	☒	○	○
3	2-4' very lite gray to white mixed sandy fill - dry	☒	○	○
4		☒	○	○
5	4-6' red-brown mixed sandy fill, few fn gravel. dry	☒	○	○
6		☒	○	○
7	6-8' as above - mixed red-brown sandy fill dry	☒	○	○
8	fill	☒	○	○
9	8-10' as above - mixed sand, red-brown, w/ trc fn gravel dry	☒	○	○
10		☒	○	○
11	10-12' as above - red-brown mixed sand fill w/ trc to few fn gravel, dry	☒	○	○
12		○	○	☒
13	12-14' black mixed sand fill, few fn gravel, wet	○	○	☒
14		○	○	○
15	14-16' same for 6" (sand/gravel)) silty clay, dense, red brown, wet, trace	○	○	☒

traces

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
16		7 10	CL, SL	N/A			7.4'		N/A	0	
17		11 8									
18											
19		4 6	CL, SL				1.0'			0	
20		10 21									
21		11 23	CL, SL				1.2'			0	
22		50/3									
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16	16-18' - Silty clay, dense, red brown, wet, trace gravel,	○	○	⊗
17		○	○	○
18	18-20' - silty clay, dense, red brown, wet, trace gravel (≤1/4" smaller)	○	○	⊗
19		○	○	○
20	20-22' - silty clay, dense, red brown, wet, trace gravel (≤1/4" or smaller)	○	○	⊗
21		○	○	○
22	Total depth = 22' bgs	○	○	○
23		○	○	○
24		○	○	○
25		○	○	○
26		○	○	○
27		○	○	○
28		○	○	○
29		○	○	○
30		○	○	○
31		○	○	○
32		○	○	○
33		○	○	○
34		○	○	○
35		○	○	○
36		○	○	○
37		○	○	○
38		○	○	○
39		○	○	○
40		○	○	○
41		○	○	○
42		○	○	○
43		○	○	○
44		○	○	○
45		○	○	○

Borehole Record for MW-02

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

Glan? collect dup from bank

UPS?

Shirley NGr 401-732' 3400 x314 McKeon 716-597-6596 Jim Stofel/rep-Bat midwest SVOC PCB, on RB (no TB) yes on TB for DW

DRILLING LOG FOR MW-02

Project Name: 18 Mile Creek

Site Location: Lockport, NY - N of United Paperboard, E of Creek

Date Started/Finished: 6/12/07 - 6/12/07

Drilling Company: SJB

Driller's Name: K. Farley

Geologist's Name: B. Cole

Geologist's Signature: [signature]

Rig Type (s): Rubber tire off road drill rig

Drilling Method (s): hollow auger/split spoon

Bit Size (s): 4.25" Auger Size (s): 8"

Auger/Split Spoon Refusal: N/A

Total Depth of Borehole Is: 28'

Total Depth of Corehole Is: 30'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1–2		6 18 / 20 10	sl	0807		1.1'	N/A	N/A	0	
3–4		7 7 / 8 8	sl			0.2'			0	
5–6		7 7 / 9 13	sl, gr			0.9'			0	
7–8		8 9 / 13 44	sl, cl, gr.			1.3'			0	18MC-MW02-21 6-10' 0920 MS/MSD
9–10		7 14 / 15 26	sl			1.3'			0	
11–12		11 15 / 37 50/0	sl, gr			0.8'			0	
13–14		22 50/.3	sl			0.8'			0	
15		45 50/.4				1.0'			0	

Run #2 6/25/07

FedEx 1779 3983-8 "P.B.R." - Hand overnight

MW-02

SCREENED WELL

Lock Number 3232

Inner Casing Material PVC

Inner Casing Inside Diameter 2 inches

Stick-up 2.5 ft

GROUND SURFACE

Top of Grout 0 ft

Quantity of Material Used:
Bentonite Pellets
Cement portland
Borehole ____ inches Diameter
Cement/ Bentonite 2 ft.
Grout 14'
Screen Slot Size .010
Screen Type
☒ PVC 2" x 10'
☐ Stainless Steel

Top of Seal at 14 ft

Top of Sand Pack 16 ft

Top of Screen at 18 ft

Bottom of Screen at 28 ft

Bottom of Hole at 28 ft

Bottom of Sandpack at 28

Pack Type/Size:
☒ Sand #0
☐ Gravel
☐ Natural

NOTE: See pages 136 and 137 for well construction diagrams

OPEN-HOLE WELL

Stick-up ____ ft

Inner Casing Material

Inner Casing Inside Diameter ____ inches

Outer Casing Diameter ____ inches

Borehole Diameter ____ ft

Bedrock ____ ft

Bottom of Rock Socket/ Outer Casing ____ ft

Bottom of Inner Casing ____ ft

Corehole Diameter

Bottom of Corehole ____ ft

~~no well built~~ on 6/12/07
Returned 6/25/07

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.5' brown, clayrich soil, few med sand few gravl.	☒	○	○
2	0.5-2' red-brown, clay soil, dry, not plastic. lost 2" wood	☒	○	○
3	2-4' poor recovery. dolostone - ~~not~~ insert sand to med gravel. ang. dry	☒	○	○
4		☒	○	○
5	4-6' 2" clay soil over fractured + pulverized dolostone mix. dry sizes	☒	○	○
6		☒	○	○
7	6-8' gray frac + pulverized dolostone mxd gravl over brown silt, dry, not plastic, 6-6.8' no gravl, fine/fine sand.	☒	○	○
8		☒	○	○
9	8-10' brown, fine dry silt. firm. low to med strength	☒	○	○
10		☒	○	○
11	10-12' - first (top) 3" gray dolostone frag gravl. rest gray + gray brown	☒	○	○
12	silty clay, low plastic, firm, low - med strength. slty moist	☒	○	○
13	(6/25/07) ↓ bottom of hole @ 12'	○	○	○
14	12-14' brown fine silt few sm gravl. dry	☒	○	○
15	14-16' mix of frac. dolostone, fn brown silt, few fn to crs sand dry	☒	○	○

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
				N/A					N/A		
16											
17		50/.2	sl, cl, s				0.1'			0	
18											
19		28 50/.3	sl, cl, gr				0.3'			0	
20											18me-MW02-Z2
21		14 15 50/.2	sl, s				1.3'			0	20-22' 1210
22											
23		44 50/.2	sl, s, gr				0.7'			0	
24											
25		50/.4	sl, s, gr				0.8'			0	
26											
27		50/.3	sl, s				0.2'			0	
28											
29		26 32 50/.4	sl, s, cl				1.4'			0	
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16		⊗	○	○
17	16-18' almost no recovery. chunk of mixed red-brown	⊗	○	○
18	silty clay w/ black fill (sandy fill) dry	⊗	○	○
19	18-20' poor recovery. 3 rocks in bottom,	⊗	○	○
20	brown sandy silt in top portion. dry	⊗	○	○
21	20-22' brown sandy silt w/ 20% black fill (unsorted sand) wet	○	○	⊗
22		○	○	○
23	22-24' red-brown silt w/ 30% fn gravel + 30% crs sand, wet	○	○	⊗
24		○	○	⊗
25	24-26' as above - red-brown silt w/ fn gravel + crs sand	○	○	⊗
26		○	○	⊗
27	26-28' poor recovery, red-brown sandy silt, wet (appears native wet)	○	○	⊗
28		○	○	○
29	28-30' red-brown silt w/ 20% crs sand, 20% clay,	○	○	○
30	few fn gravel, wet	○	○	⊗
31	* bottom of auger hole @ 28' bgs *	○	○	○
32		○	○	○
33		○	○	○
34		○	○	○
35		○	○	○
36		○	○	○
37		○	○	○
38		○	○	○
39		○	○	○
40		○	○	○
41		○	○	○
42		○	○	○
43		○	○	○
44		○	○	○
45		○	○	○

Borehole Record for MW-04

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR MW-04

Project Name 18 Mile Creek

Site Location Lockport, NY - E of Creek, W of Mill St., along transect #10

Date Started/Finished 6/22/07

Drilling Company SJB

Driller's Name Ken Fuller

Geologist's Name Ben Cole

Geologist's Signature

Rig Type (s) 550 - rubber tire all wood drill rig

Drilling Method (s) HSA / split spoon.

Bit Size (s) 4.25" Auger Size (s) 8"

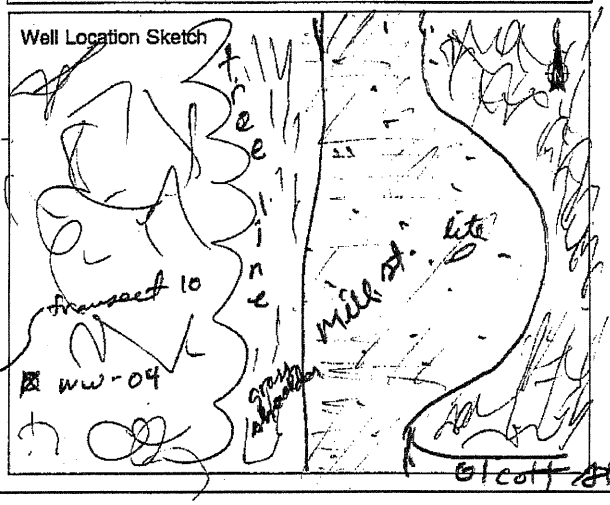
Auger/Split Spoon Refusal N/A

Total Depth of Borehole Is 26'

Total Depth of Corehole Is 26'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1		6 21								
2		18 16	sl, gr, sa			1.8'		N/A	0	
3		12 18								
4		21 13	sl, gr			0.9'			0	
5		6 8								
6		7 44	sl, gr			0.4'			0	
7		24 12								
8		6 14	sl, gr			0.5'			0	
9		6 50/3	sl, gr			0.4'			0	
10										
11		50/3				0				
12										
13		6	12-14' no spoon	augered	through hard	pack				
14										
15		6 9/3				0.3'			0	
16										

MW-04

Lock Number 3232

SCREENED WELL

Inner Casing Material PVC

Stick-up 2.5 ft

Inner Casing Inside Diameter 2 inches

GROUND SURFACE

Top of Grout 0 ft

Quantity of Material Used:
Bentonite Pellets 2 ft.

Top of Seal at 12 ft

Cement 12' portland

Borehole _____ inches Diameter

Top of Sand Pack 14 ft

Cement/ Bentonite 2 ft

Grout 12'

Top of Screen at 16 ft

Screen Slot Size .010

Bottom of Screen at 26 ft

Screen Type
☐ PVC 2" x 10'
☐ Stainless Steel ____

Bottom of Hole at 26 ft

Pack Type/Size:
☐ Sand #0
☐ Gravel ____
☐ Natural ____

Bottom of Sandpack at 26

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-1' Brown fine silt to med sandy soil, 20% fine rock,	⊗	○	○
2	few red brick; 1-2' black mixed sand fill w/ few fine to sm gravel,	⊗	○	○
3	2-4' black mixed oily sand fill, few fine gravel, dry	⊗	○	○
4		⊗	○	○
5	4-6' - poor recovery brown sandy soil, few fine. rock w/	⊗	○	○
6	top ½' dry	⊗	○	○
7	6-8' - poor recovery, top ½ brown sandy soil, bottom ½ black	⊗	○	○
8	mixed sand fill, few gravel ¼-½" dry	⊗	○	○
9	8-10' poor recovery, mixed sandy fill - lt gray, brown, 30% wood	⊗	○	○
10	frags. dry	⊗	○	○
11	10-12' no recovery	○	○	○
12	12-14' no recovery	○	○	○
13		○	○	○
14	14-16' poor recovery - mixed brown sand in silty clay matrix	⊗	○	○
15	dry	○	○	○

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
16				N/A					N/A		
17		14 20	sl, s				1.8'			0	18mc-mw04-21 16-18' 1130
18		27 32									
19		6 29	s, sl				1.4'			0	
20		53 25									
21		1W/R	s, gr				1.0'			0	
22		12 29									
23		14 27	s, gr				1.3'			0	
24		18 17									
25		16 50/3	s, gr				0.8'			0	18mc-mw04-22 24-26' 1330
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16		○	○	⊗
17	16-18' fm brown sand to fm silt, wet, no grvl. looks native	○	○	⊗
18		○	○	⊗
19	18-20' brown fm sand to med/fm silt, no grvl, wet, native	○	○	⊗
20		○	○	⊗
21	20-22' top 1' fm brown sand + fm silt, bottom 1' crs sand to fine grvl wet	○	○	⊗
22		○	○	⊗
23	22-24' mixed crs sand + fm to sm. grvl, brown, wet	○	○	⊗
24		○	○	⊗
25	24-26' mixed fm sand to fm grvl, brown, wet	○	○	⊗
26	bottom of hole @ 26' bgs	○	○	○
27		○	○	○
28		○	○	○
29		○	○	○
30		○	○	○
31		○	○	○
32		○	○	○
33		○	○	○
34		○	○	○
35		○	○	○
36		○	○	○
37		○	○	○
38		○	○	○
39		○	○	○
40		○	○	○
41		○	○	○
42		○	○	○
43		○	○	○
44		○	○	○
45		○	○	○

Borehole Record for MW-05

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

1340-

DRILLING LOG FOR MW-05

Project Name 18 Mile Creek

Site Location Lockport, NY - S of Olcott bridge, 75' E of water St.

Date Started/Finished 6/15/07 - 6/15/07

Drilling Company SJB

Driller's Name K. Fuller

Geologist's Name B. Cole

Geologist's Signature

Rig Type (s) 550 - rubber tire offroad drilling

Drilling Method (s) hollow auger/split spoon

Bit Size (s) 4.25" Auger Size (s) 8"

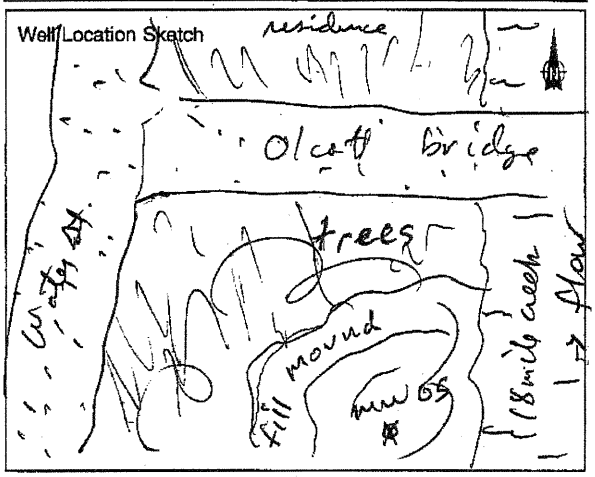
Auger/Split Spoon Refusal 23'

Total Depth of Borehole Is 23'

Total Depth of Corehole Is 23'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1		2 2 / 2 4	d, gr			0.3'		NA	0	
2										
3		3 2 / 1 2	d, gr			1.0'			0	
4										
5		6 8 / 12 12	sl fill			1.3'			0	18mc-MW05-Z1 4-6'
6										
7		7 11 / 10 12	sl fill			1.2'			0	
8										
9		5 6 / 12 11	sl fill			0.9'			0	
10										
11		4 6 / 7 8	sl, cl			1.3'			0	
12										
13		7 9 / 10 21	sl, s			1.0'			0	12-14' 18mc-MW05-Z2
14										
15		10 20 / 24 25	sl, cl			1.0'			0	
16										

MW-05

SCREENED WELL

Lock Number 3232

Inner Casing Material PVC

Stick-up 2.5 ft

Inner Casing Inside Diameter 2 inches

GROUND SURFACE

Top of Grout 0 ft

Quantity of Material Used:
Bentonite Pellets 2 ft
Cement 9 ft

Top of Seal at 9 ft

Borehole _____ inches Diameter

Top of Sand Pack 11 ft

Cement/ Bentonite 2' chips.

Grout 9

Top of Screen at 13 ft

Screen Slot Size .010

Bottom of Screen at 23 ft

Screen Type _____
☒ PVC 10' x 2"
☐ Stainless Steel ____

Bottom of Hole at 23 ft

Pack Type/Size:
☒ Sand #0
☐ Gravel _____
☐ Natural _____

Bottom of Sandpack at 23'.

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	(poor recovery)			
1	0-2' gray mixed sandy soil, few white med sand grains, dry	⊗	○	○
2	few sm gvl.	⊗	○	○
3	2-4' burnt red mixed sand and fn to med gvl. fill, dry	⊗	○	○
4		⊗	○	○
5	4-6' silty clay matrix full of yellow, red, black, gray	⊗	○	○
6	med sand to sm gvl size fragments. few dolostone gravel, dry	⊗	○	○
7	6-8' as above - gray silty clay matrix w/ mixed clor frags dry	⊗	○	○
8		⊗	○	○
9	8-10' - as above silty clay matrix, full of med sand to sm gvl	⊗	○	○
10	size frags of varying color: red, brown, gray, black, yellow	⊗	○	○
11	10-12' less frags - gray and red silty clay, mod plastic dry	○	⊗	○
12	moist starting @ ~11'	○	⊗	○
13	12-14' wet @ 13' brown fine sand to silt, 12-13' moist, 13-14' wet			
14	few sm rounded gvl.	○	○	⊗
15	14-16' red-brown silt, few crs sand, fn gvl. moist	○	⊗	⊘

Depth(feet)	Sample Number	Blows on Sampler		Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
16					N/A					N/A		
17		39	25	SL, S				1.6'			0	
18		34	36									
19		22	31	SL, S				0.8'			0	
20		18	25									
21		12	25	SL				1.8'			0	
22		24	36									
23												
24												
25												
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												
41												
42												
43												
44												
45												

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16		○	○	○
17	16-18' brown to red brown sand to sandy silt, very moist	○	✕	○
18		○	✕	○
19	18-20' tan-brown fn snd to slt, 20% sm to med grvl, mod plastic moist	○	✕	○
20		○	✕	○
21	20-22' brown fn snd to slt, few fn grvl, very moist	○	✕	○
22		○	○	○
23	bottom of hole @ 23' bgs	○	○	○
24		○	○	○
25		○	○	○
26		○	○	○
27		○	○	○
28		○	○	○
29		○	○	○
30		○	○	○
31		○	○	○
32		○	○	○
33		○	○	○
34		○	○	○
35		○	○	○
36		○	○	○
37		○	○	○
38		○	○	○
39		○	○	○
40		○	○	○
41		○	○	○
42		○	○	○
43		○	○	○
44		○	○	○
45		○	○	○

Borehole Record for MW-06

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR MW 06

Project Name 18 mile Creek

Site Location Lockport, NY. @ corner of mill St + United paperboard parking lot

Date Started/Finished 6/11/07 & 6/20/07

Drilling Company SJB

Driller's Name K. Fuller

Geologist's Name B Cole

Geologist's Signature

Rig Type (s) Rubber tire off road drill rig

Drilling Method (s) Hollow auger, split spn

Bit Size (s) 4.25" Auger Size (s) 8"

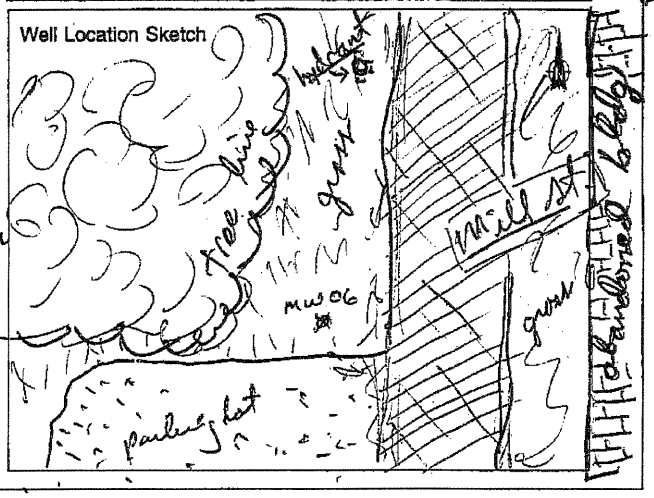
Auger/Split Spoon Refusal 26'

Total Depth of Borehole Is 25'

Total Depth of Corehole Is 25'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number Blows 6/20	Blows on Sampler 6/4		Soil Components Rock Profile CL SL S GR	Penetration Times	recovery Run Number 6/20/07	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments Returned to MW 06 on 6/20/07
1		13	38	sandy soil	1410		1.4'	N/A	N/A	0	
2		44	20								
3		32	24	Sandy soil			0.6'			0	
4		21	10								
5	3/28	7	6	sandy soil		0.3'	0.7'			0	
	59.4	4	9								
7	6/14	16	9	sandy silt		0.4'	1.5'			0	
	50/.3	18	18								
9	4/11	7	17	silt			1.6'			0	18MC-MW06-Z1 MS/MSD 8-10' 1530
	12/25	21	50/.2								
11	3/27			silty			0.7'			0	
	50/.4										
13		9	19	silt			1.3'			0	
		39	50/.2								
15		50/.3					0.1'				

MW-06 Lock Number 3232

SCREENED WELL

Curbbox

Stick-up 0 ft

Top of Grout 0 ft

Top of Seal at 11 ft

Top of Sand Pack 13 ft

Top of Screen at 15 ft

Bottom of Screen at 25 ft

Bottom of Hole at 25 ft

Bottom of Sandpack at 25'

Inner Casing Material PVC

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:
Bentonite Pellets 2'

Cement portland

Borehole ____ inches Diameter

Cement/ Bentonite ____

Grout 11 ft

Screen Slot Size 010

Screen Type ____
☒ PVC 2" x 10'
☐ Stainless Steel ____

Pack Type/Size:
☒ Sand #0
☐ Gravel ____
☐ Natural ____

OPEN-HOLE WELL

Stick-up ____ ft

Inner Casing Material ____

Inner Casing Inside Diameter ____ inches

Outer Casing Diameter ____ inches

Borehole Diameter ____ ft

Bedrock ____ ft

Bottom of Rock Socket/ Outer Casing ____ ft

Bottom of Inner Casing ____ ft

Corehole Diameter ____

Bottom of Corehole ____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-2' gray-brown mixed sand - very fine to crs w/ 40% unsorted gravel dry	☒	○	○
2		☒	○	○
3	2-4' gray brown very fn sand w ~25% unsorted gravel, dry	☒	○	○
4		☒	○	○
6/11 → 5	4-6' gray-brown + red-brown mixed sandy soil, 25% fn to crs gravel dry	☒	○	○
6/20 → 6	4-6' run 2: fn brown sandy soil, dry	☒	○	○
7	6-8' gray-brown + red-brown sandy silt, 30% fn to crs gravel	☒	○	○
6/20 → 8	6-8' gray-brown sandy silt, 25% crs gravel dry	☒	○	○
9	8-10' gray silt - hard, dry, not plastic, bottom 0.3' rock - dolostone dry	☒	○	○
10	6/11 - run 1: bottom of hole C 10. Nowell built	☒	○	○
6/20 → 11	8-10' brown - tan silty clay, mod plastic, firm, slightly moist (no water)	☒	○	○
12	10-12' brown - tan silty clay, mod plastic, firm, dry, 0.2' fine rock	☒	○	○
13	12-14' brown - tan silty clay, low plastic, dry, hard bottom	☒	○	○
14		○	○	○
15	14-16' poor recovery - small piece of silty clay, gray dry	○	○	○

16

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
16											
17		5 50/4	sd	N/A			0.3'		N/A	0	
18											
19		50/1	sd, gr				0.3'			0	18mc-MW06 Z2/D 15-22 1640
20											
21		45 44 50/4	sd, gr				1.2'			0	
22											
23		24 50/3	sd, gr				1.0'			0	
24											
25		1 50 50/3	sd, gr				1.1'			0	
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16		○	○	○
17	16-18' poor recovery, gray-tan silty clay, plastic, sft. wet in bottom of spoon.	○	○	⊗
18		○	○	⊗
19	18-20' poor recovery. Wet. brown-tan silt w/ 30% sm gvl.	○	○	⊗
20		○	○	⊗
21	20-22' wet silt + fine to med sand, brown few fn gvl.	○	○	⊗
22		○	○	○
23	22-24' red-brown fn. silt, firm, not plastic wet	○	○	⊗
24		○	○	⊗
25	24-26' red-brown sandy silt, wet few to mo gr	○	○	⊗
26	* collapsed to TD=25' * 10' scrn	○	○	○
27		○	○	○
28		○	○	○
29		○	○	○
30		○	○	○
31		○	○	○
32		○	○	○
33		○	○	⊗
34		○	○	○
35		○	○	○
36		○	○	○
37		○	○	○
38		○	○	○
39		○	○	○
40		○	○	○
41		○	○	○
42		○	○	○
43		○	○	○
44		○	○	○
45				

Borehole Record for MW-08

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR MW-08

Project Name 18 mile Creek

Site Location Ledyard, N.Y. inside United Paperboard fence

Date Started/Finished 6/11/07

Drilling Company SJB

Driller's Name K. Fuller

Geologist's Name B. Cole

Geologist's Signature

Rig Type (s) Rubber tire off road drilling

Drilling Method (s) hollow auger/split spn.

Bit Size (s) 4.25" Auger Size (s) 8"

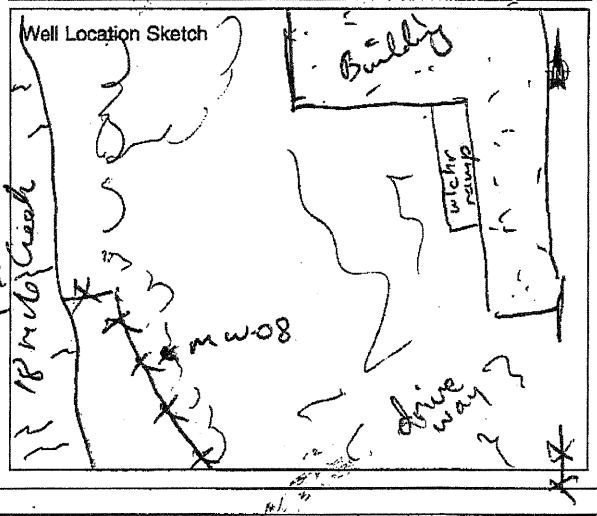
Auger/Split Spoon Refusal 16'

Total Depth of Borehole is 16'

Total Depth of Corehole is 16'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1		4 4	sand fill			1.8'	N/A	N/A	0	
2		6 5								
3		4 4	sand fill			1.2'			0	
4		5 6								
5		5 4	sand, slt, cl			0.2			0	
6		4 3								
7		1 1	slt			0.6'			0	6-10' 0956 hrs ISMC-MW08-Z1
8		2 6								
9		2 3	slt			0.8'			0	
10		4 1								
11		WH 2	slt.			1.2			0	ISMC-MW08-Z2(D)
12		2 1								10-14' 1030 hrs
13		1 1	slt cl.			1.2'			0	
14		1 1								
15		WH 1	slt, cl.			1.5'			0	

MW-08

SCREENED WELL

Lock Number 3282

Inner Casing Material PVC

Stick-up 2.5 ft

Inner Casing Inside Diameter 2 inches

GROUND SURFACE

Top of Grout 0 ft

Quantity of Material Used:
Bentonite Pellets 2'

Cement portland

Top of Seal at 2 ft

Borehole Diameter 8 inches

Top of Sand Pack 4 ft

Cement/ Bentonite

Grout 2'

Top of Screen at 6 ft

Screen Slot Size 010

Bottom of Screen at 16 ft

Screen Type
☒ PVC 2" x 10'
☐ Stainless Steel

Bottom of Hole at 16 ft

Pack Type/Size:
☒ Sand #0
☐ Gravel
☐ Natural

Bottom of Sandpack at 16'

OPEN-HOLE WELL

Stick-up ____ ft

Inner Casing Material

Inner Casing Inside Diameter ____ inches

Outer Casing Diameter ____ inches

Borehole Diameter ____ ft

Bedrock ____ ft

Bottom of Rock Socket/ Outer Casing ____ ft

Bottom of Inner Casing ____ ft

Corehole Diameter

Bottom of Corehole ____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.5' from top soil, mixed sand ~ 50% few to fine fn gravels	☒	○	○
2	0.5-1.5' black fill - mixed sand, ~ 25% fn brown black gravel,	☒	○	○
3	1.5-2' red-brown ash fill, 50% mixed sand 25% metal and other debris, rest silt + gravel - mixed.	☒	○	○
4	2-4' mixed ash - 30% black, mixed sand size, 30% red-brown	☒	○	○
5	burnt material - mixed sand size, rest mixed gravel, dry	☒	○	○
6	4-6' poor recovery, mixed brown sandy soil, some clay, few fn gravel	☒	○	○
7	6-8' brown-red mixed sand + gravel + clay ash. fine red brick	○	☒	○
8	8-10' black mixed sand fill, 60% mixed sand, 30% fn to	○	○	☒
9	sm gravels, rest silt, all black, wet	○	○	☒
10	10-12' black fine silt, few fn sand, some clay, all black, wet very plastic	○	○	☒
11	12-14' black fine silty clay ~ 30% fn wood fragments, very plastic all black, wet	○	○	☒
12	14-16' dark gray grades down to light gray silty clay, few fn sand. very to some plastic	○	○	☒
13	bottom of hole @ 16' bgs	○	○	☒
14		○	○	○
15		○	○	○

Borehole Record for MW-09

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR MW-09 *used 210 gallons in boring

Project Name 18 Mile Creek

Site Location Lockport, NY - corner of Water St. + Monroe St.

Date Started/Finished 6/18/07

Drilling Company STB

Driller's Name K. Fuller

Geologist's Name Sarah Craig

Geologist's Signature

Rig Type (s) 550 - rubber tire offroad drill rig

Drilling Method (s) HSA / Split Spoon

Bit Size (s) 4¼" Auger Size (s) ~~2¼"~~ 8"

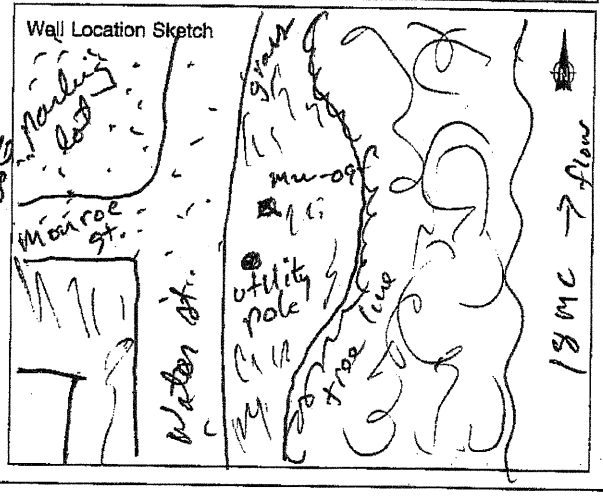
Auger/Split Spoon Refusal 9'

Total Depth of Borehole Is ~~14~~ 9'

Total Depth of Corehole Is 14'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	PID ~~HNu/OVA~~ (ppm)	Comments
1		7 9 / 7 8	Black Gvl, S	12 40		1'		N/A	0	SGC
2										
3		12 15 / 18 22	Sil, S + Gr			1'			0	
4										
5		7 5 / 6 7	Slt + gravel			1.5'			0	
6										
7		21 17 / 12 12	Slt + gravel			1.5'			0	
8										
9		50 / .4				.4'				rock sample
10										
11										
12										
13										
14										
15										

MW-09

Lock Number 3232

SCREENED WELL

curb box

Stick-up 0 ft

Top of Grout 0 ft

Top of Seal at 5' ft

Top of Sand Pack 7' ft

Top of Screen at 9' ft

Bottom of Screen at 14' ft

Bottom of Hole at 16' ft

Bottom of Sandpack at 16'

Inner Casing Material PVC

Inner Casing Inside Diameter 2 inches

GROUND SURFACE

Quantity of Material Used:
Bentonite Pellets 2'
Cement portland, 5'
Borehole ____ inches Diameter
Cement/ Bentonite 2'
Grout ____
Screen Slot Size 010
Screen Type ____
☒ PVC 5' x 2"
☐ Stainless Steel ____
Pack Type/Size:
☒ Sand 0
☐ Gravel ____
☐ Natural ____

OPEN-HOLE WELL

Stick-up ____ ft

Inner Casing Material ____

Inner Casing Inside Diameter ____ inches

Outer Casing Diameter ____ inches

Borehole Diameter ____ ft

Bedrock ____ ft

Bottom of Rock Socket/ Outer Casing ____ ft

Bottom of Inner Casing ____ ft

Corehole Diameter ____

Bottom of Corehole ____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0.0-2.0' - organic plug, black Varied sized Sand-	◉	○	○
2	black fill	○	○	○
3	2.0-3.0' - Brown fill w/ poorly sorted gravel + Some	◉	○	○
4	sand	○	○	○
5	4.0-5.0 - tight lt. brown Clayey Silt w/ poorly sorted	◉	○	○
6	gravel. 5.0-5.5 - black fill w/ some Sands	○	○	○
7	6.0-7.5 - tight lt brown Clayey Silt w/ Some	◉	○	○
8	poorly sorted gravel	○	○	○
9	8.0-8.4 - tight lt brown Clayey Silt - 1 large	◉	○	○
10	pebble @ bottom 9' ← bit refusal - Begin to core	○	○	○
11	run 1: 9-14' grey dolostone w/ east staining	○	○	○
12	@ no fractures (10.5'; 11.0')	○	○	○
13	run 2: 14'-16' grey dolostone - NO FRACTURES	○	○	○
14	14'-16' backfilled w/ Sand. bottom of core @ 14'	○	○	○
15		○	○	○

Took Sample

Borehole Record for MW-10

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR MW-10

Project Name 18 Mile Creek

Site Location Lockport, NY - W of White Transportation.

Date Started/Finished 6/20/07 - 6/20/07

Drilling Company STB

Driller's Name K. Fuller

Geologist's Name Ben Cole

Geologist's Signature

Rig Type (s) 550 - Subbertire Hydraulic Drilling

Drilling Method (s) hollow stem augers / split spoon

Bit Size (s) 4.25" Auger Size (s) 8"

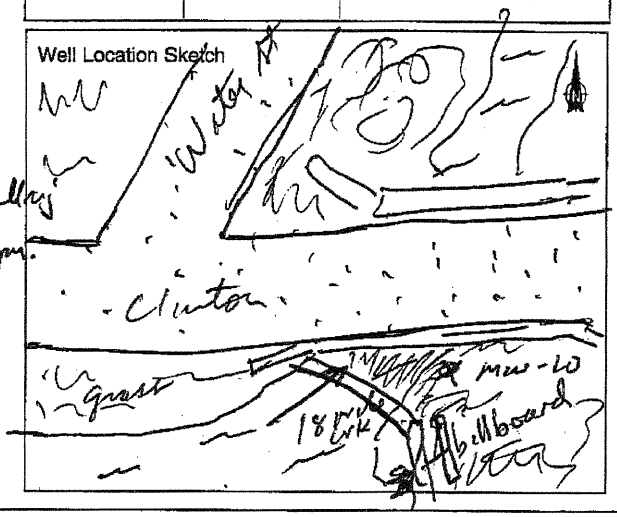
Auger/Split Spoon Refusal 17'

Total Depth of Borehole Is 17'

Total Depth of Corehole Is 18'

Water Level (TOIC)		
Date	Time	Level (Feet)

Well Location Sketch



Depth (Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1		2 13 / 16 15	sl to gr	0730		0.9'		NA	0	
2										
3		15 11 / 13 21	sl to gr			1.1'			0	
4										
5		5 3 / 7 3	sl, sy gr			1.2'			0	
6										
7		3 2 / 4 5	sl, sl, gr			0.8'			0	
8										
9		9 10 / 12 10	sl, gr,			0.8'			0	
10										
11 (wet)		7 4 / 3 3	sl, gr			0.7'			0	18MC-MW10-Z1 10-11' 0825
12										
13		1 1 / 1 2	soft cl			1.4'				18MC-MW10-Z2 12-13' 0830
14										
15		2 2 / 2 10	sl, cl			1.7'			0	
16										

MW-10

SCREENED WELL

Lock Number 3232

Inner Casing Material PVC

Stick-up 2.5 ft

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Top of Grout 0 ft

Top of Seal at 3 ft

Top of Sand Pack 5 ft

Top of Screen at 7 ft

Bottom of Screen at 17 ft

Bottom of Hole at 17 ft

Bottom of Sandpack at 17

Quantity of Material Used:

Bentonite Pellets ____

Cement portland

Borehole 8 / 4¼ inches Diameter

Cement/ Bentonite chips

Grout ____

Screen Slot Size .010

Screen Type ____

☒ PVC 2"

☐ Stainless Steel ____

Pack Type/Size:

☒ Sand #0

☐ Gravel ____

☐ Natural ____

OPEN-HOLE WELL

Stick-up ____ ft

Inner Casing Material ____

Inner Casing Inside Diameter ____ inches

Outer Casing Diameter ____ inches

Borehole Diameter ____ ft

Bedrock ____ ft

Bottom of Rock Socket/ Outer Casing ____ ft

Bottom of Inner Casing ____ ft

Corehole Diameter ____

Bottom of Corehole ____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-2' gray silty soil over fractured/pulv. dolostone over dry	⊗	○	○
2	black mixed sandy fill. fill is fn sand to sm gravel size	⊗	○	○
3	2-4' brown silty soil, loose, 20% fn-sm gravel, fn sand-20% dry	⊗	○	○
4	weathered sand to sm grd black, yellow, brown grains ~25% fill	⊗	○	○
5	very 4-6' dark brown silty soil over mixed size brown-red sand fill	⊗	○	○
6	over black mixed sand to sm gr. fill dry	⊗	○	○
7	6-8' red-brown mixed sandy fill over gray to black mixed	⊗	○	○
8	size med to sm gravel fill dry	⊗	○	○
9	8-10' dark gray silt w/ trc clay - fill. weak - over 0.5'	⊗	○	○
10	dolostone sand to sm gravel - dry	○	○	⊗
wet 11	10-12' dark brown silt w/ 40% rock - fine. dolostone, very wet	○	○	⊗
12		○	○	⊗
13	12-14' Looks native - mixed dark gray + dark brown soft clay, wet	○	○	⊗
14	very plastic, soft to firm	○	○	⊗
15	14-16' wet clay, brown + gray mixed, few to no sand + gr, few sm	○	○	⊗

gravel in top 0.2'

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
16											
17		27 50/3	sl, cl	N/A			0.9'		N/A	0	
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16		○	○	⊗
17	16-18' - gray + brown silty clay (very plastic, soft) over fine dolostone gravel - wet	○	○	⊗
18	bottom of borehole @ 17' bgs (spoons went to 18')	○	○	○
19		○	○	○
20		○	○	○
21		○	○	○
22		○	○	○
23		○	○	○
24		○	○	○
25		○	○	○
26		○	○	○
27		○	○	○
28		○	○	○
29		○	○	○
30		○	○	○
31		○	○	○
32		○	○	○
33		○	○	○
34		○	○	○
35		○	○	○
36		○	○	○
37		○	○	○
38		○	○	○
39		○	○	○
40		○	○	○
41		○	○	○
42		○	○	○
43		○	○	○
44		○	○	○
45		○	○	○

Borehole Record for MW-11

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR MW-11

Project Name: Ermite Creek

Site Location: Lockport, NY NE of bldg on White Trans. prop.

Date Started/Finished: 6/8/07 / 6/11/07

Drilling Company: SJB

Driller's Name: K. Fuller

Geologist's Name: B Culp

Geologist's Signature:

Rig Type (s): rubber tire off road drill rig.

Drilling Method (s): hollow auger / split spoon

Bit Size (s): 4.25" Auger Size (s): 8"

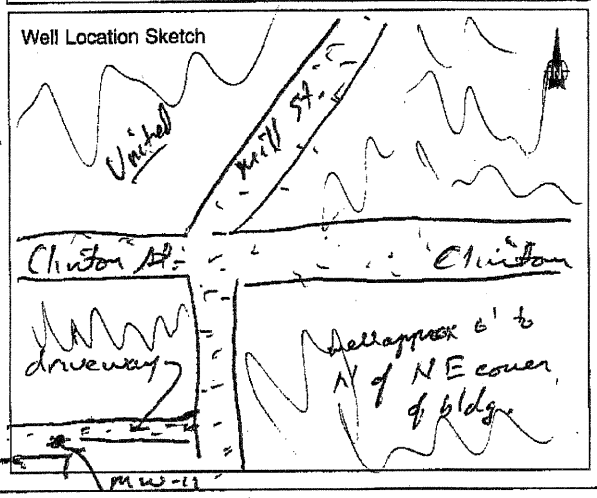
Auger/Split Spoon Refusal: 13.5'

Total Depth of Borehole Is: 13.5'

Total Depth of Corehole Is: 13.5'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1		7 14 / 27 30	sl, cl, gr			1.7'		MF	0	
2										
3		20 15 / 15 22	cl, sl, gr			1.2'			0	
4										
5		5 5 / 8 11	sl, cl			1.1'			0	
6										
7		12 15 / 20 27	sl, gr, cl			0.5'			0	
8										
9		13 50/4	sl, cl			0.9'			0	18mc-mw11-ET 8-10' 15 35 hrs
10										
11		50/4	sl, gr			0.3'			0	
12										
13		37 50/11	gr.			0.3'			0	
14										
15										

MW-11

SCREENED WELL

Lock Number 3232

Inner Casing Material PVC

curb box

Stick-up 0 ft

Inner Casing Inside Diameter 2 inches

GROUND SURFACE

Top of Grout 0 ft

Quantity of Material Used:
Bentonite Pellets 2'

Top of Seal at 4.5 ft

Cement pr-bnd

Borehole _____ inches Diameter

Top of Sand Pack 6.5 ft

Cement/ Bentonite _____

Grout 2'

Top of Screen at 8.5 ft

Screen Slot Size 010

Bottom of Screen at 13.5 ft

Screen Type _____
☒ PVC 2"x5'
☐ Stainless Steel _____

Bottom of Hole at 13.5 ft

Pack Type/Size:
☒ Sand #0
☐ Gravel _____
☐ Natural _____

Bottom of Sandpack at 13.5'

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-1.5' black fn to med sand fill, few fn to med grvl. dry	⊗	○	○
2	1.5-2' gray-brown clay matrix, dry, w/ ~50% poorly sorted snd.	⊗	○	○
3	2-4' gray silty clay matrix blends to brown silty clay matrix w/	⊗	○	○
4	25% fn sand to med grvl., poorly sort	⊗	○	○
5	4-6' mixed brown + red brown silty clay, 25% fn to med	⊗	○	○
6	grvl, trc med to crs sand	⊗	○	○
7	6-8 mixed gray / gray-tan / yellow gray silty, gravelly clay dry	⊗	○	○
8		⊗	○	○
9	8-10' mixed brown + red-brown silty clay, few fn to mg grvl	○	⊗	○
10	last 0.5' wet (9.5-10')	○	○	⊗
11	10-12' dolostone + weathered dolostone w/ few brown clay + insert gr.	○	○	⊗
12	12-14' dolostone w/ 25% red clay, wet	○	○	⊗
13	split spooned to 14', augered to 13.5' → refusal	○	○	⊗
14	Bottom of hole @ 13.5'	○	○	⊗
15		○	○	○

Borehole Record for MW-12

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR MW-12

Project Name 18 mile Creek

Site Location 18 mc - white transportation

Date Started/Finished 6/6/07 - 6/6/07

Drilling Company SJB

Driller's Name Kenny Fulton

Geologist's Name B. Cole

Geologist's Signature

Rig Type (s) rubber tire off road rig

Drilling Method (s) hollow stem auger / split spn.

Bit Size (s) 4.25" Auger Size (s) 8"

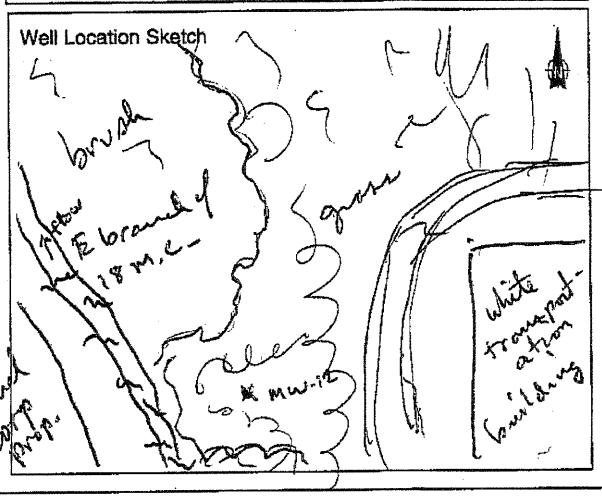
Auger/Split Spoon Refusal 14.5'

Total Depth of Borehole Is 14.5'

Total Depth of Corehole Is 14.5'

Water Level (TOIC)		
Date	Time	Level (Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1	~~hrs: 1320~~ ~~18MC-MW12-Z1 1-2'~~	6 6	black soil fill S	0900	1	1.4'	N/A	N/A	0	Note - discarded Z1 sample because we already have surface soil data for MW12 location
2		16 12								
3		14 12	black soil fill sl+gr		1	0.5'			0	
4		12 12								
5		9 29	cl, GR			0.8'			0	no recovery 1st 4ft
6		14 20								
7		37 17	N/A			0			0	
8		11 10								
9		6 9	cl			0.8'			0	
10		9 7								
11	18MC-MW12-Z1	19 50	gr			0.8'			0	10-14' sample interval
12	hrs: 1628	50 50								
13		41 50	SL CL			0.7'			0	
14		~~50 50~~ (R)								
15	18MC-MW12-Z2	50 50	SL, CL			0.5'			0	12-16' sample interval
		50								

6/6/07 →

sample time → 0942 hrs on 6/7/07

MW-12

SCREENED WELL

Lock Number 3232

Inner Casing Material PVC

Inner Casing Inside Diameter 2 inches

Stick-up 2.5 ft

GROUND SURFACE

Top of Grout 0 ft

Top of Seal at 5.5 ft

Top of Sand Pack 7.5 ft

Top of Screen at 9.5 ft

Bottom of Screen at 14.5 ft

Bottom of Hole at 14.5 ft

Bottom of Sandpack at 14.5'

Quantity of Material Used:
Bentonite Pellets 2'
Cement portland
Borehole Diameter ____ inches
Cement/ Bentonite 2'
Grout 5.5'
Screen Slot Size #.010
Screen Type
☒ PVC 2"x5'
☐ Stainless Steel
Pack Type/Size:
☒ Sand #0
☐ Gravel
☐ Natural

OPEN-HOLE WELL

Stick-up ____ ft

Inner Casing Material ____

Inner Casing Inside Diameter ____ inches

Outer Casing Diameter ____ inches

Borehole Diameter ____ ft

Bedrock ____ ft

Bottom of Rock Socket/ Outer Casing ____ ft

Bottom of Inner Casing ____ ft

Corehole Diameter ____

Bottom of Corehole ____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.4' dark brown organic top soil	○	○	○
2	0.4-2' black m-fn sand, mod sort, few crs sand, tr gvl. fill material (black ash). dry	○	○	○
3	2-3' as above - black sandy ash fill, dry	○	○	○
4	3-4' mixed black & brown silty clay, mod plastic, 45% por sort dolostone gravel, dry	○	○	○
5		○	○	○
6		○	○	○
4-4.8 / 7	4-4.8' brown silty clay, few fn-cs sand, low-mid plastic, dry	○	○	○
4.8-5.5 / 8	4.8-5.5' f-m sand w/ 75% dolostone gravel, rock. sand is dolostone	○	○	○
9	6-8' no recovery	○	○	○
10	8-9' brown silty clay, few f-m sand, mod plastic, dry	⊗	○	○
11	9-10' greenish-tan clay, no silt, no sand, mod plastic, dry	○	○	⊗
12	10-12' gray dolostone (60%) w/ brown-gray silty clay, few sand, wet	○	○	⊗
13	12-14' mixed brown + gray silty clay w/ few sand, 30% gr/frac. rock	○	○	⊗
14	14-16' poor recovery, red-brown soft clay mixed w/ some silt, few med sand + fn gvl., wet	○	○	⊗
15		○	○	⊗

cave in - bottom of hole @ 14.5'

Borehole Record for MW-13

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR MW 13

Project Name 18 Mile Creek

Site Location Coalmont WV

White Transm. prop.

Date Started/Finished 6/7/07 - 6/7/07

Drilling Company STB

Driller's Name R. Fuller

Geologist's Name B. Cole

Geologist's Signature

Rig Type (s) rubber tire diamond rig

Drilling Method (s) hollow auger/split spoon

Bit Size (s) 4.25" Auger Size (s) 8"

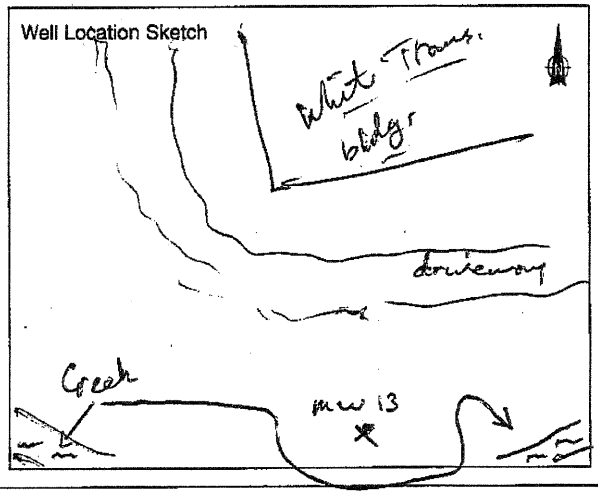
Auger/Split Spoon Refusal 9'

Total Depth of Borehole Is 9'

Total Depth of Corehole Is 9'

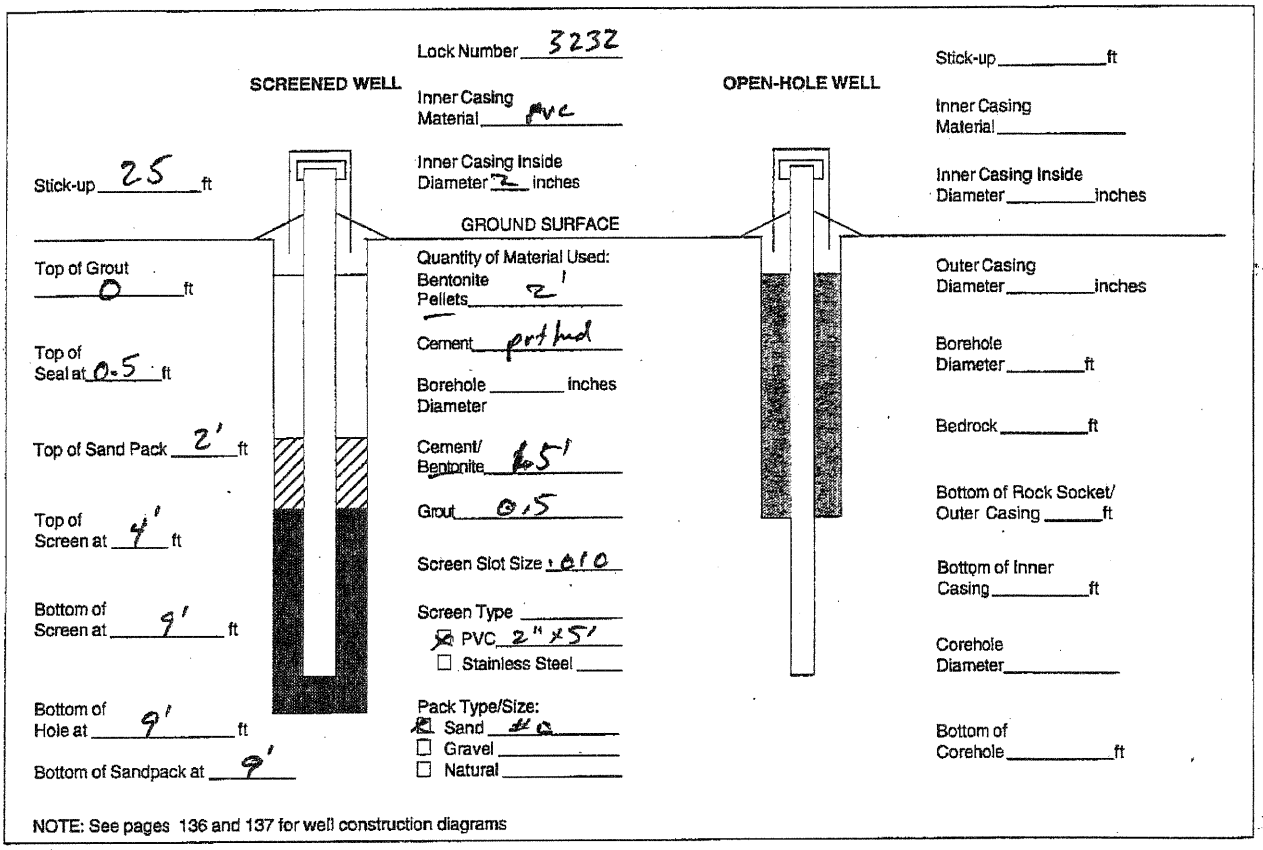
Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1		4 3	S. fill	1300		0.3'		N/A	0	
2		3 3								
3		6 4	S. fill			1.2'			0	
4		7 6								
5		3 5	S fill			0.2'			0	
6		7 8								
7		7 7	fill			0.3'			0	
8		4 3								
9	15mc MW13 2' 6-10'	W 4	SL. Cl			0.4'			0	
10		6 50/5"								
11										
12										
13										
14										
15										

T: 1338



NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-2' black ash - mixed sand, dry	⊗	○	○
2	as above	⊗	○	○
3	2-4' black ash, mixed w/ sand, dry	⊗	○	○
4		⊗	○	○
5	4-6' poor recovery. black mixed sand fill, dry	⊗	○	○
6		⊗	○	○
7	6-8' poor recovery. mixed clay w/ sand, silt (poor sort) wet	○	○	⊗
8	some mixed gravel (~25%).	○	○	⊗
9	8-10' mixed silt + clay, dark brown to black, few fn gvl.	○	○	⊗
10	wet * collapse - bottom of hole @ 9' bgs	○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

Borehole Record for MW-14

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR MW-14

* used 210 gallons in core run

Project Name 18 Mile Creek

Site Location Lockport NY - S of intersection of Clinton + Water St.

Date Started/Finished 6/12/07 → #1 6/19/07 → #2

Drilling Company SJB

Driller's Name K. Fuller

Geologist's Name B Cole

Geologist's Signature

Rig Type (s) 550 - rubber tire offroad drilling

Drilling Method (s) hollow auger / split spoon

Bit Size (s) 4.25" Auger Size (s) 8"

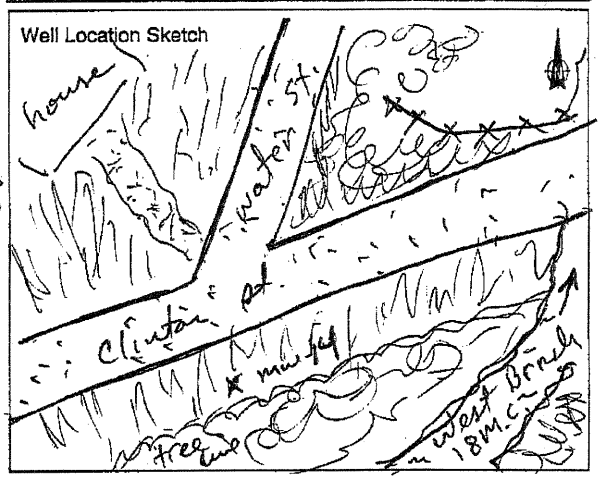
Auger/Split Spoon Refusal 20'

Total Depth of Borehole Is 20'

Total Depth of Corehole Is 28'

Water Level (TOIC)		
Date	Time	Level (Feet)

Well Location Sketch



Depth (Feet)	Sample Number	run 2 Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number 2 recovery	run 1 Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1	~~6~~ 4 / 5 ~~5~~ 6	11 8 / 5 5	N, gr			1.1'	N/A	N/A	0	
2										
3		7 5 / 5 8	A, gr			0.8'			0	
4										
5	6, 4 / 5 + 6	59/.3	—		1.5'	0			0	
6										
7	11 18 / 45 + 42	41 24 / 23 50/4	gr		1.1'	0.7'			0	
8										
9	~~50~~ / 50/.3	50/.4	A, gr		0.5'	0.1			0	
10										
11		~~4~~ 4 / 20 23	sl, cl		0.8'				0	
12										18mc-mw14-Z1 12-14' 1030
13		11 15 / 28 25	A, cl		1.2'				0	
14										
15		8 8 / 17 24	sl		1.3'			↓		
16										
17		50/.3			0.3'					
18										

started 2nd run @ 4' bgs

MW-14

Lock Number 3232

SCREENED WELL

cmb box

Stick-up 0 ft

Top of Grout 0 ft

Top of Seal at 16 ft

Top of Sand Pack 18 ft

Top of Screen at 20 ft

Bottom of Screen at 25 ft

Bottom of Hole at 25 ft

Bottom of Sandpack at 25

Inner Casing Material pvc

Inner Casing Inside Diameter 2 inches

GROUND SURFACE

Quantity of Material Used:
Bentonite Pellets ~~#6~~ 2'
Cement 16'
Borehole _____ inches Diameter
Cement/ Bentonite 2'
Grout 16'
Screen Slot Size 010
Screen Type
☒ PVC ~~5ft~~ x2"
☐ Stainless Steel

Pack Type/Size:
☐ Sand ~~#0~~
☐ Gravel
☐ Natural

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-1' mixed gray sand - fn to crs, few fn gravel, 25% gravel.	⊗	○	○
2	1-2' fn to crs gray-black sand fill w/ 25% gravel dry	⊗	○	○
3	2-4' as above fn to crs gray black sand + gravel dry	⊗	○	○
4	4-6'	⊗	○	○
5	4-6' no recovery; Run 2: brown to dark brown silt & fn sand dry	⊗	○	○
6		⊗	○	○
7	6-8' fractured dolostone, few unsorted dolostone sand, gray, dry	⊗	○	○
8	Run 2: 6-8' tan-gray silt & fn sand, frac rock (dolostone) in lower 0.5' dry	⊗	○	○
9	8-10' poor recovery. chunk of dolostone w/ gray silt slt moist	⊗	○	○
10	auger refusal at 9'	⊗	○	○
11	Run 2: 8-10' mixed gray sand, fn to crs w/ 30% fn to mn gravel dry	⊗	○	○
12	10-12' (run 2): dark brown silty clay, few fragments, frac	○	⊗	○
13	dolostone in bottom 0.3', moist	○	⊗	○
14	12-14' brown, dark brown clay - mixed colors, very moist	○	⊗	○
15	14-16' red-brown silt, poorly consolidated, slightly moist	○	⊗	○

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
16				N/A					N/A		
17		50/.3	sl				0.3'			0	
18											
19		50/.4	sl, gr				0.2'			0	
20											
21											
22	Rock core #1										
23			gr			1	~4.5'			0	Run 1 20.5-25.5'
24											
25											
26											Run 2 25.5-30.5'
27	Rock core #2										
28			gr			2	~4.5'			0	
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16		⊘	○	○
17	16-18' poor recovery - red brown silt, few sand, trc clay, sl fatty moist	○	○	○
18		○	○	○
19	18-20' poor recovery - red brown silt & frac dolostone grvl dry	⊗	○	○
20	rock core run 1: 20.5'-25.5', red-brown silt stone	○	○	○
21	2 fractures: ~22' & ~25'. Hard to tell if wate bearing	○	○	⊗
22	due to amnt of wate, Drillers using to core	○	○	⊗
23	Run 2 ~~25.5~~ 25.5 30.5', gray dolostone and red-brown	○	○	⊗
24	siltstone. Possible wate bearing frac @ 25.5', 27', 28'.	○	○	⊗
25	wet but hard to tell if groundwater or drilling wate	○	○	⊗
26	*Hole collapsed to 25 ft T.D. b.o.h. @ 25'* 5' scrn	○	○	○
27		○	○	○
28		○	○	○
29		○	○	○
30		○	○	○
31		○	○	○
32		○	○	○
33		○	○	○
34		○	○	○
35		○	○	○
36		○	○	○
37		○	○	○
38		○	○	○
39		○	○	○
40		○	○	○
41		○	○	○
42		○	○	○
43		○	○	○
44		○	○	○
45				

Borehole Record for MW-15

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

6/13/07 - @14' @ 1050 1040 spoon fusal 14-16

DRILLING LOG FOR MW-15

water
* USED 420 gallons during coring

Project Name 18 Mile Creek
Site Location Lockport NY
Upson Park - SE of driveway
Date Started/Finished 6/12/07 - ~~6/13/07~~ to 6/14/07
Drilling Company SJB
Driller's Name K. Fuller
Geologist's Name B. Cobb
Geologist's Signature
Rig Type (s) 550 rubber track offroad drill rig
Drilling Method (s) hollow auger/split spoon
Bit Size (s) 4.25" Auger Size (s) 8"
Auger/Split Spoon Refusal ~~14'~~ 21.7'
Total Depth of Borehole Is ~~21.7'~~ 16'
Total Depth of Corehole Is 21.7'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch
Clinton St.
Upson Park Driveway
trees, grass
MW15

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1		2 3	SL, S	6/12/07 1310	1	1.6'		N/A	0	
2		5 15								
3		16 10	S, gr		1	0.9'			0	
4		10 10								
5		8 11	SL		1	0.8'			0	
6		9 6								
7		7 10	SL, gr		1	1.0'			0	
8		9 11								
9		8 11	sl		1	0.7'			0	
10		9 7								
11		1 2	sl		1	0.6'			0	18MC-MW15-Z1 1420 10-12'
12		2 6								
13		1 2	sl		1	1.1'			0	
14		14 17								
15		50/0				0			0	

MW-15

SCREENED WELL

Lock Number 3232

Inner Casing Material PVC

Inner Casing Inside Diameter 2 inches

Stick-up 2.5 ft

GROUND SURFACE

Quantity of Material Used:
Bentonite Pellets 2'

Top of Grout 6 ft

Cement portland

Top of Seal at 12.7 ft

Borehole _____ inches Diameter

Top of Sand Pack 14.7 ft

Cement/ Bentonite 2' chips

Grout 12.7'

Top of Screen at 16.7 ft

Screen Slot Size .010

Bottom of Screen at 21.7 ft

Screen Type .010

☐ PVC 2" x 5 ft

☐ Stainless Steel ____

Bottom of Hole at 21.7' ft

Pack Type/Size:

☒ Sand ~~#2~~

☐ Gravel ____

☐ Natural ____

Bottom of Sandpack at 21.7'

OPEN-HOLE WELL

Stick-up ____ ft

Inner Casing Material ____

Inner Casing Inside Diameter ____ inches

Outer Casing Diameter ____ inches

Borehole Diameter ____ ft

Bedrock ____ ft

Bottom of Rock Socket/ Outer Casing ____ ft

Bottom of Inner Casing ____ ft

Corehole Diameter ____

Bottom of Corehole ____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-1' fine gray-brown dry silt, firm, not plastic	⊗	○	○
2	1-2' red-brown mixed sand fill - fine to coarse sand, few fine gravel dry	⊗	○	○
3	2-4' mixed size fractured dolostone; few mixed gray sand	⊗	○	○
4		⊗	○	○
5	4-4.8' brown + red brown silt, no gravel/sand	⊗	○	○
6	4.8-6' mixed size, poor sort sand - black, gray, brown	⊗	○	○
7	6-8' mixed frac. dolostone + insert dolostone sand, gray, dry	⊗	○	○
8		⊗	○	○
9	8-8.5 brown + red brown silt, low plasticity	⊗	○	○
10	8.5-10' mixed size gray + red gray sand w/ 60% insert gravel (dolostone)	○	○	⊗
11	10-11' red brown silt, wet over 11'-12' red-brown silt, dry	⊗	○	○
12		○	○	⊗
13	12-14' brown + red-brown fine silt, few mixed sand, firm 12-13' wet, 13-14' dry	⊗	○	○
14	refusal at 14'	○	○	○
15				

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
15	~~sleeve~~	4 4	sl cl		6/13/07						
16	~~sleeve~~	7 31	sl	N/A	1040	2	1.6'			0	
17		21/5"/3	sl			2	1.1				
18											
19		- -	1st run	16.7' to 19.7'	1400 hr 6/14/07	1	100% (3')			0	observed fractured zone around 19.5' + ~19.5' that may produce water
20		- -	2nd run	19.7' to 22.2'		2	90%			0	run 2 19.7' to 22.2'
21		- -									
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
14				
15	14-15' tan-brown silty clay, soft to firm, low plastic, slt moist to dry			
16	15-16'- brown silt, dry, hard, weak to mod cement.			
17	16-18' gray silt, dry, firm + weak cement, few fn sand			
18	12/14/07 - rock coring: 1st run 16.7 to 19.7'			
19	gray dolostone, 2 fractures @ ~18.5' + ~19.5'			
20				
21	19.7 to 22.2' (run 2) - gray dolostone w fracs @ ~20', 20.4',			
22	gray clay from ~21 to ~21.4' (wet), frac @ ~22'			
23	well TD = 21.7', 5' scrn			
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				

Borehole Record for MW-16

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

9204 gene

(USED ≈ 300 gallons during coring)

DRILLING LOG FOR MW-16 1045-

Project Name 18 mile Creek

Site Location Lockport, NY

Upson Park @ Clinton - SW drive way

Date Started/Finished 6/12/07 - 6/12/07

Drilling Company SJB (Redrilled 3' from original 6/26/07)

Driller's Name K Fuller

Geologist's Name B Cole

Geologist's Signature

Rig Type (s) 550

Drilling Method (s) Auger / coring

Bit Size (s) 4.25' Auger Size (s) 4 1/4 ID

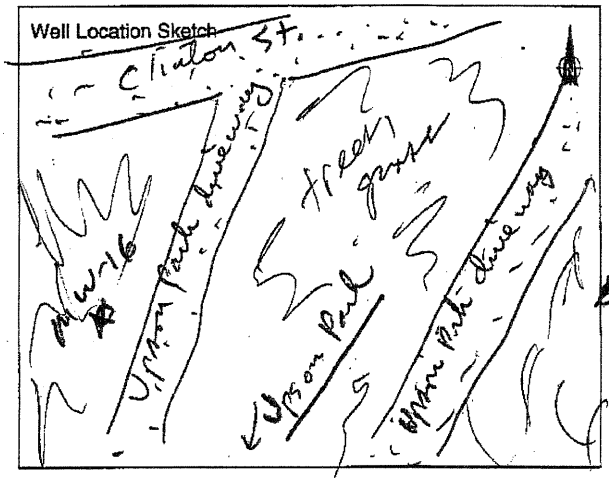
Auger/Split Spoon Refusal ~9.5'

Total Depth of Borehole Is 9.5'

Total Depth of Corehole Is 25'

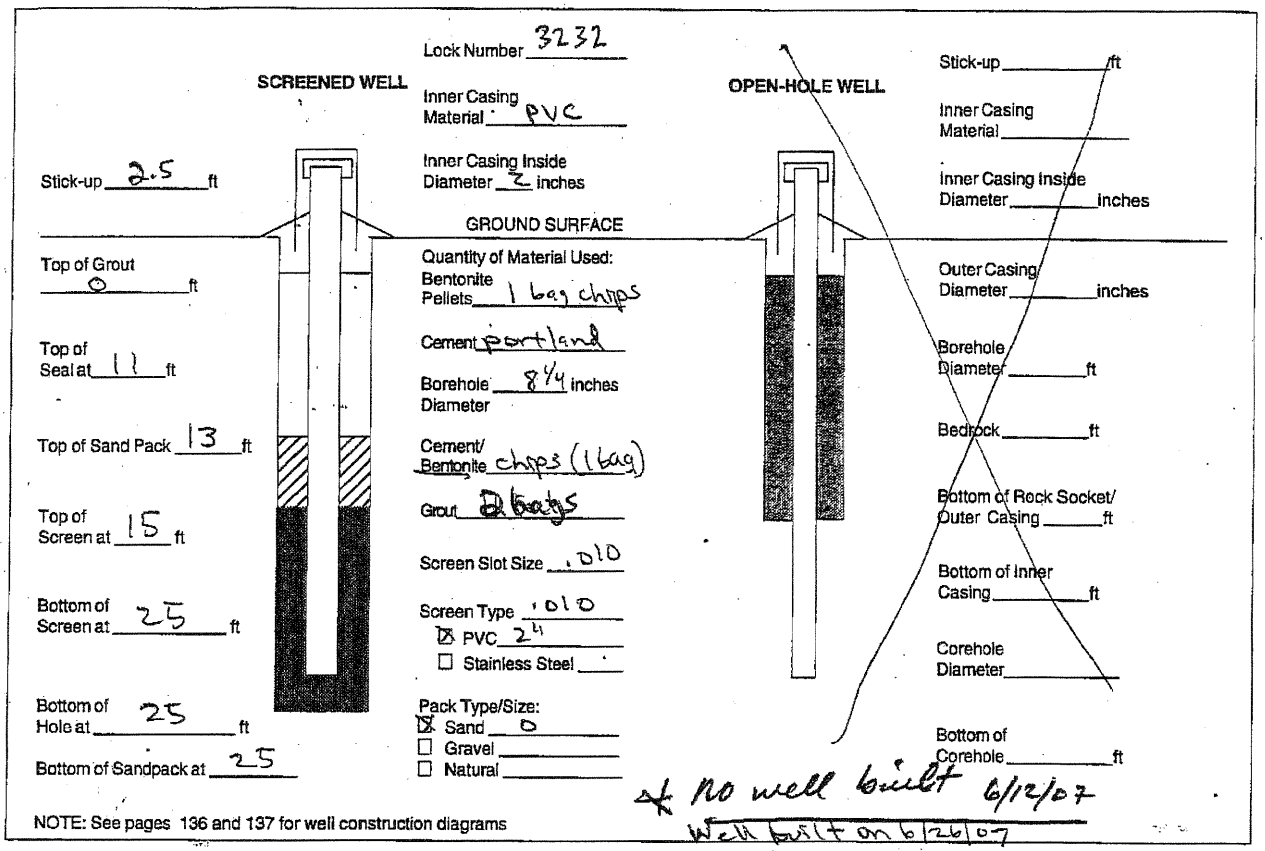
Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1		6 7	gr slt			1.3'		N/A	0	
2		10 12								
3		22 14	slt, gr			0.6'			0	
4		12 9								
5		7 6	slt			0.9'			0	
6		4 6								
7		14 5	slt			1.3'			3	
8		10 30								
9		10 21	slt, gr			1.0'			0	18MC-MW16-#1 8-10' 1155
10		42 50/3								
11	(6/26/07) 23 23 25	50/4	gr			0.1			0	
12										
13		27 50/4	slt, cl			0.8			0	
14										
15		50/2	slt, cl			0.1			0	

16



Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-1' very fine sandy soil, 1ft brown.	⊗	○	○
2	1-2' gray brown dry, hard silt, few fn gravel.	⊗	○	○
3	2-4' gray fractured dolostone, mixed fn to crs gravel dry	⊗	○	○
4		⊗	○	○
5	4-6' brown med silt, not plastic, firm, low strength dry	⊗	○	○
6		⊗	○	○
7	6-7.5' gry-brown fn toned silt, no gravel.	⊗	○	○
8	7.5-8' red-brown silt, mixed to crs gry, few sand dry	⊗	○	○
9	8-8.8' green-gray fn silt	⊗	○	○
10	8.8-9.5' mixed w/ gray dolostone 9.5-10' red brn fn silt, dry	⊗	○	○
11	10-12' no recovery - auger refusal @ 11.7' dry	○	○	○
6/26/07 =	10-12' red brown, silty clay, dense, trace gravel, dry	⊗	○	○
13	12-14' silty clay, dense, red to reddish brown, dry, trace gravel	⊗	○	○
14	14-16' silty clay, dense, red to reddish brown, dry, trace gravel, trace dolostone	⊗	○	○
15		○	○	○

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
15									possible break		horizontal fracture at 16.8' (appears to be GW)
16		N/A	Dolostone	15' to 20'	1430	1	100%		fracture	0.0	
17											
18											
19											
20											
21		N/A	Dolostone	20' to 25'	1524	2	100%		20.7	0.0	several horizontal fractures
22									21.1		
23									22.1		
24									22.6		
25									23.4		
26									23.8		
27									24.5		
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											

Core Run 1

Core Run 2

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content		
		Dry	Moist	Wet
16	Run 1: 15 to 20' (possible break at 15.3), diagonal fracture at 15.6.	○	○	⊗
17	appears to have horizontal fracture at 16.8. Grey Dolostone.	○	○	○
18		○	○	○
19	Run 2: 20 to 25', horizontal fractures at 20.7, 21.1,	○	○	⊗
20	22.1, 22.6, 23.1, 23.8 and 24.5	○	○	○
21		○	○	○
22	Total Depth = 25' bgs	○	○	○
23		○	○	○
24		○	○	○
25		○	○	○
26		○	○	○
27		○	○	○
28		○	○	○
29		○	○	○
30		○	○	○
31		○	○	○
32		○	○	○
33		○	○	○
34		○	○	○
35		○	○	○
36		○	○	○
37		○	○	○
38		○	○	○
39		○	○	○
40		○	○	○
41		○	○	○
42		○	○	○
43		○	○	○
44		○	○	○
45		○	○	○

Borehole Record for MW-17

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

1120 start 1220 c 1250

DRILLING LOG FOR MW 17

Project Name 18 mile Creek

Site Location Upson Park across from Canal Corp gate

Date Started/Finished 6/5/07

Drilling Company SB

Driller's Name Kenny Fuller

Geologist's Name Cole

Geologist's Signature

Rig Type (s) rubber tire off road rig

Drilling Method (s) split spoon/auger

Bit Size (s) 4.25" Auger Size (s) 8"

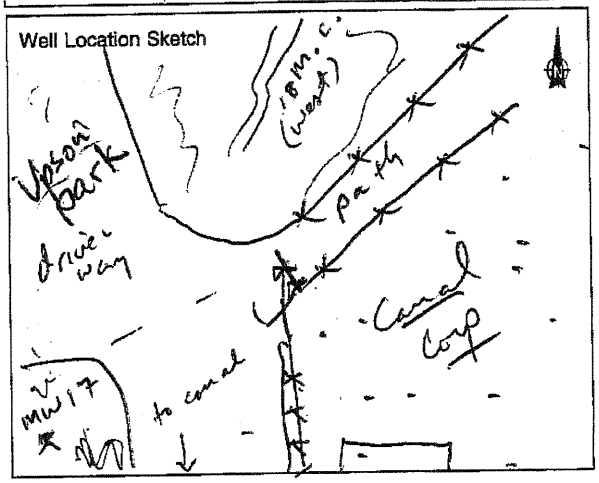
Auger/Split Spoon Refusal N/A

Total Depth of Borehole Is 26'

Total Depth of Corehole Is 26'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1		4 9	soil, rock	1123	1	~1'	N/A	N/A	0	
2		18 12								
3		14 12	weathered rock			~1'			0	
4		12 8								
5		9 6	weathered rock,			0.8'			0	
6		8 7	soft							
7		9 9	weathered rock			0.1'			0	
8		7 7								
9		6 6	clay, sl			1.1'			0	
10		7 8								
11		36 29	sl, clay soft rock			1.0'			0	
12		22 20								
13		14 8	sl, clay			0.9'				
14		12 14								
15	18MC-MW17-3 @ 1329 hrs	4 6	clay			0.4'			0	16-18' sample interval
16		4 4								

