REPORT

Off-Site Feasibility Study
Former IFG Facility and Deferred Media Site
Syracuse, New York

Revitalizing Auto Communities Environmental Response Trust

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O'BRIEN & GERE

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Prepared for:

Revitalizing Auto Communities Environmental Response Trust

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LIST OF ACRONYMS AND ABBREVIATIONS

BERA – Baseline Ecological Risk Assessment
Bgs – Below Ground Surface
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
CFR – Code of Federal Regulations
Cfs – Cubic Feet per Second
CT - Central Tendency
CWA – Clean Water Act
DOT – Department of Transportation
FEMA – Federal Emergency Management Agency
FS - Feasibility Study
GM - General Motors
GRA – General Response Action
HHRA - Human Health Risk Assessment
HI - Hazard Indicies
HQ – Hazard Quotient
IFG – Inland Fisher Guide
IRM - Interim Remedial Measure
IWT – Industial Wastewater Treatment
MLC – Motors Liquidation Company
NCP - National Oil and Hazardous Substances Pollution Contingency Plan
NOAEL - No Observed Adverse Effect Level
NPDES – National Pollutant Discharge Elimination System
NYCRR – New York Codes, Rules, and Regulations
NYS – New York State
NYSDEC - New York State Department of Environmental Conservation
OSHA – Occupational Safety and Health Administration
OU-1 – Operable Unit 1; Former IFG Facility
OU-2 – Operable Unit 2; Off-site media
PAH - Polycyclic Aromatic Hydrocarbon
PCBs - Polychlorinated Biphenyls
POTW – Publically Owned Treatment Works
PRGs – Preliminary Remedial Goals
RAOs – Remedial Action Objectives
RACER – Revitalizing Auto Communities Environmental Response
Rfd - Reference Dose
RI/FS – Remedial Investigation/Feasibiltiy Study
RME - Reasonable Maximum Exposure
RSD – Risk-based Dose
SCOs – Soil Cleanup Objectives
SCGs – Standards, Criteria and Guidance
Sf – Square Feet
SPDES – State Pollutant Discharge Elimination System
SVOC - Semivolatile Organic Compound
TAGM – Technical Administrative Guidance Memorandum
TOC – Total organic carbon
ULSD - Ultra Low Sulfur Diesel
USEPA - United States Environmental Protection Agency

USC – United States Code
USGS – United States Geological Society
USTs – Underground Storage Tanks
VOC – Volatile Organic Compound

EXECUTIVE SUMMARY

This report is the Revised Feasibility Study (FS) Report for the off-site media (exclusive of groundwater) at the Revitalizing Auto Communities Environmental Response (RACER) Trust (property owner) Former Inland Fisher Guide (IFG) and Deferred Media Site located in the Towns of Salina and DeWitt, New York. The New York State Department of Environmental Conservation (NYSDEC) and the former site owner (General Motors (GM)) entered into an Administrative Order on Consent (Index # D-7-0001-97-06; Order), which became effective September 25, 1997. The Order requires RACER to conduct a Remedial Investigation/Feasibility Study (RI/FS).

A significant amount of data related to site environmental conditions has been collected over the past 37 years under various regulatory programs and as part of other activities. A *Preliminary RI/FS Report* was developed by O'Brien & Gere on behalf of GM for both the Former IFG Facility and Ley Creek Deferred Media and submitted to NYSDEC, consistent with the requirements of the Order, on October 24, 1997 (O'Brien & Gere 1997). In response to NYSDEC's comments regarding additional data needs, a Supplemental RI was conducted in 1998 and 1999 and documented in the *Supplemental RI (SRI) Report* submitted to NYSDEC in April 2000 (O'Brien & Gere 2000a) for both the Former IFG Facility and Ley Creek Deferred Media. As a result of NYSDEC comments on the April 2000 *SRI Report* and subsequently identified data needs, additional data collection activities were conducted as late as 2009. Following the bankruptcy of GM, continued RI/FS activities under Motors Liquidation Company (MLC) and then RACER have been implemented for two operable units - the Former IFG Facility (OU-1) and the Ley Creek Deferred Media (off-site media) (OU-2). A *Revised RI/FS Report* for the facility was provided to NYSDEC on October 31, 2010 (O'Brien & Gere 2010) and a *Revised RI Report* for off-site media was provided to NYSDEC on March 30, 2012 (O'Brien & Gere 2012). Following receipt of NYSDEC comments on the March 2012 report, the *Revised Off-Site RI Report* was provided to NYSDEC on March 12, 2013 (O'Brien & Gere 2013a). The *Revised Off-site RI Report* was approved by NYSDEC on April 11, 2013. As a result of NYSDEC comments on these reports, off-site groundwater is being addressed together with on-site media.

This report documents the feasibility study completed for off-site media. Off-site media addressed in this document consist of:

- Ley Creek Deferred Media exclusive of groundwater (sediment, surface water and biota in Ley Creek between Townline Road and Route 11)
- Soil in the Factory Avenue Area located directly off-site between the Former IFG Facility northern property boundary and Factory Avenue
- Soil in the Factory Avenue at LeMoyne Avenue Area located along the shoulder of Factory Avenue between LeMoyne Avenue and Route 11
- Soil in the National Grid Wetland located on the northern portion of the National Grid property directly west of the Former IFG Facility property
- Soil in the Ley Creek Floodplain Area, defined as the portion of the Federal Emergency Management Agency (FEMA) 100-year (yr) floodplain proximate to Ley Creek between Townline Road and Route 11, exclusive of the Ley Creek PCB Dredgings Site.

As documented in the *Revised Off-site RI Report* (O'Brien & Gere 2013a), based on the evaluation of results from samples collected from off-site media from the Ley Creek Floodplain Area, National Grid Wetland Area and Factory Avenue Areas, PCBs, VOCs, SVOCs and site-related metals are present at concentrations above corresponding Part 375 Unrestricted Soil Cleanup Objectives (SCOs) (NYSDEC 2006). PCBs, SVOCs and site-related metals were present at concentrations above the corresponding Part 375 SCOs for the Protection of Ecological Receptors in these areas as well. In addition, sediment samples collected in Ley Creek between Townline Road and Route 11 exhibited concentrations of PCBs, SVOCs and site-related metals above corresponding NYS sediment criteria. PCBs in surface water were detected at estimated concentrations above surface water standards, once in Ley Creek and once in an intermittently wet drainage ditch.

Also as documented in the *Revised Off-site RI Report* in Appendices D and E (O'Brien & Gere 2013b and 2013c), risks to human health and ecological receptors were evaluated for off-site media. Specifically, non-cancer hazards were identified for human receptors exposed to highly chlorinated PCBs in soil, sediment and biota in off-site media. Potentially impacted ecological communities were identified for the Ley Creek, Ley Creek Floodplain and National Grid wetland areas. The site-related compounds PCBs and PAHs were identified as risk drivers for aquatic and avian receptors. Estimated human health risks associated with exposures to surface water were not drivers of unacceptable risks estimated for exposures to off-site media. Unacceptable risks associated with human and ecological receptor exposures to surface water were not identified for off-site areas.

To address the affected media, the following remedial action objectives (RAOs) were identified for the soil and sediment:

RAOs for Soil

RAOs for Public Health Protection

- Address, to the extent practicable, potentially unacceptable human health risks associated with exposure to soils in portions of the Ley Creek floodplain area, National Grid wetland and access road areas, and Factory Avenue areas. Specifically, prevent to the extent practicable:
  - Ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

- Address, to the extent practicable, migration of soils in the Ley Creek floodplain area, National Grid wetland area, and Factory Avenue area that could potentially result in contamination of surface water and/or sediment. Specifically, prevent to the extent practicable:
  - Migration of contaminants that would result in surface water and/or sediment contamination at levels that are associated with unacceptable ecological risk.
- Address, to the extent practicable, potentially unacceptable ecological risks associated with exposure to soil in portions of the Ley Creek floodplain area and in the National Grid wetland area. Specifically, prevent to the extent practicable:
  - Impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.
  - Exposure of ecological resources to soil exhibiting concentrations that are above acceptable ecological risk.

RAOs for Sediment

RAOs for Public Health Protection

- Address, to the extent practicable, potentially unacceptable human health risks associated with exposure to Ley Creek sediment. Specifically, prevent to the extent practicable:
  - Direct contact with contaminated sediments.
  - Sediment contamination which may result in fish advisories.