MW-17

SCREENED WELL

curb box

Stick-up 0 ft

Top of Grout 0 ft

Top of Seal at 12 ft

Top of Sand Pack 14 ft

Top of Screen at 16 ft

Bottom of Screen at 26 ft

Bottom of Hole at 26 ft

Bottom of Sandpack at 26

Lock Number 3232

Inner Casing Material PVC

Inner Casing Inside Diameter 2 inches

GROUND SURFACE

Quantity of Material Used:
Bentonite Pellets 2'
Cement portland
Borehole _____ inches Diameter
Cement/ Bentonite _____
Grout 12'
Screen Slot Size .010
Screen Type _____
☒ PVC 2"x10'
☐ Stainless Steel _____
Pack Type/Size:
☒ Sand #0
☐ Gravel _____
☐ Natural _____

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-6" brown top soil	⊗	○	○
2	6.5-6' fractured rock (dolostone)	⊗	○	○
3	2-4' crushed, mixed dolostone (broken) and dark brown	⊗	○	○
4	organic soil dry	⊗	○	○
5	4-6' weathered dolostone, gray	⊗	○	○
6		⊗	○	○
7	6-8' gray weathered dolostone. very poor recovery, dry	⊗	○	○
8	8-10' gray-brown silty clay, very low plastic, few fine	⊗	○	○
9	sand, fine to few fa gravel. dry	⊗	○	○
10		⊗	○	○
11	10-12' clay rich silty soil, gray-brown, low plastic,	⊗	○	○
12	few to 25% fractured rock, fa to crse gravel, dry	⊗	○	○
13	12-14' clay rich silty soil, 25-30% frac. dolostone, few sand	⊗	○	○
14		⊗	○	○
15	14-16' low recovery gray-brown moist clay, few fa gravel, fractured rock	⊗	○	○

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run – Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
16		8 5	sd, cl, gr	N/A		1	0.8'		N/A	0	Sampled 16-18 – see previous page
17		12 15									
18		4 9									
19		7 7	sd, cl, gr				0.8'			0	
20		9 11									
21		12 3	sd, cl, gr				1.4'			0	
22		11 15									
23		6 11	sd, cl, gr				1.0'			0	
24		3 5									
25		15 19	sd, cl, gr				1.2'			0	
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											

6/5/07

Depth (feet)	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16	sample collected	○	○	○
17	16-18' gray silty clay, 35% gravel, fractured dolostone, wet	○	○	⊗
18		○	○	⊗
19	18-20 mixed fractured dolostone, gray silty clay, wet	○	○	⊗
20		○	○	⊗
21	20-22' brown-gray silty clay, 25% gravel, frac. dolostone,	○	○	⊗
22	mod. plastic, wet	○	○	⊗
23	22-24' gray silty clay, 25% gravel + frac. dolostone, wet	○	○	⊗
24		○	○	⊗
25	24-26' gray-brown silty clay w/ ~25% gravel + frac rock	○	○	⊗
26	wet	○	○	⊗
27	bottom of hole @ 26' bgs.	○	○	○
28		○	○	○
29		○	○	○
30		○	○	○
31		○	○	○
32		○	○	○
33		○	○	○
34		○	○	○
35		○	○	○
36		○	○	○
37		○	○	○
38		○	○	○
39		○	○	○
40		○	○	○
41		○	○	○
42		○	○	○
43		○	○	○
44		○	○	○
45		○	○	○

6/30/07

Borehole Record for SB 01

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

~ 1240

DRILLING LOG FOR SB 01

Project Name 18 Mile Creek

Site Location Lockport - S. of Frank Rte

E side of 18 mile C

Date Started/Finished 6/8/07

Drilling Company SJB

Driller's Name K. Fuller

Geologist's Name B. Cole

Geologist's Signature

Rig Type (s) rubber tire/off road drill rig

Drilling Method (s) hollow auger/split spoon

Bit Size (s) 4.25" Auger Size (s) 8"

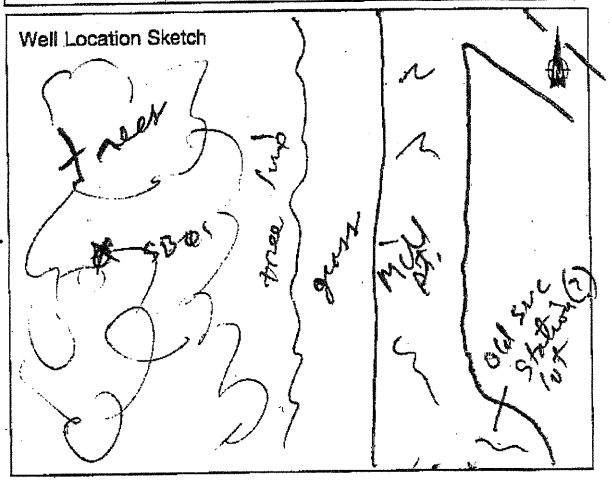
Auger/Split Spoon Refusal N/A

Total Depth of Borehole Is 18'

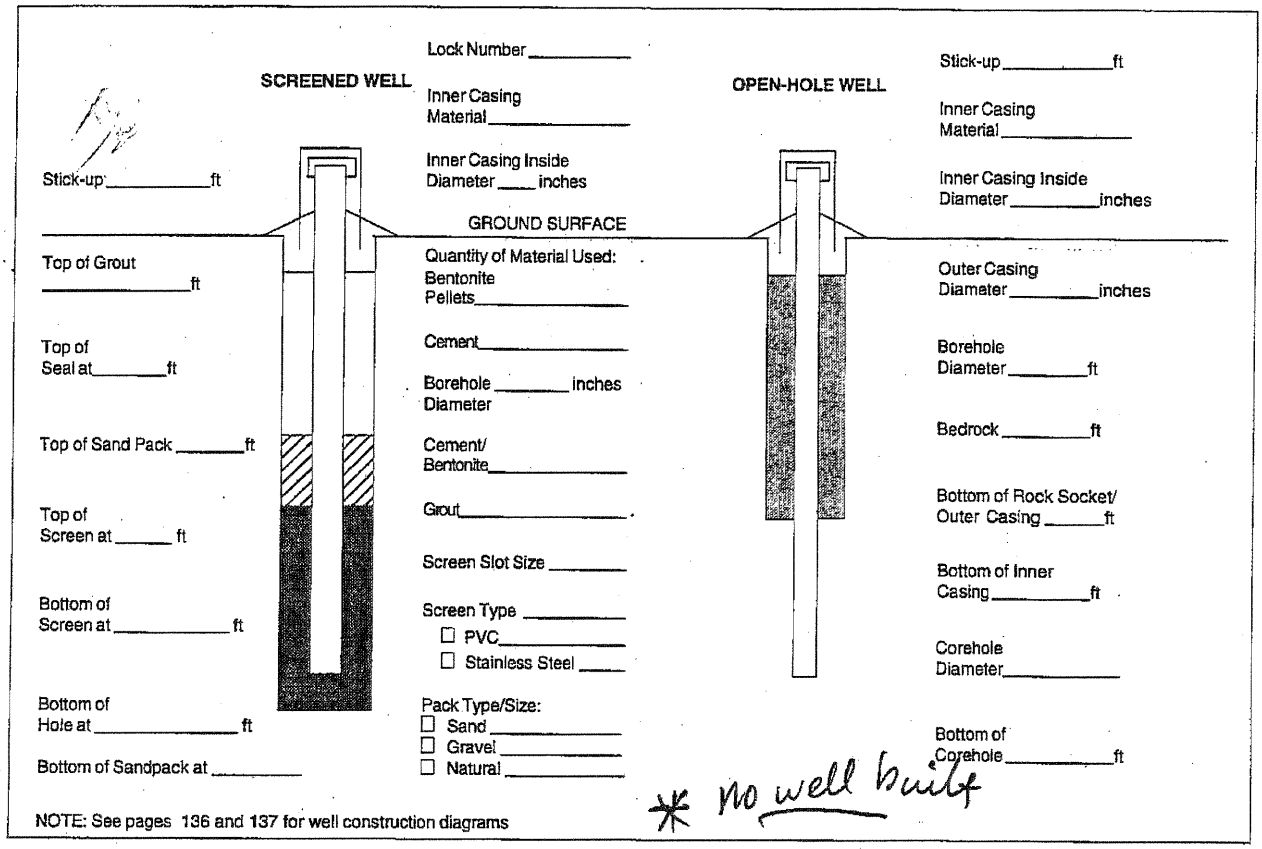
Total Depth of Corehole Is 18'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1		2 2 / 4 6	sand	1130		0.9'		N/A	0	
2										
3		5 4 / 2 2	sand			0.4			0	
4										
5		8 16 / 8 9	sand, gr			1.3'			0	
6										18MC-SB01 Z1/D
7		8 17 / 13 9	SI CL			0.9'			0	0-8' 8-10' 1200 hrs
8										
9		26 13 / 7 7	SI CL			1.3'			0	
10										
11		5 6 / 12 17	SI, CL, gr			0.5'			0	
12										
13		23 1 / 10 90	rock			0.3'			0	
14										
15		10 8 / 7 7	SI CL			0.3'			0	



Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-2' black sand fill med to fn, few fn to mm gravel fill dry	⊗	○	○
2		⊗	○	○
3	2-3' as above - black fn to med sand fill	⊗	○	○
4	3-4' mottled brown sand fn to med, 25% fn gravel fill - red, brown, gray, black dry	⊗	○	○
5		⊗	○	○
6	4-6' brown + black sand to med gravel size fill in trace silty clay matrix, dry	⊗	○	○
7		⊗	○	○
8	6-8' brown silty clay, few fn to med gravel, dry at top, wet at bottom of spoon	○	⊗	○
9		○	⊗	○
10	8-8.5' gray rock - dolostone, 8.5-10' brown silty clay, mod plastic few to 30% fn to mm gravel, moist	○	⊗	○
11		○	⊗	○
12	10-12' as above - brown silty clay w/ 20-30% fn to mm gravel, moist	○	⊗	○
13	12-14' gray rock, very poor recovery, wet	○	⊗	○
14	14-16' brown silty clay, soft, wet, few to 20% mixed gravel	○	⊗	⊗
15	~~bottom of hole @ 16' bgs~~	○	○	○

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
16										0	18MC-SBC1 27 ms/ms0
17		5 9	Si, Cl	N/A			0.7'		N/A		16-18' 1248hrs
18		4 4									
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16		○	○	⊘
17	16-18' brown silty clay, few fn to mn gravel, wet	○	○	⊘
18	bottom of hole @ 18'	○	○	⊘
19		○	○	○
20		○	○	○
21		○	○	○
22		○	○	○
23		○	○	○
24		○	○	○
25		○	○	○
26		○	○	○
27		○	○	○
28		○	○	○
29		○	○	○
30		○	○	○
31		○	○	○
32		○	○	○
33		○	○	○
34		○	○	○
35		○	○	○
36		○	○	○
37		○	○	○
38		○	○	○
39		○	○	○
40		○	○	○
41		○	○	○
42		○	○	○
43		○	○	○
44		○	○	○
45		○	○	○

Borehole Record for SB-02

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR SB-02

Project Name 18 Mile Creek

Site Location Lockport, NY - E. of Flintkote

E side of 18MC.

Date Started/Finished 6/8/07 - 6/8/07

Drilling Company SJB

Driller's Name K. Fuller

Geologist's Name B Cole

Geologist's Signature

Rig Type (s) rubber tire offroad drill rig

Drilling Method (s) hollow auger / split spn.

Bit Size (s) 2" macrocore 4.25" Auger Size (s) 8"

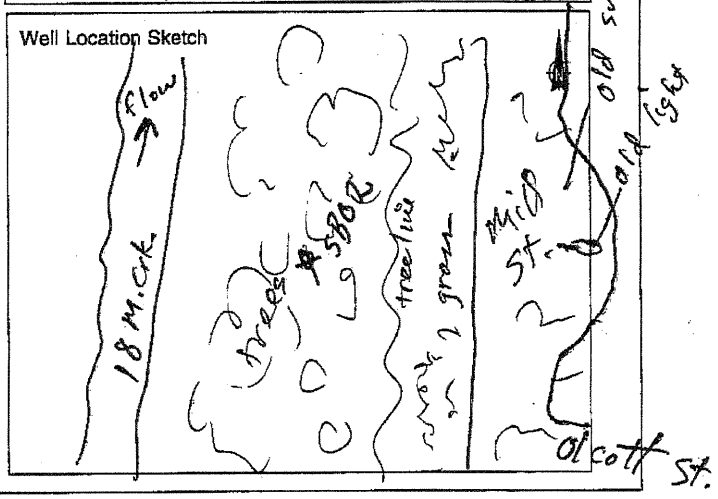
Auger/Split Spoon Refusal N/A

Total Depth of Borehole Is 18'

Total Depth of Corehole Is 18'

Water Level (TOIC)		
Date	Time	Level(Feet)

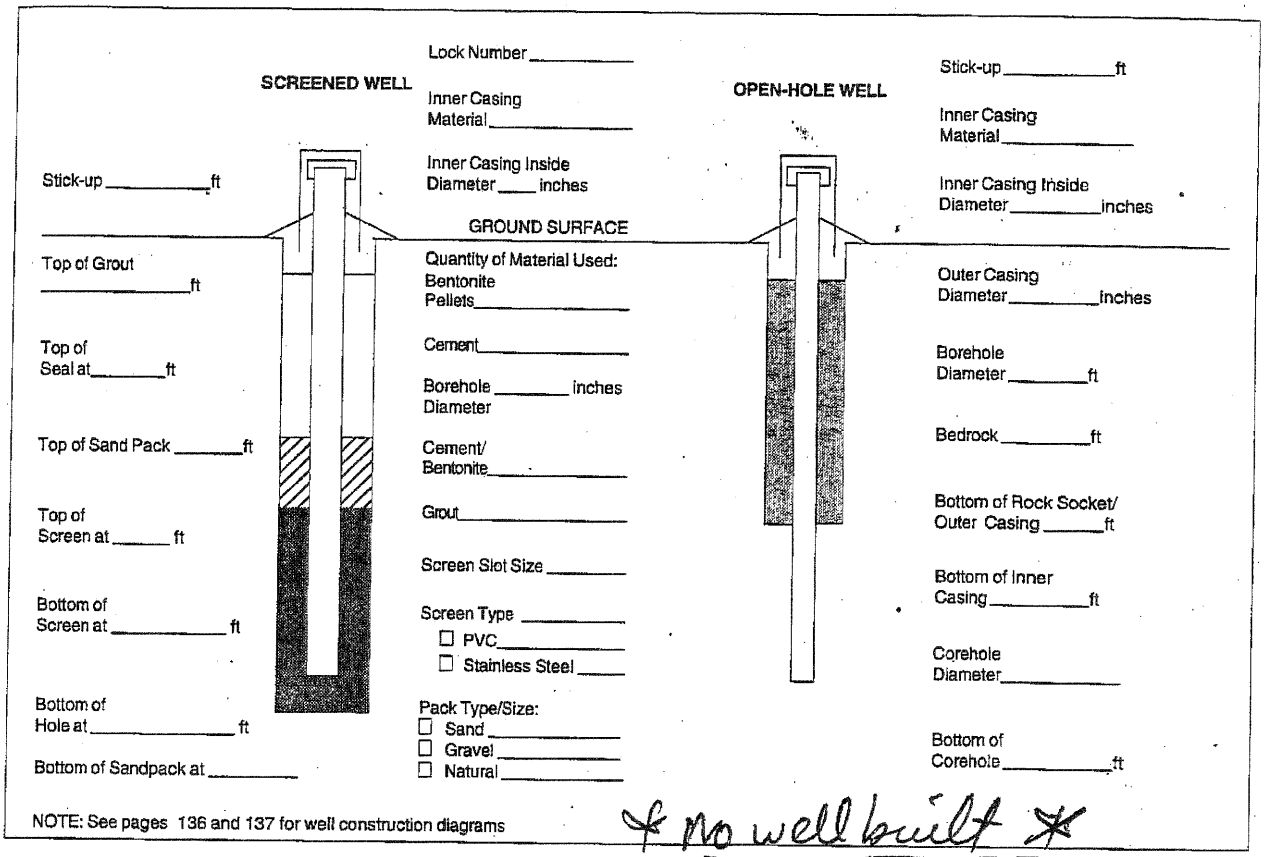
Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1		5 10 / 12 21	fill / SOIL / Alt	0910	2	1'	N/A	N/A	0	1- upper C.8 mw. 3 W,
2										
3		23 13 / 15 18	SL			1.1'			0	
4										
5		7 8 / 7 5	al, cl			0.5'			0	
6										
7		16 18 / 13 13	fine Sand fill			1.2'			0	G-8' 18MC-SB02-2 0940
8										
9		3 2 / 2 2	fine Sand fill			1.1'			0	
10										
11		3 12 / 24 42	sand brick			1.3'			0	
12										
13		50/0.4	brick			0.5'			0	12-16' 18MC-SB02-22 ~~0940~~ 1005
14										
15		3 12 / 22 34	cl, gr			1'			0	

50/4

0.4'



NOTE: See pages 136 and 137 for well construction diagrams

* no well built *

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-2' 3" brown org. 'top soil' over hard, dry brown silt to 2'	○	○	○
2	few mssort - sand, few fn grvl. dry	○	○	○
3	2-4' brown dry silt + fn sand. trace black ash type fill	○	○	○
4		○	●	○
5	4-6' brown, dark brown silt/clay mixed (fill?),	○	○	○
6	few fn to mn. grvl. few fine, crs sand. dry	○	○	○
7	6-8' black fine sand ash fill up to 0.3' mixed	○	○	○
8	brown/black silty clay on top. dry	○	○	○
9	8-10' very fine sand, black, not consolidated, fill. dry	○	○	○
10	no grvl. trc fine plant roots	○	○	○
11	10-11.5 black fn sand ash, not consolidated, 11.2-11.5 gray sandy clay fill dry	○	○	○
12	11.5-12 red brick dry	○	○	○
13	12-14' red Brick	○	○	○
14		○	○	○
15	14-16' mixed dolostone + weathered dolostone + brown silty clay	○	○	○

12-16 clay - 30%, very moist

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
16											
17		50/2"	SL	N/A	1030		0.4'		N/A	0	
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16		○	○	⊗
17	16-18' sandy silt, brown, wet, 20% fn gravel, few cs	○	○	⊗
18	bottom of hole @ 18' - water sat wet	○	○	⊗
19		○	○	○
20		○	○	○
21		○	○	○
22		○	○	○
23		○	○	○
24		○	○	○
25		○	○	○
26		○	○	○
27		○	○	○
28		○	○	○
29		○	○	○
30		○	○	○
31		○	○	○
32		○	○	○
33		○	○	○
34		○	○	○
35		○	○	○
36		○	○	○
37		○	○	○
38		○	○	○
39		○	○	○
40		○	○	○
41		○	○	○
42		○	○	○
43		○	○	○
44		○	○	○
45		○	○	○

Borehole Record for SB03

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR SB03

Project Name 18 mile Creek

Site Location Lockport, NY

Date Started/Finished 4/27/07 - 4/27/07

Drilling Company SJB

Driller's Name Ken Fuller

Geologist's Name Ben Cole

Geologist's Signature

Rig Type (s) geoprobe

Drilling Method (s) Geo probe

Bit Size (s) 2" Auger Size (s) n/a

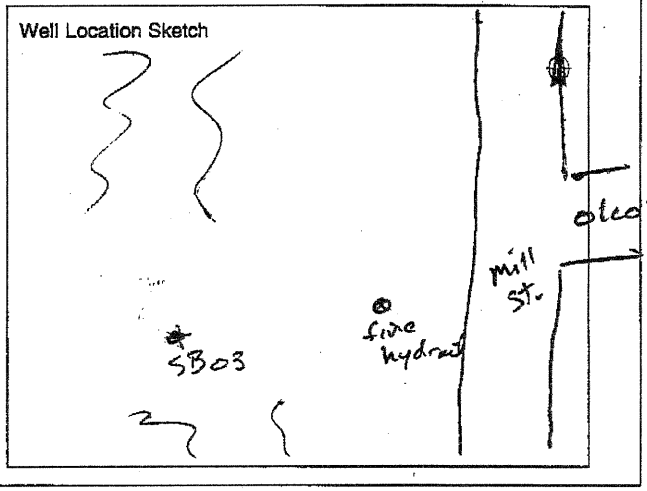
Auger/Split Spoon Refusal 9'

Total Depth of Borehole Is N/A

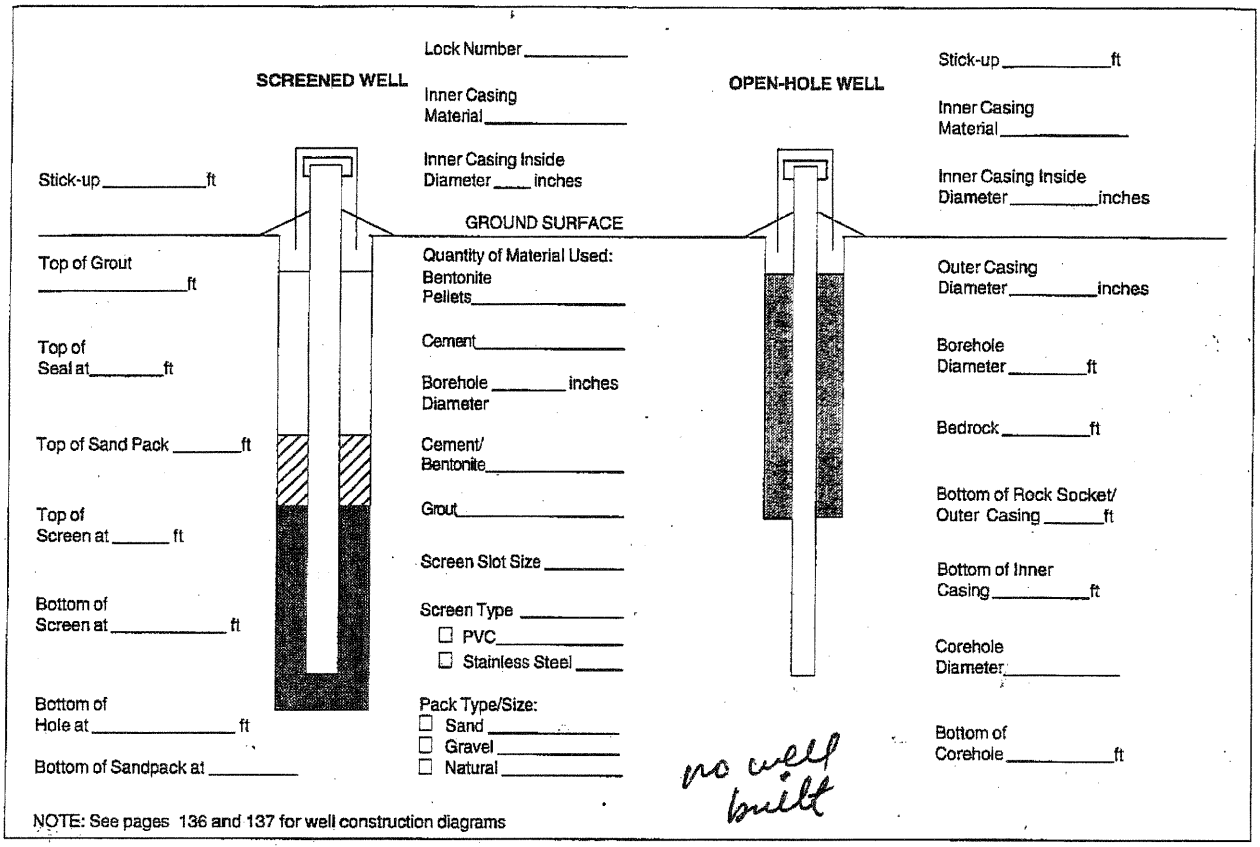
Total Depth of Corehole Is 9'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1		geoprobe	cl-sl soil							
2			ash	1050		2.6'		n/a	0	18mc-SB03-E1 2.4-2.9' 1100
3			cl							
4										
5			mixed							
6			CL-SL	1058		1.5'			0	
7										
8										
9			rock							8-8.6 1108
10				1105		1.0'			0	18mc-SB03-E2
11										refusal @ 9'
12										
13										
14										
15										



NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-2.4' dark brown clay rich soil w/ silt and poorly sorted sand,	⊗	○	○
2	few gravel - up to 4cm. med plastic	⊗	○	○
3	2.4-2.9 white to light tan ash, poorly sorted sand - fine to coarse, angular	⊗	○	○
4	2.9-3.5 red brown clays/ sand to med gravel (30%), low plastic	⊗	○	○
5	3.5-3.8 black ash - poor sort sand to fine gravel. 3.8-4' red br. clay w/ 30% s. to gr.	○	⊗	○
6	4-5.6' brown silty clay w/ sand to med gravel (30%) grains of red, black, brown,	○	⊗	○
7	tan color, few med gravel size black slag.	○	⊗	○
8	5.6-6' black ash w/ clay to silt matrix. 6-6.5' red-pink rock (dolostone) 6.5-8' brown mixed sand	○	⊗	○
9	8-8.6 mixed sand to gravel poorly sorted subang. to angular, red, pink, brown,	○	⊗	○
10	black fill. 8.6-9 pink dolostone. refusal @ 9'	⊗	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

refusal

Borehole Record for ~~SB~~ SB04

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR ~~SB05~~ SB04

Project Name: 18 Mile Creek

Site Location: Lockport, NY

Date Started/Finished: 4/27/07 - 4/27/07

Drilling Company: SJB

Driller's Name: Ken Fuller

Geologist's Name: Ben Cole

Geologist's Signature: [signature]

Rig Type (s): pickup truck mount geoprobe

Drilling Method (s): direct push

Bit Size (s): 2" Auger Size (s): N/A

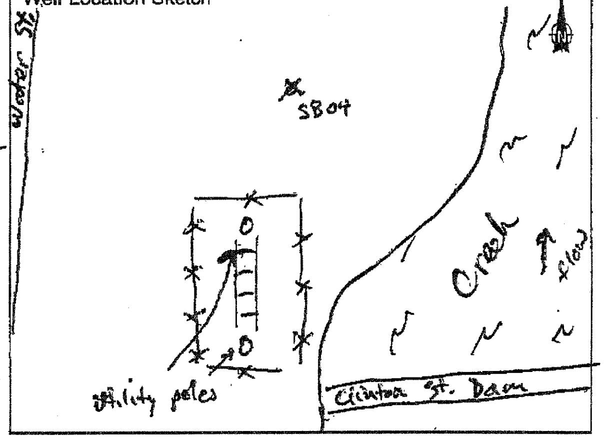
Auger/Split Spoon Refusal: 3'

Total Depth of Borehole Is: ~~3'~~ N/A

Total Depth of Corehole Is: 3'

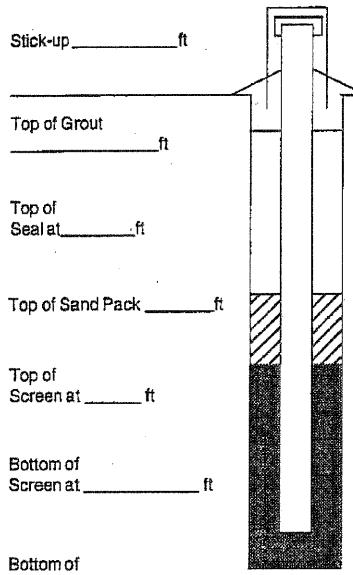
Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1	18MC-SB04-Z1	geoprobe	cl rich sand	0930		1.4'		N/A	0	18MC-SB04-Z1 2-2.5' 0945 refusal at 3'
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

SCREENED WELL



Stick-up _____ ft

Top of Grout _____ ft

Top of Seal at _____ ft

Top of Sand Pack _____ ft

Top of Screen at _____ ft

Bottom of Screen at _____ ft

Bottom of Hole at _____ ft

Bottom of Sandpack at _____

Lock Number _____

Inner Casing Material _____

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:
Bentonite Pellets _____

Cement _____

Borehole _____ inches Diameter

Cement/ Bentonite _____

Grout _____

Screen Slot Size _____

Screen Type _____
- ☐ PVC _____
- ☐ Stainless Steel ____

Pack Type/Size:
- ☐ Sand _____
- ☐ Gravel _____
- ☐ Natural _____

OPEN-HOLE WELL

Stick-up _____ ft

Inner Casing Material _____

Inner Casing Inside Diameter _____ inches

Outer Casing Diameter _____ inches

Borehole Diameter _____ ft

Bedrock _____ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing _____ ft

Corehole Diameter _____

Bottom of Corehole _____ ft

no well built

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-4' clay rich soil. mixed light grey, dark grey, tan. med to high plastic, 5-10% small rock gravel	○	⊗	○
2		○	⊗	○
3	refusal at 3' - bottom of hole	○	○	○
4		○	○	○
5		○	○	○
6		○	○	○
7		○	○	○
8		○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13				
14		○	○	○
15		○	○	○

refusal

Borehole Record for SB05

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR SB05

Project Name 18 mile Creek

Site Location Lockport, NY

Date Started/Finished 4/27/07 - 4/27/07

Drilling Company SJB

Driller's Name Ken Fuller

Geologist's Name Ben Cole

Geologist's Signature

Rig Type (s) pickup truck mount geoprobe

Drilling Method (s) Geoprobe

Bit Size (s) 2" Auger Size (s) N/A

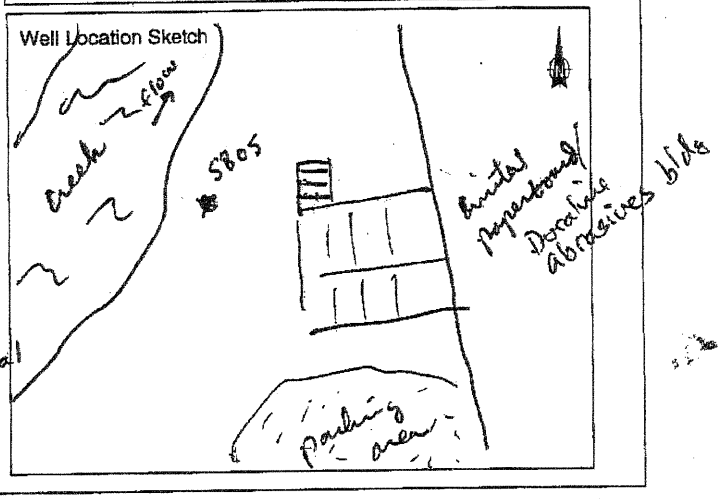
Auger/Split Spoon Refusal ~~15.5~~ N/A - no refusal

Total Depth of Borehole Is N/A

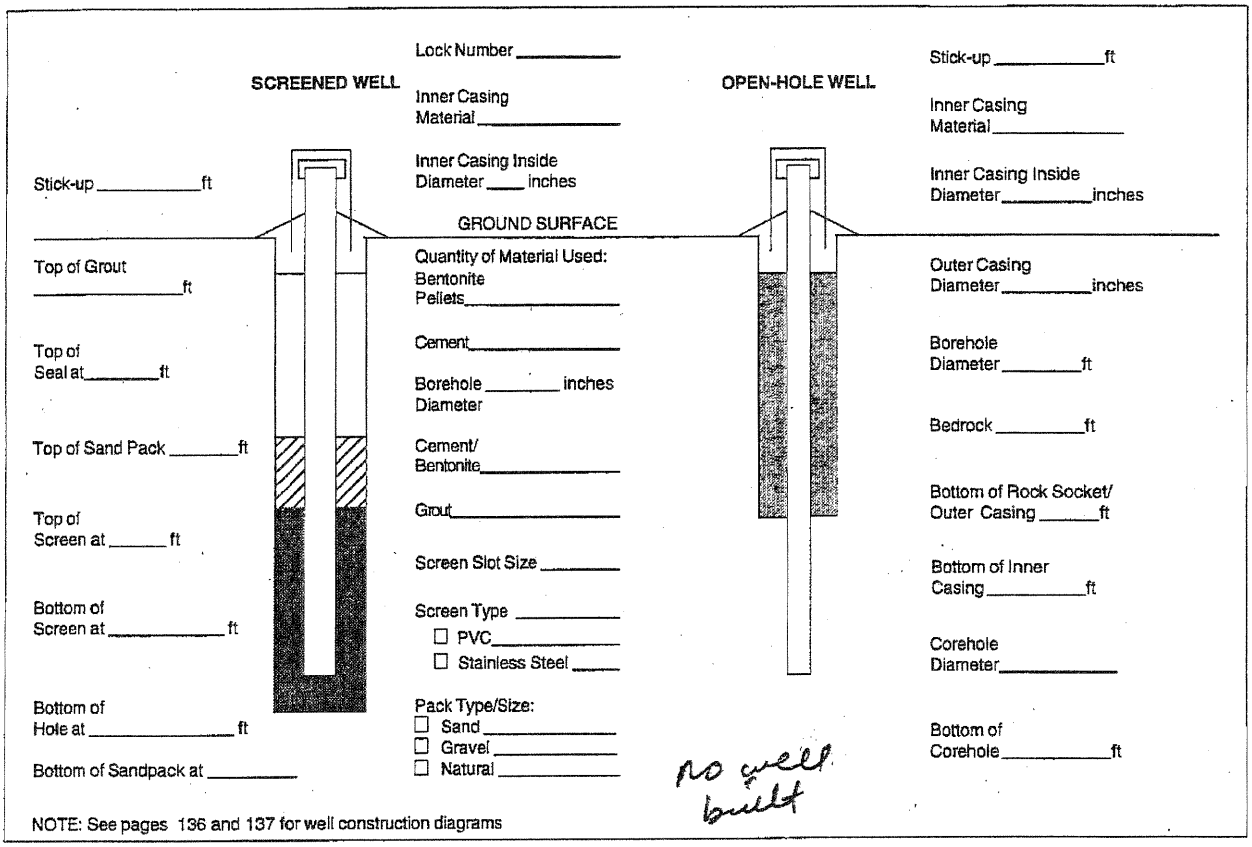
Total Depth of Corehole Is 15.5'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1	18MC-SB05-Z1	geoprobe	black ash	0809		2.7		N/A	0	18MC-SB05-Z1 0.5-1.5, 0820
2			CL mix							
3										
4										
5	18MC-SB05-Z2		CL mix	0808		0.8			0	18MC-SB05-Z2 5.5-6.5, 0828
6										
7			black ash							
8										
9										
10			stone	0815		0.4			0	
11										
12										
13	18MC-SB05-Z3		SL	0820		3.5'			0	18MC-SB05-Z3 MS/MSD 14-14.5 0840
14										
15										



no well built

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0.3-1.8' black ash - sand to s. gravel, 10% large gravel clay (black)	⊗	○	○
2	1.8-3.8' red brown clay fill w/ brown, yellow, gray, black ~20%	⊗	○	○
3	color, few well to coarse sand, few fine roots, few red gravel - fine, SS low to med plasticity	⊗	○	○
4	4-6' brown clay, w/ 20% staining of yellow, gray, black	○	○	○
5		○	○	○
6		○	⊗	○
7	6-8' black ash - sand to med gravel, few large (3-4cm) black clay	○	○	⊗ water
8		○	○	⊗
9	8-12' mixed sand to large gravel, wet, red, black, light tan, round to	○	○	⊗
10	angular	○	○	⊗
11		○	○	⊗
12	12-15.5' dark gray silt, few to no gravel, high plastic, light oil to	○	○	⊗
13	metallic odor, 40% fine wood frags.	○	○	⊗
14		○	○	⊗
15		○	○	○

bottom of core = 15.5'

Borehole Record for SB06

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR SB06

Project Name 18 Mile Creek

Site Location Lockport, NY

Date Started/Finished 4/26/07 - 4/26/07

Drilling Company SJB

Driller's Name Ken Fuller

Geologist's Name Ben Cole

Geologist's Signature [signature]

Rig Type (s) Pickup truck mount geoprobe

Drilling Method (s) Geoprobe

Bit Size (s) 2" Auger Size (s) N/A

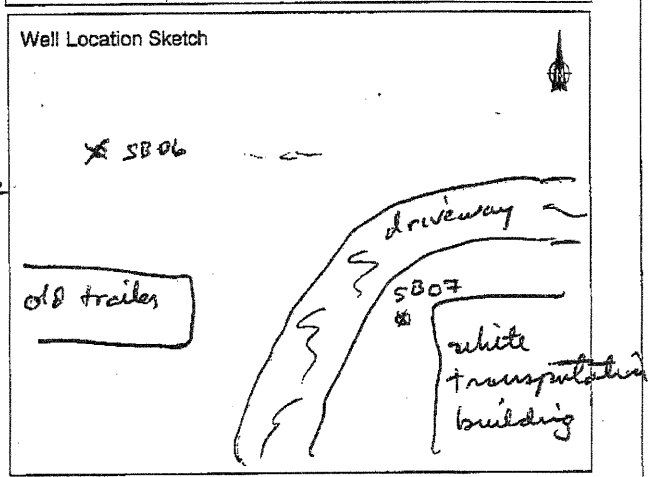
Auger/Split Spoon Refusal 15.8'

Total Depth of Borehole Is N/A

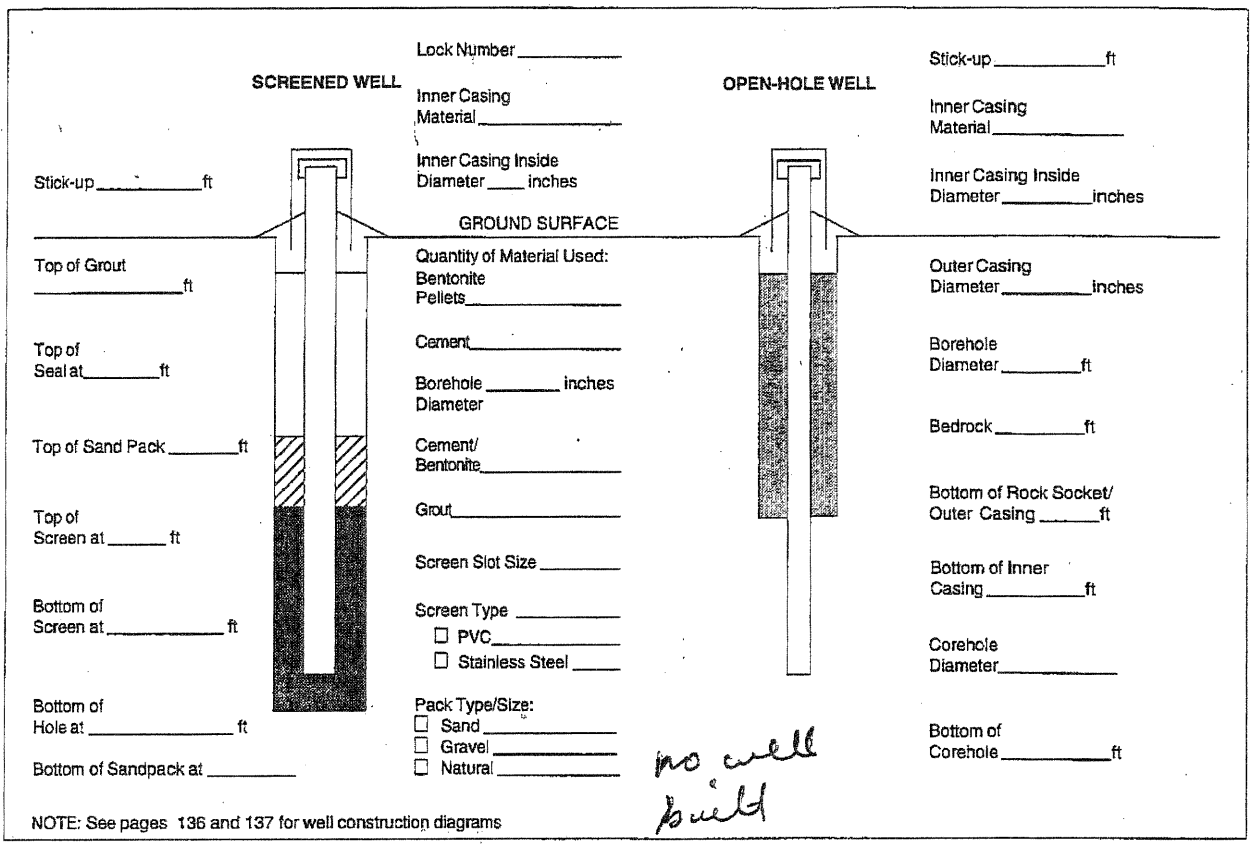
Total Depth of Corehole Is 15.8'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1	18MC-SB06-Z1	geoprobe	black ash sand	1535		3.0		N/A	0	18MC-SB06-Z1 1600 1.5-2.0
2										
3			sand							
4										
5			rock s-6" size	1540		1.9				
6										
7										
8										
9										
10			silt w/ gr	1547		1'				
11										
12										
13	18MC-SB06-Z2		[illegible] gr.	1550		1.9'				18MC-SB06-Z2 14-14.5 1605
14			clay							
15										refusal at 15.8'



Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-2.3' black ash sand to s. gravel	⊗	○	○
2		⊗	○	○
3	2.3-3.2 brown-gray clay matrix, 25% mixed grains - sand to s. gravel,	⊗	○	○
4	med plasticity, few fine roots. 3.2-4' light gray dolostone	⊗	○	○
5	4-7' light gray dolostone, mixed grain size, angular	○	⊗	○
6		○	⊗	○
7		○	⊗	○
8	7-8' mixed sand - fine to coarse, gray, black, brown	○	⊗	○
9		○	⊗	○
10		○	⊗	○
11	11-12' light brown silt matrix, 40% mixed grains - sand to m gravel, angular	○	○	⊗ water
12	12-15.8 dark gray black clay w/ ~~rock - sand to m gravel, angular~~	○	○	⊗
13	no rock, 5% white shell frags. high plasticity, hard material	○	○	⊗
14		○	○	⊗
15	refusal at 15.8' bottom of hole	○	○	⊗ refusal

Borehole Record for SB07

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR SB07

Project Name 18 mile Creek

Site Location Lockport, NY

Date Started/Finished 4/26/07 - 4/26/07

Drilling Company SJB

Driller's Name Ken Fuller

Geologist's Name Ben Cole

Geologist's Signature

Rig Type (s) pickup truck mount geoprobe

Drilling Method (s) Geo probe

Bit Size (s) 2" Auger Size (s) N/A

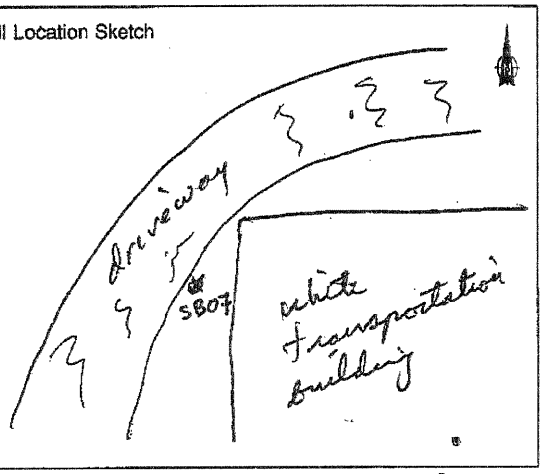
Auger/Split Spoon Refusal 11'

Total Depth of Borehole Is N/A

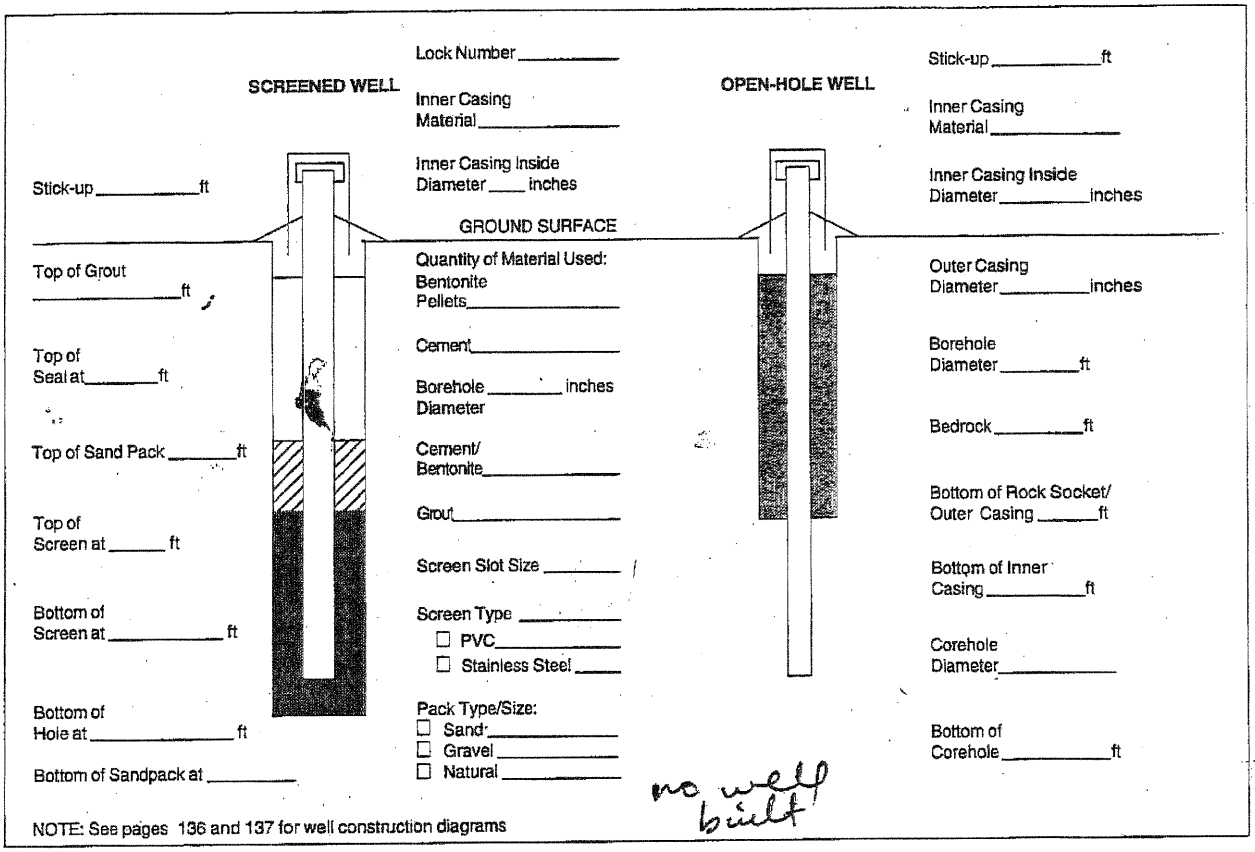
Total Depth of Corehole Is 11'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1	18MC-SB07-Z1		black ash	1526		2.7		N/A		18MC-SB07-Z1 1542 1-1.7
2			white rock							
3										
4										
5			black ash	1530		2.5				
6			red rock							
7										
8										
9	18MC-SB07-Z2		red sand	1532						18MC-SB07-Z2 1550 10-10.5
10										
11										Cored @ 11'
12										
13										
14										
15										



Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0.4-2.0 unsorted sand fill w/ some small gravel, gray, tan,	⊗	○	○
2	light brown	⊗	○	○
3	2-3 black ash - sand to small gravel	⊗	○	○
4	3-4 white rock - dolostone	⊗	○	○
5	4-5.1 light gray dolostone	⊗	○	○
6	5.1-6.2 black ash coarse sand to m. gravel	⊗	○	○
7	6.2-8' red rock - fine sandstone	⊗	○	○
8	8-11' red poorly sorted sand - fine to coarse	⊗	○	○
9		⊗	○	○
10		⊗	○	○
11	refusal at 11' - bottom of hole	⊗	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

refusal

Borehole Record for SB08

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR SB08

Project Name 18 mile Creek

Site Location Lockport, NY

Date Started/Finished 4/26/07 - 4/26/07

Drilling Company SJB

Driller's Name Ken Fuller

Geologist's Name Ben Cole

Geologist's Signature

Rig Type (s) pickup truck mount geoprobe

Drilling Method (s) Geo Probe

Bit Size (s) 2" Auger Size (s) N/A

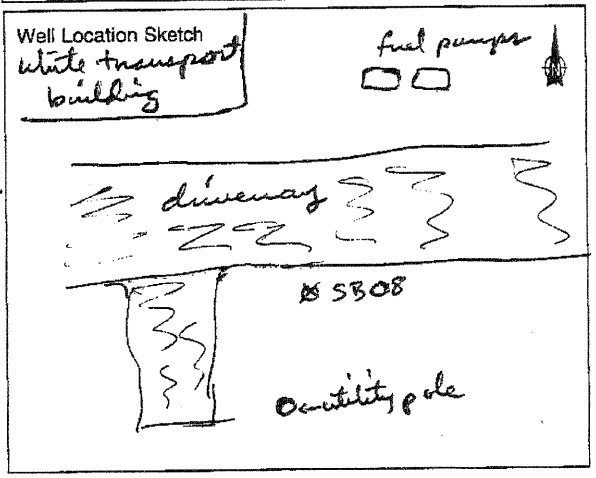
Auger/Split Spoon Refusal 7.5'

Total Depth of Borehole Is N/A

Total Depth of Corehole Is 7.5'

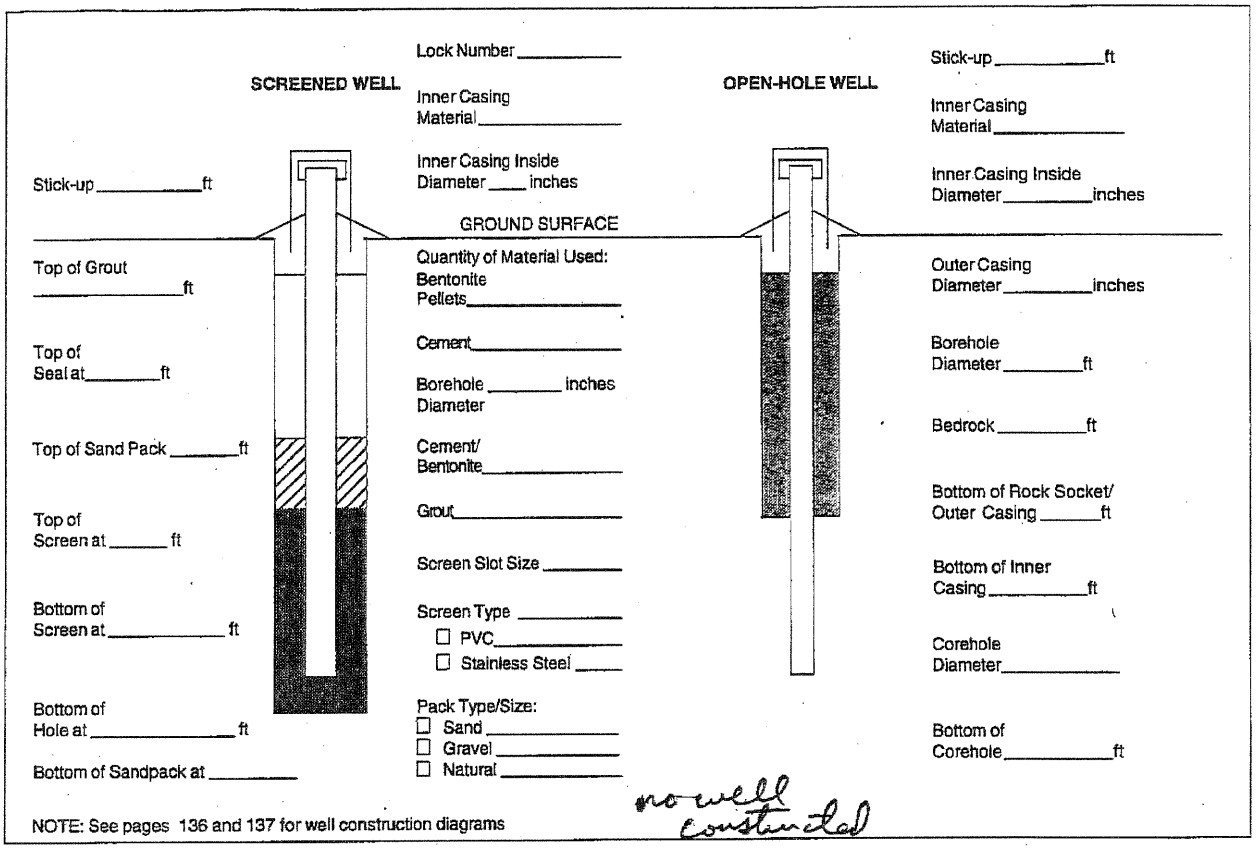
Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1	18MC-SB09-Z1		black asph clay matrix fill w/ mixed grains	1505		2.8'		N/A	0	18MC-SB08-Z1 1512 0.5-1.2
2										
3										
4										
5	18MC-SB09-Z2		clay matrix fill w/ mixed grains	1515		2.2'			0	18MC-SB08-Z2 6.5-7.2 1520
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

refusal



Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
* 1	0.3-1.5' black ash fill, grains sand to m gravel, loose	⊗	○	○
2	1.5-4' brown clay matrix fill w/ 30% grains - sand to small	⊗	○	○
3	gravel, gray, white, red, yellow, orange	⊗	○	○
4		⊗	○	○
* 5	4-7.5' brown clay matrix fill, low plastic, 25% mixed grains -	⊗	○	○
6	sand to s. gravel	⊗	○	○
7		⊗	○	○
8	refusal at 7.5' bottom of hole	○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

Borehole Record for SB-09

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR SB09

Project Name 18 Mile Creek

Site Location Lockport, NY

Date Started/Finished 4/26/07 - 4/26/07

Drilling Company SJB

Driller's Name Ken Fuller

Geologist's Name Ben Cole

Geologist's Signature

Rig Type (s) pickup truck mount geoprobe

Drilling Method (s) Geo probe

Bit Size (s) 2" Auger Size (s) N/A

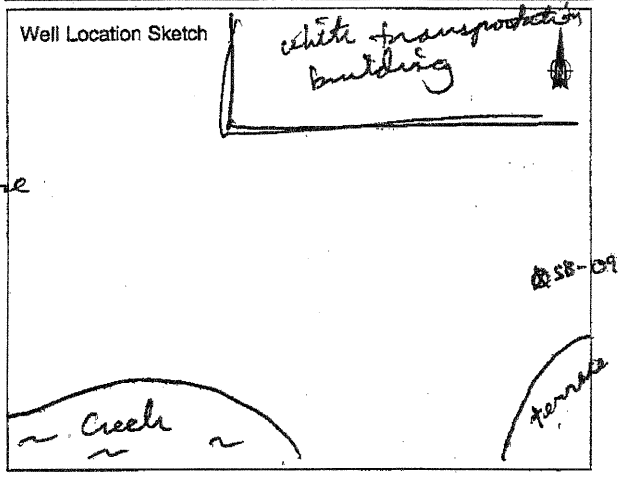
Auger/Split Spoon Refusal 7.8'

Total Depth of Borehole Is N/A

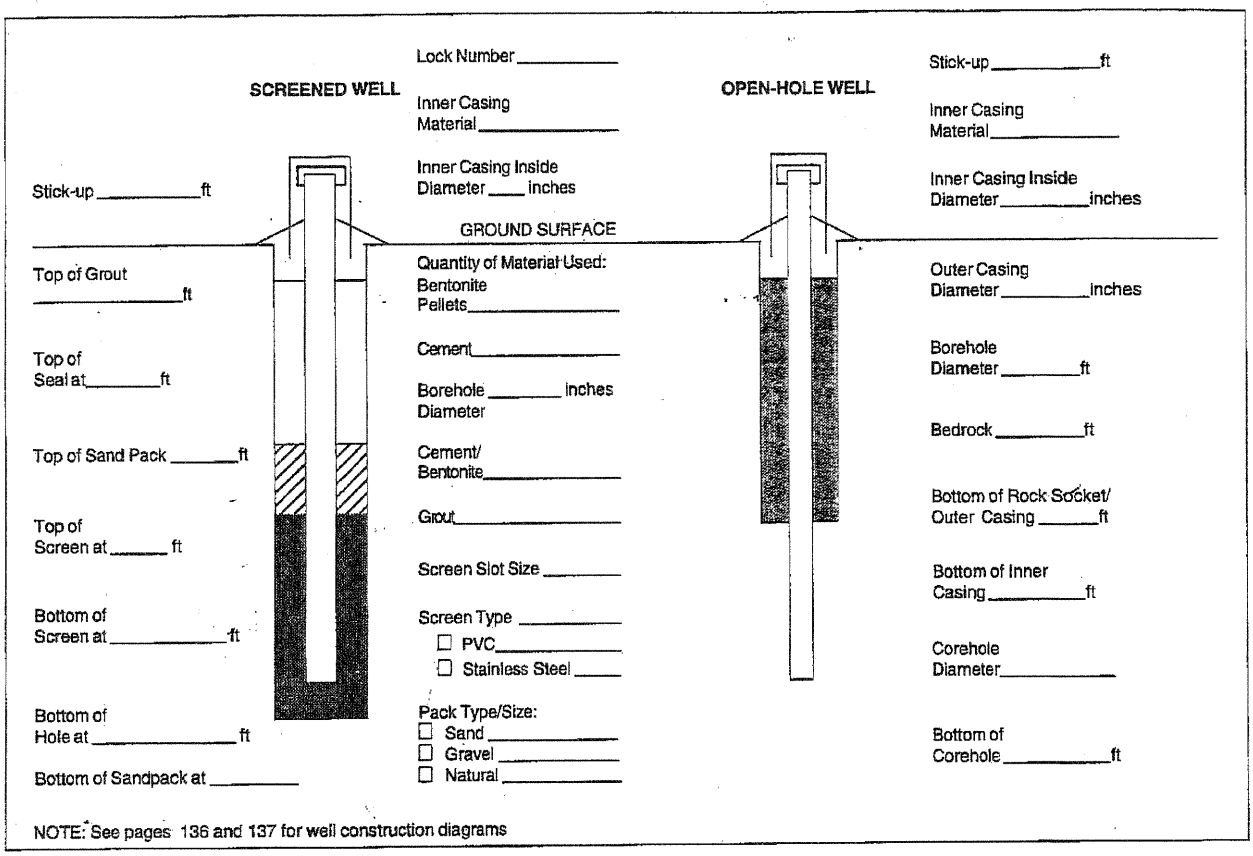
Total Depth of Corehole Is 7.8'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1	18MC-SB09-Z1		black ash	1412		2.6'		N/A	0	18MC-SB09-Z1 0.5-1.5 1430
2										
3	18MC-SB09-Z2									18MC-SB09-Z2/MS/MSD 3-3.5 1438
4										
5			clay matrix with mixed gravel	1418		2'			0	
6										
7										
8										refusal @ 7.8'
9										
10										
11										
12										
13										
14										
15										



NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-1.9 black ash - sand to med gravel	X	○	○
2		X	○	○
3	1.9-2.5' dark gray clay matrix fill w/ sand to med gravel, light	X	○	○
4	grains are light gray, dark gray, red-yellow, 30% grains	X	○	○
5	2.5-4 mixed clay matrix fill w/ sand to med gravel (~30%) grains	X	○	○
6	red, light gray, brown, tan color	X	○	○
7	4-8' gray clay matrix fill w/ grains of sand to med gravel, red-	X	○	○
8	gray, brown tan grains ~30% grains dry refusal ~7-8' bottom of hole	○	○	○ refusal
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13				
14		○	○	○
15		○	○	○

Borehole Record for SB-10

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR SB-10

Project Name 18 mile Creek

Site Location Lockport, NY

Date Started/Finished 4/26/07 - 4/26/07

Drilling Company SJB

Driller's Name Ken Fuller

Geologist's Name Ben Cole

Geologist's Signature

Rig Type (s) pickup truck mount geoprobe

Drilling Method (s) Geo probe

Bit Size (s) 2" Auger Size (s) N/A

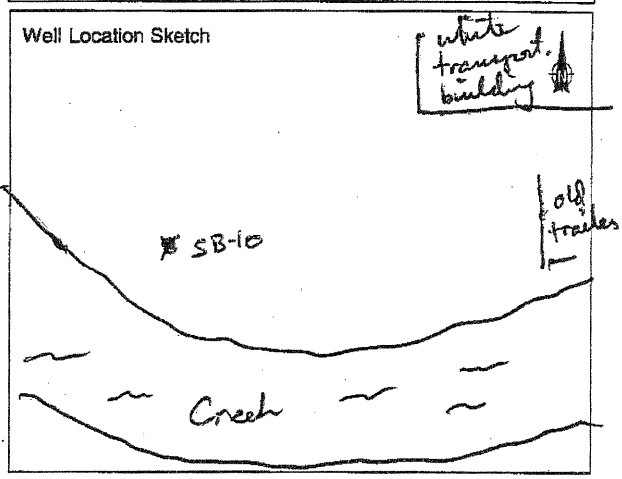
Auger/Split Spoon Refusal 12.3'

Total Depth of Borehole Is N/A

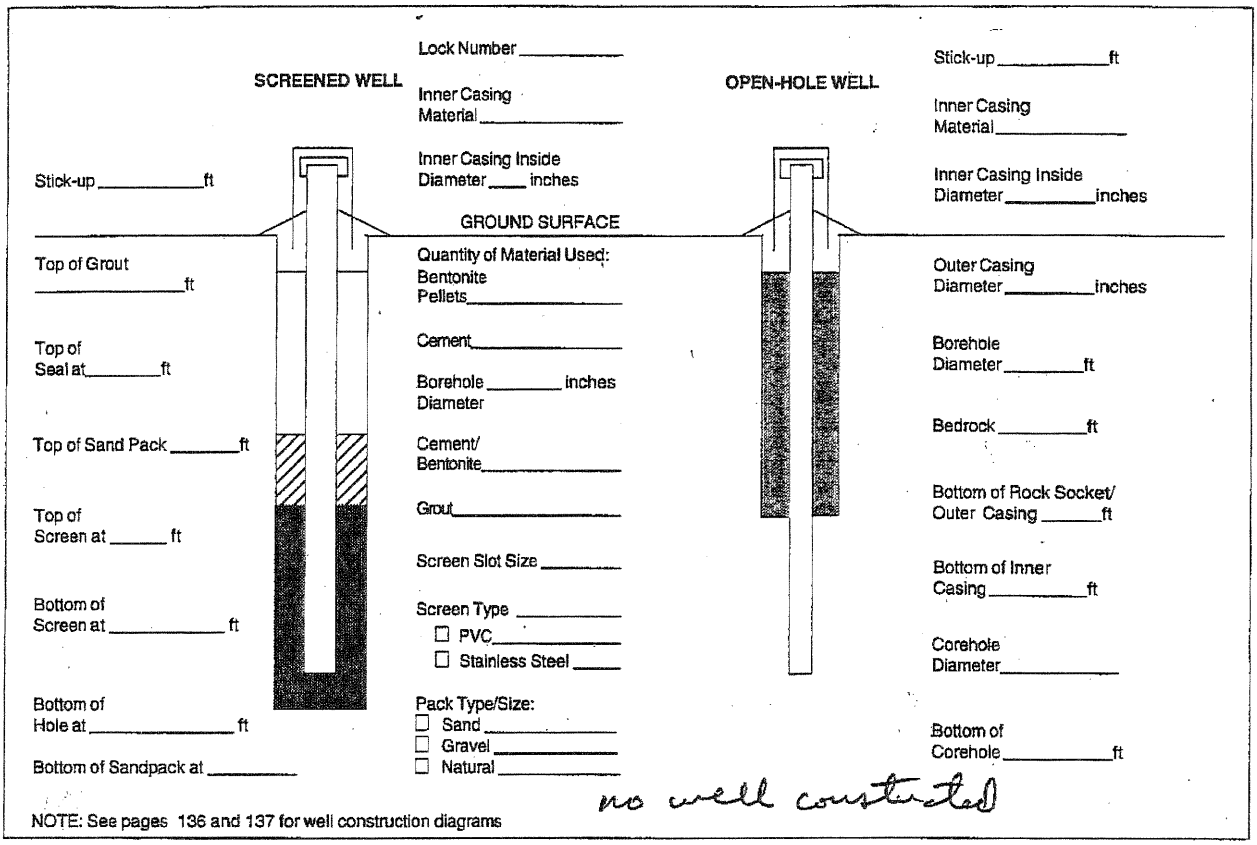
Total Depth of Corehole Is 12.3'

Water Level (TOIC)		
Date	Time	Level (Feet)

Well Location Sketch



Depth (Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1	18MC-SB10-Z1		black ash	1303		2.3'		N/A	6.4	18MC-SB10-Z1+D 1.5-2' 1342
2										
3									9.3	
4			black ash							
5				1310					0.4	
6						2.0				
7			rock-mixed type							
8										
9			rocky silt							
10	18MC-SB10-Z2			1315		1.9			0	18MC-SB10-Z2 1348 10.5'-11.5'
11										
12										
13										refusal at 12.3'
14										
15										



no well constructed

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-4' black ash - med sand to gravel (up to 2 cm)	X		
2		X		
3		X		
4		X		
5	4-5.6' black ash - sand to gravel size	X		
6	5.6-6' brown clay w/ sand to small gravel, frags of rock		X	
7	6-6.8 gray rock - fine sand to gravel (up to 4 cm) size - dolostone	X		
8	6.8-7.7 pink rock - coarse sand to 3-4 cm gravel. 7.7-8' wet silt-clay w/ f. gravel brown	X		
9	8-12' tan-gray wet silt, rounded gravel - coarse			X
10	sand to med gravel size. somewhat plastic.			X
11				X
12	12.7-11.9 brown silt layer			X
13	12-12.3 gray silt w/ rounded gravel, wet			X
14	refusal at 12.3' water at 7.7' bgs			
15	bottom of hole			

water

refusal

Borehole Record for SB-1

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR SB-11

Project Name 18 Mile Creek

Site Location Lockport, NY

Date Started/Finished 4/26/07

Drilling Company SJB

Driller's Name Ken Fuller

Geologist's Name Ben Cole

Geologist's Signature

Rig Type (s) pickup truck mount geoprobe

Drilling Method (s) geo probe

Bit Size (s) 2" Auger Size (s) N/A

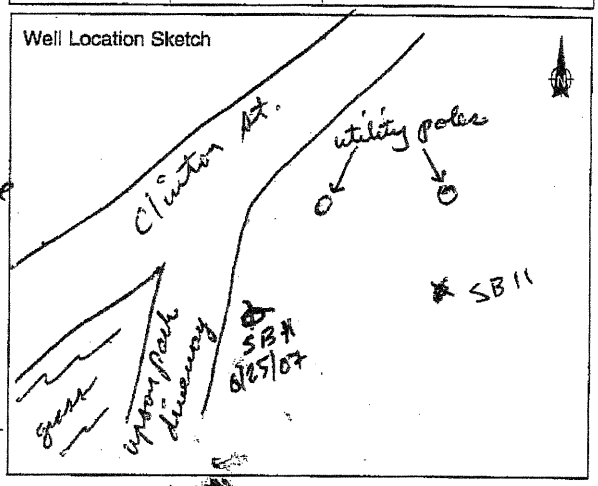
Auger/Split Spoon Refusal 10"

Total Depth of Borehole Is N/A

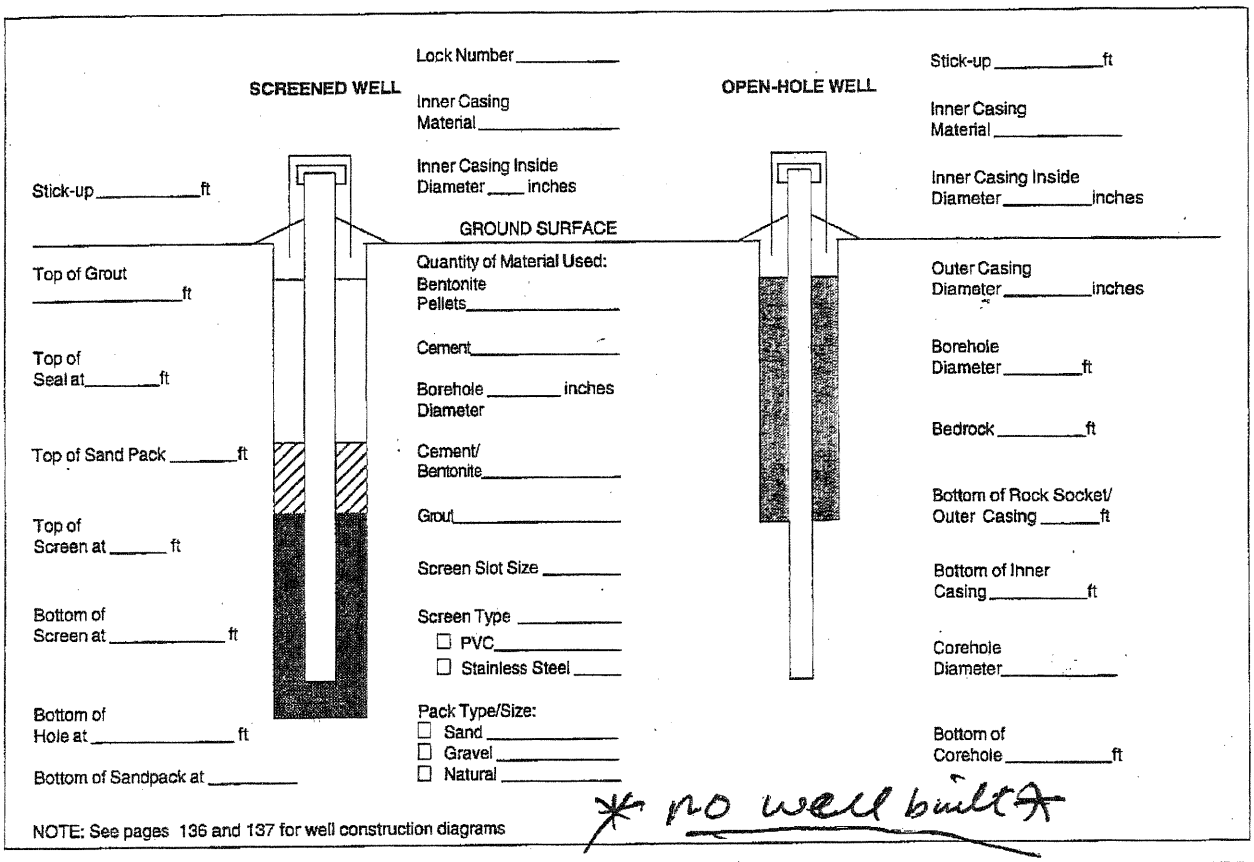
Total Depth of Corehole Is 4' on 6/25/07

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number 6/25/07	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1	9 | 50		nl			0.9			0	made 6 attempts - no penetration past approx 10". no samples
2	9 | 9									
3	9 | 6		N, 9°			0.8			0	18MC-SB11-Z1-6/25/07 3-4' @930
4	6 | 6									
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										



NOTE: See pages 136 and 137 for well construction diagrams

* no well built

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-2' tan brown fine silt / fn sand, few rock in bottom	⊘	○	○
2	~~+2 few~~	○	○	○
3	2-4' 2" chunk of rock in bottom. black mixed hard fill w/ few fn grvl black. dry	○	○	○
4	* auger refusal @ 4.5' tried 3x bottom of hole	○	○	○
5		○	○	○
6		○	○	○
7		○	○	○
8		○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

Borehole Record for SB-12

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR SB-12

Project Name 18 Mile Creek

Site Location Lockport, NC

Date Started/Finished 4/26/07 - 4/26/07

Drilling Company SSB

Driller's Name Kenneth Fuller

Geologist's Name Ben Cole

Geologist's Signature

Rig Type (s) pickup truck mount geoprobe

Drilling Method (s) geo probe

Bit Size (s) 2" Auger Size (s) N/A

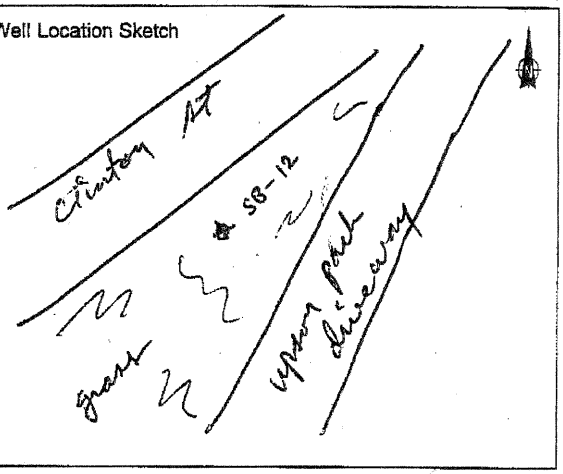
Auger/Split Spoon Refusal 12'

Total Depth of Borehole Is N/A

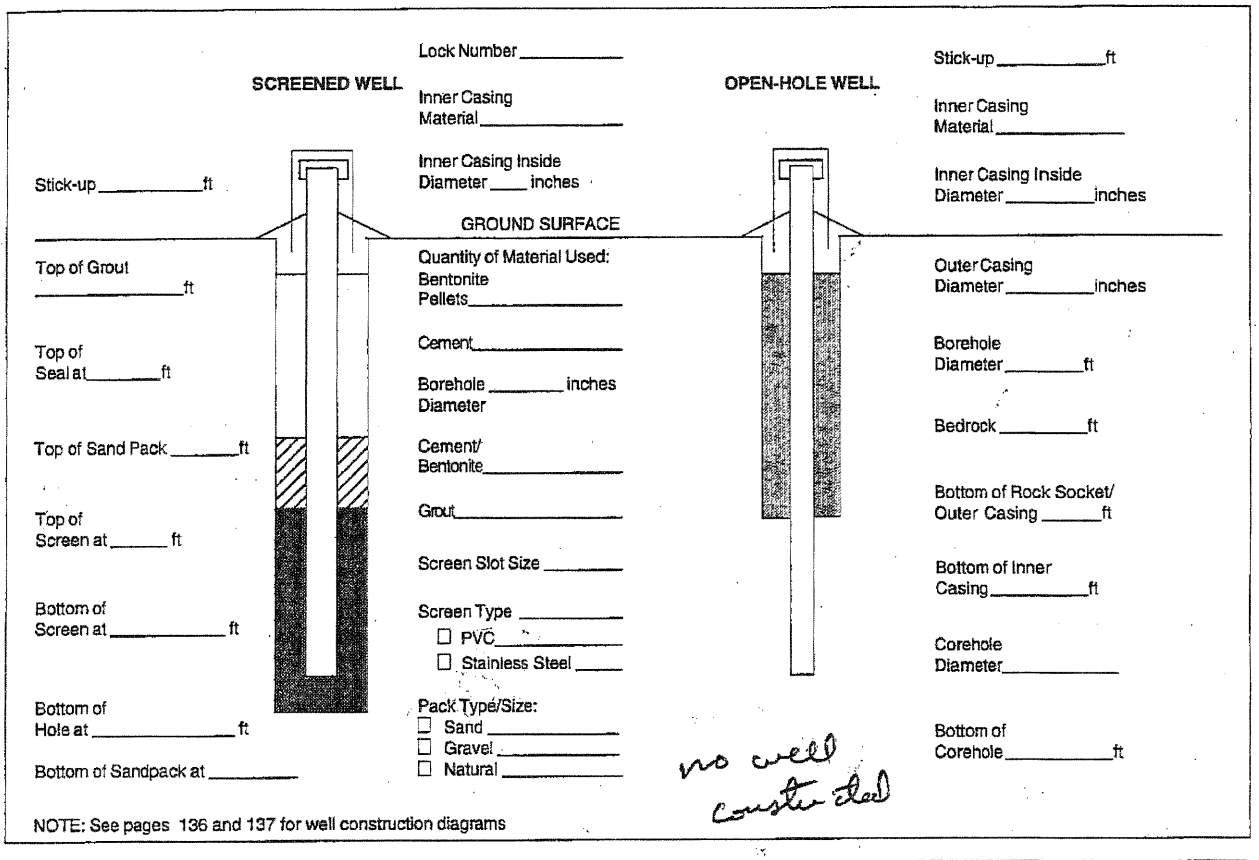
Total Depth of Corehole Is 12'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1		geoprobe	clay fill	1026		1.1'		N/A	0	
2										
3										
4										
5			clay fill	1028		1.4'			0	18MC-SB12-Z1 6-6.8' @1040
6	SB12-Z1									
7			black ash clay							
8										
9										18MC-SB12-Z2 8.5-11.6' @1050
10	SB12-Z2		clay	1030		2.6'				
11			clay							
refusal 12										refusal @12' tired 2K
13										
14										
15										



NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-4' gray clay fill - 15% black glass slag 0.5-1cm; red brown frags	X		
2	15% Mixed gravel, few fine roots, few frags red brick.	X		
3	20% course sand	X		
4		X		
5	4-6' gray clay fill, 20% sand to fine gravel mod plastic	X		
6		X		
7	6-6.8' black ash, few fine wood frags		X	
8	6.8-8' red-brown clay, few black frags		X	
9	8-8.5 brown clay, plastic	X		
10	8.5-11.6 clay fill w/ red, tan, brown, gray, dark gray mixed sized	X		
11	frags of rock (30%), few roots. course sand to small gravel in clay matrix	X		
12	11.6-12 fine sandy clay, red-brown | refusal @ 12' - bottom of hole			refusal
13				
14				
15				

Borehole Record for SB-13

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR SB-13

Project Name 18 Mile Creek

Site Location Lockport, NY

Date Started/Finished 4/26/07 - 4/26/07

Drilling Company SJB

Driller's Name Ken Fuller

Geologist's Name Ben Cole

Geologist's Signature

Rig Type (s) pickup truck-mount

Drilling Method (s) Geo probe

Bit Size (s) 2" Auger Size (s) N/A

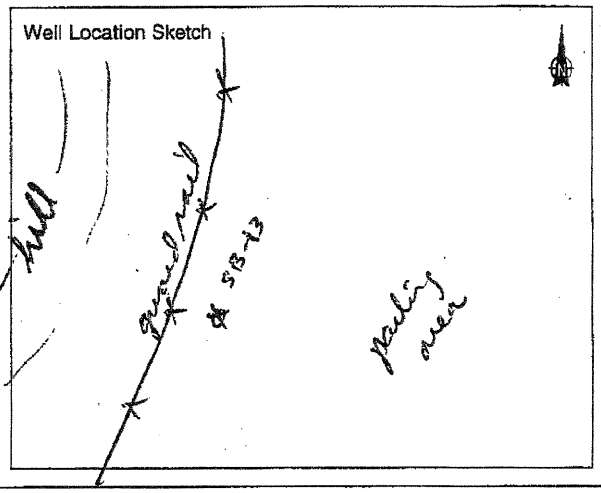
Auger/Split Spoon Refusal 7'

Total Depth of Borehole Is N/A

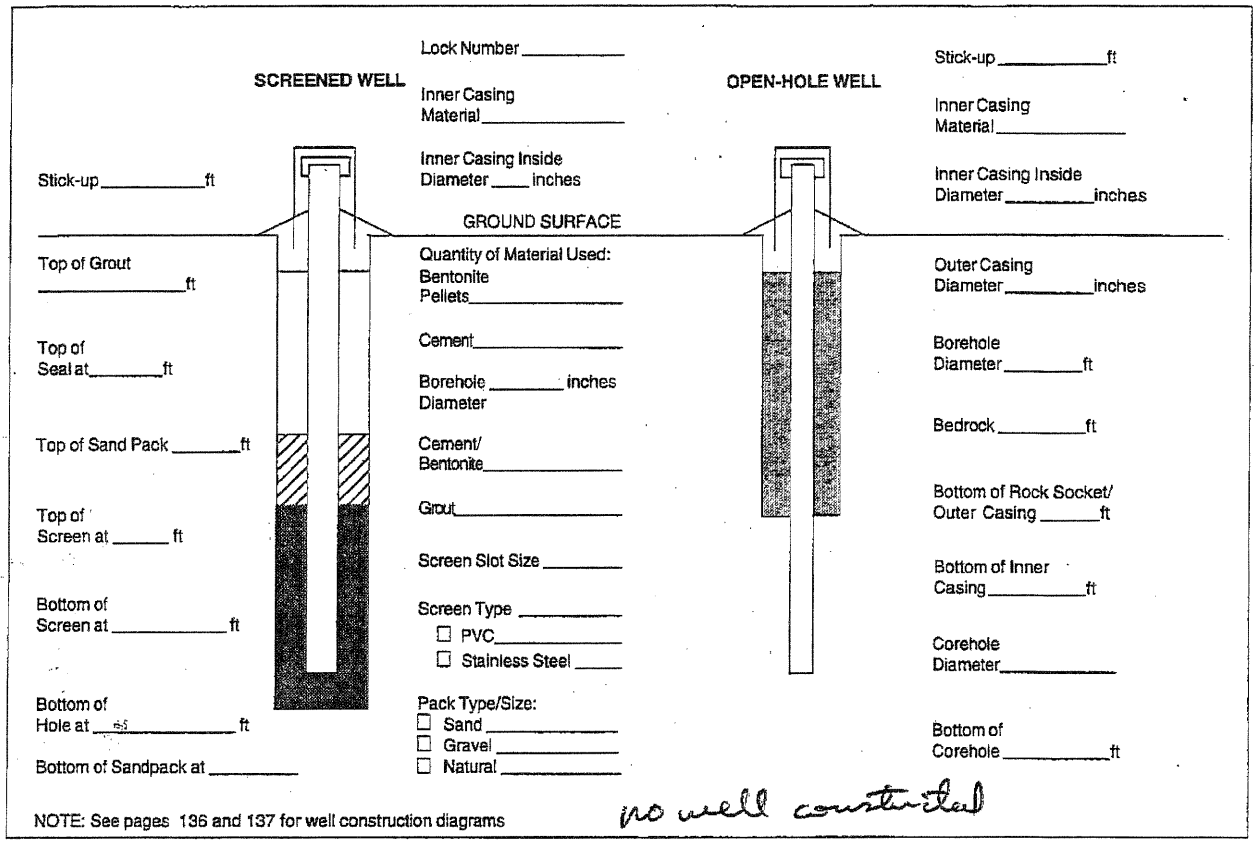
Total Depth of Corehole Is 7'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1	18MC-SB13-Z1	geoprobe	black ash clay/silt	0935		3'		N/A	0.5	0-2' 18MC-SB13-Z1 black ash 0950
2									0.3	
3									0	
4	18MC-SB13-Z2		clay/silt	0947		2.4'		N/A	0	4'-6' 18MC-SB13-Z2 red-br clay 0955
5										
6										
refusal 7										refusal @ 7' tried 2'x
8										
9										
10										
11										
12										
13										
14										
15										



NOTE: See pages 136 and 137 for well construction diagrams

no well constructed

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet	
1	0-0.5 moist gray, clay/ash w clay, 10% organics (wood) + black	⊗	○	○	
2	0.5-2' black ash/clay, few silver-gray chunks, sand to sm gravel	⊗	○	○	
3	2-2.4 red-brown clay fill, 25% black frags, 10% red grains (f sand)	⊗	○	○	
4	2.4-4 gray clay, plastic, 3% coarse sand/f. gravel few fine roots 40% wood.	⊗	○	○	
5	4-6' red-brown clay, few (3-5%) roots. plastic	○	⊗	○	
6	6-7' tan-brown clay mod. plastic	○	⊗	○	
7	refusal @ 7' - bottom of hole	○	⊗	○	refusal
8		○	○	○	
9		○	○	○	
10		○	○	○	
11		○	○	○	
12		○	○	○	
13					
14		○	○	○	
15		○	○	○	

Borehole Record for SB-14

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

BOREHOLE NO. SB-13

BOREHOLE NO. SB-12

DRILLING LOG FOR SB-14

Project Name 18 Mile Creek

Site Location Lockport, NY

Date Started/Finished 4/26/07 - 4/26/07

Drilling Company SJB

Driller's Name Ken Fuller

Geologist's Name Ben Cole

Geologist's Signature

Rig Type (s) pickup Truck mount geoprobe

Drilling Method (s) Geo Probe

Bit Size (s) 2" Auger Size (s) N/A

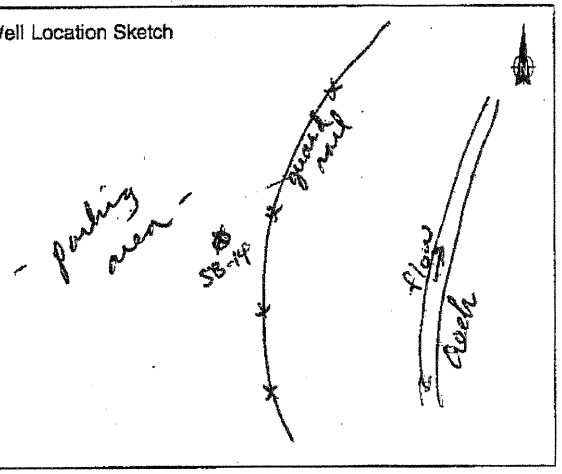
Auger/Split Spoon Refusal 15'

Total Depth of Borehole Is N/A

Total Depth of Corehole Is 15'

Water Level (TOIC)		
Date	Time	Level(Feet)

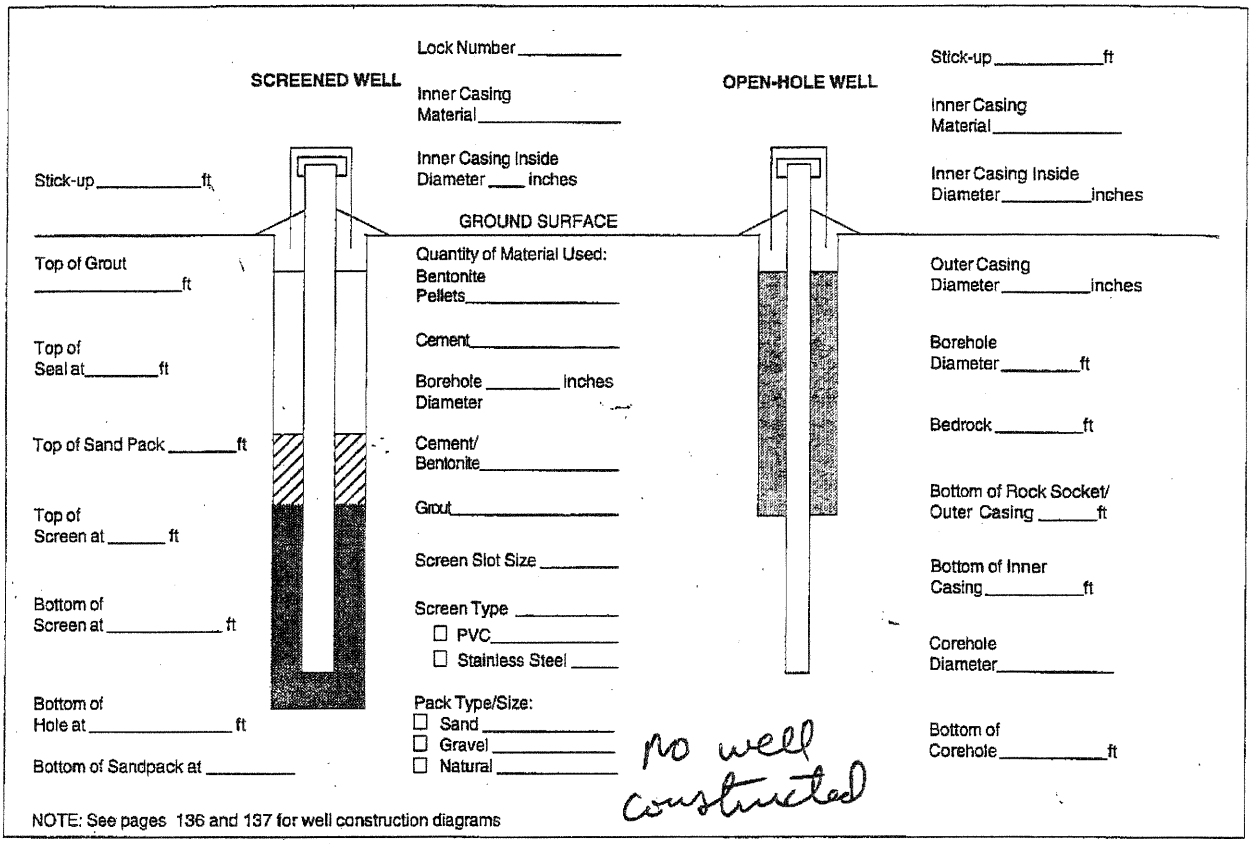
Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR ↔ Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1		geoprobe	0805 ↔ mixed gr. + sand		1.3'		N/A	0	
2									
3									
4									
5			0810 ↔ clay/ ash		1.1'			0	
6									
7									
8									
9	S-10.2 18MC-SB14-Z1 10.2-11.5 18MC-SB14-Z2		0829 ↔ clay/ ash clay/fill		1.8'			0	Z1 @ 0900 hrs 8-10.2' Z2 @ 0910 hrs 10.2-11.5'
10									
11									
12									
13									
14			0830 ↔ dry clay		2.0'			0	refusal @ 15'
15									

Z1 @ 0900

Z2 @ 0910



Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.6 - black top soil - clay rich, 15% a-f gravel 10% organic frags	⊗	○	○
2	0.6-3' black fill, mixed c to f gravel, few fine red brick frags	○	○	○
3	3-4 - gray rock and red brick frags, few tan sand, some very fine black sand	⊗	○	○
4		⊗	○	○
5	4-6.3 brown-red fill, few fine red brick frags, few large (up to 3cm) black slag	⊗	○	○
6		⊗	○	○
7	6.3-7.6 gray-black mixed c to f gravel slag	○	X	○
8	7.6-8' brown clay fill, 10% wood frags	○	X	○
9	8-10.2 gray-black fill - ash or slag, loose, sand to small gravel	○	X	○
10	10.2-11.5 brown clay fill, 20% organics (wood frags), few fine gravel	○	⊗	○
11		○	⊗	○
12	11.5-12 black wood frags/pole layer	○	⊗	○
13	12-13' gray-black fill, coarse sand to c-gravel, slag, few fine red brick frags	○	⊗	○
14	13-15 dk tan to light gray clay 25% rock (tan) not plastic	⊗	○	○
15	refusal @ 15' - bottom of hole	○	○	○

refusa

Borehole Record for SB15

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

DRILLING LOG FOR SB15

Project Name 18 Mile Creek

Site Location Lockport, NY

Date Started/Finished 4/27/07 - 4/27/07

Drilling Company SJB

Driller's Name Ken Fuller

Geologist's Name Ben Cole

Geologist's Signature

Rig Type (s) pickup truck mount geoprobe

Drilling Method (s) Geo probe

Bit Size (s) 2" Auger Size (s) N/A

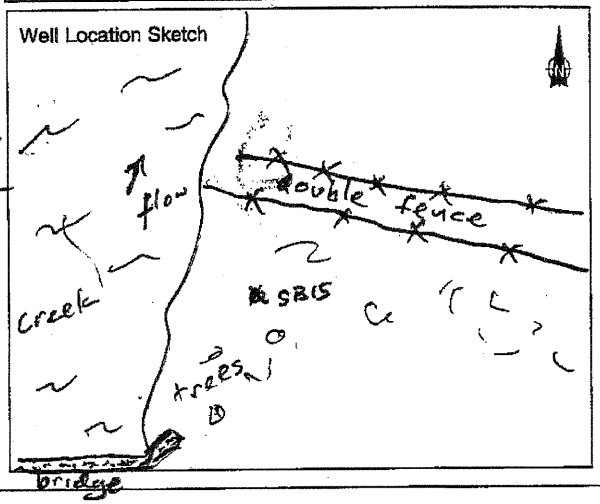
Auger/Split Spoon Refusal 15.8'

Total Depth of Borehole Is N/A

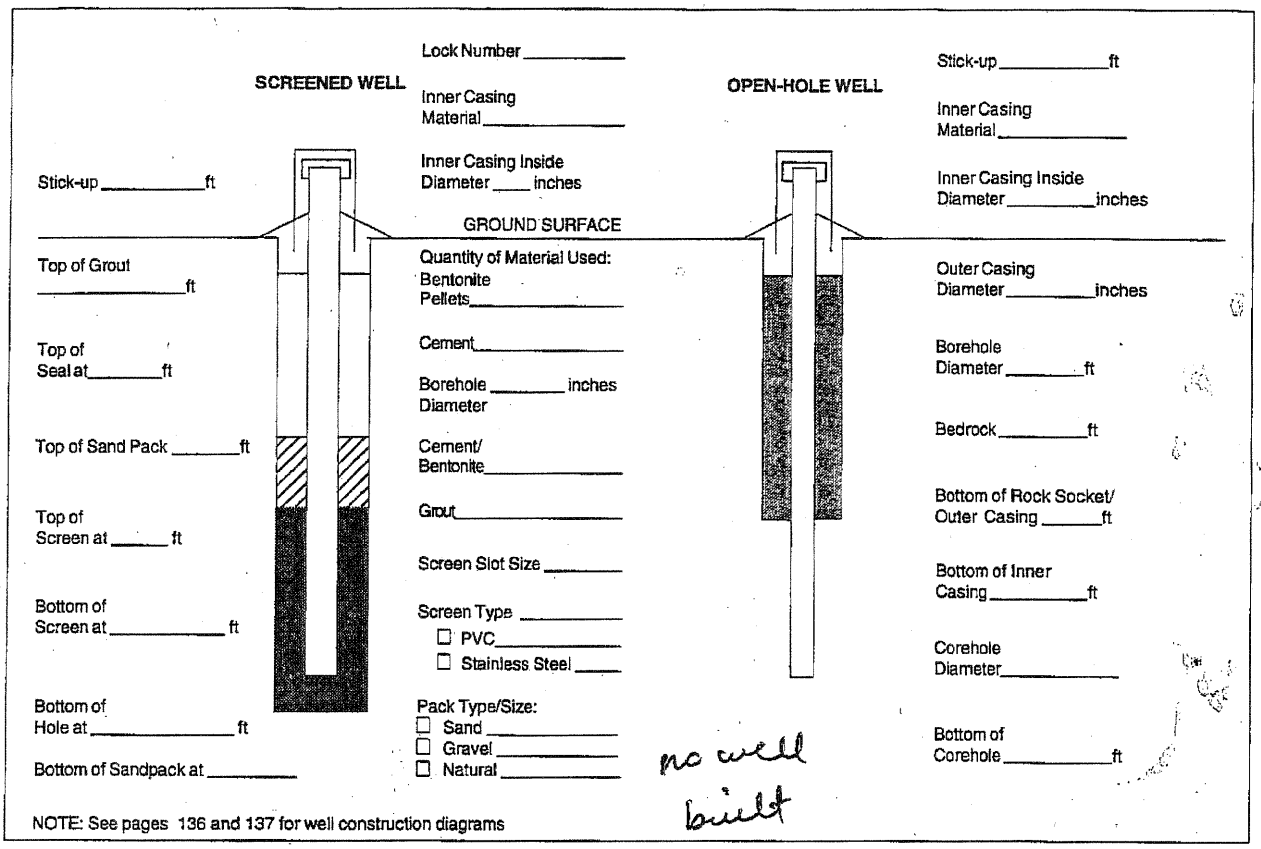
Total Depth of Corehole Is 15.8'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1	18MC-SB15-Z1	geo probe	mixed red ash	1320		0.9'		NA	0	18MC-SB15-Z1 1348 1.5-2'
2										
3										
4										
5			mixed clay	1324		1.0'			0	
6										
7										
8										
9	18MC-SB15-Z2		S	1330		3.5'			0	18MC-SB15-Z2 / MS-2357 Duplicate
10										1400 10-11
11										
12										
13			SL	1334		1.5'			0	
14										
15										



Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0.5-4' red-brown mixed grain ash, loose	⊗	○	○
2		⊗	○	○
3		⊗	○	○
4		⊗	○	○
5	4-6' mixed fill - clay - silt - sand size, loose, red - light tan, black, gray	⊗	○	○
6		⊗	○	○
7		⊗	○	○
8	6-8' white to tan mixed/poorly sorted fine to coarse sand, subtoangular (ash?)	○	⊗	○
9	8-8.8' fine to med sand fill red, black, tan	○	⊗	○
10	8.8-12' black, brown fine silt mod. plastic, few shells, few wood frags	○	⊗	○
11		○	○	⊗ water
12		○	○	⊗
13	12-14' wet brown silt, 20% sand to med gravel	○	○	⊗
14	14-14.8' gray yellow tight clay, med to low plastic, moist	○	○	⊗
15	14.8-15.8' tan-gray rock - dolostone - refusal @ 15.8'	⊗	⊗	○ refusal

15.8

C Well Development Logs

WELL DEVELOPMENT RECORD

SITE Eighteenmile Creek Corridor RI/FS DATE 6/28/07

LOCATION Lockport, NY WELL NO. MW-01

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2(0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).
1 well volume (v) = _____ gallons.

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 15.2'
WELL DEPTH (TD) 24.7'
COLOR lt. gray
ODOR N/A
CLARITY clear

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 15.5'
WELL DEPTH (TD) 24.7'
COLOR colorless
ODOR —
CLARITY clear

DESCRIPTION OF DEVELOPMENT TECHNIQUE submersible pump

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

TIME	TOTAL VOL. WITHDRAWN		pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
	GALS.	BORE VOL.					
0750	0	0	7.44	1594	16.4	>1000	
0755	8	8	7.05	1615	13.5	>1000	
0800	3	11	7.00	1661	12.2	>1000	
0805	4	15	6.97	1676	12.2	>1000	
0810	5	20	7.00	1669	12.1	>1000	
0815	4	24	7.01	1676	11.8	>1000	
0825	5	29	6.90	1700	12.1	769	Switch to Low flow
0830	2.5	31.5	6.96	1705	11.8	28	
0835	2.0	33.5	7.00	1715	11.5	20	

MW01 has Excellent recharge rate - does not purge dry, even at high flow

DEVELOPED BY: Humann

DATE 6/28/07

WELL DEVELOPMENT RECORD

SITE Eighteenmile Creek Corridor RI/FS DATE 6/27/07

LOCATION Lockport, NY WELL NO. MW02

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2(0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).
1 well volume (v) = _____ gallons.

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 17.1'
WELL DEPTH (TD) 30.2'
COLOR lt gray
ODOR —
CLARITY clear

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 24.6'
WELL DEPTH (TD) 30.2'
COLOR lt gray
ODOR —
CLARITY clear

DESCRIPTION OF DEVELOPMENT TECHNIQUE submersible pump / low flow

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

TIME	TOTAL VOL. WITHDRAWN		pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
	GALS.	BORE VOL.					
1205	2.0	2.0	7.63	1860	20.2	>1000	Purged dry/ no filter
1215	1.0	3.0	7.87	1894	18.4	>1000	↓
1225	1.0	4.0	7.38	1845	22.8	>1000	↓
1235	0.5	4.5	7.66	1824	16.9	>1000	↓
							Let well recharge, will
							purge later - 1236
1725	4.0	8.5	7.39	1979	16.8	>1000	Purge dry
1742	1.5	10.0	7.38	2020	17.0	>1000	
1750	1.5	11.5	7.37	1988	15.5	>1000	
6/28 0855	0	11.5	7.07	1989	14.5	>1000	
0905	2.0	13.5	7.24	2022	13.2	>1000	
0915	3.0	16.5	7.55	1996	13.9	>1000	
0925	3.0	19.5	7.46	1999	13.7	>1000	Begin Low flow
0935	6.0	25.5	7.18	1978	12.9	>1000	
0945	5.0	30.5	7.44	1949	12.7	>1000	
0955	6.0	36.5	7.16	1968	12.4	504	
0957	1.0	37.5	7.13	1988	12.3	156	
1000	1.5	39.0	7.13	1987	12.3	147	

DEVELOPED BY: Humann/Werth

DATE 6/27/07

WELL DEVELOPMENT RECORD

SITE 18 Mile Creek DATE 6/29/07

LOCATION Lockport NY WELL NO. MW04

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2(0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).
1 well volume (v) = 1.6 gallons.

3x well volume = 4.7 gal

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 19.16
WELL DEPTH (TD) ~28.81
COLOR brown
ODOR none
CLARITY opaque

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 21.32
WELL DEPTH (TD) 28.80
COLOR colorless
ODOR none
CLARITY faintly cloudy

DESCRIPTION OF DEVELOPMENT TECHNIQUE surge/purge out fines using high flow for several times then switch to low flow to try and get readings to stabilize. All purge water containerized and will be filtered at a later time; sediment drummed

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

TIME	TOTAL VOL. WITHDRAWN		pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
	GALS.	BORE VOL.					
0805	0	0	7.90	1157	12.7	>1000	
0807	4.5	4.5	7.63	1167	11.9	>1000	purged dry at highest flow
0812	0	4.5	7.69	1124	12.0	>1000	
0813	2.0	6.5	7.72	1095	12.2	>1000	purged dry
0820	0	6.5	7.69	1095	12.8	>1000	begin low flow
0825	2.0	8.5	7.62	1058	12.1	>1000	
0830	1.0	9.5	7.61	1043	12.1	>1000	
0835	1.0	10.5	7.66	1023	12.2	653	set pump above bottom of well
0840	1.0	11.5	7.59	1010	12.2	610	
0845	1.0	12.5	7.63	1009	12.1	586	
0850	1.0	13.5	7.59	1001	12.2	610	
0855	1.0	14.5	7.56	1004	12.2	402	
0900	0.75	15.25	7.55	1010	12.4	305	pumped dry at 0904
0910	0	15.25	7.57	1006	12.4	247	
0915	1.0	16.25	7.57	1001	12.1	668	
0920	0.5	16.75	7.60	1017	12.3	502	
0925	0.5	17.25	7.55	1015	12.1	329	
0930	0.5	17.75	7.56	1011	12.1	254	
0935	0.5	18.25	7.55	1009	12.2	202	
0940	0.5	18.75	7.55	1006	12.1	170	
0945	0.5	19.25	7.58	1005	12.1	162	
0950	0.5	19.75	7.57	1003	12.1	157	
0955	0.5	20.25	7.55	1004	12.1	164	
1000	0.5	20.75	7.55	1005	12.1	171	
1005	0.5	21.25	7.56	1008	12.1	214	

Fine particles easily seen settling into bends of tubing. Tried to raise pump off of bottom of well, but H_2O level dropped too low. This well recharges slowly. Was able to pump at very low flow (1/2 gal/5 mins) without well going dry, but could not get turbidity below 157 NTU.

DEVELOPED BY: Humann

DATE 6/29/07

BOREHOLE NO.

WELL DEVELOPMENT RECORD

SITE Eighteenmile Creek RI/FS DATE 7/3/07

LOCATION Lockport, NY WELL NO. MW-05

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2(0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).
1 well volume (v) = _____ gallons.

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 14.75'
WELL DEPTH (TD) 25.35'
COLOR none
ODOR slt sulphur
CLARITY clear

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 15.5'
WELL DEPTH (TD) 25.35'
COLOR none
ODOR none
CLARITY clear

DESCRIPTION OF DEVELOPMENT TECHNIQUE submersible pump / low flow

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

TIME	TOTAL VOL. WITHDRAWN		pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
	GALS.	BORE VOL.					
1500	6	6	7.20	1968	15.1	388	
1505	1	1	7.25	1889	13.0	188	
1510	1	2	7.27	1882	14.0	36	
1518	1	3	7.21	1890	14.5	29	
1525	1	4	7.20	1886	14.0	25	
1535	1	5	7.25	1889	14.4	27	
1545	1	6	7.23	1880	14.5	24	

DEVELOPED BY: Cole

DATE 7/3/07

WELL DEVELOPMENT RECORD

SITE Eighteenmile Creek Corridor RI/FS DATE 6/27/07

LOCATION Lockport, NY WELL NO. MW#6

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2(0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).
1 well volume (v) = _____ gallons.

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 15.5'
WELL DEPTH (TD) 25.5'
COLOR lt brown
ODOR —
CLARITY ~~clear~~ opaque

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 21.9'
WELL DEPTH (TD) 25.5'
COLOR lt brown
ODOR —
CLARITY slightly cloudy

DESCRIPTION OF DEVELOPMENT TECHNIQUE submersible pump / low flow

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

TIME	TOTAL VOL. WITHDRAWN		pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
	GALS.	BORE VOL.					
0844	7	7	7.30	1442	16.5	>1000	purged dry @ 0848
0852	9.5	16.5	7.75	1537	14.5	>1000	purged dry @ 0854
0856	1.0	17.5	7.62	1615	16.3	1	(with filter)
0911	1.5	19.0	7.78	1595	16.0	1	(with filter)
0928	1.0	20	7.41	1596	15.9	>1000	
0945	1.5	21.5	7.71	1585	17.5	>1000	
1000	1.0	22.5	7.33	1613	17.8	>1000	
1050	4.0	26.5				>1000	Purged dry (no filter)
1100	3.0	29.5				>1000	
1110	3.0	32.5				>1000	
1120	3.0	35.5				>1000	
1130	4.0	39.5				>1000	Stopped developing as per L. Cerni
1639	7.0	46.5	7.74	1586	16.0	>1000	
1658	5.0	51.5	7.96	1579	15.5	370	
1707	3.5	55	7.43	1588	14.1	47	End purge.

DEVELOPED BY: A. Hermann, M. Wirth

DATE 6/27/07

WELL DEVELOPMENT RECORD

SITE 18-Mile Creek DATE 6/28/07

LOCATION Duraline abrasives, Inc. WELL NO. MW-08

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2 (0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).

1 well volume (v) = 0.806 / 2.42 (3 vol) gallons.

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 11.96
WELL DEPTH (TD) 16.21
COLOR Dark Gray
ODOR Sewage odor(?)/Bio(?)
CLARITY opaque

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 16.87
WELL DEPTH (TD) 18.50
COLOR lt. grey / clear
ODOR Sewage/bio odor(?)
CLARITY clear to slightly cloudy

DESCRIPTION OF DEVELOPMENT TECHNIQUE Whale pump with low-flow controller.

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

TIME	TOTAL VOL. WITHDRAWN		pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
	GALS.	BORE VOL.					
1350	0	0	—	—	—	>1000	
1400	1.5	1.5	—	—	—	>1000	pump dry
1410	1.5	3.0	6.64	1714	~~17.1~~ 17.6	>1000	pump dry
1420	1.0	4.0	6.82	1784	15.5	>1000	pump dry
1430	0.5	4.5	6.59	1826	17.1	632	
1440	0.5	5.0	6.79	1801	17.3	315	
1450	0.5	5.5	6.79	1813	18.5	258	
1500	0.5	6.0	6.78	1813	16.9	204	few small pieces sand(?) floating in clear sample
1510	0.5	6.5	6.79	1827	16.4	198	
1520	0.5	7.0	6.76	1844	16.1	128	
1530	0.5	7.5	6.79	1820	16.3	167	
1540	0.5	8.0	6.67	1835	15.8	66	
1550	0.5	8.5	6.79	1832	15.5	125	

Very poor/slow recharge rate - excessively silty w/ strong bio odor. No readings taken on first two volumes due to sludge-like water.

DEVELOPED BY: M. Werth, A. Humann

DATE 6/28/07

BOREHOLE NO.

WELL DEVELOPMENT RECORD

SITE 18-mile Creek DATE 6/29/07

LOCATION Water Street (west of 18-Mile creek) WELL NO. MW-09

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2(0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).
1 well volume (v) = ___ gallons.

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.860	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 12.95
WELL DEPTH (TD) 13.22
COLOR NA
ODOR NA
CLARITY NA

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC) —
WELL DEPTH (TD) —
COLOR —
ODOR —
CLARITY —

DESCRIPTION OF DEVELOPMENT TECHNIQUE No water could be purged due to only 0.27" of water in well. could not develop-

WELL DEVELOPMENT RECORD

SITE 18-Mile Creek DATE 6/28/07

LOCATION Lockport, NY WELL NO. MW10

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2(0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).
1 well volume (v) = 1.17 gallons.

3 volumes = 3.50

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 12.5' BTOIC
WELL DEPTH (TD) ~~19.86~~ ## 19.66 BTOIC
COLOR dark gray
ODOR none
CLARITY opaque

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 12.73
WELL DEPTH (TD) 19.71
COLOR colorless
ODOR none
CLARITY clear

DESCRIPTION OF DEVELOPMENT TECHNIQUE Surge/purge w/12V Typhoon submersible pump. All purge water contained to allow silt to settle, then H_2O will be pumped thru filter and discharged. When purge water begins to clear - switch to low-flow pumping

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

TIME	TOTAL VOL. WITHDRAWN		pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
	GALS.	BORE VOL.					
1155	0	0	7.40	604.1	15.9	>1000	
1200	5.0	5.0	7.35	597.8	15.9	>1000	pumped dry at highest flow rate
1205	0	5.0	7.48	475.7	17.8	>1000	
1207	5.0	10.0	7.47	530.3	17.3	>1000	purged dry
1219	0	10.0	7.61	465.3	18.6	>1000	
1222	5.0	15.0	7.24	552.1	15.3	>1000	purged dry
1227	0	15.0	7.40	456.5	18.5	>1000	
1230	5.0	20.0	7.26	526.4	16.1	>1000	
1235	0	20.0	7.29	486.7	17.5	>1000	begin low flow
1240	2.0	22.0	7.47	454.6	19.1	62	
1245	3.0	25.0	7.59	451.0	19.7	21	
1250	2.5	27.5	7.59	447.9	19.9	16	

MW10 has very good recharge rate. Can easily pump low-flow without well going dry.

DEVELOPED BY: Humann

DATE 6/28/07

BOREHOLE NO.

WELL DEVELOPMENT RECORD

SITE 18-mile Creek DATE 6/28/07

LOCATION White Transportation WELL NO. MW-11

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2(0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).

1 well volume (v) = 0.713 gallons.

2.14 (3vol)

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
1 1/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
2 1/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
3 1/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
4 1/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
5 1/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 7.07
WELL DEPTH (TD) 11.45
COLOR med brown
ODOR None
CLARITY silty/opaque

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 7.36
WELL DEPTH (TD) 13.0
COLOR clear to lt. gray
ODOR None
CLARITY clear to lt. gray

DESCRIPTION OF DEVELOPMENT TECHNIQUE Whale pump & low flow control

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

TIME	TOTAL VOL. WITHDRAWN		pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
	GALS.	BORE VOL.					
1112	4.0	4.0	7.69	908.9	18.2	>1000	Purged dry - 1117
1123	2.0	6.0	7.25	873.6	16.7	>1000	put low flow control on pump.
1133	3.0	9.0	8.13	889.9	16.3	>1000	
1143	4.0	13.0	7.69	883.0	15.8	134	
1153	2.5	15.5	7.86	887.3	15.7	44	

DEVELOPED BY: M. Werth, A. Humann

DATE 6/28/07

BOREHOLE NO.

WELL DEVELOPMENT RECORD

SITE 18-Mile Creek DATE 6/28/07

LOCATION White Transportation WELL NO. mw-12

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2(0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).

1 well volume (v) = $\frac{4.07}{1.22\ (3\ vol)}$ gallons.

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 12.50
WELL DEPTH (TD) 15.00
COLOR Med brown/reddish brown
ODOR None
CLARITY opaque - very silty

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 14.80
WELL DEPTH (TD) 16.04
COLOR lt. reddish brown
ODOR None
CLARITY sl. cloudy

DESCRIPTION OF DEVELOPMENT TECHNIQUE whale pump

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

TIME	TOTAL VOL. WITHDRAWN GALS.	TOTAL VOL. WITHDRAWN BORE VOL.	pH	COND. (µmhos/cm)	TEMP. (°C)°F)	TURB. (NTU)	COMMENTS
6/28/07							
1031	0.5	0.5	7.76	609.7	15.2	>1000	Very silty, pumps dry quickly
1045	1.5	2.0	7.47	743.6	15.5	>1000	~~dry~~ ↓
1103	1.0 ~~3.0~~						pump silted up. Will let well recharge – remove silt with bailer after recharge.
6/29/07							
0930	0.5	2.5	6.25	912.6	14.9	>1000	well recharged, not as much silt. / purged dry
0940	0.5	3.0	6.65	863.4	14.1	>1000	purged dry
0945	0.5	3.5	7.04	884.6	13.3	>1000	
0950	0.5	4.0	7.06	891.2	13.8	>1000	
0955	0.5	4.5	7.14	899.8	13.2	>1000	
1005	0.5	5.0	7.37	897.1	13.3	>1000	
1015	0.5	5.5	7.16	926.5	14.6	>1000	
1025	0.5	6.0	7.10	924.8	13.8	>1000	
1035	0.5	6.5	7.10	942.7	15.3	>1000	
1045	0.5	7.0	7.34	946.0	13.7	>1000	
1055	0.5	7.5	7.13	953.0	12.5	>1000	↓
1105	0.5	8.0	7.18	952.4	13.0	>1000	

DEVELOPED BY: m.werth, A. Humann

DATE 6/28/07

BOREHOLE NO.

WELL DEVELOPMENT RECORD

SITE 15-mile Creek DATE 6/28/07

LOCATION Lockport, NY WELL NO. MW-13

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2 (0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).

1 well volume (v) = $\frac{0.647}{1.94\ (3\ vol)}$ gallons.

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 7.12
WELL DEPTH (TD) 11.09
COLOR dark gray
ODOR none
CLARITY opaque

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 7.36
WELL DEPTH (TD) 11.37
COLOR colorless
ODOR none
CLARITY clear

DESCRIPTION OF DEVELOPMENT TECHNIQUE purge/purge with 12V Typhoon submersible. All purge water/silt to be containerized w/ water being filtered at a later time - silt to be drummed.

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

TIME	TOTAL VOL. WITHDRAWN		pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
	GALS.	BORE VOL.					
1025	0	0	8.05	509.1	19.6	>1000	purges dry after 1.0 gal
1027	1.0	1.0	7.98	484.6	20.9	>1000	
1035	1.0	2.0	7.99	470.3	19.1	>1000	
1040	1.0	3.0	7.82	446.5	20.3	>1000	
1045	1.0	4.0	7.69	438.7	21.2	>1000	
1050	1.0	5.0				>1000	
1055	1.0	6.0	8.14	418.2	21.1	395	Begin low-flow
1100	0.5	6.5	7.89	420.8	22.2	86	
1105	0.5	7.0	7.80	423.2	22.0	36	
1110	0.5	7.5	7.75	425.2	22.0	22	

This well was able to sustain low-flow pumping without going dry during development (approx. 0.5 gallons/5.0 minutes)

DEVELOPED BY: Hwmann

DATE 6/28/07

BOREHOLE NO.

WELL DEVELOPMENT RECORD

SITE 18-Mile Creek DATE 6/28/07

LOCATION Lockport, NY WELL NO. MW14

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2(0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).
1 well volume (v) = 1.4 gallons.
3x well volume = 4.22

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

		7/3/07
WATER LEVEL (TOIC)	16.10	17.1
WELL DEPTH (TD)	24.72	25.0
COLOR	reddish-brown	lite red-brown
ODOR	none	none
CLARITY	opaque	opaque to clear

FINAL DEVELOPMENT WATER

		7/3/07
WATER LEVEL (TOIC)	22.79	23.7
WELL DEPTH (TD)	24.80	25.1
COLOR	clear/colorless	clear, colorless
ODOR	none	none
CLARITY	clear	clear

DESCRIPTION OF DEVELOPMENT TECHNIQUE Surge/purge to remove fines - silty water containerized to settle; afterwards water filtered and discharged; silt drummed

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

MW 14

TIME	TOTAL VOL. WITHDRAWN		pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
	GALS.	BORE VOL.					
1510	0	0				>1000	
1512	2.5	2.5				>1000	purged dry
1515	0	2.5				>1000	
1516	1.5	4.0				>1000	purged dry
1525	1.0	5.0				>1000	
1530-1531	1.0	6.0				>1000	
1535-1536	1.0	7.0				>1000	
1540-1541	0.5	7.5				>1000	
1545-1546	0.5	8.0				>1000	
1550-1551	0.5	8.5				>1000	
~~1600-1601~~	##						
1555-1556	0.5	9.0				>1000	purged dry
1600-1601	0.5	10.0				>1000	
1605	0	10.0	7.83	1816	14.1	352	begin low flow
1610	2.0	12.0	7.49	1761	14.8	372	
1615	1.5	13.5	7.60	1729	14.5	349	purged dry
1625	0	13.5	7.68	1833	15.3	222	begin low flow
1630	1.5	15.0	7.38	1847	14.3	240	
1640	1.5	16.5	7.64	1796	14.7	268	purged dry
1645	0	16.5	7.49	1841	15.5	96	
1650	2.0	18.5	7.42	1875	14.7	173	
1655	0.5	19.0	7.49	1853	15.0	29	
1430	75.0	94.0	7.30	1905	18.0	2	removed ~15 gal/hr from ~0930 to 1430 turned to low flow
1435	1.0	95.0	7.29	1908	12.6	4	
1440	1.0	96.0	7.27	1921	13.2	3	
1445	1.0	97.0	7.30	1917	13.3	3	
1450	1.0	98.0	7.31	1920	13.4	2	

on 7/3/07

This well purges dry even w/ low flow. Can easily see fine sand being pumped up tubing - will be a challenge to sample.

DEVELOPED BY: Humans

DATE 6/28/07

BOREHOLE NO.

WELL DEVELOPMENT RECORD

SITE 18-Mile Creek DATE 6/27/07

LOCATION Upson Park Lockport, NY WELL NO. MW15

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2(0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).
1 well volume (v) = .60 gallons.

3x well volume = 1.81

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

	7/3/07
WATER LEVEL (TOIC)	20.10 TOIC → 20.3'
WELL DEPTH (TD)	23.83 → 24.1'
COLOR	brown → lt. brown
ODOR	none → none
CLARITY	opaque → clear

FINAL DEVELOPMENT WATER

	7/3/07
WATER LEVEL (TOIC)	→ 23.0
WELL DEPTH (TD)	→ 24.2'
COLOR	lt. brown → clear, colorless
ODOR	None → none
CLARITY	slightly cloudy → clear

DESCRIPTION OF DEVELOPMENT TECHNIQUE pump/surge well until dry. Purge water placed into drum to be fitted later. Sediment/sludge to be containerized

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

MW 15

TIME	TOTAL VOL. WITHDRAWN		pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
	GALS.	BORE VOL.					
~~2~~1415	1.5	1.5	7.29	2944	22.0	>1000	pump will dry (no filter)
1425	1.5	3.0	7.27	3208	18.7	>1000	
1435	1.5	4.5	7.64	3287	16.5	>1000	
1445	2.0	6.5	7.31	3429	15.6	>1000	
1505	2.0	8.5	7.26	3409	15.1	>1000	
1515	1.5	10.0	7.26	3434	15-3	964	
1528	1.5	11.5	7.27	3437	15.2	969	
1538	1.0	12.5	7.21	3464	15.5	909	
1547	1.5	14.0	7.21	3486	15.9	779	
1615	2.0	16.0	7.33	3415	15.4	370	
1~~1~~00	~~3.0~~ 1.0	17.0	7.35	3282	14.0	136	7/2/07
1430	5	22.0	7.24	3680	14.3	203	
1500	5	27.0	7.27	3518	14.2	186	
1525	5	32.0	7.26	3523	15.4	50	
1545	5	37.0	7.27	3563	15.2	33	
1600	5	42.0	7.29	3578	15.1	28	
1430	75	117.0	7.38	3541	15.7	4	pumped@approx 1G/min from
1435	~~75.25~~ 0.25	117.25	7.23	3640	14.5	2	0930-1430 on 7/3/07. turn to low flow
1440	0.75	118	7.28	3640	13.9	2	
1445	1.0	119	7.29	3631	14.2	3	
1450	1.0	120	7.31	3647	14.4	2	
1455	1.0	121	7.28	3650	14.3	4	

DEVELOPED BY: 6/27/07 DATE Humann

WELL DEVELOPMENT RECORD

SITE 18-Mile Creek DATE 6/29/07

LOCATION Lockport, NY WELL NO. MW16

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2(0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).

1 well volume (v) = 1.79 gallons.
5.37 (3vol)

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 16.31
WELL DEPTH (TD) 27.30
COLOR milky white
ODOR none
CLARITY opaque

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 27.08
WELL DEPTH (TD) 27.42
COLOR milky white
ODOR none
CLARITY cloudy/white

DESCRIPTION OF DEVELOPMENT TECHNIQUE Surge/purge to remove fines; purge waters containerized/allowed to settle; waters then pumped out w/in-line filters and discharged; sediment drummed

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

TIME	TOTAL VOL. WITHDRAWN		pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
	GALS.	BORE VOL.					
1150	2.0	2.0				>1000	will try to clear out heavy silt before using pH meter
1200	1.0	3.0				>1000	
1205	0.5	3.5				>1000	
1215	0.5	4.0				>1000	
1223	0.25	4.25				>1000	
1235	0.25	4.50				>1000	1240-1255 - help Werth fish lost tubing from mw17
1300	1.0	5.50				>1000	
1310	0.5	6.00				>1000	
1315	0	6.00	7.47	2738	14.7	>1000	begin low flow
1317	0.25	6.25				>1000	purged dry
1330	0	6.25	7.50	2894	13.9	>1000	begin low flow
1335	0.25	6.50	7.45	3041	12.6	>1000	
1340	0.25	6.75	7.47	2911	12.1	>1000	
1345	0.25	7.00	7.61	2976	12.5	>1000	
1350	0.25	7.25	7.63	2974	12.3	894	
1355	0.25	7.50	7.65	2999	12.9	206	
1400	0.25	7.75	7.61	3001	12.8	96	
1405	0.25	8.00	7.63	2998	12.7	80	purged dry
1415	0	8.00	7.67	3011	13.9	>1000	begin low flow
1420	0.25	8.25	7.60	3001	12.9	>1000	
1425	0.25	8.50	7.64	2998	12.7	>1000	
1430	0.25	8.75	7.66	3006	13.0	>1000	
1005	-	8.75	7.95	2967	12.9	>1000	7/2/07
1015	2.00	10.75	7.60	3485	12.1	>1000	dry, await for recharge
1035	1.00	11.75	7.95	3460	12.5	816	
1050	1.00	12.75	7.94	3380	12.5	36	
	1.25	~~12.25~~ 14	7.80	3292	13.5	57	

Initially pump at full speed to clear sediment. start/stop several times at beginning. Water very "thick" (latex paint). Begin low flow after bulk of sediment is removed, although water is still very silty (whitish-gray). Tubing has a connector.

* This well will be difficult to sample due to very slow recharge and sediment.

DEVELOPED BY: Aumann

DATE 6/29/07

BOREHOLE NO.

WELL DEVELOPMENT RECORD

SITE Eighteenmile Creek Corridor RI/FS DATE 6/29/07

LOCATION Lockport, NY WELL NO. MW-17

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2(0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).
1 well volume (v) = _____ gallons.

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.670	518.670×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 15.19'
WELL DEPTH (TD) 23.08'
COLOR Brown
ODOR —
CLARITY opaque

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 15.00'
WELL DEPTH (TD) 25.01'
COLOR clear
ODOR none
CLARITY clear

DESCRIPTION OF DEVELOPMENT TECHNIQUE submersible pump/low flow

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

TIME	TOTAL VOL. WITHDRAWN		pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
	GALS.	BORE VOL.					
1200	2.0	2.0	7.26	506.5	21.7	>1000	
1210	5.0	7.0	7.42	488.5	21.4	>1000	
1220	4.0	11.0	7.41	466.5	21.3	>1000	
1300	1.5	12.5	7.39	466.9	21.1	>1000	Piping disconnected. Had to remove from well with a hook
1310	4.0	16.5	7.44	437.3	21.7	699	
1320	4.0	20.5	7.44	431.8	21.8	151	
1330	4.0	24.5	7.48	430.1	21.2	177	
1340	4.0	28.5	7.47	430.0	21.7	47	

initial: DTW: 15.19
TD: 23.08
Color: Brown
odor: None
Clarity: opaque

Final: DTW: 15.00
TD: 25.01
Color: Clear
odor: None
Clarity: Clear

DEVELOPED BY: M. Worth

DATE _____

D

Well Purge and Sample Records

ecology and environment engineering, p.c.
International Specialists in the Environment
BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: Eighteenmile Creek Corridor RI/FS
Well ID: 18MC-MW-01
EEEPC Project No.: 002699.ID19.02
Date: 7/9/07

Initial Depth to Water: 14.90 feet TOIC
Start Time: 1115
Total Well Depth: 24.70 feet TOIC
End Time: 1219
Depth to Pump: 22.70 feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: .75 Lpm / ~~gpm~~
Pump Type: Typhoon Submersible
adjusted to: _____ at _____ minutes
Well Diameter: 2 inches
adjusted to: _____ at _____ minutes
1x Well Volume: 1.6 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1115	0	7.37	16.5		1635		>1000	14.90
1122	1.5	7.03	14.4		1654		>1000	15.01
1127	3.0	7.04	14.1		1643		>1000	15.13
1133	4.5	7.00	13.9		1647		>1000	15.29
1140	6.0	6.99	13.8		1654		563	15.35
1146	7.5	6.98	13.8		1656		236	15.60
1153	9.0	7.01	14.1		1660		84	15.81
1159	10.5	6.99	13.9		1662		54	15.78
1205	12.0	6.99	14.1		1665		65	15.80
1212	13.5	7.02	13.9		1669		77	15.92
1219	15.0	6.99	14.0		1669		45	15.88
Final Sample Data:		6.99	14.0		1669		45	15.88

Sample ID: 18MC-MW-01
Duplicate? ☒
Dupe Samp ID: 18MC-MW01/D
Sample Time: 1219
MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☒ SVOCs	☐ SW846
☒ PCBs	☐ Drink. Wtr.
☒ Metals	☐ _____
☒ pest	☐ _____

Comments: _____
Sampler(s): Humann

ecology and environment engineering, p.c.
International Specialists in the Environment
BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: Eighteenmile Creek Corridor RI/FS
Well ID: 18MC-MW-02
EEEPC Project No.: 002699.ID19.02
Date: 7/9/07

Initial Depth to Water: 17.24 feet TOIC
Total Well Depth: 30.22' feet TOIC
Depth to Pump: 28.22' feet TOIC
Initial Pump Rate: 400 mL pm / ~~gpm~~
adjusted to: _____ at _____ minutes
adjusted to: _____ at _____ minutes

Start Time: 1230
End Time: 1335
☐ Bailer ☒ Pump
Pump Type: Typhoon Submers. Pump
Well Diameter: 2 inches
1x Well Volume: 2.12 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1230	39.0	7.18	15.0		1869		608	17.24
1245	41.5	7.18	14.8		1861		321	18.50
1258	43.8	7.14	14.9		1848		25	18.61
1312	45.8	7.17	14.8		1828		14	18.85
1325	48.0	7.18	14.5		1845		14	18.95
1335	49.0	7.17	14.7		1851		10	19.03
Final Sample Data:		7.17	14.7		1851		10	19.03

Sample ID: 18mc-mw02
Sample Time: 1340
Duplicate? ☐
MS/MSD? ☒
Dupe Samp ID: _____

Analyses:	Methods:
☒ VOCs	☐ CLP
☒ SVOCs	☐ SW846
☒ PCBs	☐ Drink. Wtr.
☒ Metals	☐ _____
☒ pest	☐ _____

Comments: _____
Sampler(s): Cole

Well Purge Form - EEEPC.xls

ecology and environment engineering, p.c.
International Specialists in the Environment
BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: Eighteenmile Creek Corridor RI/FS
Well ID: 18MC-MW04
EEEPC Project No.: 002699.ID19.02
Date: 7/9/07

Initial Depth to Water: 19.30 feet TOIC
Start Time: 1348
Total Well Depth: 28.70 feet TOIC
End Time: 1435
Depth to Pump: 26.50 feet TOIC
☐ Bailer ☑ Pump
Initial Pump Rate: 0.1 Lpm ~~/ gpm~~
Pump Type: Typhoon Submersible
adjusted to: _____ at _____ minutes
Well Diameter: 2 inches
adjusted to: _____ at _____ minutes
1x Well Volume: 1.5 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	DRP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1348	0	7.32	18.3		1104		240	19.30
1357	1.5	7.37	15.9		1089		594	20.05
1406	3.0	7.40	15.9		1081		75	20.18
1416	4.5	7.44	15.8		1086		63	20.46
1426	6.0	7.45	15.0		1081		57	20.52
1435	7.5	7.45	15.3		1078		42	21.07
Final Sample Data:		7.45	15.3		1078		42	21.07

Sample ID: 18MC-MW04
~~Duplicate?~~ ☐
Dupe Samp ID: _____
Sample Time: 1435
~~MS/MSD?~~ ☐

Analyses: Methods: Comments: _____

☒ VOCs ☐ CLP
☒ SVOCs ☐ SW846
☒ PCBs ☐ Drink. Wtr.
☒ Metals ☐ _____
☒ pest ☐ _____

Sampler(s): Hu Mann

ecology and environment engineering, p.c.
International Specialists in the Environment
BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: Eighteenmile Creek Corridor RI/FS
Well ID: 18MC-MW05
EEEPC Project No.: 002699.ID19.02
Date: 7/10/07

Initial Depth to Water: 13.86 feet TOIC
Well Diameter: 2 inches
Total Well Depth: 25.38 feet TOIC
1x Well Volume: 1.9 gallons
Well Purging ☒ Pump ☐ Bailer
Pump Type: ~~10.86 24.38~~ Mini Typhoon
Initial Pump Rate: 800 mL/pm / ~~gpm~~
Depth to Pump: 24.38 feet TOIC
adjusted to: _____ at _____ minutes
Purge Start Time: 1048
adjusted to: _____ at _____ minutes
Purge End Time: 1138

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm-mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1048	0 / 0	7.05	16.9		1988		497	13.86
1058	2.0 / 2.0	7.25	14.8		1881		96	13.86
1108	2.0 / 4.0	7.30	14.7		1903		43	13.51
1118	2.0 / 6.0	7.34	14.3		1932		58	13.50
1128	2.0 / 8.0	7.33	14.5		1935		48	13.48
1138	2.0 / 10.0	7.34	14.2		1939		32	13.48
Final Sample Data:		7.34	14.2		1939		32	13.48
Metals Sample Data:		7.08	20.6		2011		16	13.82

Well Sampling ☐ Pump ☒ Dedicated Bailer
Sample ID: 18MC-MW05
Duplicate? ☐
Dupe Samp ID: ~~18MC-MW~~
Sample Time: 1144
MS/MSD? ☐
Metals Sampling Date/Time: 7/10/07 1510

Analyses:	Methods:
☒	☐ VOCs
☒	☐ SVOCs
☒	☐ PCBs/Pesticides
☒	☐ Total Metals
☒	☐ Dissolved Metals

Comments: final WL = 13.48' BTOIC TD = 25.38' BTOIC

Sampler(s): Humann / Cole

ecology and environment engineering, p.c.
International Specialists in the Environment
BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: Eighteenmile Creek Corridor RI/FS
Well ID: 18MC-MW06
EEEPC Project No.: 002699.ID19.02
Date: 7/9/07

Initial Depth to Water: 16.24 feet TOIC
Total Well Depth: 25.58 feet TOIC
Depth to Pump: 23.5 feet TOIC
Initial Pump Rate: 0.1 Lpm / ~~gpm~~
adjusted to: _____ at _____ minutes
adjusted to: _____ at _____ minutes

Start Time: 1505
End Time: 1550
☐ Bailer ☒ Pump
Pump Type: Typhoon Submersible
Well Diameter: 2 inches
1x Well Volume: 1.55 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1505	55.0	7.31	17.0		1610		>1000	16.24
1520	56.6	7.30	16.9		1590		270	16.47
1530	58.2	7.27	16.5		1607		67	16.58
1540	59.8	7.25	16.7		1594		8	16.64
1550	61.0	7.25	16.5		1606		13	16.67
Final Sample Data:		7.25	16.5		1606		13	16.67

Sample ID: 18MC-MW06
Sample Time: 1600
~~Duplicate?~~ ☐
~~MS/MSD?~~ ☐
Dupe Samp ID: _____

Analyses:	Methods:
☒ VOCs	☐ CLP
☒ SVOCs	☐ SW846
☒ PCBs	☐ Drink. Wtr.
☒ Metals	☐ _____
☐ _____	☐ _____

Comments: _____
Sampler(s): Cole

ecology and environment engineering, p.c.
International Specialists in the Environment
BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: Eighteenmile Creek Corridor RI/FS
Well ID: 18MC-MW 08
EEEPC Project No.: 002699.ID19.02
Date: 7/10/07 & 7/11/07

Initial Depth to Water: 11.45 (7/10/07) feet TOIC — 13.23' (7/11/07)
Total Well Depth: 18.25 feet TOIC — 18.27' (7/11/07)
Well Diameter: 2 inches
1x Well Volume: 1.11 gallons
Well Purging ☒ Pump ☐ Bailer
Pump Type: typhoon submersible
Depth to Pump: 17 (to bottom of pump) feet TOIC
Initial Pump Rate: 0.8 (Lpm) ~~gpm~~
adjusted to: 0.25 gpm at 5 minutes
adjusted to: 0.2 gpm at 10 minutes
Purge Start Time: 1015
Purge End Time: 1110

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)	
1015	—	6.62	17.1		1680		458	11.45	
1020	1.25	6.65	16.8		1676		1000	13.5	well ran dry
1025	2.25	6.67	16.5		1685		>1000	16.0	
1040	3.00	6.65	17.2		1687		>1000	15.8	
1055	3.5	6.71	16.9		1679		>1000	16.1	
1110	4.2	6.68	17.1		1682		>1000	16.4	rate: 0.1 g/m
1600	4.2	6.62	17.9		1760		242	16.1	
1610	5.2	6.57	18.6		1757		462	16.2	
1620	6.2	6.58	18.7		1756		905	16.1	
7/11/07 ↓ 0830	6.2	6.61	18.5		1748		21	13.23	
Final Sample Data:		6.61	18.5		1748		21	13.23	
Metals Sample Data:		6.61	18.5		1748		21	13.23	

Well Sampling ☐ Pump ☒ Dedicated Bailer
Sample ID: 18MC-MW 08
Duplicate? ☐
Dupe Samp ID: 18MC-MW
Sample Time: 0830 / 7/11/07
MS/MSD? ☐
Metals Sampling Date/Time: 0830 7/11/07

Analyses:	Methods:
☒	☐ VOCs
☒	☐ SVOCs
☒	☐ PCBs/Pesticides
☒	☐ Total Metals
☒	☐ Dissolved Metals

Comments: turbidity will not come down. poor recharge
hid. odor, dark gray waters. Returned @ 1600. water @ 12.20 TD = 18.25
7/11/07: first bail, clear, rest gray fn silt. fair turb = 56/NTU
final appearance: opaque med. gray, hid odor.

Sampler(s): Cole

ecology and environment engineering, p.c.
International Specialists in the Environment
BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: Eighteenmile Creek Corridor RI/FS
Well ID: 18MC-MW10
EEEPC Project No.: 002699.ID19.02
Date: 7/10/07

Initial Depth to Water: 12.05 feet TOIC
Total Well Depth: 19.60 feet TOIC final TD = 19.62'
Well Diameter: 2 inches
1x Well Volume: 1.23 gallons 3 vols = 3.70g 5 vols = 6.15g
Well Purging ☒ Pump ☐ Bailer
Pump Type: typhoon submersible
Initial Pump Rate: ~~0.3~~ 0.25 ~~lpm~~ (gpm)
Depth to Pump: 18.2 feet TOIC
adjusted to: 0.2 at 1305 hrs ~~minutes~~
Purge Start Time: 1225
adjusted to: _____ at _____ minutes
Purge End Time: 1315

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1225		7.25	18.6		625.3		~1000	12.05
1230	1.5	7.35	18.2		498.8		114	12.50
1235	3.0	7.37	19.1		470.0		9	12.52
1240	4.5	7.42	19.0		464.5		9	12.61
1250	6.5	7.87	18.7		456.1		5	13.05
1305	9.5	7.61	18.9		452.0		4	12.95
1310	10.5	7.47	19.1		453.0		4	13.20
1315	11.5	7.51	19.0		457.0		5	13.10
Final Sample Data:		7.51	19.0		457.0		5	13.10
Metals Sample Data:		7.51	19.0		457.0		5	13.10

Well Sampling ☐ Pump ☒ Dedicated Bailer
Sample ID: 18MC-MW10 Duplicate? ☐ Dupe Samp ID: 18MC-MW
Sample Time: 1340 / 7/10/07 MS/MSD? ☐
Metals Sampling Date/Time: 1340 / 7/10/07

Analyses:	Methods:
☒	☐ VOCs
☒	☐ SVOCs
☒	☐ PCBs/Pesticides
☒	☐ Total Metals
☒	☐ Dissolved Metals

Comments: clear water, good recharge, sewer odor - unsure if from creek or well water. final TD = 19.61'

Sampler(s): Cole

ecology and environment engineering, p.c.
International Specialists in the Environment
BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: Eighteenmile Creek Corridor RI/FS
Well ID: 18MC-MW11
EEEPC Project No.: 002699.ID19.02
Date: 7/10/07

Initial Depth to Water: 7.31 feet TOIC
Well Diameter: 2 inches
Total Well Depth: 13.97 feet TOIC
1x Well Volume: 1.0 gallons
Well Purging ☒ Pump ☐ Bailer
Pump Type: mini typhoon
Initial Pump Rate: 600 mLpm / ~~gpm~~
Depth to Pump: 12.97 feet TOIC
adjusted to: 800 mL at 1335 minutes
Purge Start Time: 1333
adjusted to: ~~gal/bore~~ at minutes
Purge End Time: 1403

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1333	0 / 0	7.55	21.7		853.1		71000	7.31
1338	1.0 / 1.0	7.69	17.5		853.4		658	7.34
1343	1.0 / 2.0	7.60	17.2		867.3		226	7.40
1348	1.0 / 3.0	7.61	16.9		863.5		50	7.37
1353	1.0 / 4.0	7.60	16.7		868.0		30	7.25
1358	1.0 / 5.0	7.62	16.9		866.5		15	7.24
1403	1.0 / 6.0	7.61	16.9		867.1		12	7.19
Final Sample Data:		7.63	16.9		868.4		>1000	7.19
Metals Sample Data:		7.34	21.3		884.2		255	7.42

Well Sampling ☐ Pump ☒ Dedicated Bailer
Sample ID: 18MC-MW11
Duplicate? ☐
Dupe Samp ID: 18MC-MW
Sample Time: 1415
MS/MSD? ☐
Metals Sampling Date/Time: 7/11/07 / 0841

Analyses:	Methods:
☒	☐ VOCs
☒	☐ SVOCs
☒	☐ PCBs/Pesticides
☒	☐ Total Metals
☒	☐ Dissolved Metals

Comments:

Sampler(s): Humann / Cole

ecology and environment engineering, p.c.
International Specialists in the Environment
BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: Eighteenmile Creek Corridor RI/FS
Well ID: 18MC-MW 12
EEEPC Project No.: 002699.ID19.02
Date: 7/10/07 + 7/11/07

Initial Depth to Water: 12.45 feet TOIC 3.85'
Well Diameter: 2 inches
Total Well Depth: 16.30 feet TOIC
1x Well Volume: 0.63 gallons 3 vols = 1.9 g
Pump Type: typhoon submersible 5 vols = 3.1 g
Well Purging ☒ Pump ☐ Bailer
Depth to Pump: ~~16.30~~ 15.60 feet TOIC
Initial Pump Rate: 0.1 ~~lpm~~ / gpm
Purge Start Time: 1435
adjusted to: _____ at _____ minutes
Purge End Time: 1535
adjusted to: _____ at _____ minutes

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1435	—	7.20	20.0		895.1		~1000	12.30
1442	0.7	7.21	20.2		896.4		>1000	12.90
1450	1.4	7.19	21.0		892.3		>1000	13.40
1500	2.4	7.19	18.2		921.0		~1000	13.82
1510	3.4	7.18	17.7		933.5		>1000	15.30
1525	4.9	7.18	18.3		933.7		401	dry
1535	5.4	7.19	18.1		935.6		~1000	15.5
7/11/07 0850	5.4	7.14	18.6		973.5		>1000	15.60
Final Sample Data:		7.14	18.6		973.5		>1000	15.60
Metals Sample Data:		7.14	18.6		973.5		>1000	15.60

Well Sampling ☐ Pump ☒ Dedicated Bailer
Sample ID: 18MC-MW 12
Duplicate? ☐ ~~Dupe Samp ID:~~ ~~18MC-MW 12~~ (MW)
Sample Time: 0900 on 7/11/07
MS/MSD? ☐
Metals Sampling Date/Time: 0900 / 7/11/07

Analyses: Methods:
☒ ☐ VOCs
☒ ☐ SVOCs
☒ ☐ PCBs/Pesticides
☒ ☐ Total Metals
☒ ☐ Dissolved Metals

Comments: very brown, silty water @ start of purge
7/11/07 7/9/07: first bailer very clear - 13 NTU; rest >1000 w/ brown silt
final TD = 16.30'

Sampler(s): Cole

ecology and environment engineering, p.c.
International Specialists in the Environment
BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: Eighteenmile Creek Corridor RI/FS
Well ID: 18MC-MW13
EEEPC Project No.: 002699.ID19.02
Date: 7/10/07

Initial Depth to Water: 7.21 feet TOIC
Well Diameter: 2 inches
Total Well Depth: 11.35 feet TOIC
1x Well Volume: 0.70 gallons
Well Purging ☒ Pump ☐ Bailer
Pump Type: mini typhoon
Initial Pump Rate: 900 mL Lpm / ~~gpm~~
Depth to Pump: 10.35 feet TOIC
adjusted to: _____ at _____ minutes
Purge Start Time: 1546
adjusted to: _____ at _____ minutes
Purge End Time: 1607

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1546	0 / 0	7.66	23.2		~~1717~~ 1734		>1000	7.21
1551	1.0 / 1.0	7.75	23.3		459.2		225	7.19
1556	1.0 / 2.0	7.71	22.8		473.1		102	7.19
1601	1.0 / 3.0	7.70	22.9		474.8		96	7.05
1606	1.0 / 4.0	7.68	22.7		475.2		31	6.73
Final Sample Data:		7.19	24.8		502.9		387	6.73
Metals Sample Data:		7.71	21.9		482.4		12	7.30

Well Sampling ☐ Pump ☒ Dedicated Bailer
Sample ID: 18MC-MW13
Duplicate? ☐
Dupe Samp ID: ~~18MC-MW~~
Sample Time: 1620
MS/MSD? ☐
Metals Sampling Date/Time: 7/11/07 0901

Analyses:	Methods:
☒	☐ VOCs
☒	☐ SVOCs
☒	☐ PCBs/Pesticides
☒	☐ Total Metals
☒	☐ Dissolved Metals

Comments: _____

Sampler(s): Cole / Humann

259-1652

ecology and environment engineering, p.c.
International Specialists in the Environment
BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: Eighteenmile Creek Corridor RI/FS
Well ID: 18MC-MW 14
EEEPC Project No.: 002699.ID19.02
Date: 7/11/07

Initial Depth to Water: 17.15 feet TOIC
Total Well Depth: 24.90 feet TOIC
7.75' x .163 = 1.26
Well Diameter: 2 inches
1x Well Volume: 1.26 gallons 3= 3.79 5= 6.32 g
Well Purging ☒ Pump ☐ Bailer
Pump Type: typhoon submersible
Initial Pump Rate: 0.2 ~~Lpm~~/gpm
Depth to Pump: 23.5 feet TOIC
adjusted to: _____ at _____ minutes
Purge Start Time: 1010
adjusted to: _____ at _____ minutes
Purge End Time: 1040

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1010	—	7.34	18.7		1905		46	18.05
1015	1.0	7.33	17.5		1906		26	19.10
1020	2.0	7.29	16.1		1897		22	19.05
1030	3.0	7.36	15.9		1887		7	18.76
1040	4.0	7.32	16.0		1889		28	18.90
Final Sample Data:		7.32	16.0		1889		28	18.90
Metals Sample Data:		7.32	16.0		1889		28	18.90

Well Sampling ☐ Pump ☒ Dedicated Bailer
Sample ID: 18MC-MW 14
Duplicate? ☐ ~~Dupe Samp ID:~~ ~~18MC-MW~~
Sample Time: 1050 7/11/07
MS/MSD? ☐
Metals Sampling Date/Time: 1050 / 7/11/07

Analyses:	Methods:
☒	☐ VOCs
☒	☐ SVOCs
☒	☐ PCBs/Pesticides
☒	☐ Total Metals
☒	☐ Dissolved Metals

Comments: Initial: clear, fast recharge, no odor, colorless
final: clear, colorless water, TD= 24.90', no odor

Sampler(s): Cole

ecology and environment engineering, p.c.
International Specialists in the Environment
BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: Eighteenmile Creek Corridor RI/FS
Well ID: 18MC-MW15
EEEPC Project No.: 002699.ID19.02
Date: 7/11/07

Initial Depth to Water: 20.02 feet TOIC
Well Diameter: 2 inches
Total Well Depth: 24.03 feet TOIC
1x Well Volume: 0.70 gallons
Well Purging ☒ Pump ☐ Bailer
Pump Type: mini typhoon
Initial Pump Rate: 800 ml/m Lpm / ~~gpm~~
Depth to Pump: 23.03 feet TOIC
adjusted to: _____ at _____ minutes
Purge Start Time: 0955
adjusted to: 400 / hoseval. at _____ minutes
Purge End Time: 1030

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C °F)	ORP (mV)	Conductivity (uS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
0955	0 / 0	7.34	15.5		3086		74	20.02
1000	1.0 / 1.0	7.26	13.9		3295		20	20.34
1005	1.0 / 2.0	7.25	13.6		3348		11	20.33
1010	1.0 / 3.0	7.25	13.6		3405		8	20.18
1015	1.0 / 4.0	7.23	13.5		3338		7	19.95
1020	1.0 / 5.0	7.20	13.4		3326		5	19.95
1025	1.0 / 6.0	7.23	13.4		3334		6	19.88
1030	1.0 / 7.0	7.24	13.3		3337		3	19.89
Final Sample Data:		7.25	13.4		3340		19	19.89
Metals Sample Data:		↓	↓		↓		↓	↓

Well Sampling ☐ Pump ☒ Dedicated Bailer
Sample ID: 18MC-MW15
Duplicate? ☐
Dupe Samp ID: ~~18MC-MW~~
Sample Time: 1058
MS/MSD? ☐
Metals Sampling Date/Time: Same / Same

Analyses:	Methods:
☒	☐ VOCs
☒	☐ SVOCs
☒	☐ PCBs/Pesticides
☒	☐ Total Metals
☒	☐ Dissolved Metals

Comments: _____

Sampler(s): Cole / Humann

ecology and environment engineering, p.c.
International Specialists in the Environment
BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: Eighteenmile Creek Corridor RI/FS
Well ID: 18MC-MW16
EEEPC Project No.: 002699.ID19.02
Date: 7/11/07

Initial Depth to Water: 17.71 feet TOIC
Total Well Depth: 27.64 feet TOIC
Well Purging ☒ Pump ☐ Bailer
Well Diameter: 2 inches
1x Well Volume: 1.6 gallons
Pump Type: mini typhoon
Initial Pump Rate: 500 ml Lpm / ~~gpm~~
Depth to Pump: 26.64 feet TOIC
adjusted to: 800 ml at 1211 minutes
Purge Start Time: 1207
adjusted to: _____ at _____ minutes
Purge End Time: 1257

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1207	0 / 0	7.37	14.4		3340		859	17.71
1217	1.5 / 1.5	7.44	13.6		3447		>1000	17.96
1227	1.5 / 3.0	7.38	13.3		3407		224	18.53
1237	1.5 / 4.5	7.38	13.5		3443		144	19.40
1247	1.5 / 6.0	7.40	13.5		3453		22	21.05
1257	1.5 / 7.5	7.42	13.4		3449		8	22.44
Final Sample Data:		7.48	18.3		2995		48	22.44
Metals Sample Data:		7.48	18.3		2995		48	22.44

Well Sampling ☐ Pump ☒ Dedicated Bailer
Sample ID: 18MC-MW16
Duplicate? ☐
~~Dupe~~ Samp ID: 18MC-MW
Sample Time: 1335
MS/MSD? ☐
Metals Sampling Date/Time: Same / Same

Analyses:	Methods:
☒	☐ VOCs
☒	☐ SVOCs
☒	☐ PCBs/Pesticides
☒	☐ Total Metals
☒	☐ Dissolved Metals

Comments: _____

Sampler(s): Cole / Humann

ecology and environment engineering, p.c.
International Specialists in the Environment
BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: Eighteenmile Creek Corridor RI/FS
Well ID: 18MC-MW 17
EEEPC Project No.: 002699.ID19.02
Date: 7/11/07

Initial Depth to Water: 14.85 feet TOIC 10.65 x .163
Well Diameter: 2 inches
Total Well Depth: 25.50 feet TOIC
1x Well Volume: 1.74 gallons 3x2 5.21 g 5x2 8.68 g
Well Purging ☒ Pump ☐ Bailer
Pump Type: mini typhoon
Initial Pump Rate: ~~5.7~~ 6.1 Lpm / gpm
Depth to Pump: 24.0 feet TOIC
adjusted to: _____ at _____ minutes
Purge Start Time: 1500
adjusted to: _____ at _____ minutes
Purge End Time: 1550

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1500	—	8.11	21.0		452.3		>1000	15.90
1510	2.0	7.92	21.6		442.8		180	16.60
1520	3.0	7.75	20.9		442.6		75	16.48
1530	4.0	7.66	21.2		444.2		35	16.50
1540	5.0	7.68	21.7		441.2		10	16.42
1550	6.0	7.69	21.2		441.0		8	16.61
Final Sample Data:		7.70	21.3		441.6		326	16.70
Metals Sample Data:		7.70	19.7		440.7		31	15.95

Well Sampling ☐ Pump ☒ Dedicated Bailer
Sample ID: 18MC-MW
Duplicate? ☐
~~Dupe Samp ID: 18MC-MW~~
Sample Time: 1600 7/11/07
MS/MSD? ☐
Metals Sampling Date/Time: 7/12/07 0830

Analyses:	Methods:
☒	☐ VOCs
☒	☐ SVOCs
☒	☐ PCBs/Pesticides
☒	☐ Total Metals
☒	☐ Dissolved Metals

Comments: Initial: light brown silt, opaque - no odor
Turb. 326 NTU on sampling - will collect metals 7/12/07
Final: brown fine silt, no odor TD = 25.50

Sampler(s): Cole

E Data Usability Summary Reports and Laboratory Analytical Data Reports

A listing of all the samples and their associated laboratory report numbers is provided on Table E-1.