RAOs for Environmental Protection

- Address, to the extent practicable, migration of soils in the Ley Creek floodplain area, National Grid wetland area, and Factory Avenue area that could potentially result in contamination of surface water and/or sediment. Specifically, prevent to the extent practicable:
  - Migration of contaminants that would result in surface water or sediment contamination at levels that area associated with unacceptable ecological risk.
- Address, to the extent practicable, potentially unacceptable ecological risks associated with exposure to Ley Creek sediment. Specifically, prevent to the extent practicable:
  - Impacts to biota from ingestion/direct contact with sediments causing toxicity or impacts from bioaccumulation through the aquatic food chain.

To identify the extent of media to be addressed in the FS, Preliminary Remedial Goals (PRGs) were identified based on site-specific risk-based calculations, applicable or relevant Standards, Criteria, and Guidance (SCG) values, reasonably anticipated land use, background concentrations, and other regulatory references. To address these RAOs and incorporate these PRGs, the following three remedial alternatives were developed and evaluated:

Alternative 1 – No Further Action

Alternative 1 is the no further action alternative. The no further action alternative is required by the NCP (40 CFR Part 300.430) and NYSDEC DER-10 Section 4.4(b)3 (NYSDEC, 2010a) and serves as a benchmark for the evaluation of action alternatives.

Alternative 2 – Reasonably Anticipated Future Use

Alternative 2 includes limited excavation and disposal of affected off-site soil and sediment, a vegetated/asphalt/gravel cover, a soil management plan and five-year reviews. The volumes of soil and sediment to be excavated reflect the current and reasonably anticipated future use for each area and acceptable risks to ecological receptors. Under this alternative, two scenarios (2A and 2B) were evaluated. The two scenarios address two different volumes of soil and sediment using differing PRGs which reflect different approaches to address risks posed by these media. Under Alternative 2A, approximately 11,900 CY of soil and 7,200 CY of sediment, respectively, are removed. Under Alternative 2B, approximately 15,100 CY of soil and 9,600 CY of sediment, respectively, are removed.

Alternative 3- Unrestricted Future Use

Alternative 3 includes excavation and disposal of affected off-site soil and sediment, a vegetated/asphalt/gravel cover, a soil management plan and five-year reviews. The volumes of soil and sediment to be excavated reflect the unrestricted use of each affected area. Under Alternative 3, approximately 31,500 CY of soil and 13,200 CY of sediment, respectively, are removed.

Based on the detailed analysis of alternatives, Alternative 2A was recommended as the remedy for the off-site media. RAOs are addressed in Alternative 2A as follows:

- ***Soil RAOs for Public Health Protection.*** Alternative 2A addresses potentially unacceptable human health risks associated with exposure to soils in portions of the Ley Creek floodplain area, National Grid wetland and access road areas, and Factory Avenue areas through excavation, restoration of excavated surfaces, institutional controls and a soil management plan. Removal of soil and restoration of surfaces prevents ingestion/direct contact with soil contamination. Volumes of soil to be removed in off-site areas have been based on concentrations above NYSDEC-promulgated soil cleanup objectives for the protection of human receptors taking into account reasonably anticipated future use of each area. The implementation of institutional controls and a soil management plan (that would describe requirements to be met in the event that impacted soil left in place is disturbed) provide for protection relative to human health risks associated with exposure to impacted soil and therefore provide added protection to human health.
- ***Soil RAOs for Environmental Protection.*** Alternative 2A addresses potential migration of soils in the Ley Creek floodplain area, National Grid wetland area, and Factory Avenue area that could potentially result in

contamination of surface water and/or sediment, through excavation, restoration of excavated surfaces, and a soil management plan. Removal of soil and restoration of surfaces prevents migration of contaminants and eliminates the pathway that could result in unacceptable ecological risk.

In addition, Alternative 2A addresses potentially unacceptable ecological risks associated with exposure to soil in portions of the Ley Creek floodplain area and in the National Grid wetland area. Removal of soil and restoration of surfaces would prevent ingestion/direct contact with soil. Volumes of soil to be removed in the National Grid wetland and portions of the Ley Creek floodplain have been based on concentrations that are greater than the NYSDEC-promulgated soil cleanup objectives for the protection of ecological resources. The implementation of a soil management plan (that would describe requirements to be met in the event that impacted soil left in place is disturbed) provide for protection relative to ecological risks associated with disturbing affected soil.