Note: Original laboratory reports are provided on DVD, included in this report, and are available upon request from:

New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7012

Table E-1 Listing of Samples and Associated Laboratory Report Numbers

WorkOrder	ClientSampID
A07-3838	18MC-SS01
A07-3838	18MC-SS02
A07-3838	18MC-SS03
A07-3838	18MC-SS04
A07-3838	18MC-SS05
A07-3838	18MC-SS06
A07-3838	18MC-SS07
A07-3838	18MC-SS08
A07-3838	18MC-SS09
A07-3838	18MC-SS10
A07-3838	18MC-SS11
A07-3838	18MC-SS12
A07-3838	18MC-SS13
A07-3838	18MC-SS14
A07-3838	18MC-SS15
A07-3838	18MC-SS16
A07-3838	18MC-SS17
A07-3838	18MC-SS17/D
A07-3972	18MC-L01W-S01-Z1
A07-3972	18MC-L01W-S01-Z2
A07-3972	18MC-L01W-S02-Z1
A07-3972	18MC-L01W-S02-Z2
A07-3972	18MC-L01W-S03-Z1
A07-3972	18MC-L01W-S04-Z1
A07-3972	18MC-L01W-S04-Z2
A07-3972	18MC-L01W-S04-Z3
A07-3972	18MC-L01W-S05-Z1
A07-3972	18MC-L01W-S05-Z2
A07-3972	18MC-L01W-S05-Z3
A07-3972	18MC-L01W-S06-Z1
A07-3972	18MC-L01W-S06-Z2
A07-3972	18MC-L02W-S01-Z1
A07-3972	18MC-L02W-S01-Z2
A07-3972	18MC-L02W-S02-Z1
A07-3972	18MC-L02W-S02-Z2
A07-3972	18MC-L02W-S02-Z2/D
A07-3972	18MC-L02W-S03-Z1
A07-3972	18MC-L02W-S03-Z2
A07-3976	18MC-L02W-S04-Z1
A07-3976	18MC-L02W-S04-Z2
A07-3976	18MC-L02W-S04-Z3
A07-3976	18MC-L02W-S05-Z1
A07-3976	18MC-L02W-S05-Z2
A07-3976	18MC-L02W-S05-Z3
A07-3976	18MC-L02W-S06-Z1
A07-3976	18MC-L02W-S06-Z2
A07-3976	18MC-L02W-S06-Z3
A0739790	18MC-L01W-S01-Z1
A0739790	18MC-L01W-S01-Z2
A0739790	18MC-L02W-S02-Z1
A0739790	18MC-L02W-S02-Z2
A0739790	18MC-L02W-S02-Z2/D
A07-4048	18MC-L03W-S01-Z1
A07-4048	18MC-L03W-S02-Z1
A07-4048	18MC-L03W-S03-Z1
A07-4048	18MC-L03W-S04-Z1
A07-4048	18MC-L03W-S04-Z2
A07-4048	18MC-L03W-S05-Z1
A07-4048	18MC-L03W-S05-Z2
A07-4048	18MC-L03W-S06-Z1
A07-4048	18MC-L03W-S06-Z2
A07-4048	18MC-L05W-S02-Z1
A07-4049	18MC-L04W-S01-Z1
A07-4049	18MC-L05W-S01-Z1
A07-4049	18MC-L05W-S02-Z2
A07-4049	18MC-L05W-S03-Z1
A07-4049	18MC-L05W-S03-Z2
A07-4049	18MC-L05W-S03-Z3

WorkOrder	ClientSampID
A07-4049	18MC-L06-S02-Z2
A07-4049	18MC-L06-S03-Z1
A07-4049	18MC-L06-S03-Z1/D
A07-4049	18MC-L06-S03-Z2
A074052	18MC-L03W-S02-Z1
A074052	18MC-L05W-S02-Z1
A074053	18MC-L05W-S02-Z2
A074053	18MC-L06-S02-Z1
A074053	18MC-L06-S02-Z2
A07-4119	18MC-L01E-S01-Z1
A07-4119	18MC-L04W-S02-Z1
A07-4119	18MC-L04W-S02-Z2
A07-4119	18MC-L04W-S03-Z1
A07-4119	18MC-L04W-S04-Z1
A07-4119	18MC-L04W-S04-Z2
A07-4119	18MC-L04W-S05-Z1
A07-4119	18MC-L04W-S05-Z2
A07-4119	18MC-L05W-S04-Z1
A07-4119	18MC-L05W-S04-Z2
A07-4120	18MC-L01E-S03-Z1
A07-4120	18MC-L01E-S03-Z2
A07-4120	18MC-L02E-S01-Z1
A07-4120	18MC-L02E-S02-Z1
A07-4120	18MC-L02E-S03-Z1
A07-4120	18MC-L02E-S04-Z1
A07-4120	18MC-L02E-S04-Z2
A07-4120	18MC-L02E-S05-Z1
A07-4120	18MC-L02E-S05-Z2
A07-4120	18MC-L03E-S04-Z1
A07-4121	18MC-L02E-S05-Z2/D
A07-4121	18MC-L03E-S01-Z1
A07-4121	18MC-L03E-S02-Z1
A07-4121	18MC-L03E-S03-Z1
A07-4121	18MC-L03E-S03-Z1/D
A07-4121	18MC-L03E-S04-Z2
A07-4121	18MC-L03E-S05-Z1
A07-4121	18MC-L03E-S05-Z2
A07-4121	18MC-L03E-S05-Z3
A074125	18MC-L01E-S01-Z1
A074125	18MC-L04W-S02-Z1
A074125	18MC-L04W-S02-Z2
A074126	18MC-L01E-S03-Z1
A074126	18MC-L02E-S02-Z1
A074126	18MC-L03E-S02-Z1
A07-4182	18MC-L06-S01-Z1
A07-4182	18MC-L06-S04-Z1
A07-4182	18MC-L06-S04-Z2
A07-4182	18MC-L06-S05-Z1
A07-4182	18MC-L06-S05-Z2
A07-4182	18MC-L07-S01-Z1
A07-4182	18MC-L07-S01-Z1/D
A07-4182	18MC-L07-S02-Z1
A07-4182	18MC-L07-S03-Z1
A07-4182	18MC-L07-S04-Z1
A07-4182	18MC-L07-S04-Z2
A07-4182	18MC-L07-S05-Z1
A07-4182	18MC-L07-S05-Z2
A07-4182	18MC-L08-S01-Z1
A07-4182	18MC-L08-S02-Z1
A07-4182	18MC-L08-S03-Z1
A07-4182	18MC-L08-S04-Z1
A07-4182	18MC-L08-S04-Z2
A07-4182	18MC-L08-S05-Z1
A07-4182	18MC-L08-S05-Z2
A07-4183	18MC-L09-S01-Z1
A07-4183	18MC-L09-S02-Z1
A07-4183	18MC-L09-S02-Z2
A07-4183	18MC-L09-S03-Z1

WorkOrder	ClientSampID
A07-4183	18MC-L09-S04-Z2
A07-4183	18MC-L09-S05-Z1
A07-4183	18MC-L09-S05-Z2
A07-4183	18MC-L10-S01-Z1
A07-4183	18MC-L10-S01-Z1/D
A07-4183	18MC-L10-S03-Z1
A07-4183	18MC-L10-S04-Z1
A07-4183	18MC-L10-S04-Z2
A07-4183	18MC-L10-S05-Z1
A07-4183	18MC-L10-S05-Z2
A074187	18MC-L07-S02-Z1
A074187	18MC-L08-S02-Z1
A074188	18MC-L09-S02-Z1
A074188	18MC-L09-S02-Z2
A07-4235	18MC-L11-S01-Z1
A07-4235	18MC-L11-S02-Z1
A07-4235	18MC-L11-S03-Z1
A07-4235	18MC-L11-S04-Z1
A07-4235	18MC-L11-S04-Z2
A07-4235	18MC-L11-S05-Z1
A07-4235	18MC-L12-S01-Z1
A07-4235	18MC-L12-S02-Z1
A07-4235	18MC-L13-S01-Z1
A07-4235	18MC-L13-S02-Z1
A07-4235	18MC-L13-S04-Z1
A07-4235	18MC-L13-S04-Z2
A07-4235	18MC-L14E-S01-Z1
A07-4235	18MC-L14E-S02-Z1
A07-4235	18MC-L14E-S02-Z2
A07-4235	18MC-L14E-S03-Z1
A07-4235	18MC-L14W-S01-Z1
A07-4235	18MC-L14W-S02-Z1
A07-4235	18MC-L14W-S03-Z1
A07-4235	18MC-L14W-S03-Z2
A07-4236	18MC-L11-S05-Z2
A07-4236	18MC-L12-S03-Z1
A07-4236	18MC-L13-S03-Z1
A07-4236	18MC-L15E-S01-Z1
A07-4236	18MC-L15E-S01-Z1/D
A07-4236	18MC-L15E-S02-Z1
A07-4236	18MC-L15E-S03-Z1
A07-4236	18MC-L15W-S01-Z1
A07-4236	18MC-L15W-S03-Z1
A07-4236	18MC-L16E-S01-Z1
A07-4236	18MC-L16E-S02-Z1
A07-4236	18MC-L16E-S03-Z1
A07-4236	18MC-L16W-S01-Z1
A07-4236	18MC-L16W-S04-Z1
A07-4236	18MC-L16W-S05-Z1
A07-4236	18MC-L16W-S05-Z2
A074237	18MC-L11-S02-Z1
A074237	18MC-L12-S02-Z1
A074237	18MC-L13-S02-Z1
A074237	18MC-L14E-S02-Z1
A074237	18MC-L14E-S02-Z2
A074237	18MC-L14W-S02-Z1
A074238	18MC-L15E-S02-Z1
A074238	18MC-L16E-S02-Z1
A07-4303	18MC-AS-S01-Z1
A07-4303	18MC-AS-S01-Z2
A07-4303	18MC-L16W-S03-Z1
A07-4303	18MC-L17-S03-Z1
A07-4303	18MC-L17-S06-Z1
A07-4303	18MC-L17-S07-Z1
A07-4303	18MC-L18-S07-Z1
A07-4303	18MC-UP-S01-Z1
A07-4303	18MC-UP-S01-Z2
A07-4304	18MC-L16W-S04-Z2

Table E-1 Listing of Samples and Associated Laboratory Report Numbers

WorkOrder	ClientSampID
A07-4049	18MC-L06-S02-Z1
A07-4304	18MC-L17-S02-Z1
A07-4304	18MC-L17-S04-Z1
A07-4304	18MC-L17-S04-Z2
A07-4304	18MC-L17-S05-Z1
A07-4304	18MC-L17-S05-Z2
A07-4304	18MC-L18-S01-Z1
A07-4304	18MC-L18-S02-Z1
A07-4304	18MC-L18-S02-Z2
A07-4304	18MC-L18-S04-Z1
A07-4304	18MC-L18-S04-Z2
A07-4304	18MC-L18-S05-Z1
A07-4304	18MC-L18-S05-Z2
A07-4304	18MC-L18-S05-Z2/D
A07-4304	18MC-L18-S06-Z1
A07-4304	18MC-L18-S06-Z2
A07-4304	18MC-L18-S07-Z2
A074305	18MC-L17-S02-Z1
A074305	18MC-L18-S02-Z1
A074305	18MC-L18-S02-Z2
A074319	18MC-UP-S01-Z1
A074319	18MC-UP-S01-Z2
A07-4391	18MC-SB06-Z1
A07-4391	18MC-SB06-Z2
A07-4391	18MC-SB07-Z1
A07-4391	18MC-SB07-Z2
A07-4391	18MC-SB08-Z1
A07-4391	18MC-SB08-Z2
A07-4391	18MC-SB09-Z1
A07-4391	18MC-SB09-Z2
A07-4391	18MC-SB10-Z1
A07-4391	18MC-SB10-Z1/D
A07-4391	18MC-SB10-Z2
A07-4391	18MC-SB12-Z1
A07-4391	18MC-SB12-Z2
A07-4391	18MC-SB13-Z1
A07-4391	18MC-SB13-Z2
A07-4391	18MC-SB14-Z1
A07-4391	18MC-SB14-Z2
A07-4455	18MC-SB03-Z1
A07-4455	18MC-SB03-Z2
A07-4455	18MC-SB04-Z1
A07-4455	18MC-SB05-Z1
A07-4455	18MC-SB05-Z2
A07-4455	18MC-SB05-Z3
A07-4455	18MC-SB15-Z1
A07-4455	18MC-SB15-Z2
A07-4455	18MC-SB15-Z2/D
A07-6240	18MC-MW12-Z1
A07-6240	18MC-MW17-Z1
A07-6240	18MC-SS18
A07-6240	18MC-SS19
A07-6240	18MC-SS20
A07-6420	18MC-MW11-Z1
A07-6420	18MC-MW12-Z2
A07-6420	18MC-MW13-Z1
A07-6420	18MC-SB01-Z1
A07-6420	18MC-SB01-Z1/D
A07-6420	18MC-SB01-Z2
A07-6420	18MC-SB02-Z1
A07-6420	18MC-SB02-Z2
A07-6545	18MC-MW02-Z1
A07-6545	18MC-MW08-Z1
A07-6545	18MC-MW08-Z2
A07-6545	18MC-MW08-Z2/D
A07-6545	18MC-MW15-Z1
A07-6545	18MC-MW16-Z1
A07-6545	18MC-RB01

WorkOrder	ClientSampID
A07-4183	18MC-L09-S04-Z1
A07-6688	18MC-BC01-Z1
A07-6688	18MC-BC02-Z1
A07-6688	18MC-BC04-Z1
A07-6688	18MC-BC06-Z1
A07-6762	18MC-BC03-Z1
A07-6762	18MC-BC03-Z1/D
A07-6762	18MC-BC05-Z1
A07-6762	18MC-MW05-Z1
A07-6762	18MC-MW05-Z2
A07-6793	18MC-BC03-Z1
A07-6793	18MC-BC03-Z1/D
A07-6793	18MC-BC05-Z1
A07-6902	18MC-MW06-Z1
A07-6902	18MC-MW06-Z2
A07-6902	18MC-MW06-Z2/D
A07-6902	18MC-MW09-Z1
A07-6902	18MC-MW10-Z1
A07-6902	18MC-MW10-Z2
A07-6902	18MC-MW14-Z1
A07-7062	18MC-MW01-Z1
A07-7062	18MC-MW01-Z2
A07-7062	18MC-MW04-Z1
A07-7062	18MC-MW04-Z2
A07-7099	18MC-MW02-Z2
A07-7099	18MC-RB02
A07-7099	18MC-SB11-Z1
A07-9007	18MC-L01W-S02-Z2
A07-9007	18MC-L02E-S01-Z1
A07-9007	18MC-L02E-S05-Z1
A07-9007	18MC-L02E-S05-Z2
A07-9007	18MC-L02W-S04-Z3
A07-9007	18MC-L02W-S05-Z2
A07-9007	18MC-L02W-S06-Z2
A07-9007	18MC-L09-S01-Z1
A07-9007	18MC-L09-S03-Z1
A07-9007	18MC-L09-S04-Z1
A07-9007	18MC-L09-S04-Z2
A07-9007	18MC-L09-S05-Z1
A07-9007	18MC-L09-S05-Z2
A07-9007	18MC-L10-S01-Z1
A07-9007	18MC-L11-S02-Z1
A07-9007	18MC-L14E-S02-Z1
A07-9007	18MC-L14E-S02-Z2
A07-9007	18MC-L14E-S03-Z1
A07-9007	18MC-L14W-S03-Z1
A07-9007	18MC-L14W-S03-Z2
A07-9008	18MC-L03W-S05-Z1
A07-9008	18MC-L03W-S05-Z2
A07-9008	18MC-L12-S03-Z1
A07-9008	18MC-L13-S03-Z1
A07-9008	18MC-L15E-S01-Z1
A07-9008	18MC-L15E-S03-Z1
A07-9008	18MC-L16E-S01-Z1
A07-9008	18MC-L16E-S03-Z1
A07-9008	18MC-L16W-S04-Z2
A07-9008	18MC-MW05-Z1
A07-9008	18MC-MW13-Z1
A07-9008	18MC-SB14-Z1
A07-9008	18MC-SB14-Z2
A07-9008	18MC-SB15-Z1
A07-9008	18MC-SS18
A07-9008	18MC-SS19
F0881	18MC-DW01
F0881	18MC-TB02
F0925	18MC-MW01
F0925	18MC-MW01/D
F0925	18MC-MW02

WorkOrder	ClientSampID
A07-4304	18MC-L17-S01-Z1
F0925	18MC-MW06
F0925	18MC-MW08
F0925	18MC-MW10
F0925	18MC-MW11
F0925	18MC-MW12
F0925	18MC-MW13
F0925	18MC-MW14
F0925	18MC-MW15
F0925	18MC-MW16
F0925	18MC-MW17
F0925	18MC-TB070907
F0925	18MC-TB071007
F0925	18MC-TB071107
F0925	RB071107

Table E-1 Listing of Samples and Associated Laboratory Report Numbers

WorkOrder	ClientSampID
A07-6545	18MC-TB01
A07-6545	SW6010

WorkOrder	ClientSampID
F0925	18MC-MW04
F0925	18MC-MW05

WorkOrder	ClientSampID

Data Usability Summary Report	Project: 18 Mile Creek
Date Completed: June 1, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby – STL Buffalo	A07-3838

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-3838	SOIL	18MC-SS01	A7383801	4/16/2007			None
A07-3838	SOIL	18MC-SS01	A7383801RE	4/16/2007			None
A07-3838	SOIL	18MC-SS02	A7383802	4/16/2007			None
A07-3838	SOIL	18MC-SS02	A7383802RE	4/16/2007			None
A07-3838	SOIL	18MC-SS03	A7383803	4/16/2007			None
A07-3838	SOIL	18MC-SS03	A7383803RE	4/16/2007			None
A07-3838	SOIL	18MC-SS04	A7383804	4/16/2007			None
A07-3838	SOIL	18MC-SS04	A7383804RE	4/16/2007			None
A07-3838	SOIL	18MC-SS05	A7383805	4/16/2007			None
A07-3838	SOIL	18MC-SS05	A7383805RE	4/16/2007			None
A07-3838	SOIL	18MC-SS06	A7383806	4/16/2007			None
A07-3838	SOIL	18MC-SS06	A7383806RE	4/16/2007			None
A07-3838	SOIL	18MC-SS07	A7383807	4/16/2007			None
A07-3838	SOIL	18MC-SS07	A7383807RE	4/16/2007			None
A07-3838	SOIL	18MC-SS08	A7383808	4/16/2007			None
A07-3838	SOIL	18MC-SS08	A7383808RE	4/16/2007			None
A07-3838	SOIL	18MC-SS09	A7383809	4/16/2007			None
A07-3838	SOIL	18MC-SS09	A7383809RE	4/16/2007			None
A07-3838	SOIL	18MC-SS10	A7383810	4/16/2007			None
A07-3838	SOIL	18MC-SS10	A7383810RE	4/16/2007			None
A07-3838	SOIL	18MC-SS11	A7383811	4/16/2007			None
A07-3838	SOIL	18MC-SS11	A7383811RE	4/16/2007			None
A07-3838	SOIL	18MC-SS12	A7383812	4/16/2007			None
A07-3838	SOIL	18MC-SS12	A7383812RE	4/16/2007			None
A07-3838	SOIL	18MC-SS13	A7383813	4/16/2007			None
A07-3838	SOIL	18MC-SS13	A7383813RE	4/16/2007			None
A07-3838	SOIL	18MC-SS14	A7383814	4/16/2007			None

Data Usability Summary Report	Project: 18 Mile Creek
Date Completed: June 1, 2007	Completed by: B. Krajewski

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-3838	SOIL	18MC-SS14	A7383814RE	4/16/2007			None
A07-3838	SOIL	18MC-SS15	A7383815	4/16/2007			None
A07-3838	SOIL	18MC-SS15	A7383815RE	4/16/2007			None
A07-3838	SOIL	18MC-SS16	A7383816	4/16/2007			None
A07-3838	SOIL	18MC-SS16	A7383816RE	4/16/2007			None
A07-3838	SOIL	18MC-SS17	A7383817	4/16/2007			None
A07-3838	SOIL	18MC-SS17	A7383817C	4/16/2007	MS/MSD		None
A07-3838	SOIL	18MC-SS17	A7383817D	4/16/2007	MS/MSD		None
A07-3838	SOIL	18MC-SS17	A7383817MS	4/16/2007	MS/MSD	*	None
A07-3838	SOIL	18MC-SS17	A7383817RE	4/16/2007			None
A07-3838	SOIL	18MC-SS17	A7383817SD	4/16/2007	MS/MSD	*	None
A07-3838	SOIL	18MC-SS17D	A7383818	4/16/2007			18MC-SS17/D
A07-3838	SOIL	18MC-SS17D	A7383818RE	4/16/2007			18MC-SS17/D

Work Orders, Tests and Number of Samples included in this DUSR

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-3838	SOIL	SW6010	**ASP05** METALS - TOTAL - S	18	SAMP
A07-3838	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	18	SAMP
A07-3838	SOIL	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	18	SAMP
A07-3838	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	18	SAMP
A07-3838	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	18	RA

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6^{o}C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Trip blank not required. Field duplicate collected.
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes

Data Usability Summary Report	Project: 18 Mile Creek
Date Completed: June 1, 2007	Completed by: B. Krajewski

General Sample Information	
Any holding time violations (See table below)?	No - All samples were prepared and analyzed within method holding times. NYSDEC ASP hold exceeded for Method 8270 extraction. No impact on data quality and no qualifier applied.

Holding Time Summary

Method	Sample ID	Sample Date	Matrix	Sample Type	PrepHT	Prep Date	AnalHT	Analysis Date	Samp Qual
SW8270	18MC-SS01	4/16/2007	SOIL	RA	5	4/27/2007	40	5/2/2007	None
SW8270	18MC-SS02	4/16/2007	SOIL	RA	5	4/27/2007	40	5/2/2007	None
SW8270	18MC-SS03	4/16/2007	SOIL	RA	5	4/27/2007	40	5/2/2007	None
SW8270	18MC-SS04	4/16/2007	SOIL	RA	5	4/27/2007	40	5/2/2007	None
SW8270	18MC-SS05	4/16/2007	SOIL	RA	5	4/27/2007	40	5/2/2007	None
SW8270	18MC-SS06	4/16/2007	SOIL	RA	5	4/27/2007	40	5/2/2007	None
SW8270	18MC-SS07	4/16/2007	SOIL	RA	5	4/27/2007	40	5/2/2007	None
SW8270	18MC-SS08	4/16/2007	SOIL	RA	5	4/27/2007	40	5/3/2007	None
SW8270	18MC-SS09	4/16/2007	SOIL	RA	5	4/27/2007	40	5/3/2007	None
SW8270	18MC-SS10	4/16/2007	SOIL	RA	5	4/27/2007	40	5/3/2007	None
SW8270	18MC-SS11	4/16/2007	SOIL	RA	5	4/27/2007	40	5/3/2007	None
SW8270	18MC-SS12	4/16/2007	SOIL	RA	5	4/27/2007	40	5/3/2007	None
SW8270	18MC-SS13	4/16/2007	SOIL	RA	5	4/27/2007	40	5/3/2007	None
SW8270	18MC-SS14	4/16/2007	SOIL	RA	5	4/27/2007	40	5/3/2007	None
SW8270	18MC-SS15	4/16/2007	SOIL	RA	5	4/27/2007	40	5/3/2007	None
SW8270	18MC-SS16	4/16/2007	SOIL	RA	5	4/27/2007	40	5/3/2007	None
SW8270	18MC-SS17	4/16/2007	SOIL	MS	5	4/27/2007	40	5/3/2007	None
SW8270	18MC-SS17	4/16/2007	SOIL	MSD	5	4/27/2007	40	5/3/2007	None
SW8270	18MC-SS17	4/16/2007	SOIL	RA	5	4/27/2007	40	5/3/2007	None
SW8270	18MC-SS17D	4/16/2007	SOIL	RA	5	4/27/2007	40	5/3/2007	None

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes

Data Usability Summary Report	Project: 18 Mile Creek
Date Completed: June 1, 2007	Completed by: B. Krajewski

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes – Some samples with one BN and one AP surrogate outside of limits.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes – MS/MSD analyzed at 10-fold dilution
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes – IS concentration of 50 ng used
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 20.5%D.	Yes
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples were also analyzed at dilutions due to matrix effects. Final volumes of extracts of samples 18MC-SS08 and 18MC-SS09 also adjusted due to matrix.
For TICs are there any system related compounds that should not be reported?	Yes - DIBENZYLIDENE 4,4'-BIPHENYLENE
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	Yes – sample results with high RPD were reported significantly below the PQL. Duplicate precision cannot be assessed at low levels. The duplicates had similar compounds reported.

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes – Unless diluted out, TCMX acceptable for all samples.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes – MS/MSD analyzed at dilution
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	No – Heptachlor epoxide results qualified “J”

Data Usability Summary Report	Project: 18 Mile Creek
Date Completed: June 1, 2007	Completed by: B. Krajewski

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes – Acceptable for primary column
Is continuing calibration for target compounds < 15.5%D.	Yes – Acceptable for primary column
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Analysis at dilutions were required due to matrix effects.
Spot check retention time windows and second column confirmations as complete.	Acceptable. - "J" qualifier applied to compounds with %D in concentration between compounds >25%
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes
For samples, if results are <5 times the blank then "U" flag data.	No samples qualified based on method blank results.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Data Usability Summary Report	Project: 18 Mile Creek
Date Completed: June 1, 2007	Completed by: B. Krajewski

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Qualifiers applied based on method blanks, matrix spike recoveries and difference in pesticide primary/confirmation column concentrations. Benzo(b)fluoranthene and benzo(k)fluoranthene peaks could not be resolved. Positive results qualified "J".

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW6010	A7383820	MBLK	Iron - Total	3.239	B	A	mg/Kg	3.0	3.000
SW6010	A7383820	MBLK	Zinc - Total	0.509	B	A	mg/Kg	0.40	0.400
SW8081	A7B0555302	MBLK	alpha-BHC	0.63	J	A	µg/Kg	0.40	1.7
SW8081	A7B0555302	MBLK	delta-BHC	0.53	J	A	µg/Kg	0.40	1.7
SW8081	A7B0555302	MBLK	gamma-Chlordane	1.0	J	A	µg/Kg	0.40	1.7
SW8270	A7B0625902	MBLK	Bis(2-ethylhexyl) phthalate	80	J	A	µg/Kg	54	170
SW8270	A7B0625902	MBLK	DIBENZYLIDENE 4,4'-BIPHENYLE	160	JN	T	µg/Kg		

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8081	A7B0555302	SOIL	alpha-BHC	0.63	3.3	BJ	9.6	18MC-SS12	Not Qualified
SW8081	A7B0555302	SOIL	alpha-BHC	0.63	6.4	BJ	19	18MC-SS03	Not Qualified
SW8081	A7B0555302	SOIL	alpha-BHC	0.63	8.8	BJ	24	18MC-SS09	Not Qualified
SW8081	A7B0555302	SOIL	alpha-BHC	0.63	9.3	BJ	26	18MC-SS05	Not Qualified
SW8081	A7B0555302	SOIL	delta-BHC	0.53	2.5	BJ	10	18MC-SS14	U Flag
SW8081	A7B0555302	SOIL	delta-BHC	0.53	2.5	BJ	9.6	18MC-SS12	U Flag
SW8081	A7B0555302	SOIL	delta-BHC	0.53	2.6	BJ	10	18MC-SS02	U Flag
SW8081	A7B0555302	SOIL	delta-BHC	0.53	5.3	BJ	22	18MC-SS16	Not Qualified
SW8081	A7B0555302	SOIL	delta-BHC	0.53	6.4	BJ	24	18MC-SS09	Not Qualified
SW8081	A7B0555302	SOIL	delta-BHC	0.53	8.5	BJ	12	18MC-SS01	Not Qualified
SW8081	A7B0555302	SOIL	gamma-Chlordane	1	4.6	BJ	10	18MC-SS02	U Flag
SW8081	A7B0555302	SOIL	gamma-Chlordane	1	5.6	BJ	11	18MC-SS15	Not Qualified
SW8081	A7B0555302	SOIL	gamma-Chlordane	1	6.8	BJ	21	18MC-SS08	Not Qualified
SW8081	A7B0555302	SOIL	gamma-Chlordane	1	9.7	BJ	23	18MC-SS07	Not Qualified
SW8270	A7B0625902	SOIL	Bis(2-ethylhexyl) phthalate	80	290	B	260	18MC-SS05	U Flag
SW8270	A7B0625902	SOIL	Bis(2-ethylhexyl) phthalate	80	120	BJ	220	18MC-SS14	U Flag
SW8270	A7B0625902	SOIL	Bis(2-ethylhexyl) phthalate	80	130	BJ	190	18MC-SS11	U Flag
SW8270	A7B0625902	SOIL	Bis(2-ethylhexyl) phthalate	80	130	BJ	210	18MC-SS04	U Flag
SW8270	A7B0625902	SOIL	Bis(2-ethylhexyl) phthalate	80	150	BJ	250	18MC-SS01	U Flag

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8270	A7B0625902	SOIL	Bis(2-ethylhexyl) phthalate	80	180	BJ	200	18MC-SS02	U Flag
SW8270	A7B0625902	SOIL	Bis(2-ethylhexyl) phthalate	80	180	BJ	200	18MC-SS12	U Flag
SW8270	A7B0625902	SOIL	Bis(2-ethylhexyl) phthalate	80	200	BJ	220	18MC-SS06	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8270	18MC-SS03	RA	p-Terphenyl-d14	48	51	125	20	Diluted Out
SW8270	18MC-SS07	RA	2,4,6-Tribromophenol	45	46	129	20	Diluted Out
SW8270	18MC-SS07	RA	p-Terphenyl-d14	40	51	125	20	Diluted Out
SW8270	18MC-SS15	RA	2,4,6-Tribromophenol	214	46	129	20	Diluted Out
SW8270	18MC-SS15	RA	p-Terphenyl-d14	138	51	125	20	Diluted Out
SW8082	18MC-SS01	SAMP	Decachlorobiphenyl	226	34	148	1	None – TCMX in limits
SW8082	18MC-SS08	SAMP	Decachlorobiphenyl	0	34	148	10	Diluted Out
SW8082	18MC-SS08	SAMP	Tetrachloro-m-xylene	0	35	134	10	Diluted Out
SW8082	18MC-SS15	SAMP	Decachlorobiphenyl	255	34	148	1	None – TCMX in limits
SW8081	18MC-SS01	SAMP	Decachlorobiphenyl	190	42	146	5	Diluted Out
SW8081	18MC-SS02	SAMP	Decachlorobiphenyl	228	42	146	5	Diluted Out
SW8081	18MC-SS04	SAMP	Decachlorobiphenyl	0	42	146	10	Diluted Out
SW8081	18MC-SS05	SAMP	Decachlorobiphenyl	185	42	146	10	Diluted Out
SW8081	18MC-SS06	SAMP	Decachlorobiphenyl	285	42	146	10	Diluted Out
SW8081	18MC-SS07	SAMP	Decachlorobiphenyl	215	42	146	10	Diluted Out
SW8081	18MC-SS08	SAMP	Decachlorobiphenyl	230	42	146	10	Diluted Out
SW8081	18MC-SS09	SAMP	Decachlorobiphenyl	985	42	146	10	Diluted Out
SW8081	18MC-SS10	SAMP	Decachlorobiphenyl	335	42	146	10	Diluted Out
SW8081	18MC-SS13	SAMP	Decachlorobiphenyl	0	42	146	10	Diluted Out
SW8081	18MC-SS15	SAMP	Decachlorobiphenyl	268	42	146	5	Diluted Out
SW8081	18MC-SS16	SAMP	Decachlorobiphenyl	160	42	146	10	Diluted Out

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW8270	18MC-SS17	MS	2,4-Dinitrophenol	<59	4062	0	10	35	146	Diluted Out
SW8270	18MC-SS17	MSD	2,4-Dinitrophenol	<59	3989	0	10	35	146	Diluted Out
SW8270	18MC-SS17	MSD	2,4-Dinitrotoluene	<26	3989	41	10	55	125	Diluted Out
SW8270	18MC-SS17	MS	2,6-Dinitrotoluene	<41	4062	62	10	66	128	Diluted Out
SW8270	18MC-SS17	MSD	2,6-Dinitrotoluene	<41	3989	49	10	66	128	Diluted Out
SW8270	18MC-SS17	MS	2-Nitrophenol	<8	4062	28	10	50	120	Diluted Out
SW8270	18MC-SS17	MSD	2-Nitrophenol	<8	3989	21	10	50	120	Diluted Out
SW8270	18MC-SS17	MSD	3,3'-Dichlorobenzidine	<150	3989	31	10	48	126	Diluted Out
SW8270	18MC-SS17	MSD	3-Nitroaniline	<39	3989	56	10	61	127	Diluted Out
SW8270	18MC-SS17	MSD	4-Bromophenyl phenyl ether	<54	3989	65	10	71	126	Diluted Out
SW8270	18MC-SS17	MSD	4-Nitroaniline	<19	3989	58	10	63	128	Diluted Out
SW8270	18MC-SS17	MS	Acetophenone	<9	4062	59	10	66	120	Diluted Out
SW8270	18MC-SS17	MSD	Acetophenone	<9	3989	58	10	66	120	Diluted Out
SW8270	18MC-SS17	MSD	Biphenyl	<10	3989	69	10	71	120	Diluted Out
SW8270	18MC-SS17	MSD	Bis(2-chloroethoxy) methane	<9	3989	59	10	61	133	Diluted Out
SW8270	18MC-SS17	MS	Pentachlorophenol	<58	4062	137	10	33	136	Diluted Out
SW8270	18MC-SS17	MS	Phenanthrene	1700	4062	58	10	60	130	Diluted Out
SW8270	18MC-SS17	MSD	Phenanthrene	1700	3989	56	10	60	130	Diluted Out
SW8081	18MC-SS17	MSD	Methoxychlor	<0.38	20.1	279	5	46	152	Diluted Out
SW6010	18MC-SS17	MS	Aluminum - Total	4230	2450	66	1	75	125	J
SW6010	18MC-SS17	MSD	Aluminum - Total	4230	2470	130	1	75	125	J
SW6010	18MC-SS17	MS	Barium - Total	60.3	49	227	1	75	125	J
SW6010	18MC-SS17	MS	Calcium - Total	84500	2450	1480	5	75	125	4X
SW6010	18MC-SS17	MSD	Calcium - Total	84500	2470	-204	5	75	125	4X
SW6010	18MC-SS17	MS	Iron - Total	13600	2450	-11	1	75	125	4X
SW6010	18MC-SS17	MSD	Iron - Total	13600	2470	37	1	75	125	4X

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW6010	18MC-SS17	MS	Lead - Total	93.3	49	62	1	75	125	J
SW6010	18MC-SS17	MSD	Lead - Total	93.3	49.5	69	1	75	125	J
SW6010	18MC-SS17	MS	Magnesium - Total	31700	2450	-139	1	75	125	4X
SW6010	18MC-SS17	MSD	Magnesium - Total	31700	2470	-74	1	75	125	4X
SW6010	18MC-SS17	MS	Manganese - Total	383	49	1140	1	75	125	4X
SW6010	18MC-SS17	MS	Zinc - Total	135	49	38	1	75	125	J
SW6010	18MC-SS17	MSD	Zinc - Total	135	49.5	56	1	75	125	J

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW6010	18MC-SS17	MSD	Aluminum - Total	65	20	J
SW6010	18MC-SS17	MSD	Barium - Total	92	20	J
SW6010	18MC-SS17	MSD	Calcium - Total	264	20	Diluted Out
SW6010	18MC-SS17	MSD	Iron - Total	369	20	J
SW6010	18MC-SS17	MSD	Magnesium - Total	61	20	J
SW6010	18MC-SS17	MSD	Manganese - Total	165	20	J
SW6010	18MC-SS17	MSD	Zinc - Total	38	20	J
SW8081	18MC-SS17	MSD	4,4'-DDE	59	50	Diluted Out
SW8081	18MC-SS17	MSD	Methoxychlor	66	50	Diluted Out
SW8270	18MC-SS17	MSD	2,4,5-Trichlorophenol	25	18	Diluted Out
SW8270	18MC-SS17	MSD	2,4-Dinitrotoluene	38	20	Diluted Out
SW8270	18MC-SS17	MSD	2,6-Dinitrotoluene	23	15	Diluted Out
SW8270	18MC-SS17	MSD	2-Nitrophenol	28	18	Diluted Out
SW8270	18MC-SS17	MSD	3,3'-Dichlorobenzidine	80	25	Diluted Out
SW8270	18MC-SS17	MSD	3-Nitroaniline	30	19	Diluted Out
SW8270	18MC-SS17	MSD	4-Chlorophenyl phenyl ether	18	16	Diluted Out
SW8270	18MC-SS17	MSD	Anthracene	18	15	Diluted Out
SW8270	18MC-SS17	MSD	Benzo(ghi)perylene	24	15	Diluted Out
SW8270	18MC-SS17	MSD	Bis(2-ethylhexyl) phthalate	22	15	Diluted Out
SW8270	18MC-SS17	MSD	Butyl benzyl phthalate	19	16	Diluted Out

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW8270	18MC-SS17	MSD	Caprolactam	22	20	Diluted Out
SW8270	18MC-SS17	MSD	Dibenzo(a,h)anthracene	28	15	Diluted Out
SW8270	18MC-SS17	MSD	Diethyl phthalate	18	15	Diluted Out
SW8270	18MC-SS17	MSD	Di-n-butyl phthalate	17	15	Diluted Out
SW8270	18MC-SS17	MSD	Hexachlorobenzene	20	15	Diluted Out
SW8270	18MC-SS17	MSD	Indeno(1,2,3-cd)pyrene	21	15	Diluted Out
SW8270	18MC-SS17	MSD	N-nitrosodiphenylamine	21	15	Diluted Out

Table 5 - List LCS Recoveries outside Control Limits

Method	Sample ID	Analyte	Rec.	Low Limit	High Limit	No. of Affected Samples	Samp Qual
SW8081	A7B0555301	Heptachlor epoxide	43	44	122	18	J Flag

Table 6 –Samples that were Reanalyzed

Sample ID	Lab ID	Method	Sample Type	Action
18MC-SS01	A7383801RE	SW8270	RA	Reported
18MC-SS02	A7383802RE	SW8270	RA	Reported
18MC-SS03	A7383803RE	SW8270	RA	Reported
18MC-SS04	A7383804RE	SW8270	RA	Reported
18MC-SS05	A7383805RE	SW8270	RA	Reported
18MC-SS06	A7383806RE	SW8270	RA	Reported
18MC-SS07	A7383807RE	SW8270	RA	Reported
18MC-SS08	A7383808RE	SW8270	RA	Reported
18MC-SS09	A7383809RE	SW8270	RA	Reported
18MC-SS10	A7383810RE	SW8270	RA	Reported
18MC-SS11	A7383811RE	SW8270	RA	Reported
18MC-SS12	A7383812RE	SW8270	RA	Reported
18MC-SS13	A7383813RE	SW8270	RA	Reported
18MC-SS14	A7383814RE	SW8270	RA	Reported
18MC-SS15	A7383815RE	SW8270	RA	Reported
18MC-SS16	A7383816RE	SW8270	RA	Reported
18MC-SS17	A7383817RE	SW8270	RA	Reported

Sample ID	Lab ID	Method	Sample Type	Action
18MC-SS17D	A7383818RE	SW8270	RA	Reported

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	Anal Type	PQL	18MC-SS17	18MC-SS17/D	RPD	RPD Rating	Samp Qual
SW7471	Mercury - Total	mg/Kg	A	0.005	0.074	0.075	1.3%	Good	None
SW6010	Aluminum - Total	mg/Kg	A	3.2	4230	3940	7.1%	Good	None
SW6010	Antimony - Total	mg/Kg	A	0.67	0.92	NA	NC		
SW6010	Arsenic - Total	mg/Kg	A	0.48	6.9	6.7	2.9%	Good	None
SW6010	Barium - Total	mg/Kg	A	0.06	60.3	46.1	26.7%	Good	None
SW6010	Beryllium - Total	mg/Kg	A	0.04	0.49	0.46	6.3%	Good	None
SW6010	Cadmium - Total	mg/Kg	A	0.05	0.68	0.70	2.9%	Good	None
SW6010	Calcium - Total	mg/Kg	A	61.6	84500	95900	12.6%	Good	None
SW6010	Chromium - Total	mg/Kg	A	0.11	11.4	12.2	6.8%	Good	None
SW6010	Cobalt - Total	mg/Kg	A	0.14	4.0	3.9	2.5%	Good	None
SW6010	Copper - Total	mg/Kg	A	0.15	31.8	29.0	9.2%	Good	None
SW6010	Iron - Total	mg/Kg	A	3.7	13600	12500	8.4%	Good	None
SW6010	Lead - Total	mg/Kg	A	0.36	93.3	69.6	29.1%	Good	None
SW6010	Magnesium - Total	mg/Kg	A	5.2	31700	39400	21.7%	Good	None
SW6010	Manganese - Total	mg/Kg	A	0.12	383	441	14.1%	Good	None
SW6010	Nickel - Total	mg/Kg	A	0.17	12.4	12.1	2.4%	Good	None
SW6010	Potassium - Total	mg/Kg	A	10.4	1230	1040	16.7%	Good	None
SW6010	Sodium - Total	mg/Kg	A	38.2	127	142	11.2%	Good	None
SW6010	Vanadium - Total	mg/Kg	A	0.12	11.1	11.4	2.7%	Good	None
SW6010	Zinc - Total	mg/Kg	A	0.49	135	136	0.7%	Good	None
SW8081	4,4'-DDE	mg/Kg	A	0.01	0.0087	0.0087	0.0%	Good	None
SW8081	4,4'-DDT	mg/Kg	A	0.01	0.011	0.012	8.7%	Good	None
SW8082	Aroclor 1248	mg/Kg	A	0.02	0.0063	0.0097	42.5%	Good	None
SW8270	Acenaphthene	mg/Kg	A	2.1	0.23	NA	NC		
SW8270	Anthracene	mg/Kg	A	2.1	0.44	NA	NC		
SW8270	Benzo(a)anthracene	mg/Kg	A	2.1	0.72	0.21	109.7%	<PQL	None
SW8270	Benzo(a)pyrene	mg/Kg	A	2.1	0.63	0.21	100.0%	<PQL	None

Data Usability Summary Report	Project: 18 Mile Creek
Date Completed: June 1, 2007	Completed by: B. Krajewski

Method	Analyte	Unit	Anal Type	PQL	18MC-SS17	18MC-SS17/D	RPD	RPD Rating	Samp Qual
SW8270	Benzo(b)fluoranthene	mg/Kg	A	2.1	0.87	0.41	71.9%	<PQL	None
SW8270	Benzo(ghi)perylene	mg/Kg	A	2.1	0.29	0.14	69.8%	Good	None
SW8270	Benzo(k)fluoranthene	mg/Kg	A	2.1	0.28	NA	NC		
SW8270	Carbazole	mg/Kg	A	2.1	0.2	NA	NC		
SW8270	Chrysene	mg/Kg	A	2.1	0.71	0.23	102.1%	<PQL	None
SW8270	Dibenzo(a,h)anthracene	mg/Kg	A	2.1	0.1	ND	NC		
SW8270	Dibenzofuran	mg/Kg	A	2.1	0.13	ND	NC		
SW8270	Fluoranthene	mg/Kg	A	2.1	1.8	0.39	128.8%	Good	None
SW8270	Fluorene	mg/Kg	A	2.1	0.18	ND	NC		
SW8270	Indeno(1,2,3-cd)pyrene	mg/Kg	A	2.1	0.26	0.098	90.5%	<PQL	None
SW8270	Naphthalene	mg/Kg	A	2.1	0.12	ND	NC		
SW8270	Phenanthrene	mg/Kg	A	2.1	1.7	0.17	163.6%	<PQL	None
SW8270	Pyrene	mg/Kg	A	2.1	1	0.24	122.6%	<PQL	None

Key:
A = Analyte
NC = Not Calculated
ND = Not Detected
PQL = Practical Quantitation Limit
RPD = Relative Percent Difference
T = Tentatively Identified Compound

Data Usability Summary Report	Project: 18 Mile Creek A07-3972
Date Completed: June 1, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby - STL Buffalo	A07-3972
TOC Subcontracted to STL Burlington	A0739790

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-3972	SEDIM	18MC-L01W-S02-Z2	A7397201	4/18/2007			None
A07-3972	SEDIM	18MC-L01W-S02-Z1	A7397202	4/18/2007			None
A07-3972	SEDIM	18MC-L01W-S03-Z1	A7397203	4/18/2007			None
A07-3972	SEDIM	18MC-L01W-S01-Z1	A7397204	4/18/2007			None
A07-3972	SEDIM	18MC-L01W-S01-Z2	A7397205	4/18/2007			None
A07-3972	SOIL	18MC-L01W-S06-Z2	A7397206	4/18/2007			None
A07-3972	SOIL	18MC-L01W-S06-Z1	A7397207	4/18/2007			None
A07-3972	SOIL	18MC-L01W-S04-Z2	A7397208	4/18/2007			None
A07-3972	SOIL	18MC-L01W-S04-Z3	A7397209	4/18/2007			None
A07-3972	SOIL	18MC-L01W-S05-Z1	A7397210	4/18/2007			None
A07-3972	SOIL	18MC-L01W-S05-Z2	A7397211	4/18/2007			None
A07-3972	SOIL	18MC-L01W-S04-Z1	A7397212	4/18/2007			None
A07-3972	SOIL	18MC-L01W-S05-Z3	A7397213	4/18/2007			None
A07-3972	SEDIM	18MC-L02W-S02-Z1	A7397214	4/18/2007			None
A07-3972	SEDIM	18MC-L02W-S02-Z1	A7397214MS	4/18/2007	MS/MSD	*	None
A07-3972	SEDIM	18MC-L02W-S02-Z1	A7397214SD	4/18/2007	MS/MSD	*	None
A07-3972	SEDIM	18MC-L02W-S02-Z2	A7397215	4/18/2007			None
A07-3972	SEDIM	18MC-L02W-	A7397216	4/18/2007			18MC-L02W-

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
		S02-Z2D					S02-Z2/D
A07-3972	SEDIM	18MC-L02W-S01-Z1	A7397217	4/18/2007			None
A07-3972	SEDIM	18MC-L02W-S01-Z2	A7397218	4/18/2007			None
A07-3972	SEDIM	18MC-L02W-S03-Z1	A7397219	4/18/2007			None
A07-3972	SEDIM	18MC-L02W-S03-Z2	A7397220	4/18/2007			None
A07-3979	SOIL	18MC-L01W-S02-Z2	A7397901	4/18/2007			None
A07-3979	SOIL	18MC-L01W-S02-Z1	A7397902	4/18/2007			None
A07-3979	SOIL	18MC-L02W-S02-Z1	A7397903	4/18/2007			None
A07-3979	SOIL	18MC-L02W-S02-Z2	A7397904	4/18/2007			None
A07-3979	SOIL	18MC-L02W-S02-Z2D	A7397905	4/18/2007			18MC-L02W-S02-Z2/D
A0739790	SOIL	18MC-L01W-S01-Z2	707609	4/18/2007			None
A0739790	SOIL	18MC-L01W-S01-Z1	707610	4/18/2007			None
A0739790	SOIL	18MC-L02W-S02-Z1	707611	4/18/2007			None
A0739790	SOIL	18MC-L02W-S02-Z1	707611DP	4/18/2007			None
A0739790	SOIL	18MC-L02W-S02-Z1	707611MS	4/18/2007	MS/MSD	*	None
A0739790	SOIL	18MC-L02W-S02-Z2	707612	4/18/2007			None
A0739790	SOIL	18MC-L02W-S02-Z2D	707613	4/18/2007			18MC-L02W-S02-Z2/D

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-3972	SEDIM	SW6010	**ASP05** ARSENIC - TOTAL - S	12	SAMP
A07-3972	SEDIM	SW6010	**ASP05** CHROMIUM - TOTAL - S	12	SAMP
A07-3972	SEDIM	SW6010	**ASP05** COPPER - TOTAL - S	12	SAMP
A07-3972	SEDIM	SW6010	**ASP05** LEAD - TOTAL - S	12	SAMP
A07-3972	SEDIM	SW6010	**ASP05** ZINC - TOTAL - S	12	SAMP
A07-3972	SEDIM	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	3	SAMP
A07-3972	SEDIM	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	12	SAMP
A07-3972	SEDIM	SW8270	**ASP05** SOIL - 8270 - TCL	3	SAMP

Data Usability Summary Report	Project: 18 Mile Creek A07-3972
Date Completed: June 1, 2007	Completed by: B. Krajewski

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
			SEMIVOLATILES (SOM)		
A07-3972	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** IRON - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	8	SAMP
A07-3972	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	8	SAMP
A07-3972	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	8	SAMP
A07-3972	SOIL	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	1	SAMP
A07-3972	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	8	SAMP
A07-3972	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	1	SAMP
A0739790	SOIL	IN623	Wet Chem – Percent Solids	5	SAMP
A0739790	SOIL	IN847 SOIL	Wet Chem – TOC	5	SAMP

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes – COC revised by B. Cole. Verified changes with lab.
Did coolers arrive at lab between 2 and 6^{o}C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Trip blank not required. Field duplicate collected.
All ASP Forms complete?	Yes

Data Usability Summary Report	Project: 18 Mile Creek A07-3972
Date Completed: June 1, 2007	Completed by: B. Krajewski

General Sample Information	
Case narrative present and complete?	Yes
Any holding time violations?	No - All samples were prepared and analyzed within method holding times.

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes – Trace levels found in method blank.
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	No – "UJ" qualifier applied to associated parent sample results.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 20.5%D.	No – Dimethylphthalate %D 23.3% Response factors acceptable – No qualifier applied
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
For TICs are there any system related compounds that should not be reported?	No
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	Yes

Data Usability Summary Report	Project: 18 Mile Creek A07-3972
Date Completed: June 1, 2007	Completed by: B. Krajewski

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes – Trace levels found in method blank.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes –TCMX acceptable for all samples.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes – MS/MSD analyzed at dilution
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes – Acceptable for primary column
Is continuing calibration for target compounds < 15.5%D.	Yes – Acceptable for primary column
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
Spot check retention time windows and second column confirmations as complete.	Acceptable. - "J" qualifier applied to compounds with %D in concentration between compounds >25%
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes
For samples, if results are <5 times the blank then "U" flag data.	No samples qualified based on method blank results.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.

Data Usability Summary Report	Project: 18 Mile Creek A07-3972
Date Completed: June 1, 2007	Completed by: B. Krajewski

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes except for lead and zinc with slightly high RPDs.

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Qualifiers applied based on method blanks, matrix spike recoveries, RPD values and the difference in pesticide primary/confirmation column concentrations. Benzo(b)fluoranthene and benzo(k)fluoranthene peaks could not be resolved. Positive results qualified "J".

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW6010	A7397222	MBLK	Barium - Total	0.055	B	A	mg/Kg	0.050	0.050
SW6010	A7397222	MBLK	Zinc - Total	0.665	B	A	mg/Kg	0.40	0.400
SW8081	A7B0568802	MBLK	alpha-BHC	0.63	J	A	µg/Kg	0.40	1.7
SW8081	A7B0568802	MBLK	delta-BHC	0.63	J	A	µg/Kg	0.40	1.7
SW8081	A7B0568802	MBLK	Endosulfan I	0.47	J	A	µg/Kg	0.30	1.7
SW8081	A7B0568802	MBLK	gamma-Chlordane	2.5		A	µg/Kg	0.40	1.7
SW8081	A7B0568802	MBLK	Methoxychlor	0.53	J	A	µg/Kg	0.38	1.7
SW8270	A7B0569102	MBLK	Bis(2-ethylhexyl) phthalate	81	J	A	µg/Kg	54	170
SW8270	A7B0569102	MBLK	Di-n-octyl phthalate	8	J	A	µg/Kg	4	170

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8081	A7B0568802	SEDIM	alpha-BHC	0.63	0.76	BJ	2.1	18MC-L01W-S02-Z2	U Flag
SW8081	A7B0568802	SEDIM	alpha-BHC	0.63	0.78	BJ	2.0	18MC-L01W-S02-Z1	U Flag
SW8081	A7B0568802	SOIL	alpha-BHC	0.63	3.5	BJ	10	18MC-L01W-S05-Z1	Not Qualified
SW8081	A7B0568802	SEDIM	delta-BHC	0.63	0.55	BJ	2.1	18MC-L01W-S02-Z2	U Flag
SW8081	A7B0568802	SEDIM	Endosulfan I	0.47	0.53	BJ	2.0	18MC-L01W-S02-Z1	U Flag
SW8081	A7B0568802	SEDIM	Endosulfan I	0.47	0.80	BJ	2.1	18MC-L01W-S02-Z2	U Flag
SW8081	A7B0568802	SEDIM	gamma-Chlordane	2.5	5.0	B	2.0	18MC-L01W-S02-Z1	U Flag
SW8081	A7B0568802	SEDIM	gamma-Chlordane	2.5	6.2	B	2.1	18MC-L01W-S02-Z2	U Flag
SW8081	A7B0568802	SEDIM	gamma-Chlordane	2.5	3.9	BJ	9.3	18MC-L02W-S02-Z1	U Flag
SW8081	A7B0568802	SOIL	gamma-Chlordane	2.5	11	B	10	18MC-L01W-S05-Z1	U Flag
SW8270	A7B0569102	SEDIM	Bis(2-ethylhexyl) phthalate	81	67	BJ	190	18MC-L02W-S02-Z1	U Flag
SW8270	A7B0569102	SEDIM	Bis(2-ethylhexyl) phthalate	81	73	BJ	210	18MC-L01W-S02-Z2	U Flag
SW8270	A7B0569102	SEDIM	Di-n-octyl phthalate	8	10	BJ	210	18MC-L01W-S02-Z2	U Flag
SW8270	A7B0569102	SEDIM	Di-n-octyl phthalate	8	11	BJ	210	18MC-L01W-S02-Z1	U Flag
SW8270	A7B0569102	SEDIM	Di-n-octyl phthalate	8	8	BJ	190	18MC-L02W-S02-Z1	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8082	18MC-L01W-S05-Z1	SAMP	Decachlorobiphenyl	153	34	148	1	None
SW8082	18MC-L01W-S05-Z2	SAMP	Decachlorobiphenyl	1080	34	148	1	None

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW8270	18MC-L02W-S02-Z1	MS	2,4-Dinitrophenol	<59	3708	27	1	35	146	UJ
SW8270	18MC-L02W-S02-Z1	MSD	2,4-Dinitrophenol	<59	3829	27	1	35	146	UJ
SW8270	18MC-L02W-S02-Z1	MS	4,6-Dinitro-2-methylphenol	<58	3708	39	1	49	155	UJ
SW8270	18MC-L02W-S02-Z1	MSD	4,6-Dinitro-2-methylphenol	<58	3829	37	1	49	155	UJ
SW8081	18MC-L02W-S02-Z1	MSD	Methoxychlor	<0.38	18.8	198	5	46	152	Diluted Out
SW6010	18MC-L02W-S02-Z1	MS	Chromium - Total	24.6	47.37	266	1	75	125	J
SW6010	18MC-L02W-S02-Z1	MSD	Chromium - Total	24.6	47.37	68	1	75	125	J
SW6010	18MC-L02W-S02-Z1	MS	Copper - Total	55.5	47.37	20	1	75	125	J
SW6010	18MC-L02W-S02-Z1	MSD	Copper - Total	55.5	47.37	19	1	75	125	J
SW6010	18MC-L02W-S02-Z1	MS	Lead - Total	951	47.37	1040	1	75	125	4X
SW6010	18MC-L02W-S02-Z1	MSD	Lead - Total	951	47.37	-999	1	75	125	4X
SW6010	18MC-L02W-S02-Z1	MS	Zinc - Total	140	47.37	62	1	75	125	J
SW6010	18MC-L02W-S02-Z1	MSD	Zinc - Total	140	47.37	-36	1	75	125	J
IN847 SOIL	18MC-L02W-S02-Z1	MS	TOC by Lloyd Kahn	22400	37200	59	1	75	125	J

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW6010	18MC-L02W-S02-Z1	MSD	Chromium - Total	91	20	J
SW6010	18MC-L02W-S02-Z1	MSD	Lead - Total	128	20	J
SW6010	18MC-L02W-S02-Z1	MSD	Zinc - Total	32	20	J

Table 5 - List LCS Recoveries outside Control Limits
None

Table 6 –Samples that were Reanalyzed
None

Table 7 – Summary of Field Duplicate Results

Analyte	Unit	PQL	Anal Type	18MC-L02W-S02-Z2	18MC-L02W-S02-Z2/D	RPD	RPD Rating	Samp Qual
Arsenic - Total	mg/Kg	A	0.58	6.3	11.1	55.2%	Good	None
Chromium - Total	mg/Kg	A	0.13	7.8	11.9	41.6%	Good	None
Copper - Total	mg/Kg	A	0.18	15.9	29.5	59.9%	Good	None
Lead - Total	mg/Kg	A	0.43	62.6	138	75.2%	Poor	J Flag
Zinc - Total	mg/Kg	A	0.59	51.6	124	82.5%	Poor	J Flag
Total Organic Carbon	mg/Kg	A	715	31500	31000	1.6%	Good	None
Solids, Percent	%	A	0	69.9	72.5	3.7%	Good	None

Data Usability Summary Report	Project: 18 Mile Creek A07-3976
Date Completed: June 1, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

Project ID	Lab Work Order
Ecology and Environment NYSDEC Standby – STL Buffalo	A07-3976
Ecology and Environment NYSDEC Standby – STL Buffalo	A07-4048
Subcontract TOC analysis STL Burlington	A074052

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-3976	SOIL	18MC-L02W-S06-Z2	A7397601	4/18/2007			None
A07-3976	SOIL	18MC-L02W-S06-Z2	A7397601MS	4/18/2007	MS/MSD		None
A07-3976	SOIL	18MC-L02W-S06-Z2	A7397601SD	4/18/2007	MS/MSD		None
A07-3976	SOIL	18MC-L02W-S06-Z3	A7397602	4/18/2007			None
A07-3976	SOIL	18MC-L02W-S06-Z1	A7397603	4/18/2007			None
A07-3976	SOIL	18MC-L02W-S05-Z2	A7397604	4/18/2007			None
A07-3976	SOIL	18MC-L02W-S05-Z3	A7397605	4/18/2007			None
A07-3976	SOIL	18MC-L02W-S05-Z1	A7397606	4/18/2007			None
A07-3976	SOIL	18MC-L02W-S04-Z3	A7397607	4/18/2007			None
A07-3976	SOIL	18MC-L02W-S04-Z2	A7397608	4/18/2007			None
A07-3976	SOIL	18MC-L02W-S04-Z1	A7397609	4/18/2007			None
A07-4048	SEDIM	18MC-L03W-S02-Z1	A7404801	4/19/2007			None
A07-4048	SEDIM	18MC-L03W-S02-Z1	A7404801MS	4/19/2007	MS/MSD		None
A07-4048	SEDIM	18MC-L03W-S02-Z1	A7404801SD	4/19/2007	MS/MSD		None
A07-4048	SEDIM	18MC-L03W-S03-Z1	A7404802	4/19/2007			None
A07-4048	SOIL	18MC-L03W-S06-Z1	A7404803	4/19/2007			None
A07-4048	SOIL	18MC-L03W-S06-Z2	A7404804	4/19/2007			None

Data Usability Summary Report	Project: 18 Mile Creek A07-3976
Date Completed: June 1, 2007	Completed by: B. Krajewski

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-4048	SOIL	18MC-L03W-S05-Z1	A7404805	4/19/2007			None
A07-4048	SEDIM	18MC-L03W-S01-Z1	A7404806	4/19/2007			None
A07-4048	SOIL	18MC-L03W-S05-Z2	A7404807	4/19/2007			None
A07-4048	SOIL	18MC-L03W-S04-Z1	A7404808	4/19/2007			None
A07-4048	SOIL	18MC-L03W-S04-Z2	A7404809	4/19/2007			None
A07-4048	SEDIM	18MC-L05W-S02-Z1	A7404810	4/19/2007			None
A074052	SOIL	18MC-L03W-S02-Z1	708214	4/19/2007			None
A074052	SOIL	18MC-L05W-S02-Z1	708215	4/19/2007			None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-3976	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** IRON - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	9	SAMP
A07-3976	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	9	SAMP
A07-3976	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	9	SAMP
A07-3976	SOIL	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	1	SAMP
A07-3976	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS	9	SAMP

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
			(SOM)		
A07-3976	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	1	SAMP
A07-4048	SEDIM	SW6010	**ASP05** ARSENIC - TOTAL - S	4	SAMP
A07-4048	SEDIM	SW6010	**ASP05** CHROMIUM - TOTAL - S	4	SAMP
A07-4048	SEDIM	SW6010	**ASP05** COPPER - TOTAL - S	4	SAMP
A07-4048	SEDIM	SW6010	**ASP05** LEAD - TOTAL - S	4	SAMP
A07-4048	SEDIM	SW6010	**ASP05** ZINC - TOTAL - S	4	SAMP
A07-4048	SEDIM	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	2	SAMP
A07-4048	SEDIM	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	4	SAMP
A07-4048	SEDIM	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	2	SAMP
A07-4048	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** IRON - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	6	SAMP
A07-4048	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	6	SAMP
A07-4048	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	6	SAMP
A07-4048	SOIL	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	1	SAMP
A07-4048	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	6	SAMP
A07-4048	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	1	SAMP
A074052	SOIL	IN623	Wet Chem	2	SAMP
A074052	SOIL	IN847	Wet Chem	2	SAMP

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Trip blank not required. Field duplicate not included in this SDG.
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations?	No - All samples were prepared and analyzed within method holding times.

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes

Data Usability Summary Report	Project: 18 Mile Creek A07-3976
Date Completed: June 1, 2007	Completed by: B. Krajewski

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Is continuing calibration for target compounds < 20.5%D.	No – Dimethylphthalate, 4-chlorophenyl phenyl ether and 3-nitroaniline %D >25% Response factors acceptable – No qualifier applied
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
For TICs are there any system related compounds that should not be reported?	No
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	NA

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes –TCMX acceptable for all samples.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes – Acceptable for primary column
Is continuing calibration for target compounds < 15.5%D.	Yes – Acceptable for primary column
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
Spot check retention time windows and second column confirmations as complete.	Acceptable. - "J" qualifier applied to compounds with %D in concentration between compounds >25%
Do field duplicate results show good precision for all compounds (see Table 7)?	NA

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes
For samples, if results are <5 times the blank then "U" flag data.	No samples qualified based on method blank results.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes

Data Usability Summary Report	Project: 18 Mile Creek A07-3976
Date Completed: June 1, 2007	Completed by: B. Krajewski

Metals by ICP and Mercury by CVAA	
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes – Al, Ba, Cr, Cu, Co, Fe, Pb, Mg, Mn, Ni, Zn qualified "J" for soils and Cr, Pb, and Zn qualified "J" for sediments
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	NA

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Qualifiers applied based on method blanks, matrix spike recoveries, serial dilution, RPD values and the difference in pesticide primary/confirmation column concentrations. Benzo(b)fluoranthene and benzo(k)fluoranthene peaks could not be resolved. Positive results qualified "J".

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW6010	A7404812	MBLK	Potassium - Total	11.169	B	A	mg/Kg	8.4	8.400
SW6010	A7404812	MBLK	Zinc - Total	0.801	B	A	mg/Kg	0.40	0.400
SW8081	A7B0595302	MBLK	alpha-BHC	0.62	J	A	µg/Kg	0.40	1.6
SW8081	A7B0595302	MBLK	Dieldrin	0.52	J	A	µg/Kg	0.40	1.6
SW8081	A7B0595302	MBLK	Endrin	1.6		A	µg/Kg	0.54	1.6
SW8081	A7B0595302	MBLK	gamma-Chlordane	2.2		A	µg/Kg	0.40	1.6
SW8270	A7B0569102	MBLK	Bis(2-ethylhexyl) phthalate	81	J	A	µg/Kg	54	170
SW8270	A7B0569102	MBLK	Di-n-octyl phthalate	8	J	A	µg/Kg	4	170
SW8270	A7B0578902	MBLK	Bis(2-ethylhexyl) phthalate	100	J	A	µg/Kg	54	170

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8270	A7B0569102	SOIL	Bis(2-ethylhexyl) phthalate	81	90	BJ	220	18MC-L02W-S04-Z1	U Flag
SW8270	A7B0569102	SOIL	Di-n-octyl phthalate	8	12	BJ	220	18MC-L02W-S04-Z1	U Flag
SW8270	A7B0578902	SEDIM	Bis(2-ethylhexyl) phthalate	100	140	BJ	200	18MC-L03W-S02-Z1	U Flag
SW8270	A7B0578902	SOIL	Bis(2-ethylhexyl) phthalate	100	460	BJ	1200	18MC-L03W-S04-Z1	U Flag
SW8081	A7B0595302	SEDIM	alpha-BHC	0.62	0.76	BJ	2.0	18MC-L03W-S02-Z1	U Flag
SW8081	A7B0595302	SEDIM	alpha-BHC	0.62	7.1	BJ	21	18MC-L05W-S02-Z1	Not Qualified
SW8081	A7B0595302	SOIL	alpha-BHC	0.62	8.2	BJ	23	18MC-L03W-S04-Z1	Not Qualified
SW8081	A7B0595302	SEDIM	Dieldrin	0.52	2.5	B	2.0	18MC-L03W-S02-Z1	U Flag
SW8081	A7B0595302	SOIL	Dieldrin	0.52	10	BJ	23	18MC-L03W-S04-Z1	Not Qualified
SW8081	A7B0595302	SOIL	Endrin	1.6	8.6	BJ	21	18MC-L02W-S04-Z1	J Qualified - Suspect GPC carryover
SW8081	A7B0595302	SEDIM	gamma-Chlordane	2.2	6.0	B	2.0	18MC-L03W-S02-Z1	U Flag
SW8081	A7B0595302	SOIL	gamma-Chlordane	2.2	6.8	BJ	21	18MC-L02W-S04-Z1	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8082	18MC-L02W-S04-Z1	SAMP	Decachlorobiphenyl	273	34	148	1	None
SW8082	18MC-L02W-S04-Z2	SAMP	Decachlorobiphenyl	520	34	148	1	None
SW8082	18MC-L02W-S04-Z3	SAMP	Decachlorobiphenyl	6660	34	148	10	Diluted Out
SW8082	18MC-L02W-S05-Z1	SAMP	Decachlorobiphenyl	781	34	148	1	None
SW8082	18MC-L02W-S05-Z2	SAMP	Decachlorobiphenyl	796	34	148	1	None
SW8082	18MC-L02W-S05-Z3	SAMP	Decachlorobiphenyl	176	34	148	1	None
SW8082	18MC-L02W-S06-Z2	SAMP	Decachlorobiphenyl	164	34	148	1	None
SW8082	18MC-L03W-S01-Z1	SAMP	Decachlorobiphenyl	160	34	148	2	None
SW8082	18MC-L03W-S04-Z1	SAMP	Decachlorobiphenyl	302	34	148	1	None
SW8081	18MC-L02W-S04-Z1	SAMP	Decachlorobiphenyl	365	42	146	10	Diluted Out
SW8081	18MC-L03W-S04-Z1	SAMP	Decachlorobiphenyl	365	42	146	10	Diluted Out
SW8081	18MC-L05W-S02-Z1	SAMP	Decachlorobiphenyl	30	42	146	10	Diluted Out

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW8082	18MC-L02W-S06-Z2	MS	Aroclor 1260	160	205	41	1	66	140	J
SW8082	18MC-L02W-S06-Z2	MSD	Aroclor 1260	160	207	32	1	66	140	J
SW6010	18MC-L02W-S06-Z2	MS	Antimony - Total	1.7	51	73	1	75	125	J
SW6010	18MC-L02W-S06-Z2	MSD	Antimony - Total	1.7	51.2	65	1	75	125	J
SW6010	18MC-L02W-S06-Z2	MS	Calcium - Total	47300	2550	-318	5	75	125	4X
SW6010	18MC-L02W-S06-Z2	MSD	Calcium - Total	47300	2560	2230	5	75	125	4X
SW6010	18MC-L02W-S06-Z2	MS	Chromium - Total	48.4	51	2470	1	75	125	J

Data Usability Summary Report	Project: 18 Mile Creek A07-3976
Date Completed: June 1, 2007	Completed by: B. Krajewski

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW6010	18MC-L02W-S06-Z2	MSD	Chromium - Total	48.4	51.2	32	1	75	125	J
SW6010	18MC-L02W-S06-Z2	MS	Copper - Total	103	51	8	1	75	125	J
SW6010	18MC-L02W-S06-Z2	MSD	Copper - Total	103	51.2	36	1	75	125	J
SW6010	18MC-L02W-S06-Z2	MS	Iron - Total	21200	2550	-329	1	75	125	4X
SW6010	18MC-L02W-S06-Z2	MSD	Iron - Total	21200	2560	-252	1	75	125	4X
SW6010	18MC-L02W-S06-Z2	MS	Lead - Total	980	51	9999	1	75	125	4X
SW6010	18MC-L02W-S06-Z2	MSD	Lead - Total	980	51.2	-672	1	75	125	4X
SW6010	18MC-L02W-S06-Z2	MSD	Magnesium - Total	9340	2560	318	1	75	125	J
SW6010	18MC-L02W-S06-Z2	MS	Manganese - Total	381	51	-154	1	75	125	4X
SW6010	18MC-L02W-S06-Z2	MSD	Manganese - Total	381	51.2	378	1	75	125	4X
SW6010	18MC-L02W-S06-Z2	MS	Nickel - Total	37.8	51	47	1	75	125	J
SW6010	18MC-L02W-S06-Z2	MSD	Nickel - Total	37.8	51.2	52	1	75	125	J
SW6010	18MC-L02W-S06-Z2	MS	Zinc - Total	408	51	223	1	75	125	4X
SW6010	18MC-L02W-S06-Z2	MSD	Zinc - Total	408	51.2	-58	1	75	125	4X
SW6010	18MC-L03W-S02-Z1	MS	Arsenic - Total	4.3	45.59	74	1	75	125	J
SW6010	18MC-L03W-S02-Z1	MSD	Arsenic - Total	4.3	49.64	60	1	75	125	J
SW6010	18MC-L03W-S02-Z1	MS	Chromium - Total	5.4	45.59	72	1	75	125	J
SW6010	18MC-L03W-S02-Z1	MSD	Chromium - Total	5.4	49.64	57	1	75	125	J
SW6010	18MC-L03W-S02-Z1	MSD	Copper - Total	16.3	49.64	58	1	75	125	J
SW6010	18MC-L03W-S02-Z1	MS	Lead - Total	75.1	45.59	66	1	75	125	J
SW6010	18MC-L03W-S02-Z1	MSD	Lead - Total	75.1	49.64	26	1	75	125	J
SW6010	18MC-L03W-S02-Z1	MSD	Zinc - Total	60.5	49.64	28	1	75	125	J

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW6010	18MC-L03W-S02-Z1	MSD	Arsenic - Total	21	20	J
SW6010	18MC-L02W-S06-Z2	MSD	Calcium - Total	266	20	Diluted Out
SW6010	18MC-L02W-S06-Z2	MSD	Chromium - Total	195	20	J
SW6010	18MC-L03W-S02-Z1	MSD	Chromium - Total	23	20	J
SW6010	18MC-L02W-S06-Z2	MSD	Copper - Total	127	20	J
SW6010	18MC-L03W-S02-Z1	MSD	Copper - Total	31	20	J
SW6010	18MC-L02W-S06-Z2	MSD	Iron - Total	26	20	J
SW6010	18MC-L02W-S06-Z2	MSD	Lead - Total	223	20	J
SW6010	18MC-L03W-S02-Z1	MSD	Lead - Total	87	20	J
SW6010	18MC-L02W-S06-Z2	MSD	Magnesium - Total	93	20	J
SW6010	18MC-L02W-S06-Z2	MSD	Manganese - Total	475	20	J
SW6010	18MC-L02W-S06-Z2	MSD	Zinc - Total	341	20	J
SW6010	18MC-L03W-S02-Z1	MSD	Zinc - Total	100	20	J

Table 5 - List LCS Recoveries outside Control Limits
None

Table 6 –Samples that were Reanalyzed
None

Table 7 – Summary of Field Duplicate Results
NA

Data Usability Summary Report	Project: 18 Mile Creek A07-4049
Date Completed: June 11, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby STL Buffalo	A07-4049
Ecology and Environment NYSDEC Standby STL Buffalo	A07-4121
Subcontract TOC Analysis STL Burlington	A074053

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-4049	SEDIM	18MC-L05W-S02-Z2	A7404901	4/19/2007			None
A07-4049	SEDIM	18MC-L05W-S03-Z1	A7404902	4/19/2007			None
A07-4049	SEDIM	18MC-L05W-S03-Z2	A7404903	4/19/2007			None
A07-4049	SEDIM	18MC-L05W-S03-Z3	A7404904	4/19/2007			None
A07-4049	SEDIM	18MC-L06-S02-Z1	A7404905	4/19/2007			None
A07-4049	SEDIM	18MC-L06-S02-Z2	A7404906	4/19/2007			None
A07-4049	SEDIM	18MC-L06-S03-Z1	A7404907	4/19/2007			None
A07-4049	SEDIM	18MC-L06-S03-Z2	A7404908	4/19/2007			None
A07-4049	SEDIM	18MC-L06-S03-Z1/D	A7404909	4/19/2007			None
A07-4049	SEDIM	18MC-L04W-S01-Z1	A7404910	4/19/2007			None
A07-4049	SEDIM	18MC-L04W-S01-Z1	A7404910MS	4/19/2007	MS/MSD	*	None
A07-4049	SEDIM	18MC-L04W-S01-Z1	A7404910SD	4/19/2007	MS/MSD	*	None
A07-4049	SEDIM	18MC-L05W-S01-Z1	A7404911	4/19/2007			None
A074053	SOIL	18MC-L05W-S02-Z2	708207	4/18/2007			None
A074053	SOIL	18MC-L06-S02-Z1	708208	4/18/2007			None
A074053	SOIL	18MC-L06-S02-Z2	708209	4/18/2007			None
A07-4121	SOIL	18MC-L02E-S05-Z2/D	A7412101	4/20/2007			None
A07-4121	SOIL	18MC-L03E-S02-Z1	A7412102	4/20/2007			None
A07-4121	SOIL	18MC-L03E-S02-Z1	A7412102RE	4/20/2007			None
A07-4121	SOIL	18MC-L03E-S04-Z2	A7412103	4/20/2007			None
A07-4121	SOIL	18MC-L03E-S04-Z2	A7412103MS	4/20/2007	MS/MSD	*	None
A07-4121	SOIL	18MC-L03E-S04-Z2	A7412103SD	4/20/2007	MS/MSD	*	None
A07-4121	SEDIM	18MC-L03E-S01-Z1	A7412104	4/20/2007			None
A07-4121	SEDIM	18MC-L03E-S01-Z1	A7412104MS	4/20/2007	MS/MSD	*	None
A07-4121	SEDIM	18MC-L03E-S01-Z1	A7412104SD	4/20/2007	MS/MSD	*	None
A07-4121	SEDIM	18MC-L03E-S03-Z1	A7412105	4/20/2007			None
A07-4121	SEDIM	18MC-L03E-S03-Z1/D	A7412106	4/20/2007			None

Data Usability Summary Report	Project: 18 Mile Creek A07-4049
Date Completed: June 11, 2007	Completed by: B. Krajewski

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-4121	SOIL	18MC-L03E-S05-Z1	A7412107	4/20/2007			None
A07-4121	SOIL	18MC-L03E-S05-Z1	A7412107RE	4/20/2007			None
A07-4121	SOIL	18MC-L03E-S05-Z2	A7412108	4/20/2007			None
A07-4121	SOIL	18MC-L03E-S05-Z3	A7412109	4/20/2007			None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-4049	SEDIM	SW6010	**ASP05** ARSENIC - TOTAL - S	11	SAMP
A07-4049	SEDIM	SW6010	**ASP05** CHROMIUM - TOTAL - S	11	SAMP
A07-4049	SEDIM	SW6010	**ASP05** COPPER - TOTAL - S	11	SAMP
A07-4049	SEDIM	SW6010	**ASP05** LEAD - TOTAL - S	11	SAMP
A07-4049	SEDIM	SW6010	**ASP05** ZINC - TOTAL - S	11	SAMP
A07-4049	SEDIM	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	3	SAMP
A07-4049	SEDIM	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	11	SAMP
A07-4049	SEDIM	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	3	SAMP
A074053	SOIL	IN623	Wet Chem	3	SAMP
A074053	SOIL	IN847 SOIL	Wet Chem	3	SAMP
A07-4121	SEDIM	SW6010	**ASP05** ARSENIC - TOTAL - S	3	SAMP
A07-4121	SEDIM	SW6010	**ASP05** CHROMIUM - TOTAL - S	3	SAMP
A07-4121	SEDIM	SW6010	**ASP05** COPPER - TOTAL - S	3	SAMP
A07-4121	SEDIM	SW6010	**ASP05** LEAD - TOTAL - S	3	SAMP
A07-4121	SEDIM	SW6010	**ASP05** ZINC - TOTAL - S	3	SAMP
A07-4121	SEDIM	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	3	SAMP
A07-4121	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	5	SAMP
A07-4121	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	5	SAMP
A07-4121	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	6	SAMP
A07-4121	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	5	SAMP
A07-4121	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	5	SAMP
A07-4121	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	5	SAMP
A07-4121	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	5	SAMP
A07-4121	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	6	SAMP
A07-4121	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	5	SAMP
A07-4121	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	6	SAMP
A07-4121	SOIL	SW6010	**ASP05** IRON - TOTAL - S	5	SAMP
A07-4121	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	6	SAMP
A07-4121	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	5	SAMP
A07-4121	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	5	SAMP
A07-4121	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	5	SAMP

Data Usability Summary Report	Project: 18 Mile Creek A07-4049
Date Completed: June 11, 2007	Completed by: B. Krajewski

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-4121	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	5	SAMP
A07-4121	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	5	SAMP
A07-4121	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	5	SAMP
A07-4121	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	5	SAMP
A07-4121	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	5	SAMP
A07-4121	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	5	SAMP
A07-4121	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	6	SAMP
A07-4121	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	5	SAMP
A07-4121	SOIL	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	2	SAMP
A07-4121	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	6	SAMP
A07-4121	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	2	RA

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes – Sample 18MC-L05W-S01-Z1 not listed on COC. Lab analyzed sample based on containers received.
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Trip blank not required. Field duplicate collected.
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations (See table below)?	No - All samples were prepared and analyzed within method holding times. Samples listed in table below were prepared after NYSDEC contractual hold time expired. No results were qualified based on hold time.

Method	Sample ID	Sample Date	Matrix	Sample Type	PrepHT	Prep Date	AnalHT	Analysis Date	Samp Qual
SW8270	18MC-L03E-S02-Z1	4/20/2007	SOIL	RA	5	4/27/2007	40	5/2/2007	None
SW8270	18MC-L03E-S05-Z1	4/20/2007	SOIL	RA	5	4/27/2007	40	5/2/2007	None

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)

- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	No – Acetophenone LCS recovery slightly low. “UJ” qualifier applied.
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 20.5%D.	No – Dimethylphthalate, 3-nitroaniline, 4-chlorophenyl phenyl ether and 2,3,4,6-tetrachlorphenol >20.5%D. Response factors acceptable; compounds not detected – No qualifier applied
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
For TICs are there any system related compounds that should not be reported?	No
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	Yes

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes – Either TCMX or DCB acceptable for all samples.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes

Data Usability Summary Report	Project: 18 Mile Creek A07-4049
Date Completed: June 11, 2007	Completed by: B. Krajewski

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes – Acceptable for primary column
Is continuing calibration for target compounds < 15.5%D.	Yes – Acceptable for primary column
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
Spot check retention time windows and second column confirmations as complete.	Acceptable. - "J" qualifier applied to compounds with %D in concentration between compounds >25%
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No
For samples, if results are <5 times the blank then "U" flag data.	NA
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes – Al, Ba, Cr, V qualified "J" for soils and Cr, Pb and Zn qualified "J" for sediments
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	No

Data Usability Summary Report	Project: 18 Mile Creek A07-4049
Date Completed: June 11, 2007	Completed by: B. Krajewski

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Qualifiers applied based on method blanks, matrix spike recoveries, serial dilution, RPD values and the difference in pesticide primary/confirmation column concentrations. Benz(b)fluoranthene and benzo(k)fluoranthene peaks could not be resolved. Positive results qualified "J".

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW8081	A7B0595302	MBLK	alpha-BHC	0.62	J	A	µg/Kg	0.40	1.6
SW8081	A7B0595302	MBLK	Dieldrin	0.52	J	A	µg/Kg	0.40	1.6
SW8081	A7B0595302	MBLK	Endrin	1.6		A	µg/Kg	0.54	1.6
SW8081	A7B0595302	MBLK	gamma-Chlordane	2.2		A	µg/Kg	0.40	1.6
SW8270	A7B0578902	MBLK	Bis(2-ethylhexyl) phthalate	100	J	A	µg/Kg	54	170
SW8270	A7B0626002	MBLK	Bis(2-ethylhexyl) phthalate	91	J	A	µg/Kg	54	170

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8081	A7B0595302	SEDIM	alpha-BHC	0.62	6.9	BJ	20	18MC-L06-S02-Z2	Not Qualified
SW8081	A7B0595302	SEDIM	alpha-BHC	0.62	8.4	BJ	25	18MC-L05W-S02-Z2	Not Qualified
SW8081	A7B0595302	SOIL	alpha-BHC	0.62	1.0	BJ	2.2	18MC-L03E-S05-Z1	U Flag
SW8081	A7B0595302	SOIL	alpha-BHC	0.62	8.2	BJ	23	18MC-L03E-S02-Z1	Not Qualified
SW8081	A7B0595302	SEDIM	Dieldrin	0.52	6.7	BJ	24	18MC-L06-S02-Z1	Not Qualified
SW8081	A7B0595302	SOIL	Dieldrin	0.52	1.8	BJ	2.2	18MC-L03E-S05-Z1	U Flag
SW8081	A7B0595302	SOIL	Dieldrin	0.52	8.2	BJ	23	18MC-L03E-S02-Z1	Not Qualified
SW8081	A7B0595302	SEDIM	gamma-Chlordane	2.2	6.3	BJ	24	18MC-L06-S02-Z1	U Flag
SW8081	A7B0595302	SOIL	gamma-Chlordane	2.2	4.9	B	2.2	18MC-L03E-S05-Z1	U Flag
SW8081	A7B0595302	SOIL	gamma-Chlordane	2.2	14	BJ	23	18MC-L03E-S02-Z1	J Qualified – Suspect GPC carryover
SW8270	A7B0626002	SOIL	Bis(2-ethylhexyl) phthalate	91	100	BJ	230	18MC-L03E-S05-Z1	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8082	18MC-L02E-S05-Z2/D	SAMP	Tetrachloro-m-xylene	135	35	134	1	None
SW8082	18MC-L05W-S03-Z1	SAMP	Decachlorobiphenyl	304	34	148	1	None
SW8082	18MC-L05W-S03-Z2	SAMP	Decachlorobiphenyl	592	34	148	1	None
SW8081	18MC-L06-S02-Z1	SAMP	Decachlorobiphenyl	0	42	146	10	Diluted Out
SW8081	18MC-L06-S02-Z2	SAMP	Decachlorobiphenyl	30	42	146	10	Diluted Out

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW6010	18MC-L03E-S01-Z1	MSD	Arsenic - Total	4.1	48.64	58	1	75	125	J
SW6010	18MC-L03E-S01-Z1	MSD	Chromium - Total	19.5	48.64	53	1	75	125	J
SW6010	18MC-L03E-S01-Z1	MS	Copper - Total	70.2	47.67	155	1	75	125	J
SW6010	18MC-L03E-S01-Z1	MSD	Copper - Total	70.2	48.64	36	1	75	125	J
SW6010	18MC-L03E-S01-Z1	MS	Lead - Total	175	47.67	228	1	75	125	J
SW6010	18MC-L03E-S01-Z1	MSD	Lead - Total	175	48.64	22	1	75	125	J
SW6010	18MC-L03E-S01-Z1	MS	Zinc - Total	275	47.67	181	1	75	125	4X
SW6010	18MC-L03E-S01-Z1	MSD	Zinc - Total	275	48.64	-48	1	75	125	4X
SW6010	18MC-L03E-S04-Z2	MS	Aluminum - Total	4080	2253	39	1	75	125	J
SW6010	18MC-L03E-S04-Z2	MS	Antimony - Total	<0.54	45.07	43	1	75	125	J
SW6010	18MC-L03E-S04-Z2	MSD	Antimony - Total	<0.54	45.07	44	1	75	125	J
SW6010	18MC-L03E-S04-Z2	MS	Barium - Total	21.4	45.07	63	1	75	125	J
SW6010	18MC-L03E-S04-Z2	MS	Beryllium - Total	0.31	45.07	74	1	75	125	J
SW6010	18MC-L03E-S04-Z2	MS	Cadmium - Total	<0.040	45.07	72	1	75	125	J
SW6010	18MC-L03E-S04-Z2	MS	Calcium - Total	157000	2253	-341	5	75	125	4X
SW6010	18MC-L03E-S04-Z2	MSD	Calcium - Total	157000	2253	-575	5	75	125	4X
SW6010	18MC-L03E-S04-Z2	MS	Chromium - Total	5.4	45.07	71	1	75	125	J
SW6010	18MC-L03E-S04-Z2	MS	Cobalt - Total	4.1	45.07	70	1	75	125	J
SW6010	18MC-L03E-S04-Z2	MS	Copper - Total	12.0	45.07	74	1	75	125	J

Data Usability Summary Report	Project: 18 Mile Creek A07-4049
Date Completed: June 11, 2007	Completed by: B. Krajewski

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW6010	18MC-L03E-S04-Z2	MS	Iron - Total	8710	2253	25	1	75	125	J
SW6010	18MC-L03E-S04-Z2	MS	Lead - Total	37.5	45.07	60	1	75	125	J
SW6010	18MC-L03E-S04-Z2	MS	Magnesium - Total	24000	2253	153	1	75	125	4X
SW6010	18MC-L03E-S04-Z2	MSD	Magnesium - Total	24000	2253	509	1	75	125	4X
SW6010	18MC-L03E-S04-Z2	MS	Manganese - Total	327	45.07	-2	1	75	125	4X
SW6010	18MC-L03E-S04-Z2	MSD	Manganese - Total	327	45.07	175	1	75	125	4X
SW6010	18MC-L03E-S04-Z2	MS	Nickel - Total	9.7	45.07	71	1	75	125	J
SW6010	18MC-L03E-S04-Z2	MS	Potassium - Total	2070	2253	62	1	75	125	J
SW6010	18MC-L03E-S04-Z2	MS	Vanadium - Total	6.4	45.07	74	1	75	125	J
SW6010	18MC-L03E-S04-Z2	MS	Zinc - Total	22.7	45.07	68	1	75	125	J

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW6010	18MC-L03E-S04-Z2	MSD	Aluminum - Total	85	20	J
SW6010	18MC-L03E-S01-Z1	MSD	Arsenic - Total	48	20	J
SW6010	18MC-L03E-S04-Z2	MSD	Barium - Total	28	20	J
SW6010	18MC-L03E-S04-Z2	MSD	Calcium - Total	51	20	Diluted Out
SW6010	18MC-L03E-S01-Z1	MSD	Chromium - Total	64	20	J
SW6010	18MC-L03E-S01-Z1	MSD	Copper - Total	125	20	J
SW6010	18MC-L03E-S04-Z2	MSD	Copper - Total	26	20	J
SW6010	18MC-L03E-S04-Z2	MSD	Iron - Total	109	20	J
SW6010	18MC-L03E-S01-Z1	MSD	Lead - Total	165	20	J
SW6010	18MC-L03E-S04-Z2	MSD	Lead - Total	47	20	J
SW6010	18MC-L03E-S04-Z2	MSD	Magnesium - Total	108	20	J
SW6010	18MC-L03E-S04-Z2	MSD	Manganese - Total	205	20	J
SW6010	18MC-L03E-S04-Z2	MSD	Potassium - Total	51	20	J
SW6010	18MC-L03E-S01-Z1	MSD	Zinc - Total	344	20	J
SW6010	18MC-L03E-S04-Z2	MSD	Zinc - Total	32	20	J
SW7471	18MC-L03E-S04-Z2	MSD	Mercury - Total	25	20	J

Table 5 - List LCS Recoveries outside Control Limits

Method	Sample ID	Analyte	Rec.	Low Limit	High Limit	No. of Affected Samples	Samp Qual
SW8270	A7B0626001	Acetophenone	65	66	120	2	UJ Flag

Table 6 –Samples that were Reanalyzed

Sample ID	Lab ID	Method	Sample Type	Action
18MC-L03E-S02-Z1	A7412102RE	SW8270	RA	Reported
18MC-L03E-S05-Z1	A7412107RE	SW8270	RA	Reported

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	Anal Type	PQL	18MC-L06-S03-Z1	18MC-L06-S03-Z1/D	RPD	RPD Rating	Samp Qual
SW6010	Arsenic - Total	mg/Kg	A	0.50	3.9	5.0	24.7%	Good	None
SW6010	Chromium - Total	mg/Kg	A	0.12	10.3	12.3	17.7%	Good	None
SW6010	Copper - Total	mg/Kg	A	0.15	56.9	68.6	18.6%	Good	None
SW6010	Lead - Total	mg/Kg	A	0.37	88.5	170	63.1%	Good	None

Method	Analyte	Unit	Anal Type	PQL	18MC-L03E-S03-Z1	18MC-L03E-S03-Z1/D	RPD	RPD Rating	Samp Qual
SW6010	Arsenic - Total	mg/Kg	A	0.50	6.1	5.0	19.8%	Good	None
SW6010	Chromium - Total	mg/Kg	A	0.12	10.8	8.3	26.2%	Good	None
SW6010	Copper - Total	mg/Kg	A	0.15	44.5	32.0	32.7%	Good	None
SW6010	Lead - Total	mg/Kg	A	0.37	202	165	20.2%	Good	None

Method	Analyte	Unit	Anal Type	PQL	18MC-L02E-S05-Z2	18MC-L02E-S05-Z2/D	RPD	RPD Rating	Samp Qual
SW7471	Mercury - Total	mg/Kg	A	0.006	0.094	0.147	-44.0	Good	None

Data Usability Summary Report	Project: 18 Mile Creek A07-4049
Date Completed: June 11, 2007	Completed by: B. Krajewski

Method	Analyte	Unit	Anal Type	PQL	18MC-L02E-S05-Z2	18MC-L02E-S05-Z2/D	RPD	RPD Rating	Samp Qual
SW6010	Aluminum - Total	mg/Kg	A	3.3	4770	4700	1.5	Good	None
SW6010	Antimony - Total	mg/Kg	A	0.69	1.5	1.8	-18.2	Good	None
SW6010	Arsenic - Total	mg/Kg	A	0.50	11.7	15.4	-27.3	Good	None
SW6010	Barium - Total	mg/Kg	A	0.06	415	368	12.0	Good	None
SW6010	Beryllium - Total	mg/Kg	A	0.04	0.33	0.41	-21.6	Good	None
SW6010	Cadmium - Total	mg/Kg	A	0.05	6.6	5.3	21.8	Good	None
SW6010	Calcium - Total	mg/Kg	A	12.7	9360	17800	-62.2	Poor	J
SW6010	Chromium - Total	mg/Kg	A	0.12	21.2	38.8	-58.7	Poor	J
SW6010	Cobalt - Total	mg/Kg	A	0.14	4.8	6.0	-22.2	Good	None
SW6010	Copper - Total	mg/Kg	A	0.15	207	244	-16.4	Good	None
SW6010	Iron - Total	mg/Kg	A	3.8	18400	28000	-41.4	Good	None
SW6010	Lead - Total	mg/Kg	A	0.37	2590	1030	86.2	Poor	None
SW6010	Magnesium - Total	mg/Kg	A	5.3	2740	3580	-26.6	Good	None
SW6010	Manganese - Total	mg/Kg	A	0.13	211	343	-47.7	Good	None
SW6010	Nickel - Total	mg/Kg	A	0.18	21.4	34.2	-46.0	Good	None
SW6010	Potassium - Total	mg/Kg	A	10.7	593	754	-23.9	Good	None
SW6010	Silver - Total	mg/Kg	A	0.19	0.3	0.25	18.2	Good	None
SW6010	Sodium - Total	mg/Kg	A	39.4	263	240	9.1	Good	None
SW6010	Vanadium - Total	mg/Kg	A	0.12	9.6	10.8	-11.8	Good	None
SW6010	Zinc - Total	mg/Kg	A	715	772	553	33.1	Good	None
SW6010	Selenium - Total	mg/Kg	A	0.75	0.83	ND	NC	Good	None
SW8082	Aroclor 1260	mg/Kg	A	21	0.46	0.43	6.7%	Good	None

Method	Analyte	Unit	Anal Type	PQL	18MC-L02W-S02-Z2	18MC-L02W-S02-Z2/D	RPD	RPD Rating	Samp Qual
SMKAHN	Total Organic Carbon	mg/Kg	A	715	31000	315000	1.6%	Good	None

Data Usability Summary Report	Project: 18 Mile Creek A07-4119
Date Completed: June 11, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby STL Buffalo	A07-4119
Ecology and Environment NYSDEC Standby STL Buffalo	A07-4120
Subcontract TOC Analysis to STL Burlington	A074125
Subcontract TOC Analysis to STL Burlington	A074126

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-4119	SOIL	18MC-L04W-S04-Z1	A7411901	4/20/2007			None
A07-4119	SOIL	18MC-L04W-S04-Z1	A7411901MS	4/20/2007	MS/MSD		None
A07-4119	SOIL	18MC-L04W-S04-Z1	A7411901RE	4/20/2007			None
A07-4119	SOIL	18MC-L04W-S04-Z1	A7411901SD	4/20/2007	MS/MSD		None
A07-4119	SOIL	18MC-L04W-S04-Z2	A7411902	4/20/2007			None
A07-4119	SEDIM	18MC-L04W-S02-Z1	A7411903	4/20/2007			None
A07-4119	SEDIM	18MC-L04W-S02-Z1	A7411903RE	4/20/2007			None
A07-4119	SEDIM	18MC-L04W-S02-Z2	A7411904	4/20/2007			None
A07-4119	SEDIM	18MC-L04W-S02-Z2	A7411904RE	4/20/2007			None
A07-4119	SEDIM	18MC-L04W-S03-Z1	A7411905	4/20/2007			None
A07-4119	SOIL	18MC-L04W-S05-Z1	A7411906	4/20/2007			None
A07-4119	SOIL	18MC-L05W-S04-Z1	A7411907	4/20/2007			None
A07-4119	SOIL	18MC-L05W-S04-Z1	A7411907RE	4/20/2007			None
A07-4119	SOIL	18MC-L05W-S04-Z2	A7411908	4/20/2007			None
A07-4119	SOIL	18MC-L04W-S05-Z2	A7411909	4/20/2007			None
A07-4119	SEDIM	18MC-L01E-S01-Z1	A7411910	4/20/2007			None
A07-4119	SEDIM	18MC-L01E-S01-Z1	A7411910RE	4/20/2007			None

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-4120	SEDIM	18MC-L01E-S03-Z1	A7412001	4/20/2007			None
A07-4120	SEDIM	18MC-L01E-S03-Z1	A7412001RE	4/20/2007			None
A07-4120	SEDIM	18MC-L01E-S03-Z2	A7412002	4/20/2007			None
A07-4120	SOIL	18MC-L02E-S04-Z1	A7412003	4/20/2007			None
A07-4120	SOIL	18MC-L02E-S04-Z1	A7412003RE	4/20/2007			None
A07-4120	SOIL	18MC-L03E-S04-Z1	A7412004	4/20/2007			None
A07-4120	SEDIM	18MC-L02E-S02-Z1	A7412005	4/20/2007			None
A07-4120	SEDIM	18MC-L02E-S02-Z1	A7412005RE	4/20/2007			None
A07-4120	SEDIM	18MC-L02E-S01-Z1	A7412006	4/20/2007			None
A07-4120	SOIL	18MC-L02E-S04-Z2	A7412007	4/20/2007			None
A07-4120	SEDIM	18MC-L02E-S03-Z1	A7412008	4/20/2007			None
A07-4120	SOIL	18MC-L02E-S05-Z1	A7412009	4/20/2007			None
A07-4120	SOIL	18MC-L02E-S05-Z2	A7412010	4/20/2007			None
A074125	SOIL	18MC-L04W-S02-Z1	708216	4/20/2007			None
A074125	SOIL	18MC-L04W-S02-Z2	708217	4/20/2007			None
A074125	SOIL	18MC-L01E-S01-Z1	708218	4/20/2007			None
A074126	SOIL	18MC-L01E-S03-Z1	708219	4/20/2007			None
A074126	SOIL	18MC-L02E-S02-Z1	708220	4/20/2007			None
A074126	SOIL	18MC-L03E-S02-Z1	708221	4/20/2007			None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-4119	SEDIM	SW6010	**ASP05** ARSENIC - TOTAL - S	4	SAMP
A07-4119	SEDIM	SW6010	**ASP05** CHROMIUM - TOTAL - S	4	SAMP
A07-4119	SEDIM	SW6010	**ASP05** COPPER - TOTAL - S	4	SAMP
A07-4119	SEDIM	SW6010	**ASP05** LEAD - TOTAL - S	4	SAMP
A07-4119	SEDIM	SW6010	**ASP05** ZINC - TOTAL - S	4	SAMP
A07-4119	SEDIM	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	3	SAMP
A07-4119	SEDIM	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	4	SAMP
A07-4119	SEDIM	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	3	RA
A07-4119	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	6	SAMP

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-4119	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** IRON - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	6	SAMP
A07-4119	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	6	SAMP
A07-4119	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	6	SAMP
A07-4119	SOIL	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	2	SAMP
A07-4119	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	6	SAMP
A07-4119	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	2	RA
A07-4120	SEDIM	SW6010	**ASP05** ARSENIC - TOTAL - S	5	SAMP
A07-4120	SEDIM	SW6010	**ASP05** CHROMIUM - TOTAL - S	5	SAMP
A07-4120	SEDIM	SW6010	**ASP05** COPPER - TOTAL - S	5	SAMP
A07-4120	SEDIM	SW6010	**ASP05** LEAD - TOTAL - S	5	SAMP
A07-4120	SEDIM	SW6010	**ASP05** ZINC - TOTAL - S	5	SAMP
A07-4120	SEDIM	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	2	SAMP
A07-4120	SEDIM	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	5	SAMP
A07-4120	SEDIM	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	2	RA
A07-4120	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** IRON - TOTAL - S	5	SAMP

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-4120	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	5	SAMP
A07-4120	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	5	SAMP
A07-4120	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	5	SAMP
A07-4120	SOIL	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	1	SAMP
A07-4120	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	5	SAMP
A07-4120	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	1	RA
A074125	SOIL	IN623	Wet Chem	3	SAMP
A074125	SOIL	IN847 SOIL	Wet Chem	3	SAMP
A074126	SOIL	IN623	Wet Chem	3	SAMP
A074126	SOIL	IN847 SOIL	Wet Chem	3	SAMP

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Trip blank not required. Field duplicate of sample 18MC-L02E-S05-Z2 reported in SDG A07-4049.
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations (See table below)?	No - All samples were prepared and analyzed within method holding times. Samples listed in table below were prepared after NYSDEC contractual hold time expired. No results were qualified based on hold time.

Method	Sample ID	Sample Date	Matrix	Sample Type	PrepHT	Prep Date	AnalHT	Analysis Date	Samp Qual
SW8270	18MC-L01E-S01-Z1	4/20/2007	SEDIM	RA	5	4/27/2007	40	5/2/2007	None
SW8270	18MC-L01E-S03-Z1	4/20/2007	SEDIM	RA	5	4/27/2007	40	5/2/2007	None
SW8270	18MC-L02E-S02-Z1	4/20/2007	SEDIM	RA	5	4/27/2007	40	5/2/2007	None
SW8270	18MC-L04W-S02-Z1	4/20/2007	SEDIM	RA	5	4/27/2007	40	5/2/2007	None
SW8270	18MC-L04W-S02-Z2	4/20/2007	SEDIM	RA	5	4/27/2007	40	5/2/2007	None
SW8270	18MC-L02E-S04-Z1	4/20/2007	SOIL	RA	5	4/27/2007	40	5/2/2007	None
SW8270	18MC-L04W-S04-Z1	4/20/2007	SOIL	RA	5	4/27/2007	40	5/2/2007	None
SW8270	18MC-L05W-S04-Z1	4/20/2007	SOIL	RA	5	4/27/2007	40	5/2/2007	None

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	No – Acetophenone LCS recovery slightly low. "UJ" qualifier applied.
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 20.5%D.	Yes
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.

Data Usability Summary Report	Project: 18 Mile Creek A07-4119
Date Completed: June 11, 2007	Completed by: B. Krajewski

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
For TICs are there any system related compounds that should not be reported?	No
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	Yes

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes – Either TCMX or DCB acceptable for all samples.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes – Diluted Out
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes – Acceptable for primary column
Is continuing calibration for target compounds < 15.5%D.	Yes – Acceptable for primary column
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
Spot check retention time windows and second column confirmations as complete.	Acceptable. - "J" qualifier applied to compounds with %D in concentration between compounds >25%
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes
For samples, if results are <5 times the blank then "U" flag data.	No sample results qualified based on method blank results.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data	Yes- Cr, Mn, Zn results "J" qualified

Data Usability Summary Report	Project: 18 Mile Creek A07-4119
Date Completed: June 11, 2007	Completed by: B. Krajewski

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
reported with an "E" as "J".	
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	No

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Qualifiers applied based on method blanks, matrix spike and LCS recoveries, serial dilution, RPD values and the difference in pesticide primary/confirmation column concentrations. Benz(b)fluoranthene and benzo(k)fluoranthene peaks could not be resolved. Positive results qualified "J".

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW6010	A7411912	MBLK	Chromium - Total	0.095	B	A	mg/Kg	0.090	0.090
SW6010	A7411912	MBLK	Zinc - Total	0.653	B	A	mg/Kg	0.40	0.400
SW8081	A7B0595302	MBLK	alpha-BHC	0.62	J	A	µg/Kg	0.40	1.6
SW8081	A7B0595302	MBLK	Dieldrin	0.52	J	A	µg/Kg	0.40	1.6
SW8081	A7B0595302	MBLK	Endrin	1.6		A	µg/Kg	0.54	1.6
SW8081	A7B0595302	MBLK	gamma-Chlordane	2.2		A	µg/Kg	0.40	1.6
SW8270	A7B0626002	MBLK	Bis(2-ethylhexyl) phthalate	91	J	A	µg/Kg	54	170

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8081	A7B0595302	SEDIM	alpha-BHC	0.62	0.76	BJ	2.0	18MC-L04W-S02-Z2	U Flag
SW8081	A7B0595302	SEDIM	alpha-BHC	0.62	6.8	BJ	17	18MC-L02E-S02-Z1	Not Qualified
SW8081	A7B0595302	SEDIM	alpha-BHC	0.62	7.2	BJ	21	18MC-L01E-S03-Z1	Not Qualified
SW8081	A7B0595302	SEDIM	alpha-BHC	0.62	8.0	BJ	24	18MC-L04W-S02-Z1	Not Qualified
SW8081	A7B0595302	SOIL	alpha-BHC	0.62	0.73	BJ	1.8	18MC-L05W-S04-Z1	U Flag
SW8081	A7B0595302	SOIL	alpha-BHC	0.62	6.1	BJ	18	18MC-L02E-S04-Z1	Not Qualified
SW8081	A7B0595302	SOIL	alpha-BHC	0.62	7.2	BJ	21	18MC-L04W-S04-Z1	Not Qualified
SW8081	A7B0595302	SEDIM	Dieldrin	0.52	370	B	17	18MC-L02E-S02-Z1	Not Qualified
SW8081	A7B0595302	SOIL	Dieldrin	0.52	1.9	B	1.8	18MC-L05W-S04-Z1	U Flag
SW8081	A7B0595302	SOIL	Dieldrin	0.52	14	BJ	18	18MC-L02E-S04-Z1	Not Qualified
SW8081	A7B0595302	SEDIM	gamma-Chlordane	2.2	160	B	17	18MC-L02E-S02-Z1	J Qualified – Suspect GPC carryover
SW8081	A7B0595302	SEDIM	gamma-Chlordane	2.2	4.2	B	2.0	18MC-L04W-S02-Z2	U Flag
SW8081	A7B0595302	SEDIM	gamma-Chlordane	2.2	6.8	BJ	21	18MC-L01E-S03-Z1	U Flag
SW8081	A7B0595302	SEDIM	gamma-Chlordane	2.2	7.6	BJ	24	18MC-L04W-S02-Z1	U Flag
SW8081	A7B0595302	SOIL	gamma-Chlordane	2.2	1.3	BJ	1.8	18MC-L05W-S04-Z1	U Flag
SW8081	A7B0595302	SOIL	gamma-Chlordane	2.2	15	BJ	18	18MC-L02E-S04-Z1	Not Qualified
SW8270	A7B0626002	SEDIM	Bis(2-ethylhexyl) phthalate	91	110	BJ	200	18MC-L04W-S02-Z2	U Flag
SW8270	A7B0626002	SEDIM	Bis(2-ethylhexyl) phthalate	91	120	BJ	170	18MC-L02E-S02-Z1	U Flag

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8270	A7B0626002	SEDIM	Bis(2-ethylhexyl) phthalate	91	140	BJ	210	18MC-L01E-S01-Z1	U Flag
SW8270	A7B0626002	SEDIM	Bis(2-ethylhexyl) phthalate	91	180	BJ	220	18MC-L01E-S03-Z1	U Flag
SW8270	A7B0626002	SOIL	Bis(2-ethylhexyl) phthalate	91	70	BJ	190	18MC-L05W-S04-Z1	U Flag
SW8270	A7B0626002	SOIL	Bis(2-ethylhexyl) phthalate	91	86	BJ	190	18MC-L02E-S04-Z1	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8082	18MC-L01E-S01-Z1	SAMP	Decachlorobiphenyl	282	34	148	1	None
SW8082	18MC-L02E-S01-Z1	SAMP	Tetrachloro-m-xylene	180	35	134	5	Diluted Out
SW8081	18MC-L01E-S01-Z1	SAMP	Decachlorobiphenyl	15	42	146	10	Diluted Out
SW8081	18MC-L01E-S03-Z1	SAMP	Decachlorobiphenyl	40	42	146	10	Diluted Out
SW8081	18MC-L04W-S02-Z1	SAMP	Decachlorobiphenyl	210	42	146	10	Diluted Out
SW8081	18MC-L04W-S04-Z1	SAMP	Decachlorobiphenyl	495	42	146	10	Diluted Out
SW8081	18MC-L04W-S04-Z1	MSD	Decachlorobiphenyl	815	42	146	10	Diluted Out
SW8081	18MC-L04W-S04-Z1	MS	Decachlorobiphenyl	465	42	146	10	Diluted Out

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW8081	18MC-L04W-S04-Z1	MS	4,4'-DDD	<0.31	21.5	136	10	33	127	Diluted Out
SW8081	18MC-L04W-S04-Z1	MSD	4,4'-DDD	<0.31	21.5	228	10	33	127	Diluted Out
SW8081	18MC-L04W-S04-Z1	MSD	4,4'-DDT	21	21.5	217	10	47	145	Diluted Out
SW8081	18MC-L04W-S04-Z1	MS	beta-BHC	<0.50	21.5	164	10	35	133	Diluted Out
SW8081	18MC-L04W-S04-Z1	MS	Dieldrin	<0.40	21.5	134	10	36	120	Diluted Out
SW8081	18MC-L04W-S04-Z1	MSD	Dieldrin	<0.40	21.5	160	10	36	120	Diluted Out
SW8081	18MC-L04W-S04-Z1	MSD	Endosulfan II	11	21.5	131	10	39	121	Diluted Out
SW8081	18MC-L04W-S04-Z1	MSD	Endosulfan Sulfate	<0.31	21.5	170	10	43	120	Diluted Out
SW8081	18MC-L04W-S04-Z1	MSD	Endrin	<0.54	21.5	160	10	39	126	Diluted Out

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW8081	18MC-L04W-S04-Z1	MSD	Endrin aldehyde	<0.68	21.5	254	10	33	120	Diluted Out
SW8081	18MC-L04W-S04-Z1	MS	gamma-BHC (Lindane)	<0.40	21.5	124	10	37	120	Diluted Out
SW8081	18MC-L04W-S04-Z1	MS	Methoxychlor	140	21.5	362	10	46	152	Diluted Out
SW8081	18MC-L04W-S04-Z1	MSD	Methoxychlor	140	21.5	939	10	46	152	Diluted Out
SW7471	18MC-L04W-S04-Z1	MSD	Mercury - Total	0.275	0.45	65	1	80	120	J
SW6010	18MC-L04W-S04-Z1	MS	Aluminum - Total	5860	2570	60	1	75	125	J
SW6010	18MC-L04W-S04-Z1	MSD	Aluminum - Total	5860	2590	130	1	75	125	J
SW6010	18MC-L04W-S04-Z1	MS	Antimony - Total	<0.54	51.5	45	1	75	125	J
SW6010	18MC-L04W-S04-Z1	MSD	Antimony - Total	<0.54	51.8	43	1	75	125	J
SW6010	18MC-L04W-S04-Z1	MS	Barium - Total	79.6	51.5	69	1	75	125	J
SW6010	18MC-L04W-S04-Z1	MS	Calcium - Total	99400	2570	1560	5	75	125	4X
SW6010	18MC-L04W-S04-Z1	MSD	Calcium - Total	99400	2590	-767	5	75	125	4X
SW6010	18MC-L04W-S04-Z1	MS	Iron - Total	14300	2570	-13	1	75	125	4X
SW6010	18MC-L04W-S04-Z1	MS	Lead - Total	169	51.5	44	1	75	125	J
SW6010	18MC-L04W-S04-Z1	MS	Magnesium - Total	38100	2570	-897	1	75	125	4X
SW6010	18MC-L04W-S04-Z1	MSD	Magnesium - Total	38100	2590	-425	1	75	125	4X
SW6010	18MC-L04W-S04-Z1	MS	Manganese - Total	1690	51.5	-999	1	75	125	4X
SW6010	18MC-L04W-S04-Z1	MSD	Manganese - Total	1690	51.8	-939	1	75	125	4X
SW6010	18MC-L04W-S04-Z1	MS	Zinc - Total	135	51.5	33	1	75	125	J

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW6010	18MC-L04W-S04-Z1	MSD	Aluminum - Total	74	20	J
SW6010	18MC-L04W-S04-Z1	MSD	Barium - Total	36	20	J
SW6010	18MC-L04W-S04-Z1	MSD	Calcium - Total	587	20	J
SW6010	18MC-L04W-S04-Z1	MSD	Iron - Total	255	20	J
SW6010	18MC-L04W-S04-Z1	MSD	Lead - Total	78	20	J
SW6010	18MC-L04W-S04-Z1	MSD	Magnesium - Total	71	20	J
SW6010	18MC-L04W-S04-Z1	MSD	Zinc - Total	102	20	J

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW7471	18MC-L04W-S04-Z1	MSD	Mercury - Total	27	20	J
SW8081	18MC-L04W-S04-Z1	MSD	4,4'-DDT	99	50	J
SW8081	18MC-L04W-S04-Z1	MSD	Endosulfan II	91	50	None
SW8081	18MC-L04W-S04-Z1	MSD	Endrin aldehyde	130	50	None
SW8081	18MC-L04W-S04-Z1	MSD	Methoxychlor	89	50	J

Table 5 - List LCS Recoveries outside Control Limits

Method	Sample ID	Analyte	Rec.	Low Limit	High Limit	No. of Affected Samples	Samp Qual
SW8270	A7B0626001	Acetophenone	65	66	120	8	UJ Flag

Table 6 –Samples that were Reanalyzed

Sample ID	Lab ID	Method	Sample Type	Action
18MC-L04W-S04-Z1	A7411901RE	SW8270	RA	Reported
18MC-L04W-S02-Z1	A7411903RE	SW8270	RA	Reported
18MC-L04W-S02-Z2	A7411904RE	SW8270	RA	Reported
18MC-L05W-S04-Z1	A7411907RE	SW8270	RA	Reported
18MC-L01E-S01-Z1	A7411910RE	SW8270	RA	Reported
18MC-L01E-S03-Z1	A7412001RE	SW8270	RA	Reported
18MC-L02E-S04-Z1	A7412003RE	SW8270	RA	Reported
18MC-L02E-S02-Z1	A7412005RE	SW8270	RA	Reported

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	Anal Type	PQL	18MC-L02E-S05-Z2	18MC-L02E-S05-Z2/D	RPD	RPD Rating	Samp Qual
SW7471	Mercury - Total	mg/Kg	A	0.006	0.094	0.147	-44.0	Good	None
SW6010	Aluminum - Total	mg/Kg	A	3.3	4770	4700	1.5	Good	None
SW6010	Antimony - Total	mg/Kg	A	0.69	1.5	1.8	-18.2	Good	None
SW6010	Arsenic - Total	mg/Kg	A	0.50	11.7	15.4	-27.3	Good	None
SW6010	Barium - Total	mg/Kg	A	0.06	415	368	12.0	Good	None
SW6010	Beryllium - Total	mg/Kg	A	0.04	0.33	0.41	-21.6	Good	None
SW6010	Cadmium - Total	mg/Kg	A	0.05	6.6	5.3	21.8	Good	None

Data Usability Summary Report	Project: 18 Mile Creek A07-4119
Date Completed: June 11, 2007	Completed by: B. Krajewski

Method	Analyte	Unit	Anal Type	PQL	18MC-L02E-S05-Z2	18MC-L02E-S05-Z2/D	RPD	RPD Rating	Samp Qual
SW6010	Calcium - Total	mg/Kg	A	12.7	9360	17800	-62.2	Poor	J
SW6010	Chromium - Total	mg/Kg	A	0.12	21.2	38.8	-58.7	Poor	J
SW6010	Cobalt - Total	mg/Kg	A	0.14	4.8	6.0	-22.2	Good	None
SW6010	Copper - Total	mg/Kg	A	0.15	207	244	-16.4	Good	None
SW6010	Iron - Total	mg/Kg	A	3.8	18400	28000	-41.4	Good	None
SW6010	Lead - Total	mg/Kg	A	0.37	2590	1030	86.2	Poor	None
SW6010	Magnesium - Total	mg/Kg	A	5.3	2740	3580	-26.6	Good	None
SW6010	Manganese - Total	mg/Kg	A	0.13	211	343	-47.7	Good	None
SW6010	Nickel - Total	mg/Kg	A	0.18	21.4	34.2	-46.0	Good	None
SW6010	Potassium - Total	mg/Kg	A	10.7	593	754	-23.9	Good	None
SW6010	Silver - Total	mg/Kg	A	0.19	0.3	0.25	18.2	Good	None
SW6010	Sodium - Total	mg/Kg	A	39.4	263	240	9.1	Good	None
SW6010	Vanadium - Total	mg/Kg	A	0.12	9.6	10.8	-11.8	Good	None
SW6010	Zinc - Total	mg/Kg	A	715	772	553	33.1	Good	None
SW6010	Selenium - Total	mg/Kg	A	0.75	0.83	ND	NC	Good	None
SW8082	Aroclor 1260	mg/Kg	A	21	0.46	0.43	6.7%	Good	None

Data Usability Summary Report	Project: 18 Mile Creek A07-4182
Date Completed: June 12, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby STL Buffalo	A07-4182
Subcontract TOC Analysis to STL Burlington	A074187

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-4182	SEDIM	18MC-L06-S01-Z1	A7418201	4/23/2007			None
A07-4182	SOIL	18MC-L06-S04-Z1	A7418202	4/23/2007			None
A07-4182	SOIL	18MC-L06-S04-Z2	A7418203	4/23/2007			None
A07-4182	SOIL	18MC-L06-S05-Z1	A7418204	4/23/2007			None
A07-4182	SOIL	18MC-L06-S05-Z2	A7418205	4/23/2007			None
A07-4182	SOIL	18MC-L07-S05-Z1	A7418206	4/23/2007			None
A07-4182	SOIL	18MC-L08-S05-Z1	A7418207	4/23/2007			None
A07-4182	SEDIM	18MC-L07-S03-Z1	A7418208	4/23/2007			None
A07-4182	SOIL	18MC-L07-S05-Z2	A7418209	4/23/2007			None
A07-4182	SEDIM	18MC-L08-S03-Z1	A7418210	4/23/2007			None
A07-4182	SOIL	18MC-L08-S05-Z2	A7418211	4/23/2007			None
A07-4182	SEDIM	18MC-L07-S01-Z1	A7418212	4/23/2007			None
A07-4182	SEDIM	18MC-L07-S01-Z1/D	A7418213	4/23/2007			None
A07-4182	SOIL	18MC-L07-S04-Z1	A7418214	4/23/2007			None
A07-4182	SOIL	18MC-L08-S04-Z1	A7418215	4/23/2007			None
A07-4182	SOIL	18MC-L07-S04-Z2	A7418216	4/23/2007			None
A07-4182	SOIL	18MC-L07-S04-Z2	A7418216MS	4/23/2007	MS/MSD	*	None
A07-4182	SOIL	18MC-L07-S04-Z2	A7418216SD	4/23/2007	MS/MSD	*	None
A07-4182	SEDIM	18MC-L07-S02-Z1	A7418217	4/23/2007			None
A07-4182	SEDIM	18MC-L08-S02-Z1	A7418218	4/23/2007			None
A07-4182	SOIL	18MC-L08-S04-Z2	A7418219	4/23/2007			None
A07-4182	SEDIM	18MC-L08-S01-Z1	A7418220	4/23/2007			None
A074187	SOIL	18MC-L07-S02-Z1	708212	4/23/2007			None
A074187	SOIL	18MC-L08-S02-Z1	708213	4/23/2007			None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-4182	SEDIM	SW6010	**ASP05** ARSENIC - TOTAL - S	8	SAMP
A07-4182	SEDIM	SW6010	**ASP05** CHROMIUM - TOTAL - S	8	SAMP
A07-4182	SEDIM	SW6010	**ASP05** COPPER - TOTAL - S	8	SAMP
A07-4182	SEDIM	SW6010	**ASP05** LEAD - TOTAL - S	8	SAMP
A07-4182	SEDIM	SW6010	**ASP05** ZINC - TOTAL - S	8	SAMP
A07-4182	SEDIM	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	2	SAMP
A07-4182	SEDIM	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	8	SAMP
A07-4182	SEDIM	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	2	SAMP
A07-4182	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** IRON - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	12	SAMP
A07-4182	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	12	SAMP
A07-4182	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	12	SAMP
A07-4182	SOIL	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	3	SAMP
A07-4182	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	12	SAMP
A07-4182	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	3	SAMP
A074187	SOIL	IN623	Wet Chem	2	SAMP
A074187	SOIL	IN847 SOIL	Wet Chem	2	SAMP

Data Usability Summary Report	Project: 18 Mile Creek A07-4182
Date Completed: June 12, 2007	Completed by: B. Krajewski

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Trip blank not required. Field duplicate collected.
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations?	No - All samples were prepared and analyzed within method holding times.

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	No – Acetophenone and 4-Chlorophenyl phenyl ether LCS recovery slightly low. "UJ" qualifier applied.
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 20.5%D.	Yes

Data Usability Summary Report	Project: 18 Mile Creek A07-4182
Date Completed: June 12, 2007	Completed by: B. Krajewski

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
For TICs are there any system related compounds that should not be reported?	Yes – Unknown at RT 6.28 and RT 7.17
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	NA

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks and Table 2b for field blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes – Either TCMX or DCB acceptable for all samples.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes – Acceptable for primary column
Is continuing calibration for target compounds < 15.5%D.	Yes – Acceptable for primary column
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
Spot check retention time windows and second column confirmations as complete.	Acceptable. - "J" qualifier applied to compounds with %D in concentration between compounds >25%
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes
For samples, if results are <5 times the blank then "U" flag data.	No sample results qualified based on method blank results.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No

Data Usability Summary Report	Project: 18 Mile Creek A07-4182
Date Completed: June 12, 2007	Completed by: B. Krajewski

Metals by ICP and Mercury by CVAA	
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Qualifiers applied based on method blanks, matrix spike and LCS recoveries, RPD values and the difference in pesticide primary/confirmation column concentrations. Benz(b)fluoranthene and benzo(k)fluoranthene peaks could not be resolved. Positive results qualified "J".

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW7471	A7418222	MBLK	Mercury - Total	0.005	B	A	mg/Kg	0.0047	0.005
SW8081	A7B0619702	MBLK	Dieldrin	0.53	J	A	µg/Kg	0.40	1.7
SW8081	A7B0619702	MBLK	gamma-Chlordane	2.5		A	µg/Kg	0.40	1.7
SW8270	A7B0607802	MBLK	UNKNOWN	160	J	T	µg/Kg		
SW8270	A7B0607802	MBLK	UNKNOWN	130	J	T	µg/Kg		
SW8270	A7B0626002	MBLK	Bis(2-ethylhexyl) phthalate	91	J	A	µg/Kg	54	170

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8270	A7B0607802	SEDIM	UNKNOWN	160	310	BJ		18MC-L08-S02-Z1	U Flag
SW8270	A7B0607802	SOIL	UNKNOWN	160	180	BJ		18MC-L08-S04-Z1	U Flag
SW8270	A7B0607802	SOIL	UNKNOWN	130	190	BJ		18MC-L06-S04-Z1	U Flag
SW8081	A7B0619702	SEDIM	Dieldrin	0.53	83	B	32	18MC-L07-S02-Z1	Not Qualified
SW8081	A7B0619702	SOIL	Dieldrin	0.53	2.2	B	2.2	18MC-L08-S04-Z1	U Flag
SW8081	A7B0619702	SOIL	Dieldrin	0.53	220	B	20	18MC-L07-S05-Z1	Not Qualified
SW8081	A7B0619702	SEDIM	gamma-Chlordane	2.5	6.8	B	5.2	18MC-L08-S02-Z1	U Flag
SW8081	A7B0619702	SOIL	gamma-Chlordane	2.5	100	B	20	18MC-L07-S05-Z1	Not Qualified
SW8081	A7B0619702	SOIL	gamma-Chlordane	2.5	4.2	B	2.2	18MC-L08-S04-Z1	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8270	18MC-L07-S05-Z1	SAMP	2,4,6-Tribromophenol	37	46	129	20	Diluted Out
SW8270	18MC-L07-S05-Z1	SAMP	p-Terphenyl-d14	44	51	125	20	Diluted Out
SW8082	18MC-L07-S02-Z1	SAMP	Decachlorobiphenyl	0	34	148	100	Diluted Out
SW8082	18MC-L07-S02-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	100	Diluted Out
SW8082	18MC-L07-S05-Z1	SAMP	Decachlorobiphenyl	0	34	148	20	Diluted Out

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8082	18MC-L07-S05-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	20	Diluted Out
SW8082	18MC-L08-S03-Z1	SAMP	Decachlorobiphenyl	0	34	148	50	Diluted Out
SW8082	18MC-L08-S03-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	50	Diluted Out
SW8082	18MC-L08-S05-Z2	SAMP	Decachlorobiphenyl	0	34	148	50	Diluted Out
SW8082	18MC-L08-S05-Z2	SAMP	Tetrachloro-m-xylene	0	35	134	50	Diluted Out
SW8081	18MC-L06-S04-Z1	SAMP	Decachlorobiphenyl	352	42	146	5	Diluted Out
SW8081	18MC-L07-S02-Z1	SAMP	Decachlorobiphenyl	240	42	146	10	Diluted Out
SW8081	18MC-L07-S05-Z1	SAMP	Decachlorobiphenyl	225	42	146	10	Diluted Out
SW8081	18MC-L08-S04-Z1	SAMP	Decachlorobiphenyl	266	42	146	1	None

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW7471	18MC-L07-S04-Z2	MSD	Mercury - Total	0.204	0.42	58	1	80	120	J Qualified
SW6010	18MC-L07-S04-Z2	MS	Antimony - Total	0.76	51.9	54	1	75	125	J Qualified
SW6010	18MC-L07-S04-Z2	MSD	Antimony - Total	0.76	51.6	62	1	75	125	J Qualified
SW6010	18MC-L07-S04-Z2	MS	Barium - Total	286	51.9	-34	1	75	125	4X
SW6010	18MC-L07-S04-Z2	MSD	Barium - Total	286	51.6	7	1	75	125	4X
SW6010	18MC-L07-S04-Z2	MS	Calcium - Total	29300	2590	974	1	75	125	4X
SW6010	18MC-L07-S04-Z2	MSD	Calcium - Total	29300	2580	2840	1	75	125	4X
SW6010	18MC-L07-S04-Z2	MS	Chromium - Total	25.2	51.9	60	1	75	125	J Qualified
SW6010	18MC-L07-S04-Z2	MSD	Chromium - Total	25.2	51.6	73	1	75	125	J Qualified
SW6010	18MC-L07-S04-Z2	MS	Copper - Total	72.6	51.9	48	1	75	125	J Qualified
SW6010	18MC-L07-S04-Z2	MS	Iron - Total	12900	2590	47	1	75	125	4X
SW6010	18MC-L07-S04-Z2	MSD	Iron - Total	12900	2580	236	1	75	125	4X
SW6010	18MC-L07-S04-Z2	MS	Lead - Total	414	51.9	44	1	75	125	4X
SW6010	18MC-L07-S04-Z2	MSD	Lead - Total	414	51.6	196	1	75	125	4X
SW6010	18MC-L07-S04-Z2	MS	Magnesium - Total	5100	2590	416	1	75	125	J Qualified
SW6010	18MC-L07-S04-Z2	MSD	Magnesium - Total	5100	2580	259	1	75	125	J Qualified
SW6010	18MC-L07-S04-Z2	MS	Manganese - Total	739	51.9	447	1	75	125	4X
SW6010	18MC-L07-S04-Z2	MSD	Manganese - Total	739	51.6	263	1	75	125	4X

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW6010	18MC-L07-S04-Z2	MS	Nickel - Total	34.4	51.9	46	1	75	125	J Qualified
SW6010	18MC-L07-S04-Z2	MSD	Nickel - Total	34.4	51.6	58	1	75	125	J Qualified
SW6010	18MC-L07-S04-Z2	MS	Zinc - Total	628	51.9	-404	1	75	125	4X
SW6010	18MC-L07-S04-Z2	MSD	Zinc - Total	628	51.6	-114	1	75	125	4X

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW6010	18MC-L07-S04-Z2	MSD	Calcium - Total	61	20	None
SW6010	18MC-L07-S04-Z2	MSD	Iron - Total	29	20	None
SW6010	18MC-L07-S04-Z2	MSD	Magnesium - Total	30	20	None
SW6010	18MC-L07-S04-Z2	MSD	Zinc - Total	30	20	None
SW7471	18MC-L07-S04-Z2	MSD	Mercury - Total	37	20	None

Table 5 - List LCS Recoveries outside Control Limits

Method	Sample ID	Analyte	Rec.	Low Limit	High Limit	No. of Affected Samples	Samp Qual
SW8270	A7B0607801	4-Chlorophenyl phenyl ether	59	63	124	4	UJ Flag
SW8270	A7B0626001	Acetophenone	65	66	120	1	UJ Flag

Table 6 –Samples that were Reanalyzed

None

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	PQL	Anal Type	18MC-L07-S01-Z1	18MC-L07-S01-Z1/D	RPD	RPD Rating	Samp Qual
SW6010	Arsenic - Total	mg/Kg	0.60	A	8.4	7.3	14.0%	Good	None
SW6010	Chromium - Total	mg/Kg	0.14	A	39.9	39.4	1.3%	Good	None
SW6010	Copper - Total	mg/Kg	0.19	A	206	188	9.1%	Good	None
SW6010	Lead - Total	mg/Kg	0.45	A	323	280	14.3%	Good	None
SW6010	Zinc - Total	mg/Kg	0.62	A	590	412	35.5%	Good	None
SW8082	Aroclor 1254	mg/Kg	0.026	A	0.1	0.074	29.9%	Good	None
SW8082	Aroclor 1260	mg/Kg	0.026	A	0.23	0.16	35.9%	Good	None

Data Usability Summary Report	Project: 18 Mile Creek A07-4183
Date Completed: June 12, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby STL Buffalo	A07-4183
Subcontract TOC Analysis to STL Burlington	A074188

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-4183	SOIL	18MC-L09-S04-Z1	A7418301	4/23/2007			None
A07-4183	SOIL	18MC-L09-S04-Z1	A7418301MS	4/23/2007	MS/MSD		None
A07-4183	SOIL	18MC-L09-S04-Z1	A7418301SD	4/23/2007	MS/MSD		None
A07-4183	SOIL	18MC-L09-S04-Z2	A7418302	4/23/2007			None
A07-4183	SEDIM	18MC-L09-S01-Z1	A7418303	4/23/2007			None
A07-4183	SEDIM	18MC-L09-S02-Z1	A7418304	4/23/2007			None
A07-4183	SEDIM	18MC-L09-S02-Z2	A7418305	4/23/2007			None
A07-4183	SEDIM	18MC-L09-S03-Z1	A7418306	4/23/2007			None
A07-4183	SOIL	18MC-L09-S05-Z1	A7418307	4/23/2007			None
A07-4183	SOIL	18MC-L10-S05-Z2	A7418308	4/23/2007			None
A07-4183	SOIL	18MC-L10-S04-Z2	A7418309	4/23/2007			None
A07-4183	SOIL	18MC-L10-S04-Z1	A7418310	4/23/2007			None
A07-4183	SOIL	18MC-L10-S05-Z1	A7418311	4/23/2007			None
A07-4183	SEDIM	18MC-L10-S03-Z1	A7418312	4/23/2007			None
A07-4183	SOIL	18MC-L09-S05-Z2	A7418313	4/23/2007			None
A07-4183	SEDIM	18MC-L10-S01-Z1	A7418314	4/23/2007			None
A07-4183	SEDIM	18MC-L10-S01-Z1/D	A7418315	4/23/2007			None
A074188	SOIL	18MC-L09-S02-Z1	708210	4/23/2007			None
A074188	SOIL	18MC-L09-S02-Z2	708211	4/23/2007			None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-4183	SEDIM	SW6010	**ASP05** ARSENIC - TOTAL - S	7	SAMP
A07-4183	SEDIM	SW6010	**ASP05** CHROMIUM - TOTAL - S	7	SAMP
A07-4183	SEDIM	SW6010	**ASP05** COPPER - TOTAL - S	7	SAMP
A07-4183	SEDIM	SW6010	**ASP05** LEAD - TOTAL - S	7	SAMP
A07-4183	SEDIM	SW6010	**ASP05** ZINC - TOTAL - S	7	SAMP

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-4183	SEDIM	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	2	SAMP
A07-4183	SEDIM	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	7	SAMP
A07-4183	SEDIM	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	2	SAMP
A07-4183	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** IRON - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	8	SAMP
A07-4183	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	8	SAMP
A07-4183	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	8	SAMP
A07-4183	SOIL	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	2	SAMP
A07-4183	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	8	SAMP
A07-4183	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	2	SAMP
A074188	SOIL	IN623	Wet Chem	2	SAMP
A074188	SOIL	IN847 SOIL	Wet Chem	2	SAMP

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct?	Yes – Trip blank not required. Field

Data Usability Summary Report	Project: 18 Mile Creek A07-4183
Date Completed: June 12, 2007	Completed by: B. Krajewski

General Sample Information	
Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	duplicate collected.
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations?	No - All samples were prepared and analyzed within method holding times.

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 20.5%D.	Yes
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
For TICs are there any system related compounds that should not be reported?	Yes – Unknown at RT 6.24

Data Usability Summary Report	Project: 18 Mile Creek A07-4183
Date Completed: June 12, 2007	Completed by: B. Krajewski

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	NA

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes – Either TCMX or DCB acceptable for all samples.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes – Acceptable for primary column
Is continuing calibration for target compounds < 15.5%D.	Yes – Acceptable for primary column
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
Spot check retention time windows and second column confirmations as complete.	Acceptable. - "J" qualifier applied to compounds with %D in concentration between compounds >25%
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes
For samples, if results are <5 times the blank then "U" flag data.	No sample results qualified based on method blank results
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.

Data Usability Summary Report	Project: 18 Mile Creek A07-4183
Date Completed: June 12, 2007	Completed by: B. Krajewski

Metals by ICP and Mercury by CVAA	
Spot check ICV 95-105%. Contact lab.	All are acceptable.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	No

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Qualifiers applied based on method blanks, matrix spike recoveries, RPD values and the difference in pesticide primary/confirmation column concentrations. Benz(b)fluoranthene and benzo(k)fluoranthene peaks could not be resolved. Positive results qualified "J".

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW7471	A7418317	MBLK	Mercury - Total	0.007	B	A	mg/Kg	0.0047	0.005
SW8081	A7B0619702	MBLK	Dieldrin	0.53	J	A	µg/Kg	0.40	1.7
SW8081	A7B0619702	MBLK	gamma-Chlordane	2.5		A	µg/Kg	0.40	1.7
SW8270	A7B0609402	MBLK	Di-n-octyl phthalate	9	J	A	µg/Kg	4	170
SW8270	A7B0609402	MBLK	UNKNOWN ALKANE	380	J	T	µg/Kg		

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8270	A7B0609402	SEDIM	Di-n-octyl phthalate	9	35	BJ	270	18MC-L09-S02-Z1	U Flag
SW8270	A7B0609402	SOIL	Di-n-octyl phthalate	9	11	BJ	230	18MC-L10-S04-Z1	U Flag
SW8270	A7B0609402	SOIL	UNKNOWN	380	670	J		18MC-L09-S02-Z1	U Flag
SW8270	A7B0609402	SOIL	UNKNOWN	380	400	J		18MC-L09-S02-Z2	U Flag
SW8270	A7B0609402	SOIL	UNKNOWN	380	640	J		18MC-L10-S04-Z1	U Flag
SW8081	A7B0619702	SEDIM	Dieldrin	0.53	1.9	B	1.9	18MC-L09-S02-Z2	U Flag
SW8081	A7B0619702	SEDIM	Dieldrin	0.53	1800	B	130	18MC-L09-S02-Z1	Not Qualified
SW8081	A7B0619702	SEDIM	gamma-Chlordane	2.5	3.1	B	1.9	18MC-L09-S02-Z2	U Flag
SW8081	A7B0619702	SEDIM	gamma-Chlordane	2.5	750	B	130	18MC-L09-S02-Z1	Not Qualified
SW8081	A7B0619702	SOIL	gamma-Chlordane	2.5	5.7	B	4.5	18MC-L10-S04-Z1	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination

None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8082	18MC-L09-S01-Z1	SAMP	Decachlorobiphenyl	0	34	148	50	Diluted Out
SW8082	18MC-L09-S01-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	50	Diluted Out
SW8082	18MC-L09-S02-Z1	SAMP	Decachlorobiphenyl	0	34	148	50	Diluted Out
SW8082	18MC-L09-S02-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	50	Diluted Out
SW8082	18MC-L09-S03-Z1	SAMP	Decachlorobiphenyl	0	34	148	100	Diluted Out
SW8082	18MC-L09-S03-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	100	Diluted Out

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8082	18MC-L09-S05-Z2	SAMP	Decachlorobiphenyl	0	34	148	10	Diluted Out
SW8082	18MC-L09-S05-Z2	SAMP	Tetrachloro-m-xylene	0	35	134	10	Diluted Out
SW8082	18MC-L10-S01-Z1	SAMP	Decachlorobiphenyl	228	34	148	5	Diluted Out
SW8082	18MC-L10-S03-Z1	SAMP	Decachlorobiphenyl	309	34	148	1	None
SW8081	18MC-L09-S04-Z1	SAMP	Decachlorobiphenyl	1160	42	146	10	Diluted Out

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW6010	18MC-L09-S04-Z1	MS	Antimony - Total	13.1	60.3	167	1	75	125	J Flag
SW6010	18MC-L09-S04-Z1	MSD	Antimony - Total	13.1	62	68	1	75	125	J Flag
SW6010	18MC-L09-S04-Z1	MSD	Barium - Total	176	62	173	1	75	125	J Flag
SW6010	18MC-L09-S04-Z1	MSD	Calcium - Total	18200	3100	446	1	75	125	4X
SW6010	18MC-L09-S04-Z1	MS	Copper - Total	505	60.3	-2	1	75	125	4X
SW6010	18MC-L09-S04-Z1	MSD	Copper - Total	505	62	56	1	75	125	4X
SW6010	18MC-L09-S04-Z1	MS	Iron - Total	42300	3010	-303	1	75	125	4X
SW6010	18MC-L09-S04-Z1	MSD	Iron - Total	42300	3100	-165	1	75	125	4X
SW6010	18MC-L09-S04-Z1	MS	Lead - Total	3600	60.3	-494	1	75	125	4X
SW6010	18MC-L09-S04-Z1	MSD	Lead - Total	3600	62	-35	1	75	125	4X
SW6010	18MC-L09-S04-Z1	MS	Manganese - Total	742	60.3	-104	1	75	125	4X
SW6010	18MC-L09-S04-Z1	MSD	Manganese - Total	742	62	198	1	75	125	4X
SW6010	18MC-L09-S04-Z1	MS	Zinc - Total	628	60.3	-89	1	75	125	4X
SW6010	18MC-L09-S04-Z1	MSD	Zinc - Total	628	62	50	1	75	125	4X

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW6010	18MC-L09-S04-Z1	MSD	Antimony - Total	69	20	None
SW6010	18MC-L09-S04-Z1	MSD	Barium - Total	23	20	None
SW6010	18MC-L09-S04-Z1	MSD	Calcium - Total	64	20	None
SW6010	18MC-L09-S04-Z1	MSD	Manganese - Total	24	20	None

Table 5 - List LCS Recoveries outside Control Limits
None

Table 6 –Samples that were Reanalyzed
None

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	Anal Type	PQL	18MC-L10-S01-Z1	18MC-L10-S01-Z1/D	RPD	RPD Rating	Samp Qual
SW6010	Arsenic - Total	mg/Kg	A	0.64	26.9	19.0	34.4%	Good	None
SW6010	Chromium - Total	mg/Kg	A	0.15	75.8	42.3	56.7%	Poor	J
SW6010	Copper - Total	mg/Kg	A	0.20	397	241	48.9%	Good	None
SW6010	Lead - Total	mg/Kg	A	0.48	1070	792	29.9%	Good	None
SW6010	Zinc - Total	mg/Kg	A	3.3	1900	1830	3.8%	Good	None
SW8082	Aroclor 1248	mg/Kg	A	0.14	1.9	1.2	45.2%	Good	None
SW8082	Aroclor 1254	mg/Kg	A	0.14	0.85	0.63	29.7%	Good	None

Data Usability Summary Report	Project: 18 Mile Creek A07-4235
Date Completed: June 13, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby STL Buffalo	A07-4235
Subcontract TOC Analysis to STL Burlington	A074237

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-4235	SOIL	18MC-L11-S04-Z1	A7423501	4/24/2007			None
A07-4235	SOIL	18MC-L11-S04-Z1	A7423501MS	4/24/2007	MS/MSD	*	None
A07-4235	SOIL	18MC-L11-S04-Z1	A7423501SD	4/24/2007	MS/MSD	*	None
A07-4235	SOIL	18MC-L11-S05-Z1	A7423502	4/24/2007			None
A07-4235	SEDIM	18MC-L11-S01-Z1	A7423503	4/24/2007			None
A07-4235	SEDIM	18MC-L11-S02-Z1	A7423504	4/24/2007			None
A07-4235	SEDIM	18MC-L12-S01-Z1	A7423505	4/24/2007			None
A07-4235	SEDIM	18MC-L12-S02-Z1	A7423506	4/24/2007			None
A07-4235	SEDIM	18MC-L13-S01-Z1	A7423507	4/24/2007			None
A07-4235	SEDIM	18MC-L13-S02-Z1	A7423508	4/24/2007			None
A07-4235	SOIL	18MC-L13-S04-Z1	A7423509	4/24/2007			None
A07-4235	SOIL	18MC-L13-S04-Z2	A7423510	4/24/2007			None
A07-4235	SEDIM	18MC-L14W-S02-Z1	A7423511	4/24/2007			None
A07-4235	SEDIM	18MC-L14W-S01-Z1	A7423512	4/24/2007			None
A07-4235	SEDIM	18MC-L14W-S03-Z1	A7423513	4/24/2007			None
A07-4235	SEDIM	18MC-L14W-S03-Z2	A7423514	4/24/2007			None
A07-4235	SEDIM	18MC-L14E-S03-Z1	A7423515	4/24/2007			None
A07-4235	SEDIM	18MC-L14E-S02-Z1	A7423516	4/24/2007			None
A07-4235	SEDIM	18MC-L14E-S02-Z2	A7423517	4/24/2007			None
A07-4235	SEDIM	18MC-L14E-S01-Z1	A7423518	4/24/2007			None
A07-4235	SEDIM	18MC-L11-S03-Z1	A7423519	4/24/2007			None
A07-4235	SOIL	18MC-L11-S04-Z2	A7423520	4/24/2007			None
A074237	SEDIMENT	18MC-L11-S02-Z1	708624	4/24/2007			None
A074237	SEDIMENT	18MC-L12-S02-Z1	708625	4/24/2007			None
A074237	SEDIMENT	18MC-L13-S02-Z1	708626	4/24/2007			None

Data Usability Summary Report	Project: 18 Mile Creek A07-4235
Date Completed: June 13, 2007	Completed by: B. Krajewski

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A074237	SEDIMENT	18MC-L14W-S02-Z1	708627	4/24/2007			None
A074237	SEDIMENT	18MC-L14E-S02-Z1	708628	4/24/2007			None
A074237	SEDIMENT	18MC-L14E-S02-Z2	708629	4/24/2007			None
A074237	SEDIMENT	18MC-L14E-S02-Z2	708629DP	4/24/2007			None
A074237	SEDIMENT	18MC-L14E-S02-Z2	708629MS	4/24/2007	MS/MSD	*	None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-4235	SEDIM	SW6010	**ASP05** ARSENIC - TOTAL - S	15	SAMP
A07-4235	SEDIM	SW6010	**ASP05** CHROMIUM - TOTAL - S	15	SAMP
A07-4235	SEDIM	SW6010	**ASP05** COPPER - TOTAL - S	15	SAMP
A07-4235	SEDIM	SW6010	**ASP05** LEAD - TOTAL - S	15	SAMP
A07-4235	SEDIM	SW6010	**ASP05** ZINC - TOTAL - S	15	SAMP
A07-4235	SEDIM	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	6	SAMP
A07-4235	SEDIM	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	15	SAMP
A07-4235	SEDIM	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	6	SAMP
A07-4235	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** IRON - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	5	SAMP
A07-4235	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	5	SAMP
A07-4235	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	5	SAMP
A07-4235	SOIL	SW8081	**ASP05** SOIL - 8081 - TCL	2	SAMP

Data Usability Summary Report	Project: 18 Mile Creek A07-4235
Date Completed: June 13, 2007	Completed by: B. Krajewski

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
			PESTICIDES (SOM)		
A07-4235	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	5	SAMP
A07-4235	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	2	SAMP
A074237	SEDIMENT	IN623	Wet Chem	6	SAMP
A074237	SEDIMENT	IN847 SOIL	Wet Chem	6	SAMP

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Trip blank not required. Field duplicate not included in SDG.
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations?	No - All samples were prepared and analyzed within method holding times.

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes

Data Usability Summary Report	Project: 18 Mile Creek A07-4235
Date Completed: June 13, 2007	Completed by: B. Krajewski

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 20.5%D.	Yes
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
For TICs are there any system related compounds that should not be reported?	Yes – Unknown at RT 6.24
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	NA

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes – Either TCMX or DCB acceptable for all samples.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes – Acceptable for primary column
Is continuing calibration for target compounds < 15.5%D.	Yes – Acceptable for primary column
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
Spot check retention time windows and second column confirmations as complete.	Acceptable. - "J" qualifier applied to compounds with %D in concentration between compounds >25%
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted	Yes

Data Usability Summary Report	Project: 18 Mile Creek A07-4235
Date Completed: June 13, 2007	Completed by: B. Krajewski

Metals by ICP and Mercury by CVAA	
on Table 2?	
For samples, if results are <5 times the blank then "U" flag data.	No sample results qualified based on method blank results
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes – Co and Ni qualified "J".
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	No

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Qualifiers applied based on method blanks, matrix spike recoveries, serial dilutions, RPD values and the difference in pesticide primary/confirmation column concentrations. Benz(b)fluoranthene and benzo(k)fluoranthene peaks could not be resolved. Positive results qualified "J".