- ***Sediment RAOs for Public Health Protection.*** Alternative 2A addresses potentially unacceptable human health risks associated with exposure to Ley Creek sediment through sediment removal. Removal of sediment precludes direct contact with this affected media and reduces the availability of constituents in sediment that might bioaccumulate in fish and result in fish advisories. Volumes of sediment to be removed from Ley Creek have been based on site-specific risk-based calculations reflective of a conservative estimate that are below levels acceptable for the protection of human receptors taking into account reasonably anticipated future/ongoing use of Ley Creek.
- ***Sediment RAOs for Environmental Protection.*** Alternative 2A addresses potential migration of soils in the Ley Creek floodplain area, National Grid wetland area, and Factory Avenue area that could potentially result in contamination of surface water and/or sediment, through sediment removal. Removal of sediment and restoration of surfaces is expected to prevent migration of contaminants.

  In addition, Alternative 2A, addresses potentially unacceptable ecological risks associated with exposure to Ley Creek sediment, through removal of sediment. Removal of sediment eliminates the pathway that could result in unacceptable ecological risk. Volumes of sediment to be removed from Ley Creek have been based on site-specific risk-based concentrations reflective of a conservative estimate.

1. INTRODUCTION

This report is the Revised Feasibility Study (FS) Report for the off-site media (exclusive of groundwater) at the Revitalizing Auto Communities Environmental Response (RACER) Trust (property owner) Former Inland Fisher Guide (IFG) and Deferred Media Site located in the Towns of Salina and DeWitt, New York (Figure 1-1). The New York State Department of Environmental Conservation (NYSDEC) and the former site owner (General Motors (GM)) entered into an Administrative Order on Consent (Index # D-7-0001-97-06; Order), which became effective September 25, 1997. The Order required RACER to conduct a Remedial Investigation/Feasibility Study (RI/FS). This report documents the Feasibility Study (FS) for the off-site media at the RACER Trust Former IFG and Deferred Media Site.

The Former IFG Facility and Deferred Media Site is classified by NYSDEC as a Class 2 Site in the New York State (NYS) Registry of Inactive Hazardous Waste Disposal Sites (Registry; Site No. 7-34-057). The Class 2 Site[1] encompasses the facility property and deferred media. Deferred media refers to groundwater under Factory Avenue and the nearby Ley Creek Polychlorinated Biphenyl (PCB) Dredgings Site and media in Ley Creek between Townline Road and Route 11. Over the past 37 years, a significant amount of data related to site environmental conditions has been collected under various regulatory programs and as part of other activities. A *Preliminary RI/FS Report* was developed by O'Brien & Gere on behalf of GM for both the Former IFG Facility and Ley Creek Deferred Media and submitted to NYSDEC, consistent with the requirements of the Order, on October 24, 1997 (O'Brien & Gere 1997). In response to NYSDEC's comments regarding additional data needs, a Supplemental RI was conducted in 1998 and 1999 and documented in the *Supplemental RI (SRI) Report* submitted to NYSDEC in April 2000 (O'Brien & Gere 2000a) for both the Former IFG Facility and Ley Creek Deferred Media. As a result of NYSDEC comments on the April 2000 *SRI Report* and subsequently identified data needs, additional data collection activities were conducted as recently as 2009. Following the bankruptcy of GM in 2009, continued RI/FS activities under Motors Liquidation Company (MLC) and then RACER have been implemented for two operable units; the Former IFG Facility (OU-1) and the off-site media (OU-2). A *Revised RI/FS Report* for OU-1 was provided to NYSDEC on October 31, 2010 (O'Brien & Gere 2010) and a *Revised RI Report* for OU-2 was provided to NYSDEC on March 30, 2012 (O'Brien & Gere 2012). Following receipt of NYSDEC comments on the March 2012 report, the *Revised Off-site RI Report* for OU-2 was provided to NYSDEC on March 12, 2013 (O'Brien & Gere 2013a). As a result of comments on these reports, off-site groundwater is being addressed together with on-site media.