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW7471	A7423522	MBLK	Mercury - Total	-0.008	B	A	mg/Kg	0.0047	0.005
SW8081	A7B0619702	MBLK	Dieldrin	0.53	J	A	µg/Kg	0.40	1.7
SW8081	A7B0619702	MBLK	gamma-Chlordane	2.5		A	µg/Kg	0.40	1.7
SW8270	A7B0609402	MBLK	Di-n-octyl phthalate	9	J	A	µg/Kg	4	170
SW8270	A7B0609402	MBLK	UNKNOWN ALKANE	380	J	T	µg/Kg		

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8270	A7B0609402	SEDIM	Di-n-octyl phthalate	9	11	BJ	190	18MC-L14W-S02-Z1	U Flag
SW8270	A7B0609402	SEDIM	Di-n-octyl phthalate	9	22	BJ	370	18MC-L13-S02-Z1	U Flag
SW8270	A7B0609402	SEDIM	Di-n-octyl phthalate	9	27	BJ	380	18MC-L12-S02-Z1	U Flag
SW8270	A7B0609402	SEDIM	Di-n-octyl phthalate	9	740	BJ	5400	18MC-L14E-S02-Z2	Not Qualified
SW8270	A7B0609402	SEDIM	UNKNOWN ALKANE	380	890	BJ		18MC-L12-S02-Z1	U Flag
SW8270	A7B0609402	SEDIM	UNKNOWN ALKANE	380	790	J		18MC-L13-S02-Z1	U Flag
SW8270	A7B0609402	SOIL	UNKNOWN ALKANE	380	390	J		18MC-L13-S04-Z1	U Flag
SW8270	A7B0609402	SOIL	UNKNOWN ALKANE	380	330	J		18MC-L14W-S02-Z1	U Flag
SW8081	A7B0619702	SEDIM	Dieldrin	0.53	3.5	B	1.8	18MC-L14W-S02-Z1	Not Qualified
SW8081	A7B0619702	SEDIM	Dieldrin	0.53	2.8	BJ	3.8	18MC-L12-S02-Z1	Not Qualified
SW8081	A7B0619702	SEDIM	gamma-Chlordane	2.5	13	B	3.8	18MC-L12-S02-Z1	Not Qualified
SW8081	A7B0619702	SEDIM	gamma-Chlordane	2.5	27	B	7.1	18MC-L13-S02-Z1	Not Qualified
SW8081	A7B0619702	SEDIM	gamma-Chlordane	2.5	8.2	B	1.8	18MC-L14W-S02-Z1	U Flag
SW8081	A7B0619702	SEDIM	gamma-Chlordane	2.5	16	BJ	28	18MC-L11-S02-Z1	Not Qualified
SW8081	A7B0619702	SOIL	gamma-Chlordane	2.5	8.3	B	4.4	18MC-L13-S04-Z1	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8270	18MC-L14E-S02-Z2	SAMP	2,4,6-Tribromophenol	40	46	129	20	Diluted Out
SW8270	18MC-L14E-S02-Z2	SAMP	p-Terphenyl-d14	40	51	125	20	Diluted Out
SW8082	18MC-L14E-S01-Z1	SAMP	Decachlorobiphenyl	202	34	148	1	None
SW8082	18MC-L14E-S02-Z1	SAMP	Decachlorobiphenyl	0	34	148	1000	Diluted Out
SW8082	18MC-L14E-S02-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	1000	Diluted Out
SW8082	18MC-L14E-S02-Z2	SAMP	Decachlorobiphenyl	0	34	148	200	Diluted Out
SW8082	18MC-L14E-S02-Z2	SAMP	Tetrachloro-m-xylene	0	35	134	200	Diluted Out
SW8082	18MC-L14E-S03-Z1	SAMP	Decachlorobiphenyl	0	34	148	100	Diluted Out
SW8082	18MC-L14E-S03-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	100	Diluted Out
SW8081	18MC-L11-S02-Z1	SAMP	Decachlorobiphenyl	210	42	146	10	Diluted Out
SW8081	18MC-L11-S05-Z1	SAMP	Decachlorobiphenyl	745	42	146	10	Diluted Out
SW8081	18MC-L13-S04-Z1	SAMP	Decachlorobiphenyl	166	42	146	2	None

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW6010	18MC-L11-S04-Z1	MSD	Barium - Total	318	52.6	129	1	75	125	4X
SW6010	18MC-L11-S04-Z1	MS	Copper - Total	161	52	266	1	75	125	J
SW6010	18MC-L11-S04-Z1	MSD	Copper - Total	161	52.6	148	1	75	125	J
SW6010	18MC-L11-S04-Z1	MS	Iron - Total	46900	2600	-85	1	75	125	4X
SW6010	18MC-L11-S04-Z1	MSD	Iron - Total	46900	2630	493	1	75	125	4X
SW6010	18MC-L11-S04-Z1	MS	Lead - Total	173	52	136	1	75	125	J
SW6010	18MC-L11-S04-Z1	MSD	Lead - Total	173	52.6	158	1	75	125	J
SW6010	18MC-L11-S04-Z1	MS	Manganese - Total	382	52	-20	1	75	125	4X
SW6010	18MC-L11-S04-Z1	MS	Potassium - Total	2270	2600	72	1	75	125	J
SW6010	18MC-L11-S04-Z1	MSD	Potassium - Total	2270	2630	74	1	75	125	J
SW6010	18MC-L11-S04-Z1	MS	Zinc - Total	101	52	60	1	75	125	J

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW6010	18MC-L11-S04-Z1	MSD	Copper - Total	23	20	J
SW6010	18MC-L11-S04-Z1	MSD	Iron - Total	29	20	J

Table 5 - List LCS Recoveries outside Control Limits
None

Table 6 –Samples that were Reanalyzed
None

Table 7 – Summary of Field Duplicate Results
None

Data Usability Summary Report	Project: 18 Mile Creek A07-4236
Date Completed: June 13, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby STL Buffalo	A07-4236
Subcontract TOC Analysis to STL Burlington	A074238

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-4236	SOIL	18MC-L11-S05-Z2	A7423601	4/24/2007			None
A07-4236	SEDIM	18MC-L13-S03-Z1	A7423602	4/24/2007			None
A07-4236	SEDIM	18MC-L12-S03-Z1	A7423603	4/24/2007			None
A07-4236	SEDIM	18MC-L15E-S03-Z1	A7423604	4/24/2007			None
A07-4236	SEDIM	18MC-L15E-S02-Z1	A7423605	4/24/2007			None
A07-4236	SEDIM	18MC-L15E-S02-Z1	A7423605MS	4/24/2007	MS/MSD		None
A07-4236	SEDIM	18MC-L15E-S02-Z1	A7423605SD	4/24/2007	MS/MSD		None
A07-4236	SEDIM	18MC-L15E-S01-Z1	A7423606	4/24/2007			None
A07-4236	SEDIM	18MC-L15E-S01-Z1/D	A7423607	4/24/2007			None
A07-4236	SEDIM	18MC-L16E-S03-Z1	A7423608	4/24/2007			None
A07-4236	SEDIM	18MC-L16E-S02-Z1	A7423609	4/24/2007			None
A07-4236	SEDIM	18MC-L16E-S01-Z1	A7423610	4/24/2007			None
A07-4236	SEDIM	18MC-L16E-S01-Z1	A7423610MS	4/24/2007	MS/MSD	*	None
A07-4236	SEDIM	18MC-L16E-S01-Z1	A7423610SD	4/24/2007	MS/MSD	*	None
A07-4236	SEDIM	18MC-L15W-S03-Z1	A7423611	4/24/2007			None
A07-4236	SEDIM	18MC-L15W-S01-Z1	A7423612	4/24/2007			None
A07-4236	SEDIM	18MC-L16W-S01-Z1	A7423613	4/24/2007			None
A07-4236	SOIL	18MC-L16W-S04-Z1	A7423614	4/24/2007			None
A07-4236	SOIL	18MC-L16W-S04-	A7423614DL	4/24/2007			None

Data Usability Summary Report	Project: 18 Mile Creek A07-4236
Date Completed: June 13, 2007	Completed by: B. Krajewski

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
		Z1					
A07-4236	SOIL	18MC-L16W-S05-Z1	A7423615	4/24/2007			None
A07-4236	SOIL	18MC-L16W-S05-Z1	A7423615RE	4/24/2007			None
A07-4236	SOIL	18MC-L16W-S05-Z2	A7423616	4/24/2007			None
A07-4236	SOIL	18MC-L16W-S05-Z2	A7423616RE	4/24/2007			None
A074238	SEDIMENT	18MC-L15E-S02-Z1	708630	4/24/2007			None
A074238	SEDIMENT	18MC-L16E-S02-Z1	708631	4/24/2007			None
A074238	SEDIMENT	18MC-L16E-S02-Z1	708631DP	4/24/2007			None
A074238	SEDIMENT	18MC-L16E-S02-Z1	708631MS	4/24/2007	MS/MSD	*	None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-4236	SEDIM	SW6010	**ASP05** ARSENIC - TOTAL - S	12	SAMP
A07-4236	SEDIM	SW6010	**ASP05** CHROMIUM - TOTAL - S	12	SAMP
A07-4236	SEDIM	SW6010	**ASP05** COPPER - TOTAL - S	12	SAMP
A07-4236	SEDIM	SW6010	**ASP05** LEAD - TOTAL - S	12	SAMP
A07-4236	SEDIM	SW6010	**ASP05** ZINC - TOTAL - S	12	SAMP
A07-4236	SEDIM	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	2	SAMP
A07-4236	SEDIM	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	12	SAMP
A07-4236	SEDIM	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	2	SAMP
A07-4236	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** IRON - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	4	SAMP

Data Usability Summary Report	Project: 18 Mile Creek A07-4236
Date Completed: June 13, 2007	Completed by: B. Krajewski

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-4236	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	4	SAMP
A07-4236	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	4	SAMP
A07-4236	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	4	SAMP
A07-4236	SOIL	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	1	DL
A07-4236	SOIL	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	1	SAMP
A07-4236	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	2	RA
A07-4236	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	4	SAMP
A07-4236	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	1	SAMP
A074238	SEDIMENT	IN623	Wet Chem	2	SAMP
A074238	SEDIMENT	IN847 SOIL	Wet Chem	2	SAMP

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Trip blank not required. Field duplicate collected.
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations (See table below)?	No - All samples were prepared and analyzed within method holding times. The following samples were extracted outside ASP holding times, but were not qualified because method hold times were not exceeded.

Method	Sample ID	Sample Date	Matrix	Sample Type	PrepHT	Prep Date	AnalHT	Analysis Date	Samp Qual
SW8081	18MC-L15E-S02-Z1	4/24/2007	SEDIM	SAMP	5	4/30/2007	40	5/18/2007	None
SW8081	18MC-L16E-S02-Z1	4/24/2007	SEDIM	SAMP	5	4/30/2007	40	5/17/2007	None

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes – Spike Diluted Out
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 20.5%D.	Yes
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
For TICs are there any system related compounds that should not be reported?	Yes – Unknown at RT 6.24
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	NA

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.

Data Usability Summary Report	Project: 18 Mile Creek A07-4236
Date Completed: June 13, 2007	Completed by: B. Krajewski

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes – Either TCMX or DCB acceptable for all samples.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes – Acceptable for primary column
Is continuing calibration for target compounds < 15.5%D.	Yes – Acceptable for primary column
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed due to matrix effects.
Spot check retention time windows and second column confirmations as complete.	Acceptable. - "J" qualifier applied to compounds with %D in concentration between compounds >25%
Do field duplicate results show good precision for all compounds (see Table 7)?	No

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes
For samples, if results are <5 times the blank then "U" flag data.	No sample results qualified based on method blank results
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Data Usability Summary Report	Project: 18 Mile Creek A07-4236
Date Completed: June 13, 2007	Completed by: B. Krajewski

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Qualifiers applied based on method blanks, matrix spike recoveries, RPD values and the difference in pesticide primary/confirmation column concentrations. Benz(b)fluoranthene and benzo(k)fluoranthene peaks could not be resolved. Positive results qualified "J".

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW7471	A7423618	MBLK	Mercury - Total	0.008	B	A	mg/Kg	0.0047	0.005
SW8081	A7B0640804	MBLK	alpha-BHC	1.0	J	A	µg/Kg	0.40	1.7
SW8081	A7B0640804	MBLK	Dieldrin	0.70	J	A	µg/Kg	0.40	1.7
SW8081	A7B0640804	MBLK	gamma-Chlordane	1.0	J	A	µg/Kg	0.40	1.7
SW8270	A7B0609402	MBLK	Di-n-octyl phthalate	9	J	A	µg/Kg	4	170
SW8270	A7B0609402	MBLK	UNKNOWN ALKANE	380	J	T	µg/Kg		

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8270	A7B0609402	SEDIM	UNKNOWN ALKANE	380	790	J		18MC-L16E-S02-Z1	U Flag
SW8081	A7B0640804	SEDIM	alpha-BHC	1	3.2	BJ	3.8	18MC-L16E-S02-Z1	U Flag
SW8081	A7B0640804	SEDIM	alpha-BHC	1	8.6	BJ	13	18MC-L15E-S02-Z1	Not Qualified
SW8081	A7B0640804	SOIL	alpha-BHC	1	1.3	BJ	2.0	18MC-L16W-S04-Z1	U Flag
SW8081	A7B0640804	SEDIM	Dieldrin	0.7	3.5	BJ	3.8	18MC-L16E-S02-Z1	Not Qualified
SW8081	A7B0640804	SEDIM	Dieldrin	0.7	8.4	BJ	13	18MC-L15E-S02-Z1	Not Qualified
SW8081	A7B0640804	SOIL	Dieldrin	0.7	450	BD	99	18MC-L16W-S04-Z1	Not Qualified
SW8081	A7B0640804	SOIL	Dieldrin	0.7	410	BE	2.0	18MC-L16W-S04-Z1	Not Qualified
SW8081	A7B0640804	SEDIM	gamma-Chlordane	1	4.8	B	3.8	18MC-L16E-S02-Z1	U Flag
SW8081	A7B0640804	SOIL	gamma-Chlordane	1	1.7	BJ	2.0	18MC-L16W-S04-Z1	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination

None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8082	18MC-L13-S03-Z1	SAMP	Decachlorobiphenyl	0	34	148	100	Diluted Out
SW8082	18MC-L13-S03-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	100	Diluted Out
SW8082	18MC-L15E-S01-Z1	SAMP	Decachlorobiphenyl	0	34	148	20	Diluted Out
SW8082	18MC-L15E-S01-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	20	Diluted Out

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8082	18MC-L15E-S01-Z1/D	SAMP	Decachlorobiphenyl	0	34	148	20	Diluted Out
SW8082	18MC-L15E-S01-Z1/D	SAMP	Tetrachloro-m-xylene	0	35	134	20	Diluted Out
SW8082	18MC-L15E-S02-Z1	SAMP	Decachlorobiphenyl	205	34	148	5	Diluted Out
SW8082	18MC-L15E-S02-Z1	SAMP	Tetrachloro-m-xylene	175	35	134	5	Diluted Out
SW8082	18MC-L15E-S03-Z1	SAMP	Decachlorobiphenyl	0	34	148	20	Diluted Out
SW8082	18MC-L15E-S03-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	20	Diluted Out
SW8082	18MC-L16E-S01-Z1	SAMP	Decachlorobiphenyl	0	34	148	50	Diluted Out
SW8082	18MC-L16E-S01-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	50	Diluted Out
SW8082	18MC-L16E-S01-Z1	MSD	Decachlorobiphenyl	0	34	148	50	Diluted Out
SW8082	18MC-L16E-S01-Z1	MSD	Tetrachloro-m-xylene	0	35	134	50	Diluted Out
SW8082	18MC-L16E-S01-Z1	MS	Decachlorobiphenyl	0	34	148	50	Diluted Out
SW8082	18MC-L16E-S01-Z1	MS	Tetrachloro-m-xylene	0	35	134	50	Diluted Out
SW8082	18MC-L16E-S02-Z1	SAMP	Decachlorobiphenyl	502	34	148	5	Diluted Out
SW8082	18MC-L16E-S02-Z1	SAMP	Tetrachloro-m-xylene	190	35	134	5	Diluted Out
SW8082	18MC-L16E-S03-Z1	SAMP	Decachlorobiphenyl	0	34	148	10	Diluted Out
SW8082	18MC-L16E-S03-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	10	Diluted Out
SW8082	18MC-L16W-S01-Z1	SAMP	Decachlorobiphenyl	0	34	148	20	Diluted Out
SW8082	18MC-L16W-S01-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	20	Diluted Out
SW8082	18MC-L16W-S04-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	1	None
SW8082	18MC-L16W-S05-Z1	SAMP	Decachlorobiphenyl	0	34	148	1	None
SW8082	18MC-L16W-S05-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	1	None
SW8082	18MC-L16W-S05-Z2	SAMP	Decachlorobiphenyl	0	34	148	1	None
SW8082	18MC-L16W-S05-Z2	SAMP	Tetrachloro-m-xylene	0	35	134	1	None
SW8081	18MC-L15E-S02-Z1	SAMP	Decachlorobiphenyl	240	42	146	5	Diluted Out
SW8081	18MC-L16W-S04-Z1	DL	Decachlorobiphenyl	0	42	146	50	Diluted Out
SW8081	18MC-L16W-S04-Z1	DL	Tetrachloro-m-xylene	0	37	136	50	Diluted Out

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW8270	18MC-L15E-S02-Z1	MS	2,4-Dinitrophenol	<59	5029	164	20	35	146	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	2,4-Dinitrophenol	<59	5016	0	20	35	146	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	2,4-Dinitrotoluene	<26	5029	44	20	55	125	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	2,4-Dinitrotoluene	<26	5016	47	20	55	125	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	2,6-Dinitrotoluene	<41	5029	52	20	66	128	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	2-Methylnaphthalene	5900	5029	-43	20	47	120	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	2-Methylnaphthalene	5900	5016	-39	20	47	120	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	2-Nitroaniline	<54	5029	60	20	61	130	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	2-Nitrophenol	<8	5029	49	20	50	120	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	3-Nitroaniline	<39	5029	52	20	61	127	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	3-Nitroaniline	<39	5016	56	20	61	127	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	4,6-Dinitro-2-methylphenol	<58	5029	0	20	49	155	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	4,6-Dinitro-2-methylphenol	<58	5016	0	20	49	155	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	4-Bromophenyl phenyl ether	<54	5029	69	20	71	126	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	4-Chlorophenyl phenyl ether	<4	5029	60	20	63	124	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	4-Methylphenol	600	5029	49	20	50	119	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	4-Nitroaniline	<19	5029	49	20	63	128	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	4-Nitroaniline	<19	5016	54	20	63	128	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	4-Nitrophenol	<41	5016	6	20	43	137	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Acenaphthene	12000	5029	-150	20	53	120	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Acenaphthene	12000	5016	-144	20	53	120	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Acetophenone	<9	5029	64	20	66	120	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Anthracene	23000	5029	-351	20	62	129	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Anthracene	23000	5016	-370	20	62	129	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Atrazine	<8	5029	68	20	73	133	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Benzaldehyde	<18	5029	10	20	21	120	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Benzaldehyde	<18	5016	16	20	21	120	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Benzo(a)anthracene	43000	5029	-702	20	65	133	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Benzo(a)anthracene	43000	5016	-723	20	65	133	Diluted Out

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW8270	18MC-L15E-S02-Z1	MS	Benzo(a)pyrene	34000	5029	-531	20	64	127	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Benzo(a)pyrene	34000	5016	-541	20	64	127	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Benzo(b)fluoranthene	46000	5029	-763	20	64	135	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Benzo(b)fluoranthene	46000	5016	-778	20	64	135	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Benzo(ghi)perylene	16000	5029	-240	20	50	152	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Benzo(ghi)perylene	16000	5016	-236	20	50	152	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Benzo(k)fluoranthene	16000	5029	-217	20	58	138	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Benzo(k)fluoranthene	16000	5016	-218	20	58	138	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Biphenyl	1400	5029	42	20	71	120	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Biphenyl	1400	5016	52	20	71	120	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Bis(2-ethylhexyl) phthalate	8500	5016	42	20	61	133	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Caprolactam	<73	5029	0	20	54	133	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Caprolactam	<73	5016	50	20	54	133	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Carbazole	15000	5029	-215	20	59	129	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Carbazole	15000	5016	-217	20	59	129	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Chrysene	43000	5029	-700	20	64	131	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Chrysene	43000	5016	-716	20	64	131	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Dibenzo(a,h)anthracene	5200	5029	-41	20	54	148	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Dibenzo(a,h)anthracene	5200	5016	-35	20	54	148	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Dibenzofuran	10000	5029	-130	20	56	120	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Dibenzofuran	10000	5016	-127	20	56	120	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Diethyl phthalate	<5	5029	65	20	66	126	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Fluoranthene	120000	5029	-999	20	62	131	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Fluoranthene	120000	5016	-999	20	62	131	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Fluorene	13000	5029	-160	20	63	126	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Fluorene	13000	5016	-167	20	63	126	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Hexachlorocyclopentadiene	<51	5029	0	20	31	120	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Hexachlorocyclopentadiene	<51	5016	0	20	31	120	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Hexachloroethane	<13	5029	33	20	41	120	Diluted Out

Data Usability Summary Report	Project: 18 Mile Creek A07-4236
Date Completed: June 13, 2007	Completed by: B. Krajewski

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW8270	18MC-L15E-S02-Z1	MS	Indeno(1,2,3-cd)pyrene	16000	5029	-233	20	56	149	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Indeno(1,2,3-cd)pyrene	16000	5016	-230	20	56	149	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Naphthalene	17000	5029	-254	20	46	120	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Naphthalene	17000	5016	-254	20	46	120	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Phenanthrene	120000	5029	-999	20	60	130	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Phenanthrene	120000	5016	-999	20	60	130	Diluted Out
SW8270	18MC-L15E-S02-Z1	MS	Pyrene	68000	5029	-999	20	51	133	Diluted Out
SW8270	18MC-L15E-S02-Z1	MSD	Pyrene	68000	5016	-999	20	51	133	Diluted Out
SW8082	18MC-L16E-S01-Z1	MS	Aroclor 1016	<3.3	325	0	50	59	134	Diluted Out
SW8082	18MC-L16E-S01-Z1	MSD	Aroclor 1016	<3.3	326	0	50	59	134	Diluted Out
SW8082	18MC-L16E-S01-Z1	MS	Aroclor 1260	<3.5	325	0	50	66	140	Diluted Out
SW8082	18MC-L16E-S01-Z1	MSD	Aroclor 1260	<3.5	326	0	50	66	140	Diluted Out
SW6010	18MC-L16E-S01-Z1	MS	Arsenic - Total	25.0	78.5	146	1	75	125	J
SW6010	18MC-L16E-S01-Z1	MS	Chromium - Total	68.5	78.5	204	1	75	125	J
SW6010	18MC-L16E-S01-Z1	MS	Copper - Total	2640	78.5	-386	5	75	125	4X
SW6010	18MC-L16E-S01-Z1	MSD	Copper - Total	2640	80.6	9999	5	75	125	4X
SW6010	18MC-L16E-S01-Z1	MS	Lead - Total	1140	78.5	253	1	75	125	4X
SW6010	18MC-L16E-S01-Z1	MSD	Lead - Total	1140	80.6	214	1	75	125	4X
SW6010	18MC-L16E-S01-Z1	MS	Zinc - Total	2280	78.5	1180	5	75	125	4X
SW6010	18MC-L16E-S01-Z1	MSD	Zinc - Total	2280	80.6	7650	10	75	125	4X

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW6010	18MC-L16E-S01-Z1	MSD	Arsenic - Total	33	20	J
SW6010	18MC-L16E-S01-Z1	MSD	Chromium – Total	35	20	J
SW6010	18MC-L16E-S01-Z1	MSD	Copper – Total	176	20	J
SW6010	18MC-L16E-S01-Z1	MSD	Zinc - Total	90	20	J

Table 5 - List LCS Recoveries outside Control Limits
None

Table 6 –Samples that were Reanalyzed

Sample ID	Lab ID	Method	Sample Type	Action
18MC-L16W-S05-Z1	A7423615RE	SW8082	RA	Reported
18MC-L16W-S05-Z2	A7423616RE	SW8082	RA	Reported

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	PQL	Anal Type	18MC-L15E-S01-Z1	18MC-L15E-S01-Z1/D	RPD	RPD Rating	Samp Qual
SW6010	Arsenic - Total	mg/Kg	A	0.93	12.2	9.3	27.0%	Good	None
SW6010	Chromium - Total	mg/Kg	A	0.21	54.6	47.3	14.3%	Good	None
SW6010	Copper - Total	mg/Kg	A	0.29	1370	1220	11.6%	Good	None
SW6010	Lead - Total	mg/Kg	A	0.69	1370	999	31.3%	Good	None
SW6010	Zinc - Total	mg/Kg	A	4.8	1740	1500	14.8%	Good	None
SW8082	Aroclor 1248	mg/Kg	A	0.77	19	7.5	86.8%	Poor	J
SW8082	Aroclor 1254	mg/Kg	A	0.77	10	5.2	63.1%	Poor	J

Data Usability Summary Report	Project: 18 Mile Creek A07-4303
Date Completed: June 13, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby STL Buffalo	A07-4303
Ecology and Environment NYSDEC Standby STL Buffalo	A07-4455
Subcontract TOC Analysis to STL Burlington	A074319

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-4303	SOIL	18MC-L18-S07-Z1	A7430301	4/25/2007			None
A07-4303	SOIL	18MC-L18-S07-Z1	A7430301DL	4/25/2007			None
A07-4303	SOIL	18MC-L18-S07-Z1	A7430301MS	4/25/2007	MS/MSD		None
A07-4303	SOIL	18MC-L18-S07-Z1	A7430301SD	4/25/2007	MS/MSD		None
A07-4303	SEDIM	18MC-L16W-S03-Z1	A7430302	4/25/2007			None
A07-4303	SOIL	18MC-L17-S06-Z1	A7430303	4/25/2007			None
A07-4303	SEDIM	18MC-L17-S03-Z1	A7430304	4/25/2007			None
A07-4303	SOIL	18MC-L17-S07-Z1	A7430305	4/25/2007			None
A07-4303	SEDIM	18MC-UP-S01-Z1	A7430306	4/25/2007			None
A07-4303	SEDIM	18MC-UP-S01-Z1	A7430306MS	4/25/2007	MS/MSD		None
A07-4303	SEDIM	18MC-UP-S01-Z1	A7430306SD	4/25/2007	MS/MSD		None
A07-4303	SEDIM	18MC-UP-S01-Z2	A7430307	4/25/2007			None
A07-4303	SOIL	18MC-AS01-S01-Z1	A7430308	4/25/2007			None
A07-4303	SOIL	18MC-AS01-S01-Z2	A7430309	4/25/2007			None
A074319	SEDIMENT	18MC-UP-S01-Z1	708954	4/25/2007			None
A074319	SEDIMENT	18MC-UP-S01-Z2	708955	4/25/2007			None
A074319	SEDIMENT	18MC-UP-S01-Z2	708955DP	4/25/2007			None
A074319	SEDIMENT	18MC-UP-S01-Z2	708955MS	4/25/2007	MS/MSD	*	None
A07-4455	SOIL	18MC-SB05-Z1	A7445501	4/27/2007			None
A07-4455	SOIL	18MC-SB05-Z2	A7445502	4/27/2007			None
A07-4455	SOIL	18MC-SB05-Z3	A7445503	4/27/2007			None

Data Usability Summary Report	Project: 18 Mile Creek A07-4303
Date Completed: June 13, 2007	Completed by: B. Krajewski

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-4455	SOIL	18MC-SB05-Z3	A7445503MS	4/27/2007	MS/MSD	*	None
A07-4455	SOIL	18MC-SB05-Z3	A7445503SD	4/27/2007	MS/MSD	*	None
A07-4455	SOIL	18MC-SB04-Z1	A7445504	4/27/2007			None
A07-4455	SOIL	18MC-SB03-Z1	A7445505	4/27/2007			None
A07-4455	SOIL	18MC-SB03-Z2	A7445506	4/27/2007			None
A07-4455	SOIL	18MC-SB15-Z1	A7445507	4/27/2007			None
A07-4455	SOIL	18MC-SB15-Z2	A7445508	4/27/2007			None
A07-4455	SOIL	18MC-SB15-Z2/D	A7445509	4/27/2007			None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-4303	SEDIM	SW6010	**ASP05** ARSENIC - TOTAL - S	4	SAMP
A07-4303	SEDIM	SW6010	**ASP05** CHROMIUM - TOTAL - S	4	SAMP
A07-4303	SEDIM	SW6010	**ASP05** COPPER - TOTAL - S	4	SAMP
A07-4303	SEDIM	SW6010	**ASP05** LEAD - TOTAL - S	4	SAMP
A07-4303	SEDIM	SW6010	**ASP05** ZINC - TOTAL - S	4	SAMP
A07-4303	SEDIM	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	2	SAMP
A07-4303	SEDIM	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	4	SAMP
A07-4303	SEDIM	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	2	SAMP
A07-4303	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** IRON - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	5	SAMP
A07-4303	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	5	SAMP

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-4303	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	5	SAMP
A07-4303	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	5	SAMP
A07-4303	SOIL	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	3	SAMP
A07-4303	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	5	SAMP
A07-4303	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	1	DL
A07-4303	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	3	SAMP
A074319	SEDIMENT	IN623	Wet Chem	2	SAMP
A074319	SEDIMENT	IN847 SOIL	Wet Chem	2	SAMP
A07-4455	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** IRON - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	9	SAMP
A07-4455	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	9	SAMP
A07-4455	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	9	SAMP
A07-4455	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	9	SAMP

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes

Data Usability Summary Report	Project: 18 Mile Creek A07-4303
Date Completed: June 13, 2007	Completed by: B. Krajewski

Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Trip blank not required. Field duplicate collected.
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations (See table below)?	No - All samples were prepared and analyzed within method holding times. The following samples were extracted outside or ASP holding times, but were not qualified because they were analyzed with method hold times.

Method	Sample ID	Sample Date	Matrix	Sample Type	PrepHT	Prep Date	AnalHT	Analysis Date	Samp Qual
SW8081	18MC-UP-S01-Z1	4/25/2007	SEDIM	SAMP	5	4/30/2007	40	5/18/2007	None
SW8081	18MC-UP-S01-Z2	4/25/2007	SEDIM	SAMP	5	4/30/2007	40	5/17/2007	None
SW8270	18MC-UP-S01-Z1	4/25/2007	SEDIM	MS	5	4/30/2007	40	5/3/2007	None
SW8270	18MC-UP-S01-Z1	4/25/2007	SEDIM	MSD	5	4/30/2007	40	5/3/2007	None
SW8270	18MC-UP-S01-Z1	4/25/2007	SEDIM	SAMP	5	4/30/2007	40	5/3/2007	None
SW8270	18MC-UP-S01-Z2	4/25/2007	SEDIM	SAMP	5	4/30/2007	40	5/3/2007	None
SW8270	18MC-AS01-S01-Z1	4/25/2007	SOIL	SAMP	5	4/30/2007	40	5/4/2007	None
SW8270	18MC-L18-S07-Z1	4/25/2007	SOIL	DL	5	4/30/2007	40	5/8/2007	None
SW8270	18MC-L18-S07-Z1	4/25/2007	SOIL	SAMP	5	4/30/2007	40	5/3/2007	None

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes

Data Usability Summary Report	Project: 18 Mile Creek A07-4303
Date Completed: June 13, 2007	Completed by: B. Krajewski

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 20.5%D.	Yes
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
For TICs are there any system related compounds that should not be reported?	Yes – Unknown at RT 16.67
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	NA

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes – Either TCMX or DCB acceptable for all samples.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes – Acceptable for primary column
Is continuing calibration for target compounds < 15.5%D.	Yes – Acceptable for primary column
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.

Data Usability Summary Report	Project: 18 Mile Creek A07-4303
Date Completed: June 13, 2007	Completed by: B. Krajewski

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Spot check retention time windows and second column confirmations as complete.	Acceptable. - "J" qualifier applied to compounds with %D in concentration between compounds >25%
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes
For samples, if results are <5 times the blank then "U" flag data.	No sample results qualified based on method blank results
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes – Ca, Ni, Zn qualified "J".
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	No

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Qualifiers applied based on method blanks, matrix spike recoveries, serial dilutions, RPD values and the difference in pesticide primary/confirmation column concentrations. Benz(b)fluoranthene and benzo(k)fluoranthene peaks could not be resolved. Positive results qualified "J".

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW6010	A7445511	MBLK	Beryllium - Total	0.044	B	A	mg/Kg	0.030	0.030
SW8081	A7B0640804	MBLK	alpha-BHC	1.0	J	A	µg/Kg	0.40	1.7
SW8081	A7B0640804	MBLK	Dieldrin	0.70	J	A	µg/Kg	0.40	1.7
SW8081	A7B0640804	MBLK	gamma-Chlordane	1.0	J	A	µg/Kg	0.40	1.7
SW8270	A7B0641202	MBLK	Bis(2-ethylhexyl) phthalate	78	J	A	µg/Kg	54	170
SW8270	A7B0641202	MBLK	DIBENZYLIDENE 4,4'-BIPHENYLE	220	JN	T	µg/Kg		
SW8270	A7B0641202	MBLK	Di-n-octyl phthalate	9	J	A	µg/Kg	4	170

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8081	A7B0640804	SEDIM	alpha-BHC	1	1.4	BJ	2.2	18MC-UP-S01-Z2	U Flag
SW8081	A7B0640804	SOIL	alpha-BHC	1	1.2	BJ	2.0	18MC-AS01-S01-Z1	U Flag
SW8081	A7B0640804	SOIL	alpha-BHC	1	1.3	BJ	2.1	18MC-L18-S07-Z1	U Flag
SW8081	A7B0640804	SOIL	alpha-BHC	1	1.3	BJ	2.2	18MC-AS01-S01-Z2	U Flag
SW8081	A7B0640804	SEDIM	Dieldrin	0.7	23	B	12	18MC-UP-S01-Z1	Not Qualified
SW8081	A7B0640804	SOIL	Dieldrin	0.7	0.95	BJ	2.2	18MC-AS01-S01-Z2	U Flag
SW8081	A7B0640804	SOIL	Dieldrin	0.7	1.0	BJ	2.0	18MC-AS01-S01-Z1	U Flag
SW8081	A7B0640804	SOIL	Dieldrin	0.7	1.7	BJ	2.1	18MC-L18-S07-Z1	U Flag
SW8081	A7B0640804	SEDIM	gamma-Chlordane	1	1.4	BJ	2.2	18MC-UP-S01-Z2	U Flag
SW8081	A7B0640804	SOIL	gamma-Chlordane	1	2.2	B	2.1	18MC-L18-S07-Z1	U Flag
SW8081	A7B0640804	SOIL	gamma-Chlordane	1	1.3	BJ	2.0	18MC-AS01-S01-Z1	U Flag
SW8081	A7B0640804	SOIL	gamma-Chlordane	1	1.5	BJ	2.2	18MC-AS01-S01-Z2	U Flag
SW8270	A7B0641202	SEDIM	Bis(2-ethylhexyl) phthalate	78	650	B	230	18MC-UP-S01-Z1	Not Qualified
SW8270	A7B0641202	SEDIM	Bis(2-ethylhexyl) phthalate	78	210	BJ	230	18MC-UP-S01-Z2	U Flag
SW8270	A7B0641202	SOIL	Bis(2-ethylhexyl) phthalate	78	870	B	220	18MC-L18-S07-Z1	Not Qualified
SW8270	A7B0641202	SOIL	Bis(2-ethylhexyl) phthalate	78	750	BD	440	18MC-L18-S07-Z1	Not Qualified
SW8270	A7B0641202	SOIL	Bis(2-ethylhexyl) phthalate	78	140	BJ	200	18MC-AS01-S01-Z1	U Flag
SW8270	A7B0641202	SOIL	Bis(2-ethylhexyl) phthalate	78	180	BJ	220	18MC-AS01-S01-Z2	U Flag
SW8270	A7B0641202	SEDIM	Di-n-octyl phthalate	9	13	BJ	230	18MC-UP-S01-Z2	U Flag

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8270	A7B0641202	SOIL	Di-n-octyl phthalate	9	35	BDJ	440	18MC-L18-S07-Z1	U Flag
SW8270	A7B0641202	SOIL	Di-n-octyl phthalate	9	16	BJ	220	18MC-AS01-S01-Z2	U Flag
SW8270	A7B0641202	SOIL	Di-n-octyl phthalate	9	20	BJ	220	18MC-L18-S07-Z1	U Flag
SW8270	A7B0641202	SOIL	Di-n-octyl phthalate	9	8	BJ	200	18MC-AS01-S01-Z1	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8082	18MC-L17-S03-Z1	SAMP	Decachlorobiphenyl	276	34	148	1	None
SW8082	18MC-L17-S07-Z1	SAMP	Decachlorobiphenyl	170	34	148	1	None
SW8082	18MC-L18-S07-Z1	MSD	Decachlorobiphenyl	202	34	148	1	None
SW8082	18MC-L18-S07-Z1	MS	Decachlorobiphenyl	160	34	148	1	None
SW8082	18MC-SB15-Z1	SAMP	Decachlorobiphenyl	0	34	148	4000	Diluted Out
SW8082	18MC-SB15-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	4000	Diluted Out
SW8081	18MC-UP-S01-Z1	SAMP	Decachlorobiphenyl	385	42	146	5	Diluted Out

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW8270	18MC-UP-S01-Z1	MS	2,4-Dinitrophenol	<59	4550	16	1	35	146	UJ
SW8270	18MC-UP-S01-Z1	MSD	2,4-Dinitrophenol	<59	4651	16	1	35	146	UJ
SW8270	18MC-UP-S01-Z1	MS	4,6-Dinitro-2-methylphenol	<58	4550	15	1	49	155	UJ
SW8270	18MC-UP-S01-Z1	MSD	4,6-Dinitro-2-methylphenol	<58	4651	15	1	49	155	UJ
SW8270	18MC-UP-S01-Z1	MS	Hexachlorocyclopentadiene	<51	4550	25	1	31	120	UJ
SW8270	18MC-UP-S01-Z1	MSD	Hexachlorocyclopentadiene	<51	4651	22	1	31	120	UJ
SW8082	18MC-L18-S07-Z1	MSD	Aroclor 1016	<3.3	211	435	1	59	134	None
SW8082	18MC-L18-S07-Z1	MS	Aroclor 1260	240	213	43	1	66	140	J

Data Usability Summary Report	Project: 18 Mile Creek A07-4303
Date Completed: June 13, 2007	Completed by: B. Krajewski

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW8082	18MC-SB05-Z3	MS	Aroclor 1016	<3.3	257	48	1	59	134	J
SW8082	18MC-SB05-Z3	MSD	Aroclor 1016	<3.3	256	56	1	59	134	UJ
SW8082	18MC-SB05-Z3	MS	Aroclor 1260	<3.5	257	57	1	66	140	UJ
SW7471	18MC-SB05-Z3	MS	Mercury - Total	1.0	0.55	24	1	80	120	J
SW7471	18MC-SB05-Z3	MSD	Mercury - Total	1.0	0.52	145	5	80	120	J
SW6010	18MC-L18-S07-Z1	MSD	Aluminum - Total	5970	2550	59	1	75	125	J
SW6010	18MC-L18-S07-Z1	MS	Antimony - Total	<0.54	51.4	67	1	75	125	J
SW6010	18MC-L18-S07-Z1	MSD	Antimony - Total	<0.54	51	61	1	75	125	J
SW6010	18MC-L18-S07-Z1	MSD	Arsenic - Total	5.0	51	74	1	75	125	J
SW6010	18MC-L18-S07-Z1	MSD	Beryllium - Total	0.39	51	74	1	75	125	J
SW6010	18MC-L18-S07-Z1	MS	Calcium - Total	58400	2570	-708	1	75	125	4X
SW6010	18MC-L18-S07-Z1	MSD	Calcium - Total	58400	2550	-953	1	75	125	4X
SW6010	18MC-L18-S07-Z1	MSD	Chromium - Total	49.7	51	31	1	75	125	J
SW6010	18MC-L18-S07-Z1	MSD	Cobalt - Total	6.9	51	70	1	75	125	J
SW6010	18MC-L18-S07-Z1	MS	Magnesium - Total	30300	2570	-444	1	75	125	4X
SW6010	18MC-L18-S07-Z1	MSD	Magnesium - Total	30300	2550	-592	1	75	125	4X
SW6010	18MC-L18-S07-Z1	MS	Manganese - Total	597	51.4	344	1	75	125	4X
SW6010	18MC-L18-S07-Z1	MSD	Manganese - Total	597	51	1180	1	75	125	4X
SW6010	18MC-L18-S07-Z1	MS	Nickel - Total	68.5	51.4	30	1	75	125	J
SW6010	18MC-L18-S07-Z1	MSD	Nickel - Total	68.5	51	26	1	75	125	J
SW6010	18MC-L18-S07-Z1	MSD	Potassium - Total	1140	2550	67	1	75	125	J
SW6010	18MC-L18-S07-Z1	MSD	Vanadium - Total	13.9	51	72	1	75	125	J
SW6010	18MC-L18-S07-Z1	MSD	Zinc - Total	157	51	44	1	75	125	J
SW6010	18MC-SB05-Z3	MSD	Aluminum - Total	9000	3130	72	1	75	125	J
SW6010	18MC-SB05-Z3	MS	Antimony - Total	0.95	63.7	67	1	75	125	J
SW6010	18MC-SB05-Z3	MSD	Antimony - Total	0.95	62.5	72	1	75	125	J
SW6010	18MC-SB05-Z3	MS	Calcium - Total	30100	3180	196	1	75	125	4X
SW6010	18MC-SB05-Z3	MSD	Calcium - Total	30100	3130	159	1	75	125	4X
SW6010	18MC-SB05-Z3	MS	Iron - Total	17100	3180	56	1	75	125	4X

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW6010	18MC-SB05-Z3	MSD	Iron - Total	17100	3130	60	1	75	125	4X
SW6010	18MC-SB05-Z3	MSD	Lead - Total	148	62.5	128	1	75	125	J
SW6010	18MC-SB05-Z3	MS	Zinc - Total	158	63.7	72	1	75	125	J

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW6010	18MC-L18-S07-Z1	MSD	Chromium - Total	35	20	J
SW6010	18MC-L18-S07-Z1	MSD	Magnesium – Total	22	20	J
SW6010	18MC-L18-S07-Z1	MSD	Manganese – Total	43	20	J
SW7471	18MC-SB05-Z3	MSD	Mercury - Total	23	20	J
SW8082	18MC-L18-S07-Z1	MSD	Aroclor 1260	87	50	J
SW8082	18MC-L18-S07-Z1	MSD	Aroclor 1016	123	50	J

Table 5 - List LCS Recoveries outside Control Limits
None

Table 6 –Samples that were Reanalyzed

Sample ID	Lab ID	Method	Sample Type	Action
18MC-L18-S07-Z1	A7430301	SW8270	SAMP	Report, add J and UJ flags
18MC-L18-S07-Z1	A7430301DL	SW8270	DL	Report for E flag data only

Data Usability Summary Report	Project: 18 Mile Creek A07-4303
Date Completed: June 13, 2007	Completed by: B. Krajewski

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	PQL	Anal Type	18MC-SB15-Z2	18MC-SB15-Z2/D	RPD	RPD Rating	Samp Qual
SW7471	Mercury - Total	mg/Kg	A	0.15300	9.6	4.6	70.4%	Poor	J Flag
SW6010	Aluminum - Total	mg/Kg	A	4.2	11500	12300	6.7%	Good	None
SW6010	Arsenic - Total	mg/Kg	A	0.63	5.4	6.2	13.8%	Good	None
SW6010	Barium - Total	mg/Kg	A	0.08	215	155	32.4%	Good	None
SW6010	Beryllium - Total	mg/Kg	A	0.05	0.49	0.60	20.2%	Good	None
SW6010	Cadmium - Total	mg/Kg	A	0.06	0.32	0.30	6.5%	Good	None
SW6010	Calcium - Total	mg/Kg	A	16.1	36600	49000	29.0%	Good	None
SW6010	Chromium - Total	mg/Kg	A	0.14	34.1	25.5	28.9%	Good	None
SW6010	Cobalt - Total	mg/Kg	A	0.18	8.9	9.6	7.6%	Good	None
SW6010	Copper - Total	mg/Kg	A	0.19	34.5	36.7	6.2%	Good	None
SW6010	Iron - Total	mg/Kg	A	4.8	20200	22100	9.0%	Good	None
SW6010	Lead - Total	mg/Kg	A	0.47	779	396	65.2%	Good	None
SW6010	Magnesium - Total	mg/Kg	A	6.8	10800	11800	8.8%	Good	None
SW6010	Manganese - Total	mg/Kg	A	0.16	374	407	8.5%	Good	None
SW6010	Nickel - Total	mg/Kg	A	0.23	21.4	23.3	8.5%	Good	None
SW6010	Potassium - Total	mg/Kg	A	13.5	1520	1660	8.8%	Good	None
SW6010	Silver - Total	mg/Kg	A	0.24	0.43	0.65	40.7%	Good	None
SW6010	Sodium - Total	mg/Kg	A	49.9	174	239	31.5%	Good	None
SW6010	Vanadium - Total	mg/Kg	A	0.15	20.2	21.9	8.1%	Good	None
SW6010	Zinc - Total	mg/Kg	A	0.64	214	170	22.9%	Good	None
SW8082	Aroclor 1248	mg/Kg	A	0.026	0.019	0.026	31.1%	Good	None

Data Usability Summary Report	Project: 18 Mile Creek A07-4304
Date Completed: June 14, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby STL Buffalo	A07-4304
Subcontract TOC Analysis to STL Burlington	A074305

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-4304	SOIL	18MC-L16W-S04-Z2	A7430401	4/25/2007			None
A07-4304	SOIL	18MC-L17-S04-Z2	A7430402	4/25/2007			None
A07-4304	SEDIM	18MC-L17-S02-Z1	A7430403	4/25/2007			None
A07-4304	SOIL	18MC-L17-S05-Z1	A7430404	4/25/2007			None
A07-4304	SEDIM	18MC-L17-S01-Z1	A7430405	4/25/2007			None
A07-4304	SOIL	18MC-L17-S05-Z2	A7430406	4/25/2007			None
A07-4304	SOIL	18MC-L17-S04-Z1	A7430407	4/25/2007			None
A07-4304	SEDIM	18MC-L18-S02-Z1	A7430408	4/25/2007			None
A07-4304	SEDIM	18MC-L18-S02-Z2	A7430409	4/25/2007			None
A07-4304	SEDIM	18MC-L18-S02-Z2	A7430409MS	4/25/2007	MS/MSD		None
A07-4304	SEDIM	18MC-L18-S02-Z2	A7430409SD	4/25/2007	MS/MSD		None
A07-4304	SEDIM	18MC-L18-S01-Z1	A7430410	4/25/2007			None
A07-4304	SOIL	18MC-L18-S05-Z2	A7430411	4/25/2007			None
A07-4304	SOIL	18MC-L18-S05-Z2/D	A7430412	4/25/2007			None
A07-4304	SOIL	18MC-L18-S04-Z2	A7430413	4/25/2007			None
A07-4304	SOIL	18MC-L18-S05-Z1	A7430414	4/25/2007			None
A07-4304	SOIL	18MC-L18-S04-Z1	A7430415	4/25/2007			None

Data Usability Summary Report	Project: 18 Mile Creek A07-4304
Date Completed: June 14, 2007	Completed by: B. Krajewski

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-4304	SOIL	18MC-L18-S06-Z2	A7430416	4/25/2007			None
A07-4304	SOIL	18MC-L18-S06-Z1	A7430417	4/25/2007			None
A07-4304	SOIL	18MC-L18-S07-Z2	A7430418	4/25/2007			None
A07-4304	SOIL	18MC-L18-S07-Z2	A7430418MS	4/25/2007	MS/MSD	*	None
A07-4304	SOIL	18MC-L18-S07-Z2	A7430418SD	4/25/2007	MS/MSD	*	None
A074305	SEDIMENT	18MC-L17-S02-Z1	708951	4/25/2007			None
A074305	SEDIMENT	18MC-L18-S02-Z1	708952	4/25/2007			None
A074305	SEDIMENT	18MC-L18-S02-Z2	708953	4/25/2007			None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-4304	SEDIM	SW6010	**ASP05** ARSENIC - TOTAL - S	5	SAMP
A07-4304	SEDIM	SW6010	**ASP05** CHROMIUM - TOTAL - S	5	SAMP
A07-4304	SEDIM	SW6010	**ASP05** COPPER - TOTAL - S	5	SAMP
A07-4304	SEDIM	SW6010	**ASP05** LEAD - TOTAL - S	5	SAMP
A07-4304	SEDIM	SW6010	**ASP05** ZINC - TOTAL - S	5	SAMP
A07-4304	SEDIM	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	3	SAMP
A07-4304	SEDIM	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	5	SAMP
A07-4304	SEDIM	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	3	SAMP
A07-4304	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** IRON - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	13	SAMP

Data Usability Summary Report	Project: 18 Mile Creek A07-4304
Date Completed: June 14, 2007	Completed by: B. Krajewski

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-4304	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	13	SAMP
A07-4304	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	13	SAMP
A07-4304	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	13	SAMP
A07-4304	SOIL	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	1	SAMP
A07-4304	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	13	SAMP
A07-4304	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	1	SAMP
A074305	SEDIMENT	IN623	Wet Chem	3	SAMP
A074305	SEDIMENT	IN847 SOIL	Wet Chem	3	SAMP

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Trip blank not required. Field duplicate collected.
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations (See table below)?	No - All samples were prepared and analyzed within method holding times. The following samples were extracted outside or ASP holding times, but were not qualified because they were analyzed with method hold times.

I

Method	Sample ID	Sample Date	Matrix	Sample Type	PrepHT	Prep Date	AnalHT	Analysis Date	Samp Qual
SW8081	18MC-L17-S02-Z1	4/25/2007	SEDIM	SAMP	5	4/30/2007	40	5/17/2007	None
SW8081	18MC-L18-S02-Z1	4/25/2007	SEDIM	SAMP	5	4/30/2007	40	5/18/2007	None
SW8081	18MC-L18-S02-Z2	4/25/2007	SEDIM	MS	5	4/30/2007	40	5/17/2007	None
SW8081	18MC-L18-S02-Z2	4/25/2007	SEDIM	MSD	5	4/30/2007	40	5/17/2007	None
SW8081	18MC-L18-S02-Z2	4/25/2007	SEDIM	SAMP	5	4/30/2007	40	5/17/2007	None
SW8082	18MC-L17-S01-Z1	4/25/2007	SEDIM	SAMP	5	4/30/2007	40	5/1/2007	None
SW8082	18MC-L17-S02-Z1	4/25/2007	SEDIM	SAMP	5	4/30/2007	40	5/1/2007	None

Method	Sample ID	Sample Date	Matrix	Sample Type	PrepHT	Prep Date	AnalHT	Analysis Date	Samp Qual
SW8082	18MC-L18-S01-Z1	4/25/2007	SEDIM	SAMP	5	4/30/2007	40	5/1/2007	None
SW8082	18MC-L18-S02-Z1	4/25/2007	SEDIM	SAMP	5	4/30/2007	40	5/1/2007	None
SW8082	18MC-L18-S02-Z2	4/25/2007	SEDIM	SAMP	5	4/30/2007	40	5/1/2007	None
SW8270	18MC-L17-S02-Z1	4/25/2007	SEDIM	SAMP	5	5/1/2007	40	5/3/2007	None
SW8270	18MC-L18-S02-Z1	4/25/2007	SEDIM	SAMP	5	5/1/2007	40	5/3/2007	None
SW8270	18MC-L18-S02-Z2	4/25/2007	SEDIM	SAMP	5	5/1/2007	40	5/3/2007	None
SW8270	18MC-L17-S05-Z1	4/25/2007	SOIL	SAMP	5	5/1/2007	40	5/3/2007	None

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 20.5%D.	Yes
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
For TICs are there any system related compounds that should not be reported?	No

Data Usability Summary Report	Project: 18 Mile Creek A07-4304
Date Completed: June 14, 2007	Completed by: B. Krajewski

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	NA

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes – Either TCMX or DCB acceptable for all samples.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes – Acceptable for primary column
Is continuing calibration for target compounds < 15.5%D.	Yes – Acceptable for primary column
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
Spot check retention time windows and second column confirmations as complete.	Acceptable. - "J" qualifier applied to compounds with %D in concentration between compounds >25%
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes
For samples, if results are <5 times the blank then "U" flag data.	No sample results qualified based on method blank results.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	Yes – No NDs associated.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes – K qualified "J".
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.

Data Usability Summary Report	Project: 18 Mile Creek A07-4304
Date Completed: June 14, 2007	Completed by: B. Krajewski

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Spot check ICV 95-105%. Contact lab.	All are acceptable.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Qualifiers applied based on method blanks, matrix spike recoveries, serial dilutions, RPD values and the difference in pesticide primary/confirmation column concentrations. Benz(b)fluoranthene and benzo(k)fluoranthene peaks could not be resolved. Positive results qualified "J".

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW6010	A7430420	MBLK	Aluminum - Total	3.173	B	A	mg/Kg	2.6	2.600
SW7471	A7430420	MBLK	Mercury - Total	0.011	B	A	mg/Kg	0.0047	0.005
SW8081	A7B0640804	MBLK	alpha-BHC	1.0	J	A	µg/Kg	0.40	1.7
SW8081	A7B0640804	MBLK	Dieldrin	0.70	J	A	µg/Kg	0.40	1.7
SW8081	A7B0640804	MBLK	gamma-Chlordane	1.0	J	A	µg/Kg	0.40	1.7
SW8270	A7B0647102	MBLK	Bis(2-ethylhexyl) phthalate	130	J	A	µg/Kg	54	160
SW8270	A7B0647102	MBLK	Di-n-octyl phthalate	40	J	A	µg/Kg	4	160

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8081	A7B0640804	SEDIM	alpha-BHC	1	1.8	BJ	3.1	18MC-L18-S02-Z2	U Flag
SW8081	A7B0640804	SEDIM	alpha-BHC	1	18	BJ	31	18MC-L18-S02-Z1	Not Qualified
SW8081	A7B0640804	SEDIM	alpha-BHC	1	2.5	BJ	3.6	18MC-L17-S02-Z1	U Flag
SW8081	A7B0640804	SOIL	alpha-BHC	1	2.3	BJ	3.6	18MC-L17-S05-Z1	U Flag
SW8081	A7B0640804	SEDIM	Dieldrin	0.7	1.3	BJ	3.1	18MC-L18-S02-Z2	U Flag
SW8081	A7B0640804	SEDIM	Dieldrin	0.7	16	BJ	31	18MC-L18-S02-Z1	Not Qualified
SW8081	A7B0640804	SEDIM	gamma-Chlordane	1	1.9	BJ	3.1	18MC-L18-S02-Z2	U Flag
SW8081	A7B0640804	SEDIM	gamma-Chlordane	1	19	BJ	31	18MC-L18-S02-Z1	Not Qualified
SW8081	A7B0640804	SEDIM	gamma-Chlordane	1	2.6	BJ	3.6	18MC-L17-S02-Z1	U Flag
SW8081	A7B0640804	SOIL	gamma-Chlordane	1	2.4	BJ	3.6	18MC-L17-S05-Z1	U Flag
SW8270	A7B0647102	SEDIM	Bis(2-ethylhexyl) phthalate	130	120	BJ	310	18MC-L18-S02-Z2	U Flag
SW8270	A7B0647102	SEDIM	Bis(2-ethylhexyl) phthalate	130	160	BJ	370	18MC-L17-S02-Z1	U Flag
SW8270	A7B0647102	SEDIM	Bis(2-ethylhexyl) phthalate	130	28000	BJ	61000	18MC-L18-S02-Z1	Not Qualified
SW8270	A7B0647102	SOIL	Bis(2-ethylhexyl) phthalate	130	190	BJ	370	18MC-L17-S05-Z1	U Flag
SW8270	A7B0647102	SEDIM	Di-n-octyl phthalate	40	19	BJ	310	18MC-L18-S02-Z2	U Flag
SW8270	A7B0647102	SEDIM	Di-n-octyl phthalate	40	45	BJ	370	18MC-L17-S02-Z1	U Flag
SW8270	A7B0647102	SOIL	Di-n-octyl phthalate	40	44	BJ	370	18MC-L17-S05-Z1	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8082	18MC-L18-S06-Z1	SAMP	Decachlorobiphenyl	173	34	148	1	None
SW8081	18MC-L18-S02-Z1	SAMP	Decachlorobiphenyl	520	42	146	10	Diluted Out
SW8081	18MC-L18-S02-Z1	SAMP	Tetrachloro-m-xylene	195	37	136	10	Diluted Out

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW6010	18MC-L18-S07-Z2	MSD	Aluminum - Total	4930	2580	71	1	75	125	J Flag
SW6010	18MC-L18-S07-Z2	MS	Barium - Total	165	50.3	71	1	75	125	J Flag
SW6010	18MC-L18-S07-Z2	MSD	Barium - Total	165	51.5	44	1	75	125	J Flag
SW6010	18MC-L18-S07-Z2	MSD	Calcium - Total	4750	2580	66	1	75	125	J Flag
SW6010	18MC-L18-S07-Z2	MS	Chromium - Total	171	50.3	60	1	75	125	N J Flag
SW6010	18MC-L18-S07-Z2	MSD	Chromium - Total	171	51.5	-186	1	75	125	R Flag NDs
SW6010	18MC-L18-S07-Z2	MS	Iron - Total	22300	2520	-237	1	75	125	4X
SW6010	18MC-L18-S07-Z2	MSD	Iron - Total	22300	2580	-250	1	75	125	4X
SW6010	18MC-L18-S07-Z2	MS	Lead - Total	8.5	50.3	163	1	75	125	J Flag
SW6010	18MC-L18-S07-Z2	MSD	Manganese - Total	90.3	51.5	26	1	75	125	J Flag
SW6010	18MC-L18-S07-Z2	MS	Nickel - Total	182	50.3	385	1	75	125	J Flag
SW6010	18MC-L18-S07-Z2	MSD	Nickel - Total	182	51.5	-121	1	75	125	R Flag NDs

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW6010	18MC-L18-S07-Z2	MSD	Chromium - Total	91	20	None
SW6010	18MC-L18-S07-Z2	MSD	Lead - Total	42	20	None
SW6010	18MC-L18-S07-Z2	MSD	Manganese - Total	28	20	None
SW6010	18MC-L18-S07-Z2	MSD	Nickel - Total	104	20	None

Table 5 - List LCS Recoveries outside Control Limits
None

Table 6 –Samples that were Reanalyzed
None

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	PQL	Anal Type	18MC-L18-S05-Z2	18MC-L18-S05-Z2/D	RPD	RPD Rating	Samp Qual
SW7471	Mercury - Total	mg/Kg	A	0.007	2.0	3.2	46.2%	Good	None
SW6010	Aluminum - Total	mg/Kg	A	4.5	8040	8870	9.8%	Good	None
SW6010	Antimony - Total	mg/Kg	A	0.93	2.9	5.6	63.5%	Good	None
SW6010	Arsenic - Total	mg/Kg	A	0.67	11.9	10.4	13.5%	Good	None
SW6010	Barium - Total	mg/Kg	A	0.09	246	369	40.0%	Good	None
SW6010	Beryllium - Total	mg/Kg	A	0.05	0.36	0.42	15.4%	Good	None
SW6010	Cadmium - Total	mg/Kg	A	0.07	0.76	1.0	27.3%	Good	None
SW6010	Calcium - Total	mg/Kg	A	17.3	13800	13600	1.5%	Good	None
SW6010	Chromium - Total	mg/Kg	A	0.16	32.7	51.6	44.8%	Good	None
SW6010	Cobalt - Total	mg/Kg	A	0.19	7.3	9.3	24.1%	Good	None
SW6010	Copper - Total	mg/Kg	A	0.21	122	175	35.7%	Good	None
SW6010	Iron - Total	mg/Kg	A	5.2	13500	15600	14.4%	Good	None
SW6010	Lead - Total	mg/Kg	A	0.50	278	430	42.9%	Good	None
SW6010	Magnesium - Total	mg/Kg	A	7.3	6880	7150	3.8%	Good	None
SW6010	Manganese - Total	mg/Kg	A	0.17	157	166	5.6%	Good	None
SW6010	Nickel - Total	mg/Kg	A	0.24	19.3	23.0	17.5%	Good	None
SW6010	Potassium - Total	mg/Kg	A	14.5	1110	1190	7.0%	Good	None
SW6010	Silver - Total	mg/Kg	A	0.26	1.2	1.1	8.7%	Good	None
SW6010	Sodium - Total	mg/Kg	A	53.6	136	123	10.0%	Good	None
SW6010	Vanadium - Total	mg/Kg	A	0.16	16.9	18.5	9.0%	Good	None

Data Usability Summary Report	Project: 18 Mile Creek A07-4391
Date Completed: June 14, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby STL Buffalo	A07-4391

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-4391	SOIL	18MC-SB14-Z1	A7439101	4/26/2007			None
A07-4391	SOIL	18MC-SB14-Z1	A7439101RE	4/26/2007			None
A07-4391	SOIL	18MC-SB14-Z2	A7439102	4/26/2007			None
A07-4391	SOIL	18MC-SB14-Z2	A7439102RE	4/26/2007			None
A07-4391	SOIL	18MC-SB13-Z1	A7439103	4/26/2007			None
A07-4391	SOIL	18MC-SB13-Z1	A7439103RE	4/26/2007			None
A07-4391	SOIL	18MC-SB13-Z2	A7439104	4/26/2007			None
A07-4391	SOIL	18MC-SB13-Z2	A7439104RE	4/26/2007			None
A07-4391	SOIL	18MC-SB12-Z1	A7439105	4/26/2007			None
A07-4391	SOIL	18MC-SB12-Z1	A7439105RE	4/26/2007			None
A07-4391	SOIL	18MC-SB12-Z2	A7439106	4/26/2007			None
A07-4391	SOIL	18MC-SB12-Z2	A7439106RE	4/26/2007			None
A07-4391	SOIL	18MC-SB10-Z1	A7439107	4/26/2007			None
A07-4391	SOIL	18MC-SB10-Z1	A7439107RE	4/26/2007			None
A07-4391	SOIL	18MC-SB10-Z1/D	A7439108	4/26/2007			None
A07-4391	SOIL	18MC-SB10-Z1/D	A7439108RE	4/26/2007			None
A07-4391	SOIL	18MC-SB10-Z2	A7439109	4/26/2007			None
A07-4391	SOIL	18MC-SB10-Z2	A7439109RE	4/26/2007			None
A07-4391	SOIL	18MC-SB09-Z1	A7439110	4/26/2007			None
A07-4391	SOIL	18MC-SB09-Z1	A7439110RE	4/26/2007			None
A07-4391	SOIL	18MC-SB09-Z2	A7439111	4/26/2007			None
A07-4391	SOIL	18MC-SB09-Z2	A7439111MS	4/26/2007	MS/MSD	*	None
A07-4391	SOIL	18MC-SB09-Z2	A7439111RE	4/26/2007			None
A07-4391	SOIL	18MC-SB09-Z2	A7439111SD	4/26/2007	MS/MSD	*	None
A07-4391	SOIL	18MC-SB08-Z1	A7439112	4/26/2007			None
A07-4391	SOIL	18MC-SB08-Z1	A7439112RE	4/26/2007			None
A07-4391	SOIL	18MC-SB08-Z2	A7439113	4/26/2007			None
A07-4391	SOIL	18MC-SB08-Z2	A7439113RE	4/26/2007			None

Data Usability Summary Report	Project: 18 Mile Creek A07-4391
Date Completed: June 14, 2007	Completed by: B. Krajewski

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-4391	SOIL	18MC-SB07-Z1	A7439114	4/26/2007			None
A07-4391	SOIL	18MC-SB07-Z1	A7439114RE	4/26/2007			None
A07-4391	SOIL	18MC-SB07-Z2	A7439115	4/26/2007			None
A07-4391	SOIL	18MC-SB07-Z2	A7439115RE	4/26/2007			None
A07-4391	SOIL	18MC-SB06-Z1	A7439116	4/26/2007			None
A07-4391	SOIL	18MC-SB06-Z1	A7439116RE	4/26/2007			None
A07-4391	SOIL	18MC-SB06-Z2	A7439117	4/26/2007			None
A07-4391	SOIL	18MC-SB06-Z2	A7439117RE	4/26/2007			None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-4391	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** IRON - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	17	SAMP
A07-4391	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	17	SAMP
A07-4391	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	17	SAMP
A07-4391	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	17	RA

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes

Data Usability Summary Report	Project: 18 Mile Creek A07-4391
Date Completed: June 14, 2007	Completed by: B. Krajewski

General Sample Information	
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Trip blank not required. Field duplicate collected.
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations?	No - All samples were prepared and analyzed within method holding times. Samples reextracted for Method 8082 within hold time due to switching of extracts in original batch.

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes – Either TCMX or DCB acceptable for all samples.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	NA – No MS/MSD included.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes – Acceptable for primary column
Is continuing calibration for target compounds < 15.5%D.	Yes – Acceptable for primary column
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
Spot check retention time windows and second column confirmations as complete.	Acceptable.

Data Usability Summary Report	Project: 18 Mile Creek A07-4391
Date Completed: June 14, 2007	Completed by: B. Krajewski

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes – Al, Ba, Cr, Co, Cu, Pb, Ni, K, V, Zn qualified "J".
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	No

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Qualifiers applied based on matrix spike recoveries and serial dilutions .

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW6010	A7439119	MBLK	Aluminum - Total	4.247	B	A	mg/Kg	2.6	2.600
SW6010	A7439119	MBLK	Chromium - Total	0.135	B	A	mg/Kg	0.090	0.090
SW6010	A7439119	MBLK	Copper - Total	0.258	B	A	mg/Kg	0.12	0.120
SW6010	A7439119	MBLK	Silver - Total	-0.175	B	A	mg/Kg	0.15	0.150
SW7471	A7439119	MBLK	Mercury - Total	0.008	B	A	mg/Kg	0.0047	0.005

Table 2A - List of Samples Qualified for Method Blank Contamination
None

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8082	18MC-SB14-Z1	RA	Decachlorobiphenyl	156	34	148	1	None
SW8082	18MC-SB14-Z2	RA	Decachlorobiphenyl	5730	34	148	5	Diluted Out

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW7471	18MC-SB09-Z2	MS	Mercury - Total	0.172	0.47	79	1	80	120	J Flag
SW7471	18MC-SB09-Z2	MSD	Mercury - Total	0.172	0.42	76	1	80	120	J Flag
SW6010	18MC-SB09-Z2	MS	Antimony - Total	1.2	53.8	60	1	75	125	J Flag
SW6010	18MC-SB09-Z2	MSD	Antimony - Total	1.2	55	58	1	75	125	J Flag
SW6010	18MC-SB09-Z2	MS	Barium - Total	121	53.8	546	1	75	125	J Flag
SW6010	18MC-SB09-Z2	MSD	Barium - Total	121	55	537	1	75	125	J Flag
SW6010	18MC-SB09-Z2	MS	Calcium - Total	140000	2690	1260	5	75	125	4X
SW6010	18MC-SB09-Z2	MSD	Calcium - Total	140000	2750	1620	5	75	125	4X
SW6010	18MC-SB09-Z2	MS	Iron - Total	17200	2690	-108	1	75	125	4X
SW6010	18MC-SB09-Z2	MSD	Iron - Total	17200	2750	-114	1	75	125	4X

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW6010	18MC-SB09-Z2	MS	Lead - Total	91.6	53.8	66	1	75	125	J Flag
SW6010	18MC-SB09-Z2	MSD	Lead - Total	91.6	55	51	1	75	125	J Flag
SW6010	18MC-SB09-Z2	MS	Magnesium - Total	16400	2690	181	1	75	125	4X
SW6010	18MC-SB09-Z2	MSD	Magnesium - Total	16400	2750	167	1	75	125	4X
SW6010	18MC-SB09-Z2	MS	Manganese - Total	1640	53.8	141	1	75	125	4X
SW6010	18MC-SB09-Z2	MSD	Manganese - Total	1640	55	155	1	75	125	4X
SW6010	18MC-SB09-Z2	MS	Nickel - Total	14.9	53.8	74	1	75	125	J Flag
SW6010	18MC-SB09-Z2	MSD	Nickel - Total	14.9	55	74	1	75	125	J Flag

Table 5 - List LCS Recoveries outside Control Limits
None

Table 6 –Samples that were Reanalyzed

Sample ID	Lab ID	Method	Sample Type	Action
18MC-SB14-Z1	A7439101RE	SW8082	RA	Reported
18MC-SB14-Z2	A7439102RE	SW8082	RA	Reported
18MC-SB13-Z1	A7439103RE	SW8082	RA	Reported
18MC-SB13-Z2	A7439104RE	SW8082	RA	Reported
18MC-SB12-Z1	A7439105RE	SW8082	RA	Reported
18MC-SB12-Z2	A7439106RE	SW8082	RA	Reported
18MC-SB10-Z1	A7439107RE	SW8082	RA	Reported
18MC-SB10-Z1/D	A7439108RE	SW8082	RA	Reported
18MC-SB10-Z2	A7439109RE	SW8082	RA	Reported
18MC-SB09-Z1	A7439110RE	SW8082	RA	Reported
18MC-SB09-Z2	A7439111RE	SW8082	RA	Reported
18MC-SB08-Z1	A7439112RE	SW8082	RA	Reported
18MC-SB08-Z2	A7439113RE	SW8082	RA	Reported
18MC-SB07-Z1	A7439114RE	SW8082	RA	Reported
18MC-SB07-Z2	A7439115RE	SW8082	RA	Reported
18MC-SB06-Z1	A7439116RE	SW8082	RA	Reported

Sample ID	Lab ID	Method	Sample Type	Action
18MC-SB06-Z2	A7439117RE	SW8082	RA	Reported

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	PQL	Anal Type	18MC-SB10-Z1	18MC-SB10-Z1/D	RPD	RPD Rating	Samp Qual
SW7471	Mercury - Total	mg/Kg	A	0.005	0.008	0.011	31.6%	Good	None
SW6010	Aluminum - Total	mg/Kg	A	3.0	3950	1870	71.5%	Poor	J Flag
SW6010	Antimony - Total	mg/Kg	A	0.62	NA	0.64	NC		
SW6010	Arsenic - Total	mg/Kg	A	0.45	7.7	12.6	48.3%	Good	None
SW6010	Barium - Total	mg/Kg	A	0.06	52.1	36.5	35.2%	Good	None
SW6010	Beryllium - Total	mg/Kg	A	0.03	1.4	0.51	93.2%	Poor	J Flag
SW6010	Cadmium - Total	mg/Kg	A	0.05	0.05	NA	NC		
SW6010	Calcium - Total	mg/Kg	A	11.5	2340	770	101.0%	Poor	J Flag
SW6010	Chromium - Total	mg/Kg	A	0.10	8.1	5.0	47.3%	Good	None
SW6010	Cobalt - Total	mg/Kg	A	0.13	3.8	2.9	26.9%	Good	None
SW6010	Copper - Total	mg/Kg	A	0.14	15.2	10.5	36.6%	Good	None
SW6010	Iron - Total	mg/Kg	A	3.4	14900	11800	23.2%	Good	None
SW6010	Lead - Total	mg/Kg	A	0.33	3.1	3.1	0.0%	Good	None
SW6010	Magnesium - Total	mg/Kg	A	4.8	229	125	58.8%	Good	None
SW6010	Manganese - Total	mg/Kg	A	0.11	21.3	10.9	64.6%	Good	None
SW6010	Nickel - Total	mg/Kg	A	0.16	10.5	7.9	28.3%	Good	None
SW6010	Potassium - Total	mg/Kg	A	9.6	226	128	55.4%	Good	None
SW6010	Sodium - Total	mg/Kg	A	35.6	129	70.0	59.3%	Good	None
SW6010	Vanadium - Total	mg/Kg	A	0.11	17.2	10.9	44.8%	Good	None
SW6010	Zinc - Total	mg/Kg	A	0.46	5.2	4.2	21.3%	Good	None

Data Usability Summary Report	Project: NYSDEC 18 Mile Creek A07-6240
Date Completed: July 5, 2007	Completed by: Barb Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby STL Buffalo	A07-6240

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-6240	SOIL	18MC-MW17-Z1	A7624001	6/5/2007			None
A07-6240	SOIL	18MC-MW17-Z1	A7624001MS	6/5/2007	MS/MSD		None
A07-6240	SOIL	18MC-MW17-Z1	A7624001SD	6/5/2007	MS/MSD		None
A07-6240	SOIL	18MC-SS18	A7624002	6/6/2007			None
A07-6240	SOIL	18MC-SS19	A7624003	6/6/2007			None
A07-6240	SOIL	18MC-SS20	A7624004	6/6/2007			None
A07-6240	SOIL	18MC-MW12-Z1	A7624005	6/6/2007			None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-6240	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** IRON - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	5	SAMP

Data Usability Summary Report	Project: NYSDEC 18 Mile Creek A07-6240
Date Completed: July 5, 2007	Completed by: Barb Krajewski

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-6240	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	5	SAMP
A07-6240	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	5	SAMP
A07-6240	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	5	SAMP
A07-6240	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	5	SAMP
A07-6240	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	5	SAMP

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	N/A
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations (See table below)?	No - All samples were prepared and analyzed within method holding times.

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	No- Samples 18MC-SS18 and 18MC-SS19 diluted out below the calibration range.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes

Data Usability Summary Report	Project: NYSDEC 18 Mile Creek A07-6240
Date Completed: July 5, 2007	Completed by: Barb Krajewski

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	No- All outlying samples were qualified as UJ.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 20.5%D.	Yes
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	No
For TICs are there any system related compounds that should not be reported?	No
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	N/A

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes-TMX was in for all samples, no qualifiers added.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 15.5%D.	Yes
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	No
Spot check retention time windows and second column confirmations as complete.	Acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	N/A

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes

Data Usability Summary Report	Project: NYSDEC 18 Mile Creek A07-6240
Date Completed: July 5, 2007	Completed by: Barb Krajewski

Metals by ICP and Mercury by CVAA	
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No- All samples that were outside the QC limits were J flagged.
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes Chromium, Copper, and Zinc were qualified as a J.
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	N/A

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Results flagged J based on Method Blank and MS/MSD recoveries.

Data Usability Summary Report	Project: NYSDEC 18 Mile Creek A07-6240
Date Completed: July 5, 2007	Completed by: Barb Krajewski

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW6010	A7624007	MBLK	Aluminum - Total	4.917	B	A	mg/Kg	2.6	2.600
SW6010	A7624007	MBLK	Beryllium - Total	0.038	B	A	mg/Kg	0.030	0.030
SW6010	A7624007	MBLK	Chromium - Total	0.148	B	A	mg/Kg	0.090	0.090
SW6010	A7624007	MBLK	Copper - Total	0.196	B	A	mg/Kg	0.12	0.120
SW6010	A7624007	MBLK	Silver - Total	0.194	B	A	mg/Kg	0.15	0.150
SW7471	A7624007	MBLK	Mercury - Total	0.006	B	A	mg/Kg	0.0047	0.005
SW8270	A7B0900402	MBLK	Bis(2-ethylhexyl) phthalate	97	J	A	µg/Kg	54	160

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8270	A7B0900402	SOIL	Bis(2-ethylhexyl) phthalate	97	260	B	190	18MC-MW17-Z1	U Flag
SW8270	A7B0900402	SOIL	Bis(2-ethylhexyl) phthalate	97	570	B	200	18MC-MW12-Z1	U Flag
SW6010	A7624007	SOIL	Beryllium - Total	0.038	0.12	B	0.09	18MC-SS18	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination

None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8270	18MC-SS18	SAMP	2,4,6-Tribromophenol	0	46	129	20	Diluted Out
SW8270	18MC-SS19	SAMP	2,4,6-Tribromophenol	0	46	129	20	Diluted Out
SW8270	18MC-SS19	SAMP	2-Fluorobiphenyl	0	43	119	20	Diluted Out
SW8270	18MC-SS19	SAMP	2-Fluorophenol	0	30	107	20	Diluted Out
SW8270	18MC-SS19	SAMP	Nitrobenzene-D5	0	35	113	20	Diluted Out
SW8270	18MC-SS19	SAMP	Phenol-D5	0	36	116	20	Diluted Out
SW8270	18MC-SS19	SAMP	p-Terphenyl-d14	0	51	125	20	Diluted Out
SW8082	18MC-SS18	SAMP	Decachlorobiphenyl	222	34	148	1	None
SW8082	18MC-SS19	SAMP	Decachlorobiphenyl	422	34	148	1	None

Data Usability Summary Report	Project: NYSDEC 18 Mile Creek A07-6240
Date Completed: July 5, 2007	Completed by: Barb Krajewski

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW8270	18MC-MW17-Z1	MSD	Acetophenone	<9	3809	65	1	66	120	UJ
SW8270	18MC-MW17-Z1	MSD	Benzaldehyde	<18	3809	15	1	21	120	UJ
SW6010	18MC-MW17-Z1	MS	Aluminum - Total	4290	2350	129	1	75	125	J
SW6010	18MC-MW17-Z1	MS	Calcium - Total	160000	2350	-782	5	75	125	4X
SW6010	18MC-MW17-Z1	MSD	Calcium - Total	160000	2180	-919	5	75	125	4X
SW6010	18MC-MW17-Z1	MSD	Magnesium - Total	27100	2180	185	1	75	125	4X
SW6010	18MC-MW17-Z1	MSD	Manganese - Total	409	43.6	63	1	75	125	4X
SW6010	18MC-MW17-Z1	MS	Zinc - Total	27.5	47	72	1	75	125	J
SW6010	18MC-MW17-Z1	MSD	Zinc - Total	27.5	43.6	63	1	75	125	J

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW8270	18MC-MW17-Z1	MSD	Benzaldehyde	78	20	UJ

Table 5 - List LCS Recoveries outside Control Limits
None

Table 6 –Samples that were Reanalyzed
None

Table 7 – Summary of Field Duplicate Results
None

Data Usability Summary Report	Project: NYSDEC 18 Mile Creek A07-6420
Date Completed: July 6,2007	Completed by: Barb Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby STL Buffalo	A07-6420

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-6420	SOIL	18MC-MW11-Z1	A7642001	6/8/2007			None
A07-6420	SOIL	18MC-MW11-Z1	A7642001DL	6/8/2007			None
A07-6420	SOIL	18MC-MW12-Z2	A7642002	6/7/2007			None
A07-6420	SOIL	18MC-MW13-Z1	A7642003	6/7/2007			None
A07-6420	SOIL	18MC-MW13-Z1	A7642003DL	6/7/2007			None
A07-6420	SOIL	18MC-SB01-Z1	A7642004	6/8/2007			None
A07-6420	SOIL	18MC-SB01-Z1D	A7642005	6/8/2007			None
A07-6420	SOIL	18MC-SB01-Z2	A7642006	6/8/2007			None
A07-6420	SOIL	18MC-SB01-Z2	A7642006MS	6/8/2007	MS/MSD	*	None
A07-6420	SOIL	18MC-SB01-Z2	A7642006SD	6/8/2007	MS/MSD	*	None
A07-6420	SOIL	18MC-SB02-Z1	A7642007	6/8/2007			None
A07-6420	SOIL	18MC-SB02-Z2	A7642008	6/8/2007			None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-6420	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** IRON - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	8	SAMP

Data Usability Summary Report	Project: NYSDEC 18 Mile Creek A07-6420
Date Completed: July 6,2007	Completed by: Barb Krajewski

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-6420	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	8	SAMP
A07-6420	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	8	SAMP
A07-6420	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	8	SAMP
A07-6420	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	8	SAMP
A07-6420	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	2	DL
A07-6420	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	3	SAMP

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations?	No - All samples were prepared and analyzed within method holding times.