This report documents the development of three remedial alternatives to address environmental conditions associated with off-site media. These media consist of Ley Creek Deferred Media (sediment, surface water and biota in Ley Creek between Townline Road and Route 11), soil directly off-site between the Former IFG Facility northern property boundary and Factory Avenue, soil along the shoulder of Factory Avenue between Route 11 and LeMoyne Avenue, the wetland located on the northern portion of the property directly west of the facility property, and portions of the Federal Emergency Management Agency (FEMA) 100-yr floodplain of Ley Creek. As noted above, off-site groundwater is being addressed with on-site groundwater in the RI/FS for OU-1 This document was developed consistent with NYSDEC Division of Environmental Remediation's *Technical Guidance for Site Investigation and Remediation (DER-10)* (NYSDEC 2010a) and United States Environmental Protection Agency's (USEPA's) *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* (USEPA 1988). As such, this document describes potential Standards, Criteria, and Guidance (SCGs), site use and selection of Soil Cleanup Objectives (SCOs), Remedial Action Objectives (RAOs), media-specific General Response Actions (GRAs), and identifies specific remedial technologies that, following screening, were used to develop the range of remedial alternatives evaluated in this FS. In addition, consistent with NYSDEC DER's *Green Remediation Program Policy* (NYSDEC 2010b) (DER-31), green remediation concepts were also considered during the evaluation of alternatives in this FS.

[1] One of five classifications for hazardous waste sites as specified in the New York State Environmental Conservation Law. Class 2 Site: Significant threat to the public health or environment – action required.

This report has been organized as follows:

- Section 1 presents an introduction and description of the background information on the site.
- Section 2 presents a description of the off-site areas subject to this report and provides a brief history of Former IFG Facility operations that may have affected off-site areas.
- Section 3 provides a summary of the RI findings including risk assessment findings.
- Section 4 documents the development of RAOs and identification of Preliminary Remediation Goals (PRGs).
- Section 5 presents the areas and volumes of affected media addressed in the FS.
- Section 6 presents GRAs and the identification and screening of technologies and process options.
- Sections 7 and 8 document the assembly of alternatives and the detailed analysis of the alternatives, respectively.
- Section 9 presents the FS conclusions and the recommended alternative.

2. SITE DESCRIPTION AND HISTORY

This report focuses on the development and evaluation of potential remedial alternatives for off-site media (exclusive of groundwater) for the Former IFG Facility and Deferred Media Site. As documented in the *Revised Off-site RI Report* (O'Brien & Gere 2013a), constituents of concern identified for the Former IFG Facility were detected in media in Ley Creek between Townline Road and Route 11. In addition, PCBs, which are constituents of concern, were detected in portions of the FEMA 100-yr floodplain of Ley Creek between Townline Road and Route 11, and in the wetland located on the northern portion of the National Grid property directly adjacent to and west of the Former IFG Facility property. These off-site areas are described below. In addition, to put the environmental conditions of off-site media in the context of facility operations, a brief description and history of the facility is also provided below. The location of the Former IFG Facility is depicted on Figure 1-1. The off-site areas are depicted on Figure 2-1. General facility features are depicted on Figure 2-2.

2.1 LEY CREEK

Ley Creek is located approximately 150 ft north of the Former IFG Facility and flows west to discharge into Onondaga Lake, approximately 2.5 miles downstream from the facility (Figure 2-1). The approximately 9,200 linear foot reach of Ley Creek between Townline Road and Route 11 is designated as part of the Ley Creek Deferred Media. As described in the March 1996 *Ley Creek PCB Dredgings Site Feasibility Study Report* (O'Brien & Gere 1996), Ley Creek drains an area of approximately 30 square miles. With the exception of the northeast portion, the Ley Creek drainage basin can generally be described as a highly urbanized area. Portions of the city of Syracuse, and the towns of Cicero, Clay, DeWitt, Manlius, and Salina are located in the Ley Creek drainage basin. Numerous industries and businesses are also located in the Ley Creek drainage basin. Also located in the Ley Creek watershed are 14 miles of highway, eight interchanges, a service facility for the New York State Thruway, Syracuse International Airport, and the Air National Guard's Hancock Field. Streets, shopping areas, parking lots, and buildings cover other areas of this watershed. The northeast portion of the watershed is relatively undeveloped. The large areas of impermeable surfaces in the Ley Creek watershed cause rapid runoff during storms, resulting in rapid water level changes in the creek (O'Brien & Gere 1996).

Industrial effluent streams and urban stormwater runoff discharge into Ley Creek. Eight discharges into Ley Creek have been or are permitted which originate(d) from Sunnyside Nursing Home, Oberdorfer Foundries, and Roth Brothers Smelting Corporation, all upstream of the former IFG Facility; Ley Creek Pump Station, Lyncourt Sewer District, and Syracuse China Corporation, downstream of the former IFG Facility; and the former IFG Facility. Townline Road represents the upstream boundary of the site in Ley Creek. Potential upstream sources of PCBs to Ley Creek include Roth Brothers Smelting Corporation, whose NYSDEC State Pollutant Discharge Elimination System (SPDES) permit includes PCB discharge limits (NYSDEC 1989); Carrier Corporation, which discharges to Ley Creek's upstream tributary, Sanders Creek, and has been documented to use PCBs (NYPIRG 1983); and Hancock Field, where PCB-contaminated soils were stored uncontained and used for fill material in a hole approximately 30 ft from Ley Creek (Post Standard 1992).

Ley Creek has been restructured and dredged to aid in stormwater drainage. Water depths in Ley Creek range from less than 3 inches to approximately 4 feet, depending on the time of year and quantity of rainfall. Flow rates also vary greatly, ranging from less than 1 cubic foot per second (cfs) to 1400 cfs (USGS 2011). Ley Creek varies in width from less than 10 ft to more than 30 ft. The majority of the portion of the stream within the study area is not shaded by a tree canopy as the majority of the shoreline vegetation is dominated by common reed (*Phragmites australis*). The substrate is predominantly gravel and fine inorganic material with little to no submerged or emergent aquatic vegetation. During the 1998 sampling event, sediment probing was performed and indicated that the main channel of Ley Creek is primarily hard substrate with no sediment depositional areas. Depositional areas were limited to the edges of the channel (O'Brien & Gere 2000a).

As described in the May 1996 *Ley Creek PCB Dredgings Site Feasibility Study Report*, dredged material generated during a channel improvement program conducted by the Onondaga County Department of Drainage and Sanitation (OCDDS) lined the south bank of Ley Creek at the Ley Creek PCB Dredgings Site (O'Brien & Gere

1996). Remediation of the areas receiving the dredged material was documented in the September 2001 *Engineering Report for the Ley Creek PCB Dredgings Site* (O'Brien & Gere 2001a).

2.2 LEY CREEK FLOODPLAIN

In response to NYSDEC's 2002 comments (Benjamin 2002) on the April 2000 *SRI Report*, soil samples were collected in portions of the FEMA 100-year floodplain along both sides of Ley Creek downstream of the Ley Creek PCB Dredgings Site, from approximately the Route 11 bridge to the Town of Salina Highway Department Garage. This area is characterized as mixed commercial and residential with some stretches of undeveloped land between the northern bank of Ley Creek and the New York State Thruway.

2.3 NATIONAL GRID WETLAND

The remedial investigation included investigation of soil within the wetland located in the northern portion of the National Grid property, an approximately 22-acre parcel directly to the west of the Former IFG Facility property. This wetland is an approximately 10-acre portion of New York State-regulated wetland SYE-6. A drainage ditch is present along the northern edge of the property along Factory Avenue. Upland drainage flows into this wetland from the south and is discharged north to the ditch and through culverts under Factory Avenue towards Ley Creek. Emergent vegetation and deciduous trees and shrubs comprise the dominant vegetation of SYE-6 (Rhodes and Alexander 1980), and can be observed in the National Grid wetland. This property is currently zoned for industrial use.

South of the wetland is the Teall Avenue Electrical Substation, an approximately 3-acre fenced-in active substation that dates back to the 1920s. Surface drainage from the substation is to the south, east and north. Historical and existing catch basins appear to have discharged to the southeast and northeast of the substation area (Haley & Aldrich [H&A] 1999). A gravel access road and an underground electrical duct bank are present between Factory Avenue and the substation and run parallel and proximate to the western edge of the Former IFG Facility property. A closed landfill is located on the Syracuse China property located to the west of the National Grid property.

2.4 FACTORY AVENUE AREA

2.4.1 Factory Avenue Area North of Former IFG Facility

The Factory Avenue Area north of the Former IFG Facility is a narrow roadway shoulder and stormwater drainage ditch located between the northern Former IFG Facility property boundary and Factory Avenue. The area extends from the northwest corner of the Former GM-IFG property to the west and Townline Road to the east. This property is characterized by maintained grass and is a corridor for overhead and underground utilities. Specifically, a natural gas pipeline and an Onondaga County sanitary sewer are present underground along this corridor. The Ley Creek PCB Dredgings Site is located across Factory Avenue to the north of this area. This area is currently zoned for industrial use.