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes- See Table 2.

Data Usability Summary Report	Project: NYSDEC 18 Mile Creek A07-6420
Date Completed: July 6,2007	Completed by: Barb Krajewski

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	No- Qualified Benzaldehyde results UJ as necessary.
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 20.5%D.	Yes
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes- Compounds were flagged as per Table 6.
For TICs are there any system related compounds that should not be reported?	No
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	N/A

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 15.5%D.	Yes

Data Usability Summary Report	Project: NYSDEC 18 Mile Creek A07-6420
Date Completed: July 6,2007	Completed by: Barb Krajewski

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	No
Spot check retention time windows and second column confirmations as complete.	Acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes
For samples, if results are <5 times the blank then "U" flag data.	No sample results qualified based on method blank results.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No- Samples that were not 4x were flagged J or UJ depending on the amount present in the sample.
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes – Ca, Cr, Co, Fe, Mg, Ni, V and Zn qualified J
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Metals MS/MSD flagged UJ or J are of concern for possible matrix effects.

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW6010	A7642010	MBLK	Iron - Total	12.434	J	A	mg/Kg	3	3
SW6010	A7642010	MBLK	Zinc - Total	0.416	JN	A	mg/Kg	0.4	2.0
SW7471	A7642010	MBLK	Mercury - Total	-0.006	B	A	mg/Kg	0.0047	0.017
SW8270	A7B0919602	MBLK	DIBENZYLIDINE 4,4'-BIPHENYLI	1200	JN	T	µg/Kg		
SW8270	A7B0919602	MBLK	Di-n-octyl phthalate	170		A	µg/Kg	4	170

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8270	A7B0919602	SOIL	Di-n-octyl phthalate	170	240	B	200	18MC-MW12-Z2	U Flag
SW8270	A7B0919602	SOIL	Di-n-octyl phthalate	170	280	B	230	18MC-MW13-Z1	U Flag
SW8270	A7B0919602	SOIL	Di-n-octyl phthalate	170	320	B	210	18MC-MW11-Z1	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination

None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8270	18MC-MW11-Z1	DL	2-Fluorobiphenyl	40	43	119	10	Diluted Out

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW7471	18MC-SB01-Z2	MSD	Mercury - Total	0.013	0.43	77	1	80	120	UJ
SW6010	18MC-SB01-Z2	MSD	Aluminum - Total	5090	2520	68	1	75	125	J
SW6010	18MC-SB01-Z2	MS	Barium - Total	243	49.9	1580	1	75	125	4X
SW6010	18MC-SB01-Z2	MSD	Barium - Total	243	50.5	825	1	75	125	4X
SW6010	18MC-SB01-Z2	MS	Calcium - Total	63300	2500	-590	1	75	125	4X
SW6010	18MC-SB01-Z2	MSD	Calcium - Total	63300	2520	47	1	75	125	4X

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW6010	18MC-SB01-Z2	MS	Copper - Total	45.2	49.9	139	1	75	125	J
SW6010	18MC-SB01-Z2	MS	Iron - Total	15600	2500	584	1	75	125	4X
SW6010	18MC-SB01-Z2	MSD	Iron - Total	15600	2520	661	1	75	125	4X
SW6010	18MC-SB01-Z2	MS	Manganese - Total	4100	49.9	9999	10	75	125	4X
SW6010	18MC-SB01-Z2	MSD	Manganese - Total	4100	50.5	9210	10	75	125	4X
SW6010	18MC-SB01-Z2	MS	Potassium - Total	1140	2500	71	1	75	125	J
SW6010	18MC-SB01-Z2	MSD	Potassium - Total	1140	2520	67	1	75	125	J

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW6010	18MC-SB01-Z2	MSD	Aluminum - Total	35	20	None
SW6010	18MC-SB01-Z2	MSD	Barium - Total	63	20	None
SW6010	18MC-SB01-Z2	MSD	Calcium - Total	235	20	None
SW6010	18MC-SB01-Z2	MSD	Manganese - Total	66	20	Diluted Out
SW6010	18MC-SB01-Z2	MSD	Nickel - Total	22	20	None

Table 5 - List LCS Recoveries outside Control Limits

Method	Sample ID	Analyte	Rec.	Low Limit	High Limit	No. of Affected Samples	Samp Qual
SW8270	A7B0919601	2-Nitroaniline	137	61	130	5	None
SW8270	A7B0919601	4-Nitrophenol	162	43	137	5	None
SW8270	A7B0919601	Benzaldehyde	20	21	120	5	UJ and J Flags

Table 6 –Samples that were Reanalyzed

Sample ID	Lab ID	Method	Sample Type	Action
18MC-MW11-Z1	A7642001	SW8270	SAMP	Report, add J and UJ flags
18MC-MW11-Z1	A7642001DL	SW8270	DL	Report for E flag data only
18MC-MW13-Z1	A7642003	SW8270	SAMP	Report, add J and UJ flags
18MC-MW13-Z1	A7642003DL	SW8270	DL	Report for E flag data only

Table 7 – Summary of Field Duplicate Results

Data Usability Summary Report	Project: NYSDEC 18 Mile Creek A07-6420
Date Completed: July 6,2007	Completed by: Barb Krajewski

Method	Analyte	Unit	PQL	Anal Type	18MC-SB01-Z1D	18MC-SB01-Z1	RPD	RPD Rating	Samp Qual
SW7471	Mercury - Total	mg/Kg	A	0	0.021	0.021	0.0%	Good	None
SW6010	Aluminum - Total	mg/Kg	A	3	9000	8510	5.6%	Good	None
SW6010	Arsenic - Total	mg/Kg	A	0	6.2	8.2	27.8%	Good	None
SW6010	Barium - Total	mg/Kg	A	0	79.8	82.5	3.3%	Good	None
SW6010	Beryllium - Total	mg/Kg	A	0	0.55	0.51	7.5%	Good	None
SW6010	Cadmium - Total	mg/Kg	A	0	0.19	0.21	10.0%	Good	None
SW6010	Calcium - Total	mg/Kg	A	12	31300	47500	41.1%	Good	None
SW6010	Chromium - Total	mg/Kg	A	0	11.2	10.4	7.4%	Good	None
SW6010	Cobalt - Total	mg/Kg	A	0	6.9	6.6	4.4%	Good	None
SW6010	Copper - Total	mg/Kg	A	0	26.2	28.2	7.4%	Good	None
SW6010	Iron - Total	mg/Kg	A	3	19700	17700	10.7%	Good	None
SW6010	Lead - Total	mg/Kg	A	0	29.7	59.7	67.1%	Good	None
SW6010	Magnesium - Total	mg/Kg	A	5	6770	7170	5.7%	Good	None
SW6010	Manganese - Total	mg/Kg	A	1	802	1140	34.8%	Good	None
SW6010	Nickel - Total	mg/Kg	A	0	14.3	12.5	13.4%	Good	None
SW6010	Potassium - Total	mg/Kg	A	9	1620	1510	7.0%	Good	None
SW6010	Silver - Total	mg/Kg	A	0	NA	0.2	NC		
SW6010	Sodium - Total	mg/Kg	A	39	68.3	80.7	16.6%	Good	None
SW6010	Vanadium - Total	mg/Kg	A	0	17.1	17.4	1.7%	Good	None
SW6010	Zinc - Total	mg/Kg	A	0	69.5	62.4	10.8%	Good	None

Data Usability Summary Report	Project: 18 Mile Creek A07-6545
Date Completed: July 24, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby STL Buffalo	A07-6545
Ecology and Environment NYSDEC Standby STL Buffaflo	A07-6688
Ecology and Environment NYSDEC Standby STL Buffalo	A07-6762
Subcontract TOC Analysis to STL Burlington	A07-6793

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-6545	SOIL	18MC-MW08-Z1	A7654501	6/11/2007			None
A07-6545	SOIL	18MC-MW08-Z2D	A7654502	6/11/2007			None
A07-6545	SOIL	18MC-MW08-Z2	A7654503	6/11/2007			None
A07-6545	SOIL	18MC-MW02-Z1	A7654504	6/12/2007			None
A07-6545	SOIL	18MC-MW02-Z1	A7654504MS	6/12/2007	MS/MSD	*	None
A07-6545	SOIL	18MC-MW02-Z1	A7654504SD	6/12/2007	MS/MSD	*	None
A07-6545	SOIL	18MC-MW16-Z1	A7654505	6/12/2007			None
A07-6545	WATER	18MC-RB01	A7654506	6/12/2007			None
A07-6545	SOIL	18MC-MW15-Z1	A7654507	6/12/2007			None
A07-6545	WATER	18MC-TB01	A7654508	6/12/2007			None
A07-6688	SEDIM	18MC-BC06-Z1	A7668801	6/13/2007			None
A07-6688	SEDIM	18MC-BC01-Z1	A7668802	6/14/2007			None
A07-6688	SEDIM	18MC-BC02-Z1	A7668803	6/14/2007			None
A07-6688	SEDIM	18MC-BC04-Z1	A7668804	6/14/2007			None
A07-6762	SEDIM	18MC-BC03-Z1	A7676201	6/15/2007			None
A07-6762	SEDIM	18MC-BC05-Z1	A7676202	6/15/2007			None
A07-6762	SEDIM	18MC-BC05-Z1	A7676202MS	6/15/2007	MS/MSD	*	None
A07-6762	SEDIM	18MC-BC05-Z1	A7676202SD	6/15/2007	MS/MSD	*	None
A07-6762	SEDIM	18MC-BC03-Z1D	A7676203	6/15/2007			None
A07-6762	SOIL	18MC-MW05-Z1	A7676204	6/15/2007			None
A07-6762	SOIL	18MC-MW05-Z2	A7676205	6/15/2007			None
A07-6793	SOIL	18MC-BC03-Z1	A7679301	6/15/2007			None
A07-6793	SOIL	18MC-BC05-Z1	A7679302	6/15/2007			None
A07-6793	SOIL	18MC-BC03-Z1D	A7679303	6/15/2007			None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-6545	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** IRON - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	6	SAMP
A07-6545	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	6	SAMP
A07-6545	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	6	SAMP
A07-6545	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	6	SAMP
A07-6545	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	6	SAMP
A07-6545	WATER	SW6010	**ASP05** ALUMINUM - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** ANTIMONY - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** ARSENIC - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** BARIUM - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** BERYLLIUM - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** CADMIUM - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** CALCIUM - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** CHROMIUM - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** COBALT - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** COPPER - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** IRON - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** LEAD - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** MAGNESIUM - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** MANGANESE - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** NICKEL - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** POTASSIUM - TOTAL - W	1	SAMP

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-6545	WATER	SW6010	**ASP05** SELENIUM - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** SILVER - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** SODIUM - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** THALLIUM - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** VANADIUM - TOTAL - W	1	SAMP
A07-6545	WATER	SW6010	**ASP05** ZINC - TOTAL - W	1	SAMP
A07-6545	WATER	SW7470	**ASP05** MERCURY - TOTAL - W	1	SAMP
A07-6545	WATER	SW8082	**ASP05** AQUEOUS - 8082 - TCL PCBS (SOM)	1	SAMP
A07-6545	WATER	SW8260	**ASP05** AQUEOUS - 8260 - TCL VOLATILES (SOM)	2	SAMP
A07-6545	WATER	SW8270	**ASP05** AQUEOUS - 8270 - TCL SEMIVOLATILES (SOM)	1	SAMP
A07-6688	SEDIM	SW6010	**ASP05** ARSENIC - TOTAL - S	4	SAMP
A07-6688	SEDIM	SW6010	**ASP05** CHROMIUM - TOTAL - S	4	SAMP
A07-6688	SEDIM	SW6010	**ASP05** COPPER - TOTAL - S	4	SAMP
A07-6688	SEDIM	SW6010	**ASP05** LEAD - TOTAL - S	4	SAMP
A07-6688	SEDIM	SW6010	**ASP05** ZINC - TOTAL - S	4	SAMP
A07-6688	SEDIM	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	4	SAMP
A07-6762	SEDIM	SW6010	**ASP05** ARSENIC - TOTAL - S	3	SAMP
A07-6762	SEDIM	SW6010	**ASP05** CHROMIUM - TOTAL - S	3	SAMP
A07-6762	SEDIM	SW6010	**ASP05** COPPER - TOTAL - S	3	SAMP
A07-6762	SEDIM	SW6010	**ASP05** LEAD - TOTAL - S	3	SAMP
A07-6762	SEDIM	SW6010	**ASP05** ZINC - TOTAL - S	3	SAMP
A07-6762	SEDIM	SW8081	**ASP05** SOIL - 8081 - TCL PESTICIDES (SOM)	2	SAMP
A07-6762	SEDIM	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	3	SAMP
A07-6762	SEDIM	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	3	SAMP
A07-6762	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** IRON - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	2	SAMP

Data Usability Summary Report	Project: 18 Mile Creek A07-6545
Date Completed: July 24, 2007	Completed by: B. Krajewski

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-6762	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	2	SAMP
A07-6762	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	2	SAMP
A07-6762	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	2	SAMP
A07-6762	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	2	SAMP
A07-6762	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	2	SAMP
A07-6793	SOIL	E415.1 Kahn	Total Organic Carbon Lloyd Kahn	3	SAMP

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	No –Samples collected on 6/11 and 6/12 (A07-6545) were received at 15°C. Narrative notes that ice was present and time period was not sufficient since samples were collected the same day as receipt. SVOC and mercury results qualified "UJ" or "J".
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Trip and rinsate blank included. Field duplicate collected.
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations?	No - All samples were prepared and analyzed within method holding times. Volatile water samples received at pH of 2

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Data Usability Summary Report	Project: 18 Mile Creek A07-6545
Date Completed: July 24, 2007	Completed by: B. Krajewski

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	No – "UJ" qualifier applied to acetophenone and caprolactam for affected samples.
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 20.5%D.	Yes
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions based on matrix and levels of target compounds present.
For TICs are there any system related compounds that should not be reported?	Yes - 2-ETHYL-1-HEXANOL; O-HYDROXYBIOHENYL; SUSPECTED ALDOL COND.PRODUCT; DIBENZYLIDENE 4,4'-BIPHENYLENE
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	Yes

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes – Either TCMX or DCB acceptable for all samples, or surrogate diluted out.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	No – Recovery high; no qualifier applied.
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes – Acceptable for primary column

Data Usability Summary Report	Project: 18 Mile Creek A07-6545
Date Completed: July 24, 2007	Completed by: B. Krajewski

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Is continuing calibration for target compounds < 15.5%D.	Yes – Acceptable for primary column
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Samples analyzed at dilutions due to matrix effects.
Spot check retention time windows and second column confirmations as complete.	Acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes
For samples, if results are <5 times the blank then "U" flag data.	No sample results qualified based on method blank results.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	Yes – Associated results were positive and qualified "J".
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes – Al, Ba, Cr, Co, Cu, Pb, Ni, K, V, Zn qualified "J".
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	No

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Qualifiers applied based on receipt temperature, method blank, matrix spike recoveries, lab and field dup RPD values and serial dilutions.

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW6010	18MC-RB01	SAMP	Barium - Total	0.55	B	A	µg/L	0.22	0.22
SW6010	18MC-RB01	SAMP	Calcium - Total	259	B	A	µg/L	100	100
SW6010	18MC-RB01	SAMP	Copper - Total	1.8	B	A	µg/L	1.3	1.3
SW6010	18MC-RB01	SAMP	Iron - Total	1470		A	µg/L	19.3	19.3
SW6010	18MC-RB01	SAMP	Magnesium - Total	43.7	B	A	µg/L	42.3	42.3
SW6010	18MC-RB01	SAMP	Manganese - Total	19.7		A	µg/L	0.16	0.16
SW6010	18MC-RB01	SAMP	Nickel - Total	2.6	B	A	µg/L	1.1	1.1
SW6010	A7654510	MBLK	Barium - Total	0.240	B	A	µg/L	0.22	0.220
SW6010	A7654510	MBLK	Manganese - Total	0.320	B	A	µg/L	0.16	0.160
SW6010	A7654512	MBLK	Calcium - Total	43.374	B	A	mg/Kg	10	10.000
SW6010	A7654512	MBLK	Magnesium - Total	9.584	B	A	mg/Kg	4.2	4.200
SW6010	A7654512	MBLK	Zinc - Total	0.432	B	A	mg/Kg	0.40	0.400
SW7471	A7676207	MBLK	Mercury - Total	0.006	B	A	mg/Kg	0.0047	0.005
SW8260	18MC-RB01	SAMP	Chlorobenzene	0.5	J	A	µg/L	0.3	1
SW8270	18MC-RB01	SAMP	2-ETHYL-1-HEXANOL	7	BJN	T	µg/L		
SW8270	18MC-RB01	SAMP	SUSPECTED ALDOL COND.PRODUCT	16	ABJ	T	µg/L		
SW8270	18MC-RB01	SAMP	UNKNOWN	6	J	T	µg/L		
SW8270	A7B0924002	MBLK	Bis(2-ethylhexyl) phthalate	110	J	A	µg/Kg	54	170
SW8270	A7B0932602	MBLK	2-ETHYL-1-HEXANOL	11	JN	T	µg/L		
SW8270	A7B0932602	MBLK	O-HYDROXYBIOHENYL	31	JN	T	µg/L		
SW8270	A7B0932602	MBLK	SUSPECTED ALDOL COND.PRODUCT	7	BJ	T	µg/L		
SW8270	A7B0994002	MBLK	Benzo(ghi)perylene	17	J	A	µg/Kg	2	170
SW8270	A7B0994002	MBLK	DIBENZYLIDENE 4,4'-BIPHENYLE	390	JN	T	µg/Kg		

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8270	A7B0924002	SOIL	Bis(2-ethylhexyl) phthalate	110	270	B	210	18MC-MW02-Z1	U Flag
SW8270	A7B0924002	SOIL	Bis(2-ethylhexyl) phthalate	110	790	B	220	18MC-MW15-Z1	Not Qualified
SW8270	A7B0924002	SOIL	Bis(2-ethylhexyl) phthalate	110	400	BJ	950	18MC-MW16-Z1	U Flag
SW8270	A7B0932602	WATER	2-ETHYL-1-HEXANOL	11	7	BJN		18MC-RB01	U Flag
SW8270	A7B0932602	WATER	SUSPECTED ALDOL COND.PRODUCT	7	16	ABJ		18MC-RB01	U Flag
SW8270	A7B0994002	SOIL	Benzo(ghi)perylene	17	1100	B	220	18MC-MW05-Z1	Not Qualified
SW8270	A7B0994002	SOIL	Benzo(ghi)perylene	17	76	BJ	210	18MC-MW05-Z2	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8082	18MC-BC03-Z1D	SAMP	Decachlorobiphenyl	0	34	148	50	Diluted Out
SW8082	18MC-BC03-Z1D	SAMP	Tetrachloro-m-xylene	0	35	134	50	Diluted Out
SW8082	18MC-BC04-Z1	SAMP	Decachlorobiphenyl	0	34	148	20	Diluted Out
SW8082	18MC-BC04-Z1	SAMP	Tetrachloro-m-xylene	0	35	134	20	Diluted Out
SW8081	18MC-BC03-Z1D	SAMP	Decachlorobiphenyl	154	42	146	1	None – TCMX In

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW8270	18MC-BC05-Z1	MSD	Benzo(a)anthracene	1500	4185	61	1	65	133	None
SW8270	18MC-BC05-Z1	MSD	Benzo(a)pyrene	1200	4185	63	1	64	127	None
SW8270	18MC-BC05-Z1	MSD	Benzo(ghi)perylene	610	4185	49	1	50	152	None

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW8270	18MC-BC05-Z1	MS	Fluoranthene	3600	4177	13	1	62	131	J Flag
SW8270	18MC-BC05-Z1	MSD	Fluoranthene	3600	4185	7	1	62	131	J Flag
SW8270	18MC-BC05-Z1	MSD	Indeno(1,2,3-cd)pyrene	600	4185	54	1	56	149	None
SW8270	18MC-BC05-Z1	MS	Phenanthrene	4800	4177	-16	1	60	130	J Flag
SW8270	18MC-BC05-Z1	MSD	Phenanthrene	4800	4185	-22	1	60	130	J Flag
SW8270	18MC-BC05-Z1	MS	Pyrene	2900	4177	29	1	51	133	None
SW8270	18MC-BC05-Z1	MSD	Pyrene	2900	4185	17	1	51	133	None
SW8270	18MC-MW02-Z1	MS	2-Nitroaniline	<54	4143	147	1	61	130	None
SW8270	18MC-MW02-Z1	MSD	2-Nitroaniline	<54	4113	135	1	61	130	None
SW8270	18MC-MW02-Z1	MS	4-Nitrophenol	<41	4143	186	1	43	137	None
SW8270	18MC-MW02-Z1	MSD	4-Nitrophenol	<41	4113	172	1	43	137	None
SW8270	18MC-MW02-Z1	MS	Benzaldehyde	<18	4143	16	1	21	120	UJ Flag
SW8270	18MC-MW02-Z1	MSD	Benzaldehyde	<18	4113	12	1	21	120	UJ Flag
SW6010	18MC-BC05-Z1	MSD	Chromium - Total	7.6	48.2	74	1	75	125	None
SW6010	18MC-BC05-Z1	MS	Lead - Total	38.2	49.3	297	1	75	125	None
SW6010	18MC-BC05-Z1	MSD	Lead - Total	38.2	48.2	276	1	75	125	None
SW6010	18MC-MW02-Z1	MS	Aluminum - Total	10500	2380	-85	1	75	125	4X
SW6010	18MC-MW02-Z1	MSD	Aluminum - Total	10500	2370	-93	1	75	125	4X
SW6010	18MC-MW02-Z1	MS	Antimony - Total	<0.54	47.7	61	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MSD	Antimony - Total	<0.54	47.3	64	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MS	Arsenic - Total	9.6	47.7	72	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MSD	Arsenic - Total	9.6	47.3	69	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MS	Barium - Total	67.7	47.7	9	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MSD	Barium - Total	67.7	47.3	3	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MSD	Beryllium - Total	0.63	47.3	73	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MS	Cadmium - Total	<0.040	47.7	71	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MSD	Cadmium - Total	<0.040	47.3	69	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MS	Calcium - Total	63000	2380	3400	5	75	125	4X
SW6010	18MC-MW02-Z1	MSD	Calcium - Total	63000	2370	3900	5	75	125	4X

Data Usability Summary Report	Project: 18 Mile Creek A07-6545
Date Completed: July 24, 2007	Completed by: B. Krajewski

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW6010	18MC-MW02-Z1	MS	Chromium - Total	12.3	47.7	61	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MSD	Chromium - Total	12.3	47.3	59	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MS	Cobalt - Total	8.4	47.7	64	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MSD	Cobalt - Total	8.4	47.3	62	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MS	Copper - Total	23.4	47.7	68	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MSD	Copper - Total	23.4	47.3	65	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MS	Iron - Total	19700	2380	-187	1	75	125	4X
SW6010	18MC-MW02-Z1	MSD	Iron - Total	19700	2370	-159	1	75	125	4X
SW6010	18MC-MW02-Z1	MS	Lead - Total	41.0	47.7	44	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MSD	Lead - Total	41.0	47.3	43	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MS	Magnesium - Total	11000	2380	286	1	75	125	4X
SW6010	18MC-MW02-Z1	MSD	Magnesium - Total	11000	2370	248	1	75	125	4X
SW6010	18MC-MW02-Z1	MS	Manganese - Total	914	47.7	-472	1	75	125	4X
SW6010	18MC-MW02-Z1	MSD	Manganese - Total	914	47.3	-488	1	75	125	4X
SW6010	18MC-MW02-Z1	MS	Nickel - Total	16.3	47.7	61	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MSD	Nickel - Total	16.3	47.3	61	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MS	Potassium - Total	2410	2380	56	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MSD	Potassium - Total	2410	2370	44	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MSD	Sodium - Total	126	2370	74	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MS	Thallium - Total	<0.66	47.7	72	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MSD	Thallium - Total	<0.66	47.3	72	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MS	Vanadium - Total	16.3	47.7	61	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MSD	Vanadium - Total	16.3	47.3	60	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MS	Zinc - Total	59.3	47.7	22	1	75	125	J Flag
SW6010	18MC-MW02-Z1	MSD	Zinc - Total	59.3	47.3	16	1	75	125	J Flag

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW6010	18MC-MW02-Z1	MSD	Barium - Total	100	20	J Flag
SW6010	18MC-MW02-Z1	MSD	Potassium - Total	24	20	J Flag

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW6010	18MC-MW02-Z1	MSD	Zinc - Total	32	20	J Flag
SW8270	18MC-MW02-Z1	MSD	Benzaldehyde	28	20	J Flag
SW8270	18MC-BC05-Z1	MSD	Benzo(ghi)perylene	38	15	J Flag
SW8270	18MC-BC05-Z1	MSD	Dibenzo(a,h)anthracene	29	15	J Flag
SW8270	18MC-BC05-Z1	MSD	Fluoranthene	60	15	J Flag
SW8270	18MC-BC05-Z1	MSD	Indeno(1,2,3-cd)pyrene	32	15	J Flag
SW8270	18MC-BC05-Z1	MSD	Phenanthrene	32	15	J Flag
SW8270	18MC-BC05-Z1	MSD	Pyrene	52	19	J Flag

Table 5 - List LCS Recoveries outside Control Limits

Method	Sample ID	Analyte	Rec.	Low Limit	High Limit	No. of Affected Samples	Samp Qual
SW8081	A7B0948101	Methoxychlor	187	46	152	2	J Flag
SW8260	A7B0989001	Cyclohexane	130	78	120	2	J Flag
SW8260	A7B0989001	Methylcyclohexane	130	77	120	2	J Flag
SW8270	A7B0924001	2-Nitroaniline	137	61	130	6	J Flag
SW8270	A7B0924001	4-Nitrophenol	179	43	137	6	J Flag
SW8270	A7B0947501	Acetophenone	65	66	120	3	J Flag
SW8270	A7B0994001	Caprolactam	51	54	133	2	J Flag

Table 6 –Samples that were Reanalyzed

None

Table 7 – Summary of Field Duplicate Results

Analyte	Unit	PQL	18MC-MW08-Z2D	18MC-MW08-Z2	RPD	RPD Rating	Samp Qual	18MC-BC03-Z1D	18MC-BC03-Z1	RPD	RPD Rating	Samp Qual
Mercury - Total	mg/Kg	0.008	0.299	0.442	38.6%	Good	None	NA	NA	NC		
Aluminum - Total	mg/Kg	4.4	10600	10000	5.8%	Good	None	NA	NA	NC		
Arsenic - Total	mg/Kg	0.66	5.2	5.4	3.8%	Good	None	5.3	19.6	114.9%	Poor	J Flag
Barium - Total	mg/Kg	0.08	91.5	83.9	8.7%	Good	None	NA	NA	NC		
Beryllium - Total	mg/Kg	0.05	0.56	0.53	5.5%	Good	None	NA	NA	NC		

Data Usability Summary Report	Project: 18 Mile Creek A07-6545
Date Completed: July 24, 2007	Completed by: B. Krajewski

Analyte	Unit	PQL	18MC-MW08-Z2D	18MC-MW08-Z2	RPD	RPD Rating	Samp Qual	18MC-BC03-Z1D	18MC-BC03-Z1	RPD	RPD Rating	Samp Qual
Cadmium - Total	mg/Kg	0.07	0.14	0.15	6.9%	Good	None	NA	NA	NC		
Calcium - Total	mg/Kg	16.9	44000	37800	15.2%	Good	None	NA	NA	NC		
Chromium - Total	mg/Kg	0.15	15.3	14.6	4.7%	Good	None	8.9	15.3	52.9%	Good	None
Cobalt - Total	mg/Kg	0.19	8.5	8.0	6.1%	Good	None	NA	NA	NC		
Copper - Total	mg/Kg	0.20	31.3	30.2	3.6%	Good	None	56.4	84.2	39.5%	Good	None
Iron - Total	mg/Kg	5.1	19000	18400	3.2%	Good	None	NA	NA	NC		
Lead - Total	mg/Kg	0.49	79.9	76.5	4.3%	Good	None	67.9	169	85.4%	Poor	J Flag
Magnesium - Total	mg/Kg	7.1	12200	10900	11.3%	Good	None	NA	NA	NC		
Manganese - Total	mg/Kg	0.17	402	341	16.4%	Good	None	NA	NA	NC		
Nickel - Total	mg/Kg	0.24	19.5	18.2	6.9%	Good	None	NA	NA	NC		
Potassium - Total	mg/Kg	14.2	1600	1590	0.6%	Good	None	NA	NA	NC		
Silver - Total	mg/Kg	0.25	0.29	0.34	15.9%	Good	None	NA	NA	NC		
Sodium - Total	mg/Kg	52.5	263	254	3.5%	Good	None	NA	NA	NC		
Vanadium - Total	mg/Kg	0.16	18.6	18.0	3.3%	Good	None	NA	NA	NC		
Zinc - Total	mg/Kg	0.68	108	103	4.7%	Good	None	106	192	57.7%	Good	None
Aroclor 1248	mg/Kg	0.050	NA	NA	NC	NA		0.76	1.7	76.4%	Poor	J FLag
Total Organic Carbon	mg/Kg	635	NA	NA	NC	NA		32900	33600	2.1%	Good	None

Data Usability Summary Report	Project: 18 Mile Creek A07-6902
Date Completed: July 24, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby STL Buffalo	A07-6902
Ecology and Environment NYSDEC Standby STL Buffalo	A07-7062
Ecology and Environment NYSDEC Standby STL Buffalo	A07-7099

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-6902	SOIL	18MC-MW09-Z1	A7690201	6/18/2007			None
A07-6902	SOIL	18MC-MW14-Z1	A7690202	6/19/2007			None
A07-6902	SOIL	18MC-MW10-Z1	A7690203	6/20/2007			None
A07-6902	SOIL	18MC-MW10-Z2	A7690204	6/20/2007			None
A07-6902	SOIL	18MC-MW06-Z1	A7690205	6/20/2007			None
A07-6902	SOIL	18MC-MW06-Z1	A7690205MS	6/20/2007	MS/MSD	*	None
A07-6902	SOIL	18MC-MW06-Z1	A7690205SD	6/20/2007	MS/MSD	*	None
A07-6902	SOIL	18MC-MW06-Z2	A7690206	6/20/2007			None
A07-6902	SOIL	18MC-MW06-Z2D	A7690207	6/20/2007			None
A07-7062	SOIL	18MC-MW01-Z1	A7706201	6/21/2007			None
A07-7062	SOIL	18MC-MW01-Z2	A7706202	6/21/2007			None
A07-7062	SOIL	18MC-MW04-Z1	A7706203	6/22/2007			None
A07-7062	SOIL	18MC-MW04-Z2	A7706204	6/22/2007			None
A07-7099	WATER	18MC-RB02	A7709901	6/25/2007			None
A07-7099	SOIL	18MC-SB11-Z1	A7709902	6/25/2007			None
A07-7099	SOIL	18MC-MW02-Z2	A7709903	6/25/2007			None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-6902	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	7	SAMP

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-6902	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** IRON - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	7	SAMP
A07-6902	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	7	SAMP
A07-6902	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	7	SAMP
A07-6902	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	7	SAMP
A07-6902	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	7	SAMP
A07-7062	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** IRON - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	4	SAMP
A07-7062	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	4	SAMP
A07-7062	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	4	SAMP
A07-7062	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	4	SAMP
A07-7062	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	4	SAMP

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-7099	SOIL	SW6010	**ASP05** ALUMINUM - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** ANTIMONY - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** ARSENIC - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** BARIUM - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** BERYLLIUM - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** CADMIUM - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** CALCIUM - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** CHROMIUM - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** COBALT - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** COPPER - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** IRON - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** LEAD - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** MAGNESIUM - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** MANGANESE - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** NICKEL - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** POTASSIUM - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** SELENIUM - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** SILVER - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** SODIUM - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** THALLIUM - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** VANADIUM - TOTAL - S	2	SAMP
A07-7099	SOIL	SW6010	**ASP05** ZINC - TOTAL - S	2	SAMP
A07-7099	SOIL	SW7471	**ASP05** MERCURY - TOTAL - S	2	SAMP
A07-7099	SOIL	SW8082	**ASP05** SOIL - 8082 - TCL PCBS (SOM)	2	SAMP
A07-7099	SOIL	SW8270	**ASP05** SOIL - 8270 - TCL SEMIVOLATILES (SOM)	1	SAMP
A07-7099	WATER	SW6010	**ASP05** ALUMINUM - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** ANTIMONY - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** ARSENIC - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** BARIUM - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** BERYLLIUM - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** CADMIUM - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** CALCIUM - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** CHROMIUM - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** COBALT - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** COPPER - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** IRON - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** LEAD - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** MAGNESIUM - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** MANGANESE - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** NICKEL - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** POTASSIUM - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** SELENIUM - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** SILVER - TOTAL - W	1	SAMP

Data Usability Summary Report	Project: 18 Mile Creek A07-6902
Date Completed: July 24, 2007	Completed by: B. Krajewski

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-7099	WATER	SW6010	**ASP05** SODIUM - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** THALLIUM - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** VANADIUM - TOTAL - W	1	SAMP
A07-7099	WATER	SW6010	**ASP05** ZINC - TOTAL - W	1	SAMP
A07-7099	WATER	SW7470	**ASP05** MERCURY - TOTAL - W	1	SAMP
A07-7099	WATER	SW8082	**ASP05** AQUEOUS - 8082 - TCL PCBS (SOM)	1	SAMP
A07-7099	WATER	SW8270	**ASP05** AQUEOUS - 8270 - TCL SEMIVOLATILES (SOM)	1	SAMP

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Rinsate blank included. Field duplicate collected.
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations?	No - All samples were prepared and analyzed within method holding times.

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes

Data Usability Summary Report	Project: 18 Mile Creek A07-6902
Date Completed: July 24, 2007	Completed by: B. Krajewski

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	No – "UJ" qualifier applied to acetophenone, biphenyl and caprolactam for affected samples.
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 20.5%D.	Yes
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	No
For TICs are there any system related compounds that should not be reported?	Yes –Unknowns and DIBENZYLIDENE 4,4'-BIPHENYLENE
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	Yes

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Not applicable.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes – Acceptable for primary column
Is continuing calibration for target compounds < 15.5%D.	Yes – Acceptable for primary column
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	No
Spot check retention time windows and second column confirmations as complete.	Acceptable.

Data Usability Summary Report	Project: 18 Mile Creek A07-6902
Date Completed: July 24, 2007	Completed by: B. Krajewski

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes
For samples, if results are <5 times the blank then "U" flag data.	No sample results qualified based on method blank results.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes – Al, Cr qualified "J".
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable. Fe and Cd recovery high for CRDL standard. Results for 18MC-SB11-Z1 and 18MC-MW02-Z2 qualified "J".
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Qualifiers applied based on method blank, matrix spike recoveries, dup RPD values, CRI standard recoveries and serial dilutions.

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW6010	18MC-RB02	SAMP	Aluminum - Total	70.8	B	A	µg/L	40.0	40.0
SW6010	18MC-RB02	SAMP	Calcium - Total	262	B	A	µg/L	100	100
SW6010	18MC-RB02	SAMP	Iron - Total	229		A	µg/L	19.3	19.3
SW6010	18MC-RB02	SAMP	Magnesium - Total	129	B	A	µg/L	42.3	42.3
SW6010	18MC-RB02	SAMP	Manganese - Total	2.4	B	A	µg/L	0.16	0.16
SW6010	A7690209	MBLK	Aluminum - Total	3.264	B	A	mg/Kg	2.6	2.600
SW6010	A7690209	MBLK	Iron - Total	7.874	B	A	mg/Kg	3.0	3.000
SW6010	A7706206	MBLK	Iron - Total	5.498	B	A	mg/Kg	3.0	3.000
SW6010	A7706206	MBLK	Zinc - Total	0.492	B	A	mg/Kg	0.40	0.400
SW6010	A7709905	MBLK	Barium - Total	0.055	B	A	mg/Kg	0.050	0.050
SW6010	A7709905	MBLK	Copper - Total	0.120	B	A	mg/Kg	0.12	0.120
SW6010	A7709905	MBLK	Iron - Total	6.960	B	A	mg/Kg	3.0	3.000
SW6010	A7709907	MBLK	Aluminum - Total	74.640	B	A	µg/L	40.0	40.000
SW6010	A7709907	MBLK	Barium - Total	0.660	B	A	µg/L	0.22	0.220
SW6010	A7709907	MBLK	Calcium - Total	287.300	B	A	µg/L	100	100.000
SW6010	A7709907	MBLK	Magnesium - Total	79.990	B	A	µg/L	42.3	42.300
SW6010	A7709907	MBLK	Manganese - Total	1.870	B	A	µg/L	0.16	0.160
SW7471	A7706206	MBLK	Mercury - Total	0.006	B	A	mg/Kg	0.0047	0.005
SW8270	18MC-RB02	SAMP	Di-n-octyl phthalate	0.2	BJ	A	µg/L	0.2	5
SW8270	18MC-RB02	SAMP	UNKNOWN	5	J	T	µg/L		
SW8270	A7B0994002	MBLK	Benzo(ghi)perylene	17	J	A	µg/Kg	2	170
SW8270	A7B0994002	MBLK	DIBENZYLIDENE 4,4'-BIPHENYLE	390	JN	T	µg/Kg		
SW8270	A7B0997202	MBLK	Bis(2-ethylhexyl) phthalate	110	J	A	µg/Kg	54	160
SW8270	A7B0997202	MBLK	DIBENZYLIDENE 4,4'-BIPHENYLE	510	JN	T	µg/Kg		
SW8270	A7B0997202	MBLK	UNKNOWN	150	J	T	µg/Kg		
SW8270	A7B1004503	MBLK	Di-n-octyl phthalate	0.2	J	A	µg/L	0.2	5
SW8270	A7B1004503	MBLK	UNKNOWN	10	J	T	µg/L		
SW8270	A7B1004503	MBLK	UNKNOWN	11	J	T	µg/L		

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW8270	A7B1004503	MBLK	UNKNOWN	14	J	T	µg/L		
SW8270	A7B1004503	MBLK	UNKNOWN	17	J	T	µg/L		
SW8270	A7B1004503	MBLK	UNKNOWN	5	J	T	µg/L		
SW8270	A7B1004503	MBLK	UNKNOWN	7	J	T	µg/L		
SW8270	A7B1004503	MBLK	UNKNOWN	8	J	T	µg/L		
SW8270	A7B1004503	MBLK	UNKNOWN	9	J	T	µg/L		

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8270	A7B0994002	SOIL	Benzo(ghi)perylene	17	220	B	200	18MC-MW09-Z1	Not Qualified
SW8270	A7B0994002	SOIL	Benzo(ghi)perylene	17	11	BJ	220	18MC-MW06-Z1	U Flag
SW8270	A7B0994002	SOIL	Benzo(ghi)perylene	17	53	BJ	280	18MC-MW10-Z2	U Flag
SW8270	A7B0994002	SOIL	Benzo(ghi)perylene	17	70	BJ	250	18MC-MW10-Z1	U Flag
SW8270	A7B0997202	SOIL	Bis(2-ethylhexyl) phthalate	110	1300	B	200	18MC-MW02-Z2	Not Qualified
SW8270	A7B0997202	SOIL	Bis(2-ethylhexyl) phthalate	110	120	BJ	200	18MC-MW04-Z2	U Flag
SW8270	A7B0997202	SOIL	Bis(2-ethylhexyl) phthalate	110	150	BJ	250	18MC-MW01-Z2	U Flag
SW8270	A7B0997202	SOIL	Bis(2-ethylhexyl) phthalate	110	220	BJ	230	18MC-MW01-Z1	U Flag
SW8270	A7B0997202	SOIL	Bis(2-ethylhexyl) phthalate	110	88	BJ	200	18MC-MW04-Z1	U Flag
SW8270	A7B1004503	WATER	Di-n-octyl phthalate	0.2	0.2	BJ	5	18MC-RB02	U Flag
SW8270	A7B0997202	SOIL	UNKNOWN	150	210	J		18MC-MW01-Z2	U Flag
SW8270	A7B1004503	WATER	UNKNOWN	17	11	BJ		18MC-RB02	U Flag
SW8270	A7B1004503	WATER	UNKNOWN	17	15	BJ		18MC-RB02	U Flag
SW8270	A7B1004503	WATER	UNKNOWN	17	18	BJ		18MC-RB02	U Flag
SW8270	A7B1004503	WATER	UNKNOWN	17	4	BJ		18MC-RB02	U Flag
SW8270	A7B1004503	WATER	UNKNOWN	17	5	BJ		18MC-RB02	U Flag
SW8270	A7B1004503	WATER	UNKNOWN	17	6	BJ		18MC-RB02	U Flag
SW8270	A7B1004503	WATER	UNKNOWN	17	7	BJ		18MC-RB02	U Flag

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW8270	A7B1004503	WATER	UNKNOWN	17	8	BJ		18MC-RB02	U Flag
SW8270	A7B1004503	WATER	UNKNOWN	17	9	BJ		18MC-RB02	U Flag
SW8270	A7B1004503	WATER	UNKNOWN	17	5	J		18MC-RB02	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits
None

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW6010	18MC-MW06-Z1	MS	Aluminum - Total	5960	2640	131	1	75	125	None
SW6010	18MC-MW06-Z1	MSD	Aluminum - Total	5960	2710	70	1	75	125	J Flag
SW6010	18MC-MW06-Z1	MS	Calcium - Total	178000	2640	-336	5	75	125	4X
SW6010	18MC-MW06-Z1	MSD	Calcium - Total	178000	2710	547	5	75	125	4X
SW6010	18MC-MW06-Z1	MS	Iron - Total	17100	2640	58	1	75	125	4X
SW6010	18MC-MW06-Z1	MSD	Iron - Total	17100	2710	-92	1	75	125	4X
SW6010	18MC-MW06-Z1	MSD	Lead - Total	30.2	54.2	67	1	75	125	J Flag
SW6010	18MC-MW06-Z1	MS	Magnesium - Total	17500	2640	132	1	75	125	4X
SW6010	18MC-MW06-Z1	MSD	Magnesium - Total	17500	2710	154	1	75	125	4X
SW6010	18MC-MW06-Z1	MS	Manganese - Total	1450	52.9	-391	1	75	125	4X
SW6010	18MC-MW06-Z1	MSD	Manganese - Total	1450	54.2	-857	1	75	125	4X
SW6010	18MC-MW06-Z1	MS	Zinc - Total	40.3	52.9	63	1	75	125	J Flag
SW6010	18MC-MW06-Z1	MSD	Zinc - Total	40.3	54.2	55	1	75	125	J Flag

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW6010	18MC-MW06-Z1	MSD	Aluminum - Total	61	20	J Flag
SW6010	18MC-MW06-Z1	MSD	Calcium - Total	837	20	J Flag
SW6010	18MC-MW06-Z1	MSD	Iron - Total	882	20	J Flag
SW6010	18MC-MW06-Z1	MSD	Lead - Total	43	20	J Flag
SW6010	18MC-MW06-Z1	MSD	Manganese - Total	75	20	J Flag

Table 5 - List LCS Recoveries outside Control Limits

Method	Sample ID	Analyte	Rec.	Low Limit	High Limit	No. of Affected Samples	Samp Qual
SW8270	A7B0994001	Caprolactam	51	54	133	7	UJ Flag
SW8270	A7B0997201	Acetophenone	59	66	120	5	UJ Flag
SW8270	A7B0997201	Biphenyl	67	71	120	5	UJ Flag
SW8270	A7B1004502	Caprolactam	29	30	140	1	UJ Flag

Table 6 –Samples that were Reanalyzed
None

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	Anal Type	PQL	18MC-MW06-Z2D	18MC-MW06-Z2	RPD	RPD Rating	Samp Qual
SW6010	Aluminum - Total	mg/Kg	A	3.5	3410	3020	12.1%	Good	None
SW6010	Arsenic - Total	mg/Kg	A	0.52	4.8	4.9	2.1%	Good	None
SW6010	Barium - Total	mg/Kg	A	0.07	27.3	23.6	14.5%	Good	None
SW6010	Beryllium - Total	mg/Kg	A	0.04	0.28	0.28	0.0%	Good	None
SW6010	Calcium - Total	mg/Kg	A	66.7	144000	167000	14.8%	Good	None
SW6010	Chromium - Total	mg/Kg	A	0.12	5.4	5.9	8.8%	Good	None
SW6010	Cobalt - Total	mg/Kg	A	0.15	4.5	4.2	6.9%	Good	None
SW6010	Copper - Total	mg/Kg	A	0.16	31.2	25.1	21.7%	Good	None
SW6010	Iron - Total	mg/Kg	A	4.0	9660	11600	18.3%	Good	None
SW6010	Lead - Total	mg/Kg	A	0.39	10.0	8.7	13.9%	Good	None
SW6010	Magnesium - Total	mg/Kg	A	5.6	12600	11200	11.8%	Good	None

Data Usability Summary Report	Project: 18 Mile Creek A07-6902
Date Completed: July 24, 2007	Completed by: B. Krajewski

Method	Analyte	Unit	Anal Type	PQL	18MC-MW06-Z2D	18MC-MW06-Z2	RPD	RPD Rating	Samp Qual
SW6010	Manganese - Total	mg/Kg	A	0.13	996	1210	19.4%	Good	None
SW6010	Nickel - Total	mg/Kg	A	0.19	6.5	5.8	11.4%	Good	None
SW6010	Potassium - Total	mg/Kg	A	9.7	942	943	0.1%	Good	None
SW6010	Sodium - Total	mg/Kg	A	41.4	144	151	4.7%	Good	None
SW6010	Vanadium - Total	mg/Kg	A	0.13	9.2	9.5	3.2%	Good	None
SW6010	Zinc - Total	mg/Kg	A	0.53	18.2	14.9	19.9%	Good	None

Data Usability Summary Report	Project: 18 Mile Creek A07-9007
Date Completed: August 29, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby STL Buffalo	A07-9007

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-9007	SEDIM	18MC-L01W-S02-Z2	A7397201	4/18/2007			None
A07-9007	SOIL	18MC-L02W-S06-Z2	A7397601	4/18/2007			None
A07-9007	SOIL	18MC-L02W-S05-Z2	A7397604	4/18/2007			None
A07-9007	SOIL	18MC-L02W-S04-Z3	A7397607	4/18/2007			None
A07-9007	SEDIM	18MC-L02E-S01-Z1	A7412006	4/20/2007			None
A07-9007	SOIL	18MC-L02E-S05-Z1	A7412009	4/20/2007			None
A07-9007	SOIL	18MC-L02E-S05-Z2	A7412010	4/20/2007			None
A07-9007	SOIL	18MC-L09-S04-Z1	A7418301	4/23/2007			None
A07-9007	SOIL	18MC-L09-S04-Z2	A7418302	4/23/2007			None
A07-9007	SEDIM	18MC-L09-S01-Z1	A7418303	4/23/2007			None
A07-9007	SEDIM	18MC-L09-S03-Z1	A7418306	4/23/2007			None
A07-9007	SOIL	18MC-L09-S05-Z1	A7418307	4/23/2007			None
A07-9007	SOIL	18MC-L09-S05-Z2	A7418313	4/23/2007			None
A07-9007	SEDIM	18MC-L10-S01-Z1	A7418314	4/23/2007			None
A07-9007	SEDIM	18MC-L11-S02-Z1	A7423504	4/24/2007			None
A07-9007	SEDIM	18MC-L14W-S03-Z1	A7423513	4/24/2007			None
A07-9007	SEDIM	18MC-L14W-S03-Z2	A7423514	4/24/2007			None
A07-9007	SEDIM	18MC-L14E-S03-Z1	A7423515	4/24/2007			None
A07-9007	SEDIM	18MC-L14E-S02-Z1	A7423516	4/24/2007			None
A07-9007	SEDIM	18MC-L14E-S02-Z2	A7423517	4/24/2007			None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-9007	SEDIM	SW6010	**ASP05** TCLP BARIUM - TOTAL - S	11	SAMP
A07-9007	SEDIM	SW6010	**ASP05** TCLP CADMIUM - TOTAL - S	11	SAMP
A07-9007	SEDIM	SW6010	**ASP05** TCLP CHROMIUM - TOTAL - S	11	SAMP
A07-9007	SEDIM	SW6010	**ASP05** TCLP LEAD - TOTAL - S	11	SAMP

Data Usability Summary Report	Project: 18 Mile Creek A07-9007
Date Completed: August 29, 2007	Completed by: B. Krajewski

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-9007	SOIL	SW6010	**ASP05** TCLP BARIUM - TOTAL - S	9	SAMP
A07-9007	SOIL	SW6010	**ASP05** TCLP CADMIUM - TOTAL - S	9	SAMP
A07-9007	SOIL	SW6010	**ASP05** TCLP CHROMIUM - TOTAL - S	9	SAMP
A07-9007	SOIL	SW6010	**ASP05** TCLP LEAD - TOTAL - S	9	SAMP

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes – Samples were collected in 4/07. The request for TCLP analysis was made 8/10/07. Samples stored at lab.
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations?	No - All samples were prepared and analyzed within method holding times.

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes – Barium, chromium and lead detected in extraction blanks. No qualification of barium required since all sample concentrations exceed blank concentration by 10 times. Sample chromium and lead results qualified "U".
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes – MB and LCS in each batch; MS/MD not prepared using sample from this SDG.
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	NA

Data Usability Summary Report	Project: 18 Mile Creek A07-9007
Date Completed: August 29, 2007	Completed by: B. Krajewski

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	NA
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes – Serial dilution at proper frequency. Sample used not from this SDG.
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable. Barium CRI recovery high at 132%. All associated samples contain barium at concentrations > 2 x PQL. No qualifier applied.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	NA

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Lead results qualified "U" based on concentrations present in extraction blanks.

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW6010	A7900701	MBLK	Barium - Total	13.460		A	µg/L	0.22	2
SW6010	A7900701	MBLK	Chromium - Total	0.890	B	A	µg/L	0.84	4
SW6010	A7900703	MBLK	Barium - Total	0.660	B	A	µg/L	0.22	2
SW6010	A7900704	MBLK	Barium - Total	2.820		A	µg/L	0.22	5
SW6010	A7900704	MBLK	Lead - Total	72.560		A	µg/L	2.9	5

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW6010	A7900701	SEDIMENT	Chromium - Total	0.890	1.3	B	4	18MC-L11-S02-Z1	U Flag
SW6010	A7900701	SEDIMENT	Chromium - Total	0.890	1.6	B	4	18MC-L14W-S03-Z1	U Flag
SW6010	A7900701	SEDIMENT	Chromium - Total	0.890	1.1	B	4	18MC-L14W-S03-Z2	U Flag
SW6010	A7900701	SEDIMENT	Chromium - Total	0.890	3.5	B	4	18MC-L14E-S03-Z1	U Flag
SW6010	A7900701	SEDIMENT	Chromium - Total	0.890	3.8	B	4	18MC-L14E-S02-Z1	U Flag
SW6010	A7900701	SEDIMENT	Chromium - Total	0.890	1.7	B	4	18MC-L14E-S02-Z2	U Flag
SW6010	A7900704	SEDIMENT	Lead - Total	72.56	613		5	18MC-L01W-SO2-Z2	U Flag
SW6010	A7900704	SOIL	Lead - Total	72.56	151		5	18MC-L02W-SO6-Z2	U Flag
SW6010	A7900704	SOIL	Lead - Total	72.56	19.9		5	18MC-L02W-SO5-Z2	U Flag
SW6010	A7900704	SOIL	Lead - Total	72.56	393		5	18MC-L02W-SO4-Z3	U Flag
SW6010	A7900704	SOIL	Lead - Total	72.56	615		5	18MC-L09-SO4-Z2	U Flag
SW6010	A7900704	SEDIMENT	Lead - Total	72.56	56.1		5	18MC-L09-SO3-Z1	U Flag
SW6010	A7900704	SOIL	Lead - Total	72.56	172		5	18MC-L09-SO5-Z1	U Flag
SW6010	A7900704	SOIL	Lead - Total	72.56	682		5	18MC-L09-SO5-Z2	U Flag
SW6010	A7900704	SEDIMENT	Lead - Total	72.56	523		5	18MC-L10-SO1-Z1	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits
None

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits
None

Table 5 - List LCS Recoveries outside Control Limits
None

Table 6 –Samples that were Reanalyzed
None

Table 7 – Summary of Field Duplicate Results
None

Data Usability Summary Report	Project: 18 Mile Creek A07-9008
Date Completed: August 29, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby STL Buffalo	A07-9008

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
A07-9008	SOIL	18MC-L03W-S05-Z1	A7404805	4/19/2007			None
A07-9008	SOIL	18MC-L03W-S05-Z2	A7404807	4/19/2007			None
A07-9008	SEDIM	18MC-L13-S03-Z1	A7423602	4/24/2007			None
A07-9008	SEDIM	18MC-L12-S03-Z1	A7423603	4/24/2007			None
A07-9008	SEDIM	18MC-L15E-S03-Z1	A7423604	4/24/2007			None
A07-9008	SEDIM	18MC-L15E-S01-Z1	A7423606	4/24/2007			None
A07-9008	SEDIM	18MC-L16E-S03-Z1	A7423608	4/24/2007			None
A07-9008	SEDIM	18MC-L16E-S01-Z1	A7423610	4/24/2007			None
A07-9008	SOIL	18MC-L16W-S04-Z2	A7430401	4/25/2007			None
A07-9008	SOIL	18MC-SB14-Z1	A7439101	4/26/2007			None
A07-9008	SOIL	18MC-SB14-Z2	A7439102	4/26/2007			None
A07-9008	SOIL	18MC-SB14-Z2	A7439102MS	4/26/2007	MS/MSD		None
A07-9008	SOIL	18MC-SB14-Z2	A7439102SD	4/26/2007	MS/MSD		None
A07-9008	SOIL	18MC-SB15-Z1	A7445507	4/27/2007			None
A07-9008	SOIL	18MC-SS18	A7624002	6/6/2007			None
A07-9008	SOIL	18MC-SS19	A7624003	6/6/2007			None
A07-9008	SOIL	18MC-MW13-Z1	A7642003	6/7/2007			None
A07-9008	SOIL	18MC-MW05-Z1	A7676204	6/15/2007			None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-9008	SEDIM	SW6010	**ASP05** TCLP BARIUM - TOTAL - S	6	SAMP
A07-9008	SEDIM	SW6010	**ASP05** TCLP CADMIUM - TOTAL - S	6	SAMP
A07-9008	SEDIM	SW6010	**ASP05** TCLP CHROMIUM - TOTAL - S	6	SAMP
A07-9008	SEDIM	SW6010	**ASP05** TCLP LEAD - TOTAL - S	6	SAMP
A07-9008	SOIL	SW6010	**ASP05** TCLP BARIUM - TOTAL - S	10	SAMP
A07-9008	SOIL	SW6010	**ASP05** TCLP CADMIUM - TOTAL - S	10	SAMP

Data Usability Summary Report	Project: 18 Mile Creek A07-9008
Date Completed: August 29, 2007	Completed by: B. Krajewski

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
A07-9008	SOIL	SW6010	**ASP05** TCLP CHROMIUM - TOTAL - S	10	SAMP
A07-9008	SOIL	SW6010	**ASP05** TCLP LEAD - TOTAL - S	10	SAMP
A07-9008	SOIL	SW7470	**ASP05** TCLP MERCURY - TOTAL - S	1	SAMP

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes – Samples were collected in 4/07 AND 6/07. The request for TCLP analysis was made 8/10/07. Samples stored at lab.
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations (See table below)?	Yes – Request for analysis made after mercury hold time expired. Results qualified “UJ”.

Method	Sample ID	Sample Date	Matrix	Sample Type	PrepHT	Prep Date	AnalHT	Analysis Date	Samp Qual
SW7470	18MC-SB14-Z2	4/26/2007	SOIL	SAMP	15	8/15/2007	26	8/15/2007	J Flag All Data

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes – Barium, chromium and lead detected in extraction blanks. Associated sample results <10x blank concentration qualified “U”.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks and Table

Data Usability Summary Report	Project: 18 Mile Creek A07-9008
Date Completed: August 29, 2007	Completed by: B. Krajewski

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
	2b for field blanks.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes –
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	Yes – Lead not recovered. No qualifier applied based on 4x rule.
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable. Barium CRI recovery high at 132%. All associated samples contain barium at concentrations > 2 x PQL. No qualifier applied.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	NA

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Results qualified "U" based on concentrations present in extraction blanks. Mercury result qualified "UJ" based on hold time exceedance.

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW6010	A7900801	MBLK	Barium - Total	13.460		A	µg/L	0.22	0.220
SW6010	A7900801	MBLK	Chromium - Total	0.890	B	A	µg/L	0.84	0.840
SW6010	A7900803	MBLK	Barium - Total	0.660	B	A	µg/L	0.22	0.220
SW6010	A7900804	MBLK	Barium - Total	2.820		A	µg/L	0.22	0.220
SW6010	A7900804	MBLK	Lead - Total	72.560		A	µg/L	2.9	2.900
SW6010	A7900807	MBLK	Barium - Total	2.490		A	µg/L	0.22	0.220
SW6010	A7900807	MBLK	Chromium - Total	0.950	B	A	µg/L	0.84	0.840

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW6010	A7900701	SOIL	Chromium - Total	0.890	8.5		4	18MC-L16E-S01-Z1	U Flag
SW6010	A7900701	SOIL	Chromium - Total	0.890	4.0		4	18MC-L16E-S01-Z1	U Flag
SW6010	A7900701	SOIL	Chromium - Total	0.890	1.7	B	4	18MC-MW05-Z1	U Flag
SW6010	A7900704	SEDIM	Chromium - Total	72.56	1.1	B	4	18MC-SS19	U Flag
SW6010	A7900704	SEDIM	Chromium - Total	72.56	2.4	B	4	18MC-L15E-S01-Z1	U Flag
SW6010	A7900704	SEDIM	Chromium - Total	72.56	2.0	B	4	18MC-L13-S03-Z1	U Flag
SW6010	A7900704	SOIL	Chromium - Total	72.56	3.5	B	4	18MC-L03W-S05-Z2	U Flag
SW6010	A7900704	SOIL	Chromium - Total	72.56	2.7	B	4	18MC-L03W-S05-Z1	U Flag
SW6010	A7900704	SOIL	Barium - Total	72.56	16.1		2	18MC-MW05-Z1	U Flag
SW6010		SOIL	Lead - Total	72.56	69.4		5	18MC-L16W-S04-Z2	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits
None

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW7470	18MC-SB14-Z2	MS	Mercury - Total	<0.12	6.7	75	1	80	120	UJ
SW7470	18MC-SB14-Z2	MSD	Mercury - Total	<0.12	6.7	74	1	80	120	UJ
SW6010	18MC-SB14-Z2	MS	Lead - Total	322000	1000	-999	10	75	125	4X
SW6010	18MC-SB14-Z2	MSD	Lead - Total	322000	1000	-999	10	75	125	4X

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW6010	18MC-SB14-Z2	MSD	Lead - Total	44	20	Diluted Out

Table 5 - List LCS Recoveries outside Control Limits
None

Table 6 –Samples that were Reanalyzed
None

Table 7 – Summary of Field Duplicate Results
None

Data Usability Summary Report	Project: 18 Mile Creek F0881
Date Completed: August 23, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby Mitkem	F0881

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
F0881	Water	18MC-DW01	F0881-01A	6/25/2007			None
F0881	Water	18MC-DW01	F0881-01B	6/25/2007			None
F0881	Water	18MC-DW01	F0881-01C	6/25/2007			None
F0881	Water	18MC-TB02	F0881-02A	6/25/2007			None

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
F0881	Water	6010B	6010B	1	SAMP
F0881	Water	7470A	7470A	1	SAMP
F0881	Water	8270C(W)	8270C(W)	1	SAMP
F0881	Water	SW8081A_W	SW8081A_W	1	SAMP
F0881	Water	SW8082_W	SW8082_W	1	SAMP
F0881	Water	SW8260	SW8260 Volatiles	2	SAMP

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Trip blank included in SDG. Field duplicate included in SDG F0925.
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations?	No - All samples were prepared and analyzed within method holding times.

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)

- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	No
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Not applicable.
Surrogate for method blanks and LCS within limits?	No – Nitrobenzene-d5 recovery high for method blank and LCS.
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	NA – Additional sample for MS/MSD not provided.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	No – 2,4-Dimethylphenol and hexachlorocyclopentadiene results qualified "UJ" based on low LCS recovery.
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	No – VOC – Bromomethane, chloromethane, 2-Butanone, 4-Methyl-2-Pentanone, 2-Hexanone, 1,2-Dibromo-3-Chloropropane, 1,2,3-trichlorobenzene and methyl acetate. SVOC – Hexachlorocyclopentadiene, 2-4-dintrophenol and benzaldehyde. No results qualified – response sufficient for detection.
Is continuing calibration for target compounds < 20.5%D.	No VOC – Dichlorodifluoromethane, tetrachloroethene, 1,2-dibromo-3-chloropropane, and methyl acetate. "J" qualifier to positive results. No qualifier to non-detects based on high bias. SVOC – 3,3-Dichlorobenzidine, 2,4-dinitrophenol, 4-nitroaniline. and 4-nitrophenol. No qualifier to non-detects based on high bias. "UJ" to 4-nitrophenol based on low bias.

Data Usability Summary Report	Project: 18 Mile Creek F0881
Date Completed: August 23, 2007	Completed by: B. Krajewski

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	No
For TICs are there any system related compounds that should not be reported?	No
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	NA

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Not applicable.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	NA
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 15.5%D.	Yes
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	No
Spot check retention time windows and second column confirmations as complete.	Acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	NA

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	NA

Data Usability Summary Report	Project: 18 Mile Creek F0881
Date Completed: August 23, 2007	Completed by: B. Krajewski

Metals by ICP and Mercury by CVAA	
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	No – PDS included in sequence. Not performed on the sample in SDG.
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable. CRI standard not included.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	NA

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Qualifiers applied based on method blank, .LCS and continuing calibration standard.

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
SW6010	MB31071	MBLK	Aluminum	22.366	B	A	ug/L	14.0	20
SW6010	MB31071	MBLK	Antimony	2.185	B	A	ug/L	1.2	2
SW6010	MB31071	MBLK	Calcium	23.033	B	A	ug/L	33.0	800
SW6010	MB31071	MBLK	Iron	23.3	B	A	ug/L	19.0	100
SW6010	MB31071	MBLK	Manganese	15.146	B	A	ug/L	1.8	50
SW6010	MB31071	MBLK	Nickel	0.413	B	A	ug/L	0.60	40
SW6010	MB31071	MBLK	Selenium	0.995	B	A	ug/L	1.0	30
SW6010	MB31071	MBLK	Zinc	3.991	B	A	ug/L	2.3	50

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW6010	MB31071	Water	Aluminum	22.366	76.8	B	100	18MC-DW01	U Flag
SW6010	MB31071	Water	Antimony	2.185	3.6	B	10	18MC-DW01	U Flag
SW6010	MB31071	Water	Calcium	23.033	32700	B	400	18MC-DW01	Not Qualified
SW6010	MB31071	Water	Iron	23.3	762	B	50	18MC-DW01	Not Qualified
SW6010	MB31071	Water	Manganese	15.146	42.5	B	7.5	18MC-DW01	U Flag
SW6010	MB31071	Water	Nickel	0.413	1.7	B	20	18MC-DW01	U Flag
SW6010	MB31071	Water	Selenium	0.995	7.3	B	15	18MC-DW01	U Flag
SW6010	MB31071	Water	Zinc	3.991	18.1	B	25	18MC-DW01	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits
None

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits
None

Data Usability Summary Report	Project: 18 Mile Creek F0881
Date Completed: August 23, 2007	Completed by: B. Krajewski

Table 5 - List LCS Recoveries outside Control Limits

Method	Sample ID	Analyte	Rec.	Low Limit	High Limit	No. of Affected Samples	Samp Qual
SW8260	VG5LCS	Trichlorofluoromethane	130	79	127	1	None
SW8260	VG5LCS	4-Methyl-2-Pentanone	140	81	139	1	None
SW8260	VG5LCS	Trans-1,3-Dichloropropene	130	87	120	1	None
SW8260	VG5LCSD	4-Methyl-2-Pentanone	140	81	139	1	None
SW8260	VG5LCSD	Trans-1,3-Dichloropropene	130	87	120	1	None
SW8270	S3DLCS	Nitrobenzene	116	45	110	1	None
SW8270	S3DLCS	2,4-Dimethylphenol	9	30	110	1	UJ Flag
SW8270	S3DLCS	Hexachlorocyclopentadiene	11	27	147	1	UJ Flag
SW8270	S3DLCS	4-Nitrophenol	144	0	125	1	None

Table 6 –Samples that were Reanalyzed
None

Table 7 – Summary of Field Duplicate Results
None

Data Usability Summary Report	Project: 18 Mile Creek F0925
Date Completed: July 24, 2007	Completed by: B. Krajewski

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Ecology and Environment NYSDEC Standby Mitkem	F0925

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
F0925	Water	18MC-MW01	F0925-01A	7/9/2007			None
F0925	Water	18MC-MW01	F0925-01B	7/9/2007			None
F0925	Water	18MC-MW01	F0925-01C	7/9/2007			None
F0925	Water	18MC-MW01	F0925-01D	7/9/2007			None
F0925	Water	18MC-MW01D	F0925-02A	7/9/2007			None
F0925	Water	18MC-MW01D	F0925-02B	7/9/2007			None
F0925	Water	18MC-MW01D	F0925-02C	7/9/2007			None
F0925	Water	18MC-MW01D	F0925-02D	7/9/2007			None
F0925	Water	18MC-MW02	F0925-03A	7/9/2007		MS/MSD	None
F0925	Water	18MC-MW02	F0925-03B	7/9/2007		MS/MSD	None
F0925	Water	18MC-MW02	F0925-03C	7/9/2007		MS/MSD	None
F0925	Water	18MC-MW02	F0925-03D	7/9/2007		MS/MSD	None
F0925	Water	18MC-MW04	F0925-04A	7/9/2007			None
F0925	Water	18MC-MW04	F0925-04B	7/9/2007			None
F0925	Water	18MC-MW04	F0925-04C	7/9/2007			None
F0925	Water	18MC-MW04	F0925-04D	7/9/2007			None
F0925	Water	18MC-MW06	F0925-05A	7/9/2007			None
F0925	Water	18MC-MW06	F0925-05B	7/9/2007			None
F0925	Water	18MC-MW06	F0925-05C	7/9/2007			None
F0925	Water	18MC-MW06	F0925-05D	7/9/2007			None
F0925	Water	18MC-TB070907	F0925-06A	7/9/2007			None
F0925	Water	18MC-TB071007	F0925-07A	7/10/2007			None
F0925	Water	18MC-MW05	F0925-08A	7/10/2007			None
F0925	Water	18MC-MW05	F0925-08B	7/10/2007			None
F0925	Water	18MC-MW05	F0925-08C	7/10/2007			None
F0925	Water	18MC-MW05	F0925-08D	7/10/2007			None
F0925	Water	18MC-MW10	F0925-09A	7/10/2007			None
F0925	Water	18MC-MW10	F0925-09B	7/10/2007			None
F0925	Water	18MC-MW10	F0925-09C	7/10/2007			None

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
F0925	Water	18MC-MW10	F0925-09D	7/10/2007			None
F0925	Water	18MC-MW11	F0925-10A	7/10/2007			None
F0925	Water	18MC-MW11	F0925-10B	7/10/2007			None
F0925	Water	18MC-MW11	F0925-10C	7/10/2007			None
F0925	Water	18MC-MW11	F0925-10D	7/10/2007			None
F0925	Water	18MC-MW13	F0925-11A	7/10/2007			None
F0925	Water	18MC-MW13	F0925-11B	7/10/2007			None
F0925	Water	18MC-MW13	F0925-11C	7/10/2007			None
F0925	Water	18MC-MW13	F0925-11D	7/10/2007			None
F0925	Water	18MC-TB071107	F0925-12A	7/11/2007			None
F0925	Water	18MC-MW15	F0925-13A	7/11/2007			None
F0925	Water	18MC-MW15	F0925-13B	7/11/2007			None
F0925	Water	18MC-MW15	F0925-13C	7/11/2007			None
F0925	Water	18MC-MW15	F0925-13D	7/11/2007			None
F0925	Water	18MC-MW08	F0925-14A	7/11/2007			None
F0925	Water	18MC-MW08	F0925-14B	7/11/2007			None
F0925	Water	18MC-MW08	F0925-14C	7/11/2007			None
F0925	Water	18MC-MW08	F0925-14D	7/11/2007			None
F0925	Water	18MC-MW12	F0925-15A	7/11/2007			None
F0925	Water	18MC-MW12	F0925-15B	7/11/2007			None
F0925	Water	18MC-MW12	F0925-15C	7/11/2007			None
F0925	Water	18MC-MW12	F0925-15D	7/11/2007			None
F0925	Water	18MC-MW14	F0925-16A	7/11/2007			None
F0925	Water	18MC-MW14	F0925-16B	7/11/2007			None
F0925	Water	18MC-MW14	F0925-16C	7/11/2007			None
F0925	Water	18MC-MW14	F0925-16D	7/11/2007			None
F0925	Water	18MC-MW16	F0925-17A	7/11/2007			None
F0925	Water	18MC-MW16	F0925-17B	7/11/2007			None
F0925	Water	18MC-MW16	F0925-17C	7/11/2007			None
F0925	Water	18MC-MW16	F0925-17D	7/11/2007			None
F0925	Water	RB071107	F0925-18A	7/11/2007			None
F0925	Water	RB071107	F0925-18B	7/11/2007			None
F0925	Water	RB071107	F0925-18C	7/11/2007			None
F0925	Water	RB071107	F0925-18D	7/11/2007			None
F0925	Water	18MC-MW17	F0925-19A	7/11/2007			None
F0925	Water	18MC-MW17	F0925-19B	7/11/2007			None
F0925	Water	18MC-MW17	F0925-19C	7/11/2007	*		None

Data Usability Summary Report	Project: 18 Mile Creek F0925
Date Completed: July 24, 2007	Completed by: B. Krajewski

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
F0925	Water	18MC-MW17	F0925-19D	7/11/2007			None

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	No – Dates of metals sample collection are incorrect. Metal samples were collected one day after all other parameters.
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Rinsate and trip blanks included. Field duplicate collected (18MC-MW01/D).
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations?	No - All samples were prepared and analyzed within method holding times.

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes – No compounds detected in trip blank or organic method blanks. Results qualified based on rinsate blank detections.
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2b for field blanks.
Surrogate for method blanks and LCS within limits?	No – High recovery of 2,4,6-tribromophenol for LCSD.

Data Usability Summary Report	Project: 18 Mile Creek F0925
Date Completed: July 24, 2007	Completed by: B. Krajewski

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	No – No qualifiers applied. Volatile samples not reanalyzed. Only one surrogate in VOC samples outside of QC limits. No positive hits in sample MW13 with high toluene-d8 recovery. No positive hits in samples MW08, MW12 and MW16 with marginally low 1,2-dichloroethene-d4 recovery.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	No – "UJ" qualifier applied to compounds with low recovery.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	No – "UJ" qualifier applied to compounds with low recovery.
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	No - %RSD >15% for methylene chloride, styrene, 1,1,2,2,-tetrachloroethane, 1,2,3-trichlorobenzene, 2-butanone, bromoform, isopropylbenzene for VOC and 2-nitrophenol, 2,4-dinitrophenol, 2,4-dinitrotoluene, 4-nitroaniline, 4,6-dinitro-2-methylphenol, pentachlorophenol and 2,3,4,6-tetrachlorophenol. Qualifiers not applied based on ICV. Response factors sufficient for detection.
Is continuing calibration for target compounds < 20.5%D.	No – Tetrachloroethene, 2,3,4,6-tetrachlorophenol, pentachlorophenol qualified "UJ" or "J' for samples associated with standard indicating low bias. No positive hits associated with calibrations indicating high bias.
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	No
For TICs are there any system related compounds that should not be reported?	No
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	Yes, Results with poor RPDS were below the PQL.

Data Usability Summary Report	Project: 18 Mile Creek F0925
Date Completed: July 24, 2007	Completed by: B. Krajewski

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Not applicable.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	No – No qualifier applied for high TCMX recovery for sample MW06. No associated positive hits.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes
Is continuing calibration for target compounds < 15.5%D.	Yes
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	No
Spot check retention time windows and second column confirmations as complete.	Acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes - Trace metals detected in method preparation blank and filter blanks. Results qualified based on rinsate blank detections.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2b for field blanks.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No – Dissolved Mercury results qualified "UJ" or J" based on low MS recovery.
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes – Ca, CO Fe, Mg and Mn results qualified "J".
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable.
Spot check ICV 95-105%. Contact lab.	All are acceptable.

Data Usability Summary Report	Project: 18 Mile Creek F0925
Date Completed: July 24, 2007	Completed by: B. Krajewski

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Summary of Potential Impacts on Data Usability
Major Concerns
No corrective action based on surrogate recoveries.
Minor Concerns
Qualifiers applied based on method blank, matrix spike recoveries, dup RPD values, LCS recovery, calibration criteria and serial dilutions.

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
6010B	RB071107	SAMP	Antimony – Dissolved	0.72	B	A	ug/L	1.2	20
6010B	RB071107	SAMP	Arsenic – Dissolved	1.3	B	A	ug/L	1.6	20
6010B	RB071107	SAMP	Calcium – Total	40.1	BE	A	ug/L	33	800
6010B	RB071107	SAMP	Calcium – Dissolved	479	E	A	ug/L	33	800
6010B	RB071107	SAMP	Chromium – Dissolved	0.42	B	A	ug/L	0.38	20
6010B	RB071107	SAMP	Chromium – Total	0.53	B	A	ug/L	0.38	20
6010B	RB071107	SAMP	Iron – Dissolved	13.1	BE	A	ug/L	19	200
6010B	RB071107	SAMP	Iron – Total	29.2	BE	A	ug/L	19	200
6010B	RB071107	SAMP	Lead – Dissolved	0.25	B	A	ug/L	0.46	10
6010B	RB071107	SAMP	Lead - Total	0.42	B	A	ug/L	0.46	10
6010B	RB071107	SAMP	Magnesium - Dissolved	156	BE	A	ug/L	20	500
6010B	RB071107	SAMP	Manganese – Dissolved	1.7	BE	A	ug/L	1.8	50
6010B	RB071107	SAMP	Manganese - Total	1.9	BE	A	ug/L	1.8	50
6010B	RB071107	SAMP	Nickel - Total	0.34	B	A	ug/L	0.59	50
6010B	RB071107	SAMP	Sodium - Total	158	B	A	ug/L	130	1000
6010B	RB071107	SAMP	Sodium - Dissolved	1760		A	ug/L	130	1000
6010B	RB071107	SAMP	Zinc - Total	13.4	B	A	ug/L	2.3	50
6010B	RB071107	SAMP	Zinc – Dissolved	5.5	B	A	ug/L	2.3	50
6010B	MB-31219	MB	Antimony - Total	0.600	B	A	ug/L	1.2	20
6010B	MB-31219	MB	Cadmium - Total	0.050	B	A	ug/L	0.10	5.0
6010B	MB-31219	MB	Calcium - Total	17.00	B	A	ug/L	33	800
6010B	MB-31219	MB	Chromium - Total	0.480	B	A	ug/L	0.38	20
6010B	MB-31219	MB	Iron - Total	9.50	B	A	ug/L	19	200
6010B	MB-31219	MB	Lead - Total	0.493	B	A	ug/L	0.46	10
6010B	MB-31219	MB	Manganese - Total	0.900	B	A	ug/L	0.9	7.5
6010B	MB-31219	MB	Thallium - Total	0.600	B	A	ug/L	1.2	20
6010B	MB-31219	MB	Zinc - Total	2.583	B	A	ug/L	2.3	50
6010B	MB-31136	MB	Cadmium - Total	0.050	B	A	ug/L	0.10	5.0
6010B	MB-31136	MB	Calcium - Total	17.0	B	A	ug/L	33	800

Data Usability Summary Report	Project: 18 Mile Creek F0925
Date Completed: July 24, 2007	Completed by: B. Krajewski

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
6010B	MB-31136	MB	Chromium - Total	0.190	B	A	ug/L	0.38	20
6010B	MB-31136	MB	Iron - Total	9.50	B	A	ug/L	19	200
6010B	MB-31136	MB	Lead - Total	0.654	B	A	ug/L	0.46	10
6010B	MB-31136	MB	Manganese - Total	0.900	B	A	ug/L	1.8	50
6010B	MB-31136	MB	Zinc - Total	2.933	B	A	ug/L	2.3	50
6010B	MB-31135	MB	Arsenic - Dissolved	1.819	B	A	ug/L	1.6	20
6010B	MB-31135	MB	Calcium- Dissolved	17.0	B	A	ug/L	33	800
6010B	MB-31135	MB	Lead- Dissolved	0.487	B	A	ug/L	0.46	10
6010B	MB-31135	MB	Selenium- Dissolved	0.490	B	A	ug/L	0.98	30
6010B	MB-31135	MB	Zinc- Dissolved	3.060	B	A	ug/L	2.3	50
6010B	MB-31108	Filter MB	Arsenic- Dissolved	4.514	B	A	ug/L	1.6	20
6010B	MB-31108	Filter MB	Calcium- Dissolved	130.65	B	A	ug/L	33	800
6010B	MB-31108	Filter MB	Chromium- Dissolved	1.078	B	A	ug/L	0.38	20
6010B	MB-31108	Filter MB	Cobalt- Dissolved	0.214	B	A	ug/L	0.15	50
6010B	MB-31108	Filter MB	Lead- Dissolved	2.988	B	A	ug/L	0.46	10
6010B	MB-31108	Filter MB	Manganese- Dissolved	1.808	B	A	ug/L	1.8	50
6010B	MB-31108	Filter MB	Selenium- Dissolved	1.314	B	A	ug/L	0.98	30
6010B	MB-31108	Filter MB	Zinc- Dissolved	10.504	B	A	ug/L	2.3	50
6010B	MB-31121	Filter MB	Calcium- Dissolved	113.673	B	A	ug/L	33	800
6010B	MB-31121	Filter MB	Chromium- Dissolved	0.568	B	A	ug/L	0.38	20
6010B	MB-31121	Filter MB	Lead- Dissolved	1.131	B	A	ug/L	0.46	10
6010B	MB-31121	Filter MB	Selenium- Dissolved	1.421	B	A	ug/L	0.98	30
6010B	MB-31121	Filter MB	Thallium- Dissolved	1.200	B	A	ug/L	1.2	20
6010B	MB-31121	Filter MB	Zinc- Dissolved	8.255	B	A	ug/L	2.3	50
6010B	MB-31196	Filter MB	Calcium- Dissolved	145.887	B	A	ug/L	33	800
6010B	MB-31196	Filter MB	Manganese- Dissolved	1.913	B	A	ug/L	1.8	50
6010B	MB-31196	Filter MB	Thallium- Dissolved	1.200	B	A	ug/L	1.2	20
6010B	MB-31196	Filter MB	Zinc- Dissolved	10.786	B	A	ug/L	2.3	50
8270C(W)	RB071107	SAMP	Bis(2-ethylhexyl)phthalate	1.6	J	A	ug/L	0.33	5

Table 2A - List of Samples Qualified for Method Blank Contamination
None

Table 2B - List of Samples Qualified for Field Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW6010	RB071107	WATER	Chromium – Total	0.53	0.56	B	20	18MC-MW01	U Flag
SW6010	RB071107	WATER	Lead – Total	0.42	0.88	B	10	18MC-MW01	U Flag
SW6010	RB071107	WATER	Zinc – Total	13.4	16.8	B	50	18MC-MW01	U Flag
SW6010	RB071107	WATER	Chromium – Total	0.53	0.33	B	20	18MC-MW01D	U Flag
SW6010	RB071107	WATER	Lead – Total	0.42	0.55	B	10	18MC-MW01D	U Flag
SW6010	RB071107	WATER	Zinc – Total	13.4	16.1	B	50	18MC-MW01D	U Flag
SW6010	RB071107	WATER	Zinc – Total	13.4	21.6	B	50	18MC-MW02	U Flag
SW6010	RB071107	WATER	Chromium – Total	0.53	0.36	B	20	18MC-MW04	U Flag
SW6010	RB071107	WATER	Chromium – Total	0.53	0.50	B	20	18MC-MW05	U Flag
SW6010	RB071107	WATER	Chromium – Total	0.53	0.21	B	20	18MC-MW06	U Flag
SW6010	RB071107	WATER	Zinc – Total	13.4	19.5	B	50	18MC-MW06	U Flag
SW6010	RB071107	WATER	Chromium – Total	0.53	0.69	B	20	18MC-MW08	U Flag
SW6010	RB071107	WATER	Chromium – Total	0.53	0.76	B	20	18MC-MW10	U Flag
SW6010	RB071107	WATER	Lead – Total	0.42	1.4	B	10	18MC-MW10	U Flag
SW6010	RB071107	WATER	Zinc – Total	13.4	22.3	B	50	18MC-MW10	U Flag
SW6010	RB071107	WATER	Chromium – Total	0.53	0.64	B	20	18MC-MW11	U Flag
SW6010	RB071107	WATER	Zinc – Total	13.4	19.7	B	50	18MC-MW11	U Flag
SW6010	RB071107	WATER	Zinc – Total	13.4	16.9	B	50	18MC-MW12	U Flag
SW6010	RB071107	WATER	Lead – Total	0.42	4.0	B	10	18MC-MW13	U Flag
SW6010	RB071107	WATER	Chromium – Total	0.53	0.72	B	20	18MC-MW13	U Flag
SW6010	RB071107	WATER	Chromium – Total	0.53	0.77	B	20	18MC-MW14	U Flag
SW6010	RB071107	WATER	Zinc – Total	13.4	17.8	B	50	18MC-MW14	U Flag
SW6010	RB071107	WATER	Chromium – Total	0.53	1.1	B	20	18MC-MW15	U Flag
SW6010	RB071107	WATER	Lead – Total	0.42	1.7	B	10	18MC-MW15	U Flag
SW6010	RB071107	WATER	Chromium – Total	0.53	0.29	B	20	18MC-MW16	U Flag
SW6010	RB071107	WATER	Zinc – Total	13.4	20.1	B	50	18MC-MW16	U Flag
SW6010	RB071107	WATER	Chromium – Total	0.53	2.3	B	20	18MC-MW17	U Flag

Data Usability Summary Report	Project: 18 Mile Creek F0925
Date Completed: July 24, 2007	Completed by: B. Krajewski

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW6010	RB071107	WATER	Arsenic - Dissolved	1.3	2.0	B	20	18MC-MW01	U Flag
SW6010	RB071107	WATER	Chromium – Dissolved	0.42	0.56	B	20	18MC-MW01	U Flag
SW6010	RB071107	WATER	Lead – Dissolved	0.25	1.4	B	20	18MC-MW01	U Flag
SW6010	RB071107	WATER	Zinc – Dissolved	5.5	16.5	B	50	18MC-MW01	U Flag
SW6010	RB071107	WATER	Antimony - Dissolved	0.72	7.1	B	20	18MC-MW01D	U Flag
SW6010	RB071107	WATER	Arsenic - Dissolved	1.3	3.5	B	20	18MC-MW01D	U Flag
SW6010	RB071107	WATER	Chromium – Dissolved	0.42	0.40	B	20	18MC-MW01D	U Flag
SW6010	RB071107	WATER	Lead – Dissolved	0.25	1.0	B	20	18MC-MW01D	U Flag
SW6010	RB071107	WATER	Zinc – Dissolved	5.5	11.7	B	50	18MC-MW01D	U Flag
SW6010	RB071107	WATER	Arsenic - Dissolved	1.3	2.0	B	20	18MC-MW02	U Flag
SW6010	RB071107	WATER	Chromium – Dissolved	0.42	0.21	B	20	18MC-MW02	U Flag
SW6010	RB071107	WATER	Lead – Dissolved	0.25	0.47	B	20	18MC-MW02	U Flag
SW6010	RB071107	WATER	Zinc – Dissolved	5.5	13.8	B	50	18MC-MW02	U Flag
SW6010	RB071107	WATER	Antimony - Dissolved	0.72	5.3	B	20	18MC-MW04	U Flag
SW6010	RB071107	WATER	Arsenic - Dissolved	1.3	2.4	B	20	18MC-MW04	U Flag
SW6010	RB071107	WATER	Chromium – Dissolved	0.42	0.30	B	20	18MC-MW04	U Flag
SW6010	RB071107	WATER	Arsenic - Dissolved	1.3	3.1	B	20	18MC-MW05	U Flag
SW6010	RB071107	WATER	Antimony - Dissolved	0.72	4.7	B	20	18MC-MW06	U Flag
SW6010	RB071107	WATER	Arsenic - Dissolved	1.3	1.1	B	20	18MC-MW06	U Flag
SW6010	RB071107	WATER	Zinc – Dissolved	5.5	13.4	B	50	18MC-MW06	U Flag
SW6010	RB071107	WATER	Antimony - Dissolved	0.72	5.4	B	20	18MC-MW08	U Flag
SW6010	RB071107	WATER	Lead – Dissolved	0.25	0.48	B	20	18MC-MW08	U Flag
SW6010	RB071107	WATER	Zinc – Dissolved	5.5	13.5	B	50	18MC-MW08	U Flag
SW6010	RB071107	WATER	Antimony - Dissolved	0.72	3.0	B	20	18MC-MW10	U Flag
SW6010	RB071107	WATER	Arsenic - Dissolved	1.3	1.2	B	20	18MC-MW10	U Flag
SW6010	RB071107	WATER	Chromium – Dissolved	0.42	0.40	B	20	18MC-MW10	U Flag
SW6010	RB071107	WATER	Zinc – Dissolved	5.5	16.6	B	50	18MC-MW10	U Flag
SW6010	RB071107	WATER	Antimony - Dissolved	0.72	3.4	B	20	18MC-MW11	U Flag
SW6010	RB071107	WATER	Arsenic - Dissolved	1.3	1.3	B	20	18MC-MW11	U Flag
SW6010	RB071107	WATER	Chromium – Dissolved	0.42	0.52	B	20	18MC-MW11	U Flag

Data Usability Summary Report	Project: 18 Mile Creek F0925
Date Completed: July 24, 2007	Completed by: B. Krajewski

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
SW6010	RB071107	WATER	Zinc – Dissolved	5.5	12.8	B	50	18MC-MW11	U Flag
SW6010	RB071107	WATER	Antimony - Dissolved	0.72	5.4	B	20	18MC-MW12	U Flag
SW6010	RB071107	WATER	Zinc – Dissolved	5.5	11.1	B	50	18MC-MW12	U Flag
SW6010	RB071107	WATER	Antimony - Dissolved	0.72	3.6	B	20	18MC-MW13	U Flag
SW6010	RB071107	WATER	Arsenic - Dissolved	1.3	0.89	B	20	18MC-MW13	U Flag
SW6010	RB071107	WATER	Chromium – Dissolved	0.42	0.48	B	20	18MC-MW13	U Flag
SW6010	RB071107	WATER	Zinc – Dissolved	5.5	11.4	B	50	18MC-MW13	U Flag
SW6010	RB071107	WATER	Antimony - Dissolved	0.72	5.0	B	20	18MC-MW14	U Flag
SW6010	RB071107	WATER	Zinc – Dissolved	5.5	13.6	B	50	18MC-MW14	U Flag
SW6010	RB071107	WATER	Antimony - Dissolved	0.72	5.4	B	20	18MC-MW15	U Flag
SW6010	RB071107	WATER	Arsenic - Dissolved	1.3	2.4	B	20	18MC-MW15	U Flag
SW6010	RB071107	WATER	Zinc – Dissolved	5.5	21.0	B	50	18MC-MW15	U Flag
SW6010	RB071107	WATER	Antimony - Dissolved	0.72	4.5	B	20	18MC-MW16	U Flag
SW6010	RB071107	WATER	Arsenic - Dissolved	1.3	1.7	B	20	18MC-MW16	U Flag
SW6010	RB071107	WATER	Zinc – Dissolved	5.5	17.7	B	50	18MC-MW16	U Flag
SW6010	RB071107	WATER	Antimony - Dissolved	0.72	2.0	B	20	18MC-MW17	U Flag
SW6010	RB071107	WATER	Chromium – Dissolved	0.42	0.48	B	20	18MC-MW17	U Flag
SW6010	RB071107	WATER	Zinc – Dissolved	5.5	11.9	B	50	18MC-MW17	U Flag
8270C(W)	RB071107	WATER	Bis(2-ethylhexyl)phthalate	1.6	1.5	J	5	18MC-MW01	U Flag
8270C(W)	RB071107	WATER	Bis(2-ethylhexyl)phthalate	1.6	2.5	J	5	18MC-MW01D	U Flag
8270C(W)	RB071107	WATER	Bis(2-ethylhexyl)phthalate	1.6	3.7	J	5	18MC-MW02	U Flag
8270C(W)	RB071107	WATER	Bis(2-ethylhexyl)phthalate	1.6	5.6	J	5	18MC-MW04	U Flag
8270C(W)	RB071107	WATER	Bis(2-ethylhexyl)phthalate	1.6	1.1	J	5	18MC-MW06	U Flag
8270C(W)	RB071107	WATER	Bis(2-ethylhexyl)phthalate	1.6	3.1	J	5	18MC-MW05	U Flag
8270C(W)	RB071107	WATER	Bis(2-ethylhexyl)phthalate	1.6	1.9	J	5	18MC-MW10	U Flag
8270C(W)	RB071107	WATER	Bis(2-ethylhexyl)phthalate	1.6	1.1	J	5	18MC-MW11	U Flag
8270C(W)	RB071107	WATER	Bis(2-ethylhexyl)phthalate	1.6	5.1		5	18MC-MW13	U Flag
8270C(W)	RB071107	WATER	Bis(2-ethylhexyl)phthalate	1.6	2	J	5	18MC-MW15	U Flag
8270C(W)	RB071107	WATER	Bis(2-ethylhexyl)phthalate	1.6	1.1	J	5	18MC-MW08	U Flag
8270C(W)	RB071107	WATER	Bis(2-ethylhexyl)phthalate	1.6	0.75	J	5	18MC-MW12	U Flag

Method	Lab Blank	Matrix	Analyte	Blank Result	Sample Result	Lab Qual	PQL	Affected Samples	Sample Flag
8270C(W)	RB071107	WATER	Bis(2-ethylhexyl)phthalate	1.6	1.9	J	5	18MC-MW14	U Flag
8270C(W)	RB071107	WATER	Bis(2-ethylhexyl)phthalate	1.6	2.6	J	5	18MC-MW16	U Flag

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8260	18MC-MW13	SAMP	Toluene-d8	115	80	114	1	None
SW8260	18MC-MW08	SAMP	1,2-Dichloroethane-d4	78	79	115	1	None
SW8260	18MC-MW12	SAMP	1,2-Dichloroethane-d4	74	79	115	1	None
SW8260	18MC-MW16	SAMP	1,2-Dichloroethane-d4	75	79	115	1	None
SW8270	18MC-MW16	SAMP	2,4,6-Tribromophenol	130	40	125	1	None
SW8270	S3RLCSD	LCSD	2,4,6-Tribromophenol	132	40	125	1	None
SW8081	18MC-MW06	SAMP	TCMX	137	28	123	1	None

Table 4 – List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
SW8260	18MC-MW02	MS	Trans-1,3-Dichloropropene	ND	10	83	1	87	120	UJ Flag
SW8260	18MC-MW02	MS	Ethylbenzene	ND	10	112	1	87	110	None
SW8260	18MC-MW02	MSD	Trans-1,3-Dichloropropene	ND	10	84	1	87	120	UJ Flag
SW8260	18MC-MW02	MSD	Ethylbenzene	ND	10	116	1	87	110	None
SW8260	18MC-MW02	MSD	M&P-Xylene	ND	10	115	1	87	114	None
SW8270	18MC-MW02	MS	2,4-Dimethylphenol	ND	25	26	1	30	119	UJ Flag
SW8270	18MC-MW02	MS	Benzaldehyde	ND	25	234	1	50	150	None
SW8270	18MC-MW02	MSD	Hexachlorocyclopentadiene	ND	25	10	1	27	147	UJ Flag
SW8270	18MC-MW02	MSD	2,4-Dinitropehnol	ND	25	157	1	15	140	None
SW8270	18MC-MW02	MSD	4,6-Dinitro-2-Methylphenol	ND	25	140	1	40	130	None
SW8270	18MC-MW02	MSD	Pentachlorophenol	ND	25	119	1	40	115	None
SW8270	18MC-MW02	MSD	3,3-Dichlorobenzidine	ND	25	19	1	20	110	UJ Flag
SW8270	18MC-MW02	MSD	Benzaldehyde	ND	25	278	1	50	150	None
SW7470A	18MC-MW02	MS	Mercury – Dissolved	ND	4.55	71.6	1	75	125	UJ or J

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
SW8270	18MC-MW02	MSD	Hexachlorocyclopentadiene	97	20	J Flag

Table 5 - List LCS Recoveries outside Control Limits

Method	Sample ID	Analyte	Rec.	Low Limit	High Limit	No. of Affected Samples	Samp Qual
SW8260	VV2LCS	Styrene	120	90	114	11	None
SW8260	V2GLCS	Trans-1,3-Dichloropropene	82	87	120	7	UJ Flag
SW8260	V2GLCS	Bromoform	78	81	127	7	UJ Flag
SW8260	V2GLCSD	Trans-1,3-Dichloropropene	85	87	120	7	UJ Flag
SW8260	V2GLCSD	Tetrachloroethene	140	74	115	7	None
SW8260	V2LCS	Isopropylbenzene	120	89	118	1	None
SW8260	V2LCSD	Isopropylbenzene	120	89	118	1	None
SW8270	S3PLCS	2,4-Dimethylphenol	29	30	110	9	UJ Flag
SW8270	S3PLCS	Hexachlorocyclopentadiene	29	45	105	9	UJ Flag
SW8270	S3PLCS	Acenaphthylene	49	50	105	9	UJ Flag
SW8270	S3PLCS	Cabrazole	48	50	115	9	UJ Flag
SW8270	S3PLCS	Atrazine	20	50	150	9	UJ Flag
SW8270	S3PLCS	Benzaldehyde	244	50	150	9	None
SW8270	S3RLCS	4,6-Dinitro-2-Methylphenol	143	40	130	7	None
SW8270	S3RLCS	Benzaldehyde	280	50	150	7	None
SW8270	S3RLCSD	2,4-Dinitrophenol	142	15	140	7	None
SW8270	S3RLCSD	4,6-Dinitro-2-Methylphenol	154	40	130	7	None
SW8270	S3RLCSD	Pentachlorophenol	118	40	115	7	None
SW8270	S3RLCSD	3,3-Dichlorobenzidine	124	20	110	7	None
SW8270	S3RLCSD	Benzaldehyde	300	50	150	7	None

Table 6 –Samples that were Reanalyzed
None

Table 7 – Summary of Field Duplicate Results

Data Usability Summary Report	Project: 18 Mile Creek F0925
Date Completed: July 24, 2007	Completed by: B. Krajewski

Method	Analyte	Unit	PQL	18MC-MW01	18MC-MW01D	RPD	RPD Rating	Samp Qual
8270C(W)	Bis(2-ethylhexyl)phthalate	ug/L	5	1.5	2.5	50.0%	Poor	None (<PQL)
8270C(W)	Fluoranthene	ug/L	5	1.2	2.1	54.5%	Poor	None (<PQL)
8270C(W)	Pyrene	ug/L	5	0.72	1.6	75.9%	Poor	None (<PQL)
8260B	Carbon disulfide	ug/L	0.5	0.51	0.64	22.6%	Good	None
6010B	Aluminum	ug/L	100	153	68.5	76.3%	Poor	None (<PQL)
6010B	Antimony	ug/L	10	7.2	7.6	5.4%	Good	None
6010B	Arsenic	ug/L	5	1.7	3.5	69.2%	Poor	None (<PQL)
6010B	Barium	ug/L	100	54.1	52.2	3.6%	Good	None
6010B	Calcium	ug/L	400	236000	233000	1.3%	Good	None
6010B	Chromium	ug/L	5	0.56	0.33	51.7%	Poor	None (<PQL)
6010B	Cobalt	ug/L	25	15.7	15.3	2.6%	Good	None
6010B	Copper	ug/L	13	8.9	8.5	4.6%	Good	None
6010B	Iron	ug/L	50	1260	1100	13.6%	Good	None
6010B	Lead	ug/L	5	0.88	0.55	46.2%	Poor	None (<PQL)
6010B	Magnesium	ug/L	250	42800	42200	1.4%	Good	None
6010B	Manganese	ug/L	7.5	52.8	43.7	18.9%	Good	None
6010B	Nickel	ug/L	20	6.4	6.6	3.1%	Good	None
6010B	Potassium	ug/L	500	6650	6500	2.3%	Good	None
6010B	Silver	ug/L	5	19	18.6	2.1%	Good	None
6010B	Sodium	ug/L	500	111000	109000	1.8%	Good	None
6010B	Vanadium	ug/L	25	0.7	0.38	59.3%	Poor	None (<PQL)
6010B	Zinc	ug/L	25	16.8	16.1	4.3%	Good	None

F

Analytical Data Summaries for Field QC Samples and Analytical Summaries of Tentatively Identified Compounds

Table F-1 Summary of Positive Analytical Results for Drilling Water, Rinsate, and Trip Blank Samples, Supplemental Remedial Investigation, Eighteenmile Creek Corridor Site

Analyte / Sample ID: / Date:	18MC-DW01 06/25/07	18MC-RB01 06/12/07	18MC-RB02 06/25/07	RB071107 07/09/07	18MC-TB01 06/12/07	18MC-TB02 06/25/07
VOCs by method SW8260 (µg/L)						
Bromodichloromethane	7.6	1 U	- -	0.5 U	1 U	0.5 U
Chlorobenzene	0.5 U	0.5 J	- -	0.5 U	1 U	0.5 U
Chloroform	15	1 U	- -	0.5 U	1 U	0.5 U
Dibromochloromethane	4	1 U	- -	0.5 U	1 U	0.5 U
Tetrachloroethene	0.36 J	1 U	- -	0.5 UJ	1 U	0.5 U
Xylene (Total)	1	1 U	- -	0.5 U	1 U	0.5 U
VOCs TICs by method SW8260 (µg/L)						
Benzene, 1-ethyl-2-methyl-	0.75 NJ	ND	ND	ND	ND	ND
Benzene, 1-ethyl-4-methyl-	1.0 NJ	ND	ND	ND	ND	ND
Benzene, 2-ethenyl-1,4-dimethyl-	0.86 NJ	ND	ND	ND	ND	ND
Benzene, 2-ethyl-1,4-dimethyl-	0.78 NJ	ND	ND	ND	ND	ND
Benzene, 4-ethyl-1,2-dimethyl-	0.79 NJ	ND	ND	ND	ND	ND
SVOCs by method SW8270C (µg/L)						
2-Methylnaphthalene	0.7 J	5 U	5 U	5 U	- -	- -
Bis(2-ethylhexyl)phthalate	2.5 U	5 U	5 U	1.6	- -	- -
Naphthalene	0.79 J	5 U	5 U	5 U	- -	- -
PCBs by method SW8082 (µg/L)						
PCBs	ND	ND	ND	ND	- -	- -
Pesticides by method SW8081 (µg/L)						
Pesticides	ND	- -	- -	ND	- -	- -
Metals by method SW6010B/SW7470A (µg/L)						
Aluminum	76.8 U	40.0 U	70.8 J	7 U	- -	- -
Antimony - Dissolved	- -	- -	- -	0.72 J	- -	- -
Arsenic	1.5 J	4.2 U	4.2 U	5 U	- -	- -
Arsenic - Dissolved	- -	- -	- -	1.3 J	- -	- -
Barium	25.4 J	0.55 J	0.22 U	100 U	- -	- -
Barium - Dissolved	- -	- -	- -	100 U	- -	- -
Calcium	32700	259 J	262 J	40.1 J	- -	- -
Calcium - Dissolved	- -	- -	- -	479 J	- -	- -
Chromium	5 U	0.84 U	0.84 U	0.53 J	- -	- -
Chromium - Dissolved	- -	- -	- -	0.42 J	- -	- -
Cobalt	0.36 J	0.89 U	0.89 U	25 UJ	- -	- -
Cobalt - Dissolved	- -	- -	- -	25 UJ	- -	- -
Copper	52.8	1.8 J	1.3 U	3.2 U	- -	- -
Copper - Dissolved	- -	- -	- -	3.2 U	- -	- -
Iron	762	1470	229	29.2 J	- -	- -
Iron - Dissolved	- -	- -	- -	13.1 J	- -	- -
Lead	0.34 J	2.9 U	2.9 U	0.42 J	- -	- -
Lead - Dissolved	- -	- -	- -	0.25 J	- -	- -
Magnesium	8740	43.7 J	129 J	250 UJ	- -	- -
Magnesium - Dissolved	- -	- -	- -	156 J	- -	- -
Manganese	42.5 U	19.7	2.4 J	1.9 J	- -	- -
Manganese - Dissolved	- -	- -	- -	1.7 J	- -	- -
Mercury	0.3	0.120 U	0.120 U	0.2 U	- -	- -
Mercury - Dissolved	- -	- -	- -	0.2 UJ	- -	- -
Nickel	20 U	2.6 J	1.1 U	0.34 J	- -	- -
Nickel - Dissolved	- -	- -	- -	20 U	- -	- -
Potassium	1600	24 U	24 U	500 U	- -	- -
Potassium - Dissolved	- -	- -	- -	500 U	- -	- -
Silver	2.6 J	1.0 U	1.0 U	5 U	- -	- -
Silver - Dissolved	- -	- -	- -	5 U	- -	- -
Sodium	11500	339 U	339 U	158 J	- -	- -
Sodium - Dissolved	- -	- -	- -	1760	- -	- -
Vanadium	0.34 J	0.78 U	0.78 U	25 U	- -	- -
Vanadium - Dissolved	- -	- -	- -	25 U	- -	- -
Zinc	25 U	3.6 U	3.6 U	13.4 J	- -	- -
Zinc - Dissolved	- -	- -	- -	5.5 J	- -	- -

Table F-1 Summary of Positive Analytical Results for Drilling Water, Rinsate, and Trip Blank Samples, Supplemental Remedial Investigation, Eighteenmile Creek Corridor Site

Analyte	Sample ID: 18MC-DW01 Date: 06/25/07	18MC-RB01 06/12/07	18MC-RB02 06/25/07	RB071107 07/09/07	18MC-TB01 06/12/07	18MC-TB02 06/25/07

Key:

-- = Sample not analyzed for this parameter.
J = Estimated value.
JN = Estimated value; presumptive evidence indicated
µg/L = Micrograms per liter.
ND = This parameter was not detected in the sample.
PCB = Polychlorinated biphenyls.
SVOC = Semivolatile organic compound.
U = Parameter not detected (practical quantitation limit listed).
UJ = Parameter not detected (practical quantitation limit)/Estimated.
VOC = Volatile organic compound.

Table F-2 Summary of Tentatively Identified Compounds Detected in the Sediment Samples, Supplemental Remedial Investigation, Eighteenmile Creek Corridor Site

Analyte	Sample ID: / Date:	18MC-AS01-S01-Z1 04/25/07	18MC-BC03-Z1 06/15/07	18MC-BC05-Z1 06/15/07	18MC-L01E-S01-Z1 04/20/07	18MC-L01E-S03-Z1 04/20/07	18MC-L01W-S02-Z1 04/18/07	18MC-L01W-S02-Z2 04/18/07	18MC-L04W-S02-Z2 04/20/07	18MC-L08-S02-Z1 04/23/07	18MC-L11-S02-Z1 04/24/07
SVOCs by method SW8270C (mg/Kg)											
.BETA.-AMYRIN		--	--	--	--	--	--	--	--	--	--
.BETA.-SITOSTEROL		--	--	--	--	--	--	--	--	--	--
.GAMMA.-SITOSTEROL		--	--	--	--	--	--	--	--	--	--
1,10-EICOSADIENE		--	--	--	--	--	--	--	--	0.51 JN	--
1,19-EICOSADIENE		--	--	--	--	--	--	--	--	--	--
1,1'-BIPHENYL, 2',3,4,5,5'-P		--	0.41 JN	--	--	--	--	--	--	--	--
1,2,3,4-TETRAHYDROANTHRACENE		--	--	0.37 JN	--	--	--	--	--	--	--
1,2,4,8-TETRAMETHYLBICYCLO[6		--	--	--	--	--	--	--	--	--	--
11H-BENZO[A]FLUORENE		--	0.22 JN	--	--	--	--	--	--	--	2.8 JN
17-PENTATRIACONTENE		--	--	--	--	--	--	--	--	--	--
18-NORABIETANE		--	--	--	--	--	--	--	--	--	--
18-NORBIETANE		--	--	--	--	--	--	0.22 JN	--	--	--
1-CHLOROEICOSANE		0.25 JN	--	--	--	--	--	--	--	--	--
1-DOCOSENE		--	--	--	--	--	--	--	--	--	--
1-HEXACOSANOL		--	--	--	--	--	--	--	--	0.36 JN	--
1-METHYLNAPHTHALENE		--	--	--	--	--	--	--	--	--	--
1-OCTADECENE		--	--	--	--	--	--	--	0.16 JN	--	--
1-PHENANTHRENECARBOXYLIC ACI		--	--	--	--	--	--	--	--	--	--
1-TRIACONTANOL		--	--	--	--	--	--	--	--	--	--
2(1H)NAPHTHALENONE		--	--	--	0.72 JN	--	--	--	--	--	--
26-NOR-5-CHOLESTEN-3.BETA.-O		--		--	0.27 JN	2.7 JN	--	--	--	--	--
2-METHYLBENZENESULFONAMIDE		--	0.21 JN	--	--	--	--	--	--	--	--
2-METHYLPHENANTHRENE		--	--	--	--	--	--	--	--	--	--
4,4,6A,6B,8A,11,11,14B-OCTAM		--	--	--	--	--	--	--	--	--	--
4B,8-DIMETHYL-2-ISOPROPYLPHE		--	--	--	--	--	--	--	--	--	--
4H-CYCLOPENTA[DEF]PHENANTHRE		--	--	0.88 JN	--	--	--	--	--	--	3.7 JN
4-METHYLBENZENESULFONAMIDE		--	--	--	0.18 JN	--	--	--	--	--	--
4-METHYL-E-9-OCTADECENE		0.47 JN	--	--	--	--	--	--	--	--	--
9,10-ANTHRACENEDIONE		--	--	--	--	--	--	--	--	--	--
9H-FLUOREN-9-ONE		--	--	--	--	--	--	--	--	--	--
9-OCTYLHEPTADECANE		1.9 JN	--	--	--	--	--	--	--	--	--
BENZ[E]ACEPHENANTHRYLENE		--	0.91 JN	--	--	--	--	--	--	--	--
BENZO[B]CHRYSENE		--	--	0.21 JN	--	--	--	--	--	--	--
BENZO[GHI]PERYLENE		--	0.25 JN	--	--	--	--	--	--	--	--
BENZOIC ACID, 2-HYDROXY-, PH		--	0.21 JN	--	--	--	--	--	--	--	--
CYCLOPENTA(DEF)PHENANTHRENON		--	--	--	--	--	--	--	--	--	--
DIBENZ[A,H]ANTHRACENE		--	--	--	--	--	--	--	--	--	--
DIBENZO[DEF,MNO]CHRYSENE		--	--	0.35 JN	--	--	--	--	--	--	--
DIBENZOTHIOPHENE		--	--	--	--	--	--	--	--	--	--

Table F-2 Summary of Tentatively Identified Compounds Detected in the Sediment Samples, Supplemental Remedial Investigation, Eighteenmile Creek Corridor Site

Analyte	Sample ID: / Date:	18MC-AS01-S01-Z1 04/25/07	18MC-BC03-Z1 06/15/07	18MC-BC05-Z1 06/15/07	18MC-L01E-S01-Z1 04/20/07	18MC-L01E-S03-Z1 04/20/07	18MC-L01W-S02-Z1 04/18/07	18MC-L01W-S02-Z2 04/18/07	18MC-L04W-S02-Z2 04/20/07	18MC-L08-S02-Z1 04/23/07	18MC-L11-S02-Z1 04/24/07
EICOSANE		--	--	--	0.22 JN	2.7 JN	--	--	--	--	--
ERGOSTANOL		--	--	--	--	--	--	--	0.42 JN	--	--
ETHYL TETRACOSANOATE		--	--	--	--	--	--	--	--	--	--
HEPTACOSANE		--	--	--	--	--	--	--	--	--	--
HEPTADECANE		--	--	--	--	--	--	--	--	0.51 JN	--
HEXADECYLOXIRANE		--	--	--	0.54 JN	--	--	--	--	--	--
LUP-20(29)-EN-3-ONE		--	--	--	--	--	0.42 JN	--	--	--	--
OCTACOSANOL		--	--	--	--	2.7 JN	--	--	--	--	--
OCTADECANE		--	--	--	0.67 JN	--	--	--	--	--	--
OLEIC ACID		--	--	--	--	--	--	--	--	--	--
PERYLENE		--	--	--	--	--	--	--	--	0.40 JN	--
SPIRO[BENZOFURAN-2(3H),2'-OX		--	--	--	--	--	--	--	--	--	--
SQUALENE		0.22 JN	--	--	--	--	--	--	--	--	--
STIGMASANOL		--	--	--	--	--	--	--	--	--	--
STIGMAST-4-EN-3-ONE		0.21 JN	--	--	--	--	--	--	--	--	--
STIGMASTANOL		--	--	--	--	--	--	--	--	--	--
STIMAST-4-EN-3-ONE		--	--	--	--	--	--	--	--	0.24 JN	--
SULFUR		--	--	--	--	--	--	--	--	--	--
TETRACOSANOIC ACID		--	--	--	--	--	--	--	--	--	--
TETRADECANAL		--	--	--	0.55 JN	--	--	--	--	--	--
TETRADECANE		--	--	--	--	2.7 JN	--	--	--	--	--
TRICHLOROBIPHENYL ISOMER		--	0.25 JN	--	--	--	--	--	--	--	--
UNKNOWN		--	--	--	1.0 JN	--	--	--	--	--	--
VITAMIN E		--	--	--	0.28 JN	--	--	--	--	--	--
Z-14-NONACOSANE		--	--	--	--	--	--	--	--	--	--

Key:

-- = This TIC was not detected in the sample.
JN = Estimated value; presumptive evidence indicated.
mg/kg = Milligrams per kilogram.
SVOC = Semivolatile organic compound.

Table F-2 Summary of Tentatively Identified Compounds Detected in the Sediment Samples, Supplemental Remedial Investigation, Eighteenmile Creek Corridor Site

Analyte / Sample ID: / Date:	18MC-L12-S02-Z1 04/24/07	18MC-L13-S02-Z1 04/24/07	18MC-L14W-S02-Z1 04/24/07	18MC-L15E-S02-Z1 04/24/07	18MC-L16E-S02-Z1 04/24/07	18MC-L17-S02-Z1 04/25/07	18MC-L18-S02-Z2 04/25/07	18MC-UP-S01-Z1 04/25/07	18MC-UP-S01-Z2 04/25/07
SVOCs by method SW8270C (mg/Kg)									
.BETA.-AMYRIN	--	--	--	--	1.2 JN	--	--	--	--
.BETA.-SITOSTEROL	--	8.4 JN	--	--	--	--	--	--	--
.GAMMA.-SITOSTEROL	1.3 JN	--	--	--	--	--	--	--	--
1,10-EICOSADIENE	--	--	--	--	--	--	--	--	--
1,19-EICOSADIENE	--	--	--	--	1.3 JN	--	--	--	--
1,1'-BIPHENYL, 2',3,4,5,5'-P	--	--	--	--	--	--	--	--	--
1,2,3,4-TETRAHYDROANTHRACENE	--	--	--	--	--	--	--	--	--
1,2,4,8-TETRAMETHYLBICYCLO[6	--	--	--	9.1 JN	--	--	--	--	--
11H-BENZO[A]FLUORENE	--	--	--	--	--	--	--	--	--
17-PENTATRIACONTENE	--	--	--	--	1.5 JN		--	--	--
18-NORABIETANE	0.76 JN	8.4 JN	--	--	--	0.81 JN	--	--	--
18-NORBIETANE	--	--	--	--	--	--	--	--	--
1-CHLOROEICOSANE	--	--	--	--	--	--	--	--	--
1-DOCOSENE	2.0 JN	8.4 JN	--	--	--	--	--	--	--
1-HEXACOSANOL	--	--	--	--	--	--	--	--	--
1-METHYLNAPHTHALENE	--	--	--	4.4 JN	--	--	--	--	--
1-OCTADECENE	--	--	--	--	--	--	--	--	--
1-PHENANTHRENECARBOXYLIC ACI	--	--	--	--	--	0.43 JN	--	--	--
1-TRIACONTANOL	--	--	--	--	1.4 JN	--	--	--	--
2(1H)NAPHTHALENONE	--	--	--	--	--	--	--	--	--
26-NOR-5-CHOLESTEN-3.BETA.-O	--	--	--	--	--	--	--	--	--
2-METHYLBENZENESULFONAMIDE	--	--	--	--	--	--	--	--	--
2-METHYLPHENANTHRENE	--	--	--	6.7 JN	--	--	--	--	--
4,4,6A,6B,8A,11,11,14B-OCTAM	--	--	--	--	2.1 JN	--	--	--	--
4B,8-DIMETHYL-2-ISOPROPYLPHE	--	--	--	--		0.90 JN	--	--	--
4H-CYCLOPENTA[DEF]PHENANTHRE	--	--	--	--	--	--	--	--	--
4-METHYLBENZENESULFONAMIDE	--	--	--	--	--	--	--	--	--
4-METHYL-E-9-OCTADECENE	--	--	--	--	--	--	--	--	--
9,10-ANTHRACENEDIONE	--	--	--	9.1 JN	--	--	--	0.27 JN	--
9H-FLUOREN-9-ONE	--	--	--	7.0 JN	--	--	--	--	--
9-OCTYLHEPTADECANE	--	--	--	--	--	--	--	--	0.32 JN
BENZ[E]ACEPHENANTHRYLENE	--	--	--	--	--	--	--	--	--
BENZO[B]CHRYSENE	--	--	--	--	--	--	--	--	--
BENZO[GHI]PERYLENE	--	--	--	5.7 JN	--	--	--	--	--
BENZOIC ACID, 2-HYDROXY-, PH	--	--	--	--	--	--	--	--	--
CYCLOPENTA(DEF)PHENANTHRENON	--	--	--	6.9 JN	--	--	--	--	--
DIBENZ[A,H]ANTHRACENE	--	--	--	5.5 JN	--	--	--	--	--
DIBENZO[DEF,MNO]CHRYSENE	--	--	--	--	--	--	--	--	--
DIBENZOTHIOPHENE	--	--	--	7.0 JN	--	--	--	--	--

Table F-2 Summary of Tentatively Identified Compounds Detected in the Sediment Samples, Supplemental Remedial Investigation, Eighteenmile Creek Corridor Site

Analyte / Sample ID: / Date:	18MC-L12-S02-Z1 04/24/07	18MC-L13-S02-Z1 04/24/07	18MC-L14W-S02-Z1 04/24/07	18MC-L15E-S02-Z1 04/24/07	18MC-L16E-S02-Z1 04/24/07	18MC-L17-S02-Z1 04/25/07	18MC-L18-S02-Z2 04/25/07	18MC-UP-S01-Z1 04/25/07	18MC-UP-S01-Z2 04/25/07
EICOSANE	--	--	--	--	--	--	--	--	--
ERGOSTANOL	--	--	--	--	--	--	--	--	--
ETHYL TETRACOSANOATE	1.8 JN	--	--	--	--	--	--	--	--
HEPTACOSANE	--	--	--	--	--	--	--	0.42 JN	--
HEPTADECANE	--	--	--	--	--	--	--	--	0.20 JN
HEXADECYLOXIRANE	--	--	--	--	--	--	--	--	--
LUP-20(29)-EN-3-ONE	--	--	--	--	--	--	--	--	--
OCTACOSANOL	--	--	--	--	--	--	--	--	--
OCTADECANE	--	--	--	--	--	--	--	--	--
OLEIC ACID	--	--	0.24 JN	--	--	--	--	--	--
PERYLENE	--	--	--	--	--	--	--	--	--
SPIRO[BENZOFURAN-2(3H),2'-OX	0.39 JN	--	--	--	--	--	--	--	--
SQUALENE	--	--	--	--	--	--	--	--	--
STIGMASANOL	0.67 JN	--	--	--	--	--	--	--	--
STIGMAST-4-EN-3-ONE	--	--	--	--	--	--	--	--	--
STIGMASTANOL	--	--	--	--	1.3 JN	--	--	--	--
STIMAST-4-EN-3-ONE	--	--	--	--	--	--	--	--	--
SULFUR	0.33 JN	--	--	--	--	--	7.7 JN	0.25 JN	--
TETRACOSANOIC ACID	0.80 JN	8.4 JN	--	--	--	--	--	--	--
TETRADECANAL	--	--	--	--	--	--	--	0.25 JN	--
TETRADECANE	--	--	--	--	--	--	--	--	--
TRICHLOROBIPHENYL ISOMER	--	--	--	--	--	--	--	--	--
UNKNOWN	--	--	--	--	--	--	--	--	--
VITAMIN E	--	--	--	--	--	--	--	--	--
Z-14-NONACOSANE	--	--	--	--	--	--	--	0.49 JN	--

Key:

-- = This TIC was not detected in the sample.
JN = Estimated value; presumptive evidence indicated.
mg/kg = Milligrams per kilogram.
SVOC = Semivolatile organic compound.

Table F-3 Summary of Tentatively Identified Compounds in the Surface Soil Samples, Supplemental Remedial Investigation, Eighteenmile Creek Corridor Site

Analyte	Sample ID: / Date:	18MC-L02E-S04-Z1 04/20/07	18MC-L02W-S04-Z1 04/18/07	18MC-L03E-S05-Z1 04/20/07	18MC-L04W-S04-Z1 04/20/07	18MC-L05W-S04-Z1 04/20/07	18MC-L08-S04-Z1 04/23/07	18MC-L09-S04-Z1 04/23/07	18MC-L10-S04-Z1 04/23/07	18MC-L13-S04-Z1 04/24/07	18MC-L17-S05-Z1 04/25/07	18MC-L18-S07-Z1 04/25/07
SVOCs by method SW8270C (mg/Kg)												
(Z)-6-OCTADECENOIC ACID		--	--	--	--	--	0.45 JN	--	--	--	--	--
.ALPHA.-AMYRIN		--	--	--	--	--	--	--	--	0.39 JN	--	--
.BETA.SITOSTEROL		--	--	--	--	--	0.54 JN	--	--	1.5 JN	--	--
.BETA.-SITOSTEROL		--	--	--	--	--	--	--	0.96 JN	--	--	--
1,19-EICOSADIENE		0.33 JN	--	--	--	--	--	--	--	--	--	--
1,1'-OXYBISDODECANE		0.24 JN	--	--	--	--	--	--	--	--	--	--
1,30-TRIACONTANEDIOL		0.25 JN	--	--	--	--	--	--	--	--	--	--
16-HEPTADECENAL		--	--	--	--	--	--	--	--	--	--	--
18-NORABIETANE		--	--	--	--	--	0.87 JN	--	--	--	--	--
1-DOCOSENE		0.38 JN	--	--	--	--	--	--	--	--	--	--
1-HENEICOSYL FORMATE		--	--	--	--	--	0.33 JN	--	--	--	--	--
1-HENTETRACONTANOL		--	--	0.26 JN	--	--	--	--	--	--	--	--
1-METHYLNAPHTHALENE		--	--	--	--	--	--	--	--	--	--	--
1-METHYLPHENANTHRENE		--	--	--	1.7 JN	--	--	--	--	--	--	--
2,5-DIMETHYLPHENANTHRENE		--	--	--	--	--	--	--	--	--	--	3.8 JN
2,6,10-TRIMETHYLPENTADECANE		--	--	0.19 JN	--	--	--	--	--	--	--	--
26-NOR-5-CHOLESTEN-3.BETA.-O		--	--	--	--	--	--	--	--	0.35 JN	--	--
2-PHENYLNAPHTHALENE		--	--	--	--	--	--	4.8 JN	--	--	--	3.8 JN
4,4,6A,6B,8A,11,11,14-OCTAME		--	--	--	--	--	--	--	--	0.30 JN	--	--
9,10-ANTHRACENEDIONE		--	--	--	--	--	--	--	--	--	--	3.8 JN
9-METHYLNONADECANE		--	--	--	--	--	--	--	--	--	--	--
9-OCTYLHEPTADECANE		--	--	--	--	--	--	--	--	2.4 JN	--	3.8 JN
BENZO[B]TRIPHENYLENE		--	--	--	--	--	--	--	--	--	--	3.8 JN
BENZO[E]PYRENE		--	0.18 JN	--	--	--	--	--	--	--	--	--
CAMPHOR		--	--	--	--	--	--	--	--	--	--	--
CYCLOOCTACOSANE		--	--	--	--	--	--	--	--	--	--	--
DIBENZYLIDENE 4,4'-BIPHENYLE		--	--	--	--	--	--	--	--	--	--	--
EICOSANE		--	--	--	--	--	--	--	--	--	--	--
HENEICOSANE		--	--	--	--	--	--	--	--	--	--	--
HEPTACOSANE		--	--	--	--	--	--	--	--	--	--	--
HEXADECANE		--	--	--	--	0.20 JN	--	--	--	--	--	--
HEXADECYLOXIRANE		--	--	0.18 JN	--	--	--	--	--	--	--	--
HEXANEDIOIC ACID, BIS(2-METH		--	--	--	--	--	--	--	--	--	--	3.8 JN
LANOSTEROL		--	--	--	--	--	--	--	--	--	--	--
LUP-20(29)-EN-3-ONE		--	--	--	--	--	--	--	--	--	--	--
N-HEXADECANOIC ACID		--	--	--	--	--	--	--	0.21 JN	--	--	--
NONADECANE		--	--	--	--	0.18 JN	--	--	--	--	--	--
OCTACOSANE		0.30 JN	--	--	--	--	--	--	--	--	--	--
OCTADECANAL		--	--	--	--	--	--	--	--	--	--	--

Table F-3 Summary of Tentatively Identified Compounds in the Surface Soil Samples, Supplemental Remedial Investigation, Eighteenmile Creek Corridor Site

Analyte	Sample ID: / Date:	18MC-L02E-S04-Z1 04/20/07	18MC-L02W-S04-Z1 04/18/07	18MC-L03E-S05-Z1 04/20/07	18MC-L04W-S04-Z1 04/20/07	18MC-L05W-S04-Z1 04/20/07	18MC-L08-S04-Z1 04/23/07	18MC-L09-S04-Z1 04/23/07	18MC-L10-S04-Z1 04/23/07	18MC-L13-S04-Z1 04/24/07	18MC-L17-S05-Z1 04/25/07	18MC-L18-S07-Z1 04/25/07
OCTADECANE		--	--	--	--	--	--	--	0.36 JN	--	--	--
OCTICIZER		--	--	--	--	--	--	--	--	--	--	3.8 JN
OLEAN-12-ENE		--	--	--	--	--	--	--	--	--	--	--
PENTACOSANE		--	0.20 JN	--	--	--	--	--	--	--	--	--
SIGMAST-4-EN-3-ONE		--	--	--	--	--	--	--	--	--	--	--
STIGMAST-4-EN-3-ONE		--	--	--	--	--	--	--	0.33 JN	0.84 JN	8.7 JN	3.8 JN
STIGMASTANOL		--	--	--	--	--	--	--	0.21 JN	--	--	--
STIGMASTEROL		--	--	--	--	--	--	--	0.25 JN	0.37 JN	--	--
TETRACOSANAL		--	--	--	--	--	--	--	--	--	--	--
TETRACOSANOIC ACID		--	--	--	--	--	0.23 JN	--	--	--	--	--
TETRADECANE		--	--	--	--	--	--	--	--	--	--	--
TRIDECANE		--	--	--	--	--	--	--	--	--	--	--
VITAMIN E		--	--	--	--	--	--	--	--	0.30 JN	--	--
Z-5-NONADECENE		--	--	--	--	--	--	--	--	--	--	3.8 JN

* A duplicate sample was analyzed at this location. This result listed is for the duplicate sample only.

Key:

-- = This TIC was not detected in the sample.
JN = Estimated value; presumptive evidence indicated.
mg/kg = Milligrams per kilogram.
SVOC = Semivolatile organic compound.

Table F-3 Summary of Tentatively Identified Compounds in the Surface Soil Samples, Supplemental Remedial Investigation, Eighteenmile Creek Corridor Site

Analyte	Sample ID: / Date:	18MC-SS01 04/16/07	18MC-SS02 04/16/07	18MC-SS05 04/16/07	18MC-SS06 04/16/07	18MC-SS11 04/16/07	18MC-SS12 04/16/07	18MC-SS14 04/16/07	18MC-SS17* 04/16/07	18MC-SS18 04/16/07
SVOCs by method SW8270C (mg/Kg)										
(Z)-6-OCTADECENOIC ACID		--	--	--	--	--	--	--	--	--
.ALPHA.-AMYRIN		--	--	--	--	--	--	--	--	--
.BETA.SITOSTEROL		--	--	--	--	--	--	--	--	--
.BETA.-SITOSTEROL		--	--	--	--	--	--	--	--	--
1,19-EICOSADIENE		--	0.52 JN	--	--	--	--	0.87 JN	9.2 JN *	--
1,1'-OXYBISDODECANE		--	--	--	--	--	--	--	--	--
1,30-TRIACONTANEDIOL		--	--	--	--	--	--	--	--	--
16-HEPTADECENAL		--	--	0.34 JN	--	--	--	--	--	--
18-NORABIETANE		--	--	--	--	--	--	--	--	--
1-DOCOSENE		--	--	--	--	--	--	0.41 JN	--	--
1-HENEICOSYL FORMATE		--	--	--	--	--	--	--	--	--
1-HENTETRACONTANOL		--	--	--	--	--	--	--	--	--
1-METHYLNAPHTHALENE		--	--	--	--	--	0.85 JN	--	--	--
1-METHYLPHENANTHRENE		--	--	--	--	--	--	--	--	--
2,5-DIMETHYLPHENANTHRENE		--	--	--	--	--	--	--	--	--
2,6,10-TRIMETHYLPENTADECANE		--	--	--	--	--	--	--	--	--
26-NOR-5-CHOLESTEN-3.BETA.-O		--	--	--	--	--	--	--	--	--
2-PHENYLNAPHTHALENE		--	--	--	--	--	--	--	--	--
4,4,6A,6B,8A,11,11,14-OCTAME		--	--	--	--	--	--	--	--	--
9,10-ANTHRACENEDIONE		--	--	--	--	--	--	--	--	--
9-METHYLNONADECANE		--	--	--	--	--	--	--	6.7 JN	--
9-OCTYLHEPTADECANE		--	--	--	--	--	--	--	--	--
BENZO[B]TRIPHENYLENE		--	--	--	--	--	--	--	--	--
BENZO[E]PYRENE		--	--	--	--	--	--	--	--	--
CAMPHOR		0.29 JN	--	--	--	--	--	--	--	--
CYCLOOCTACOSANE		--	--	--	--	--	--	--	4.2 JN	--
DIBENZYLIDENE 4,4'-BIPHENYLE		--	--	--	--	--	--	--	--	620 JN
EICOSANE		--	--	--	--	4.3 JN	0.44 JN	--	--	--
HENEICOSANE		0.54 JN	--	--	--	--	--	0.34 JN	--	--
HEPTACOSANE		--	--	0.81 JN	--	--	--	--	5.2 JN	--
HEXADECANE		--	--	--	--	--	--	--	--	--
HEXADECYLOXIRANE		--	--	--	--	--	--	0.72 JN	--	--
HEXANEDIOIC ACID, BIS(2-METH		--	--	--	--	--	--	--	--	--
LANOSTEROL		--	0.16 JN	--	--	--	--	--	--	--
LUP-20(29)-EN-3-ONE		--	--	--	--	--	--	--	4.3 JN	--
N-HEXADECANOIC ACID		--	--	--	--	--	--	--	--	--
NONADECANE		--	--	--	--	--	--	--	--	--
OCTACOSANE		--	--	--	1.1 JN	--	0.48 JN	--	2.6 JN*	--
OCTADECANAL		--	--	--	--	--	--	--	3.3 JN	--

Table F-3 Summary of Tentatively Identified Compounds in the Surface Soil Samples, Supplemental Remedial Investigation, Eighteenmile Creek Corridor Site

Analyte	Sample ID: / Date:	18MC-SS01 04/16/07	18MC-SS02 04/16/07	18MC-SS05 04/16/07	18MC-SS06 04/16/07	18MC-SS11 04/16/07	18MC-SS12 04/16/07	18MC-SS14 04/16/07	18MC-SS17* 04/16/07	18MC-SS18 04/16/07
OCTADECANE		--	--	--	--	--	--	0.23 JN	--	--
OCTICIZER		--	--	--	--	--	--	--	--	--
OLEAN-12-ENE		--	--	--	--	--	--	--	3.7 JN	--
PENTACOSANE		--	--	--	--	--	--	--	--	--
SIGMAST-4-EN-3-ONE		--	0.44 JN	--	--	--	--	--	--	--
STIGMAST-4-EN-3-ONE		0.28 JN	--	0.62 JN	--	--	--	--	--	--
STIGMASTANOL		--	--	--	--	--	--	--	--	--
STIGMASTEROL		--	--	--	--	--	--	--	--	--
TETRACOSANAL		--	--	--	--	--	--	--	2.0 JN	--
TETRACOSANOIC ACID		--	--	--	--	--	--	--	--	--
TETRADECANE		--	--	--	--	--	0.36 JN	--	--	--
TRIDECANE		--	--	--	--	--	0.42 JN	--	--	--
VITAMIN E		--	--	--	--	--	--	--	--	--
Z-5-NONADECENE		--	--	--	--	--	--	--	--	--

* A duplicate sample was analyzed at this location. This result listed is for the duplicate sample only.

Key:

-- = This TIC was not detected in the sample.
JN = Estimated value; presumptive evidence indicated.
mg/kg = Milligrams per kilogram.
SVOC = Semivolatile organic compound.

Table F-4 Summary of Tentatively Identified Compounds in the Subsurface Soil Samples, Supplemental Remedial Investigation, Eighteenmile Creek Corridor Site

Analyte / Sample ID / Date:	18MC-MW01-Z2 06/21/07	18MC-MW05-Z1 06/15/07	18MC-MW05-Z2 06/15/07	18MC-MW06-Z1 06/20/07	18MC-MW06-Z2 06/20/07	18MC-MW08-Z2 06/11/07	18MC-MW10-Z1 06/20/07
SVOCs by method SW8270C (mg/Kg)							
(Z)-13-DOCOSENAMIDE	--	0.76 JN	--	0.56 JN	0.42 JN*	--	--
(Z)-9-OCTADECENAMIDE	--	--	--	--	--	--	--
.BETA.-SITOSTEROL	--	0.74 JN	--	--	--	--	0.73 JN
1,19-EICOSADIENE	--	--	--	--	--	--	0.22 JN
11,13-DIMETHYL-12-TETRADECEN	--	--	--	--	--	--	0.23 JN
11H-BENZO[A]FLUOREN-11-ONE	--	0.20 JN	--	--	--	--	--
18-NORABIETANE	0.22 JN	--	--	--	--	--	0.20 JN
1-DOCOSENE	--	--	--	--	--	--	0.88 JN
1-METHYL-2-PYRROLIDINONE	--	--	--	--	--	--	--
1-METHYLETHYLPHENOL ISOMER	--	--	--	--	--	--	--
1-PHENANTHENECARBOXYLIC ACID	0.24 JN	--	--	--	--	--	--
2,2'-DITHIOBIS-PYRIDINE	--	--	--	--	--	--	--
2-ETHYL-1-HEXANOL	--	--	--	--	--	--	--
2-METHYL-1H-BENZIMIDAZOLE	--	--	--	--	--	--	--
2-METHYLHEPTADECANE	--	--	--	--	--	--	--
4B,3-DIMETHYL-2-ISOPROPYLPHE	--	1.1 JN	--	--	--	--	--
4B,8-DIMETHYL-2-ISOPROPYLPHE	0.22 JN	--	--	--	--	--	--
CYCLOHEXANOL	--	--	--	--	--	--	--
CYCLOHEXANONE	--	--	--	--	--	--	--
CYCLOPENTA(DEF)PHENANTHRENON	--	0.49 JN	--	--	--	--	--
DIBENZYLIDINE 4,4'-BIPHENYLI	--	--	--	--	--	--	--
ERGOSTANOL	--	--	--	--	--	--	0.57 JN
ETHYL TETRACOSANOATE	--	--	--	--	--	--	0.64 JN
ETHYLCYCLODOCOSANE	--	--	--	--	--	--	--
FRIEDELAN-3-ONE	--	--	2.8 JN	--	--	--	--
N,N-DIMETHYL ACETAMIDE	--	--	--	--	--	--	--
N,N-DIMETHYLACETAMIDE	--	--	--	--	--	--	--
NONACOSANE	--	--	--	--	--	--	--
OCTACOSANE	--	--	--	--	--	--	0.35 JN
OCTADECANOIC ACID	--	--	--	--	--	--	--
PHENANTHRENE, 1-METHYL-7-(1-	--	0.48 JN	--	--	--	--	--
STIGMASTANOL	--	--	--	--	--	--	--
SULFUR	--	--	--	--	--	4.4 JN *	0.24 JN
TRI(2-ETHYLHEXYL)TRIMELLITAT	--	--	--	--	--	--	--
TRIBUTYLPHOSPHATE	--	--	--	--	--	--	--
UNDECANE	--	--	--	--	--	--	--

* A duplicate sample was analyzed at this location. The highest of the two results are listed here for this parameter.

Key:

-- = This TIC was not detected in the sample.

JN = Estimated value; presumptive evidence indicated.

mg/kg = Milligrams per kilogram.

SVOC = Semivolatile organic compound.

Table F-4 Summary of Tentatively Identified Compounds in the Subsurface Soil Samples, Supplemental Remedial Investigation, Eighteenmile Creek Corridor Site

Analyte	Sample ID: / Date:	18MC-MW10-Z2 06/20/07	18MC-MW11-Z1 06/08/07	18MC-MW12-Z2 06/07/07	18MC-MW13-Z1 06/07/07	18MC-MW14-Z1 06/19/07	18MC-MW15-Z1 06/12/07	18MC-MW16-Z1 06/12/07
SVOCs by method SW8270C (mg/Kg)								
(Z)-13-DOCOSENAMIDE		--	--	--	--	0.69 JN	--	--
(Z)-9-OCTADECENAMIDE		--	--	--	--	--	0.24 JN	--
.BETA.-SITOSTEROL		0.39 JN	--	--	--	--	--	--
1,19-EICOSADIENE		--	--	--	--	--	--	--
11,13-DIMETHYL-12-TETRADECEN		--	--	--	--	--	--	--
11H-BENZO[A]FLUOREN-11-ONE		--	--	--	--	--	--	--
18-NORABIETANE		0.46 JN	--	--	--	--	--	--
1-DOCOSENE		--	--	--	--	--	--	--
1-METHYL-2-PYRROLIDINONE		--	--	0.72 JN	1.0 JN	--	--	--
1-METHYLETHYLPHENOL ISOMER		--	--	--	0.31 JN	--	--	--
1-PHENANTHENECARBOXYLIC ACID		--	--	--	--	--	--	--
2,2'-DITHIOBIS-PYRIDINE		--	--	--	0.35 JN	--	--	--
2-ETHYL-1-HEXANOL		--	0.29 JN	0.20 JN	--	--	--	--
2-METHYL-1H-BENZIMIDAZOLE		--	0.30 JN	--	--	--	--	--
2-METHYLHEPTADECANE		--	--	--	--	--	0.22 JN	--
4B,3-DIMETHYL-2-ISOPROPYLPHE		--	--	--	--	--	--	--
4B,8-DIMETHYL-2-ISOPROPYLPHE		--	--	--	--	--	--	--
CYCLOHEXANOL		--	--	0.32 JN	0.30 JN	--	--	--
CYCLOHEXANONE		--	--	--	0.28 JN	--	--	--
CYCLOPENTA(DEF)PHENANTHRENON		--	--	--	--	--	--	--
DIBENZYLIDINE 4,4'-BIPHENYLI		--	--	--	--	--	--	6.2 JN
ERGOSTANOL		--	--	--	--	--	--	--
ETHYL TETRACOSANOATE		0.45 JN	--	--	--	--	--	--
ETHYLCYCLODOCOSANE		0.71 JN	--	--	--	--	--	--
FRIEDELAN-3-ONE		--	--	--	--	--	--	--
N,N-DIMETHYL ACETAMIDE		--	--	--	5.3 JN	--	--	--
N,N-DIMETHYLACETAMIDE		--	5.2 JN	--	--	--	--	--
NONACOSANE		--	--	--	--	--	0.29 JN	--
OCTACOSANE		0.30 JN	--	--	--	--	--	--
OCTADECANOIC ACID		0.35 JN	--	--	--	--	--	--
PHENANTHRENE, 1-METHYL-7-(1-		--	--	--	--	--	--	--
STIGMASTANOL		0.46 JN	--	--	--	--	--	--
SULFUR		0.34 JN	--	--	--	--	--	--
TRI(2-ETHYLHEXYL)TRIMELLITAT		--	1.2 JN	0.35 JN	0.48 JN	--	--	--
TRIBUTYLPHOSPHATE		--	0.31 JN	--	--	--	--	--
UNDECANE		--	0.29 JN	--	--	--	--	--

Key:

-- = This TIC was not detected in the sample.

JN = Estimated value; presumptive evidence indicated.

mg/kg = Milligrams per kilogram.

SVOC = Semivolatile organic compound.

Table F-5 Summary of Tentatively Identified Compounds in the Groundwater Samples, Supplemental Remedial Investigation, Eighteenmile Creek Corridor Site

Analyte / Sample ID: / Date:	18MC-MW01 07/09/07	18MC-MW02 07/09/07	18MC-MW04 07/09/07	18MC-MW05 07/10/07	18MC-MW06 07/09/07	18MC-MW08 07/11/07	18MC-MW10 07/10/07	18MC-MW11 07/10/07	18MC-MW12 07/11/07	18MC-MW13 07/10/07	18MC-MW14 07/11/07	18MC-MW15 07/11/07	18MC-MW16 07/11/07
VOCs by method SW8260B (µg/L)													
Dimethyl sulfide	--	--	--	--	--	--	--	0.96 JN	--	--	--	--	--
SVOCs by method SW8270C (µg/L)													
1,4,7,10,13,16-Hexaoxacyclooctadecane	--	--	--	--	--	--	--	--	--	--	36 JN	--	11 JN
1,8-Naphthalic anhydride	--	--	--	--	--	5.5 JN	--	--	--	--	--	--	--
1H-Phenalen-1-one	--	--	--	4.0 JN	--	--	--	--	2.3 JN	--	--	--	--
1-Propene, 1,2,3-trichloro-, (Z)-	--	--	2.2 JN	--	--	--	--	--	--	--	--	--	--
4H-Cyclopenta[def]phenanthrene	--	--	--	2.5 JN	--	--	--	--	--	--	--	--	--
Dodecanoic Acid	--	15 JN	--	--	3.1 JN	--	--	--	--	--	--	--	--
Heptaethylene glycol	--	8.5 JN	--	--	6.4 JN	5.5 JN	--	--	--	--	--	--	--
Hexagol	--	--	--	--	--	--	--	--	16 JN	--	56 JN	72 JN	--
n-Decanoic Acid	--	--	--	--	--	3.8 JN	--	--	--	--	--	--	--
Pentaethylene glycol	--	--	--	--	--	3.8 JN	--	--	6.5 JN	--	6.0 JN	17 JN	--
Phenanthrene, 1-methyl-7-(1-methylethyl)	4.0 JN *	--	--	--	--	--	--	--	--	--	--	--	--
Phenol, 4,4'-(1-methylethlidene)bis-	--	--	--	--	--	--	--	--	--	--	--	--	5.4 JN
Phenol, 4,4'-(1-methylethylidene)bis-	--	17 JN	4.0 JN	--	--	--	--	--	--	--	2.5 JN	--	--
Tetradecanoic Acid	--	--	--	--	--	3.5 JN	--	--	--	--	--	--	--

Notes

* A duplicate sample was analyzed at this location. This result listed is for the duplicate sample only.

Key:

-- = This TIC was not detected in the sample.
JN = Estimated value; presumptive evidence indicated
µg/L = Micrograms per liter.
mg/kg = Milligrams per kilogram.
SVOC = Semivolatile organic compound.
VOC = Volatile organic compound.

Table F-5 Summary of Tentatively Identified Compounds in the Groundwater Samples, Supplemental Remedial Investigation, Eighteenmile Creek Corridor Site

Analyte	18MC-MW17 07/11/07
VOCs by method SW8260	
Dimethyl sulfide	- -
SVOCs by method SW827	
1,4,7,10,13,16-Hexaoxacyc	- -
1,8-Naphthalic anhydride	- -
1H-Phenalen-1-one	- -
1-Propene, 1,2,3-trichloro-	- -
4H-Cyclopenta[def]phenan	- -
Dodecanoic Acid	- -
Heptaethylene glycol	22 JN
Hexagol	- -
n-Decanoic Acid	- -
Pentaethylene glycol	- -
Phenanthrene, 1-methyl-7-	- -
Phenol, 4,4'-(1-methylethli	4.1 JN
Phenol, 4,4'-(1-methylethyl	- -
Tetradecanoic Acid	- -

Notes

* A duplicate sample was ana

Key:

-- =
JN =
µg/L =
mg/kg =
SVOC =
VOC =

F-16

G Rare Species and Ecological Communities

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, Albany, New York 12233-4757
Phone: (518) 402-8935 • **FAX:** (518) 402-8925
www.dec.state.ny.us

Alexander B. Grannis
Commissioner

November 8, 2007

Carl Mach
Ecology and Environment, Inc
Buffalo Corporate Center
368 Pleasant View Drive
Lancaster, NY 14086

Dear Mr. Mach:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Eighteenmile Creek Corridor - Impact Analysis, area as indicated on the map you provided, located in the Town of Lockpoort, Niagara County.

We have no records of known occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of your site.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain any information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. For these reasons, we cannot provide a definitive statement on the presence or absence of rare or state-listed species, or of significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Data bases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

Sincerely,

Jean Pietrusiak

Jean Pietrusiak, Information Services
NY Natural Heritage Program

Encs.
cc: Reg. 9 , Wildlife Mgr.
Reg. 9, Fisheries Mgr.

Niagara County

Federally Listed Endangered and Threatened Species and Candidate Species

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

Common Name	Scientific Name	Status
Bald eagle[1]	*Haliaeetus leucocephalus*	D
Eastern prairie fringed orchid *(Historic)*	*Platanthera leucophea*	T

Status Codes: E=Endangered T=Threatened P=Proposed C=Candidate D=Delisted

[1] The bald eagle was delisted on August 8, 2007. While there are no ESA requirements for bald eagles after this date, the eagles continue to receive protection under the Bald and Golden Eagle Protection Act (BGEPA). Please follow the Service's May 2007 Bald Eagle Management Guidelines to determine whether you can avoid impacts under the BGEPA for your projects. If you have any questions, please contact the endangered species branch in our office.

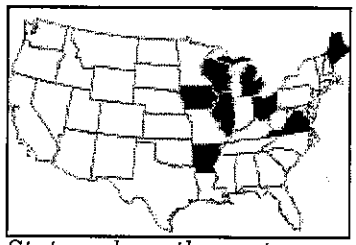
Information current as of: 12/11/2007

U.S. Fish & Wildlife Service

Threatened and Endangered Species

Eastern Prairie Fringed Orchid

(*Platanthera leucophaea*)



States where the eastern prairie fringed orchid is found.

The eastern prairie fringed orchid is a federally threatened species. Threatened species are animals and plants that are likely to become endangered in the foreseeable future. Endangered species are animals and plants that are in danger of becoming extinct. Identifying, protecting, and restoring endangered and threatened species is the primary objective of the U.S. Fish and Wildlife Service's endangered species program.

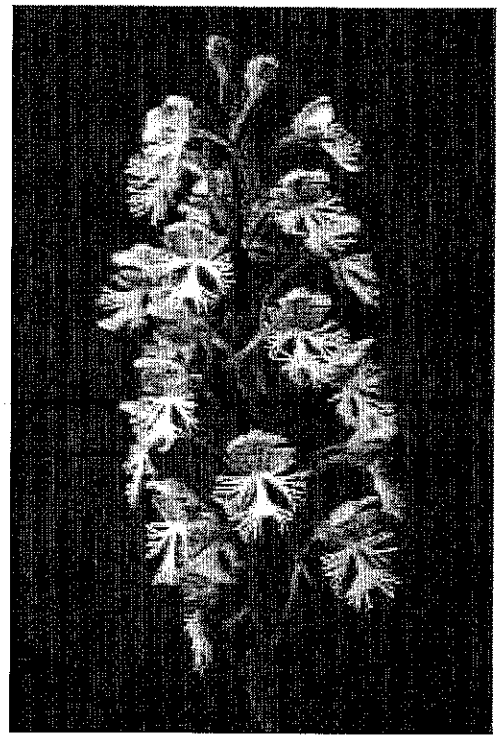


Photo by Mike Redmer

What is the eastern prairie fringed orchid?

The eastern prairie fringed orchid is 1 of at least 200 North American orchid species.

Appearance - This plant is 8 to 40 inches tall and has an upright leafy stem with a flower cluster called an inflorescence. The 3 to 8 inch lance-shaped leaves sheath the stem. Each plant has one single flower spike composed of 5 to 40 creamy white flowers. Each flower has a three-part fringed lip less than 1 inch long and a nectar spur (tube-like structure) which is about 1 to 2 inches long.

Habitat Requirements - The eastern prairie fringed orchid occurs in a wide variety of habitats, from mesic prairie to wetlands such as sedge meadows, marsh edges, even bogs. It requires full sun for optimum growth and flowering and a grassy habitat with little or no woody encroachment. A symbiotic relationship between the seed and soil fungi, called mycorrhizae, is necessary for seedlings to become established. This fungi helps the seeds assimilate nutrients in the soil.

Life History - This orchid is a perennial herb that grows from an underground tuber. Flowering begins from late June to early July, and lasts for 7 to 10 days. Blossoms often rise just above the height of the surrounding grasses and sedges. The more exposed flower clusters are more likely to be visited by the hawkmoth pollinators, though they are also at greater risk of being eaten by deer. Seed capsules mature over the growing season and are dispersed by the wind from late August through September.

What is the eastern prairie fringed orchid? (cont'd.)

Reproduction/Pollination - Night flying hawkmoths pollinate the nocturnally fragrant flowers of this white orchid. Visiting hawkmoths inadvertantly collect pollen on their proboscises as they ingest nectar from the flower's long nectar spurs.

Why is the eastern prairie fringed orchid threatened?

Historic Decline - Early decline was due to the loss of habitat, mainly conversion of natural habitats to cropland and pasture.

Current Decline - Current decline is mainly due to the loss of habitat from the drainage and development of wetlands. Other reasons for the current decline include succession to woody vegetation, competition from non-native species and over-collection.

What is being done to prevent extinction of the eastern prairie fringed orchid?

Listing - The eastern prairie fringed orchid was added to the U.S. List of Endangered and Threatened Species on September 28, 1989 which benefits the species by focusing attention and money on its conservation.

Recovery Plan - In September 1999 a recovery plan was completed by the U.S. Fish and Wildlife Service which delineates reasonable actions needed to recover and/or protect this orchid. The purpose of the plan is to promote the conservation of the threatened eastern prairie fringed orchid by implementing identified tasks.

Recovery Plan Actions - Protect habitat, manage habitat, increase size and numbers of populations, conduct surveys on known populations, conduct research, and review progress.

What can I do to help prevent the extinction of species?

Learn- Learn more about the eastern prairie fringed orchid and other endangered and threatened species. Understand how the destruction of habitat leads to loss of endangered and threatened species and our nation's plant and animal diversity. Tell others about what you have learned.

Join – Join a conservation group; many have local chapters. Volunteer at a known orchid site to help with annual demographic data collection or to help with prescribed burns at these sites. Or volunteer at a local nature center, zoo, or wildlife refuge.

Protect – Protect remaining wetland areas by **not** filling them for residential or commercial development. Protect native plant species: do not plant non-native invasive plant species in your gardens or landscape projects. Protect water quality by minimizing use of lawn chemicals (i.e., fertilizers, herbicides, and insecticides), recycling used car oil, and properly disposing of paint and other toxic household projects.

The Eastern Prairie Fringed Orchid Recovery Plan and additional species information can be found at http://midwest.fws.gov/endangered. **Copies of the recovery plan may be purchased by contacting the** Fish and Wildlife Reference Service at 5430 Grosvenor Lane, Suite 110, Bethesda, Maryland 20814, or by phone 1-800-582-3421 or 301-492-6403 or on the Internet at http://fa.r9.fws.gov/r9fwrs/.

U.S. Fish & Wildlife Service
Chicago Illinois Field Office
1250 South Grove St., Ste. 103
Barrington, Illinois
847-381-2253
Federal Relay Service 1-800-877-8339
http://midwest.fws.gov/Chicago
2005