2.4.2 Factory Avenue Area in Vicinity of LeMoyne Avenue

The Factory Avenue Area in the vicinity of LeMoyne Avenue is a narrow roadway shoulder located north of Factory Avenue between LeMoyne Avenue and Route 11. This property is characterized by gravel and sparse vegetation. This area is currently zoned for industrial and commercial use.

2.5 FORMER IFG FACILITY

The Former IFG Facility comprises approximately 65 acres of property located at 1 General Motors Drive in the Towns of Salina and Dewitt, Onondaga County, New York. The Former IFG Facility was constructed in 1952 by the Brown-Lipe-Chapin Division of GM on undeveloped land as deeded to GM from Gilbert Mautz, Earl Henry Barton and Bessie Galster Hoffman on April 5, 1951. Various paved parking lots and areas of mowed lawn are present on the facility property. These areas surround the main manufacturing building and related outbuildings. The facility property is bounded to the south by Conrail railroad tracks, a wood pallet recycling facility and an automobile dealership, to the east and northeast by Military Circle (formerly GM Circle) and

Townline Road, to the west by an active National Grid (formerly Niagara Mohawk Power Corporation) electrical substation and to the north by Factory Avenue and the Ley Creek PCB Dredgings site. The facility has been redeveloped for tenant use.

The Former IFG Facility property is located in an area zoned for industrial use. The area surrounding the facility can generally be characterized as highly urbanized. The area is also characterized by a high degree of industrial activity, as evidenced by the presence of current and former manufacturing facilities such as Carrier Corporation, Syracuse China Corporation, New Process Gear and Bristol-Myers Squibb Company. Numerous small industrial businesses are present along Factory Avenue and in nearby areas of the City of Syracuse. Syracuse International Airport-Hancock Field is located approximately 1½ miles north of the facility.

2.5.1 Former IFG Facility Manufacturing Operations

Historically, the Former IFG Facility was used for the manufacture of metal automotive trim components such as bumpers, grills, wheel disks and hubcaps. More recently, the facility was used for the manufacture of interior and exterior plastic trim components such as bumpers, grills and door panels. The facility began operations in 1952 as the Brown-Lipe-Chapin Division of GM. Operations conducted at the facility included metal die casting; nickel, chromium and copper cyanide electroplating; stamping; polishing; buffing; painting and machining.

In 1961 Brown-Lipe-Chapin merged with another GM division, Ternstedt, and subsequently became part of GM's Fisher Body Division in 1968. During the early 1960s injection molding operations were added to the existing metal operations. Metal finishing and die casting were subsequently reduced and replaced by injection molding by the early 1970s. Pydraul hydraulic oil manufactured by Monsanto was used in die cast machines and injection molding operations until 1968 at the facility. Molvac "A" oil, manufactured by Pennwalt Corporation and including components Aroclor 1254 and Santovac II supplied by Monsanto, were used in the diffusion pumps of three vacuum metallizers until 1969. The facility operated as the Fisher Body Division until 1984, when it became the Fisher Guide Division until 1989. The facility then operated as the Inland Fisher Guide Division of GM from 1989 until the facility ceased manufacturing operations in December 1993.

In 1992, prior to ceasing of manufacturing operations, the facility was operating 127 injection molding machines. After the facility ceased manufacturing operations in 1993, the facility was reassigned to GM's North American Operations Property Management Group, which was later redesignated the Worldwide Facilities Group. Details regarding historical facility operations are provided in the October 2010 *Revised RI/FS Report* for the facility (O'Brien & Gere 2010).

2.5.2 Former IFG Facility Description

The following paragraphs describe areas at the Former IFG Facility that may have been related to releases to off-site media.

Industrial Wastewater Treatment (IWT) Plant. The IWT plant was an approximately 12,600 sf building which contained a main level and a basement. The IWT plant and related tankage and process equipment were located south of the former manufacturing building. The IWT plant was originally constructed circa 1965 to treat plating-related wastewater from the facility processes. The unit operations at that time were focused towards the plating operations and included cyanide and metals treatment. As GM's manufacturing operations changed over the facility's operational history, the IWT plant was required to treat wastewater generated more from painting and injection molding operations rather than plating-related wastes. Prior to the mid-1980s, IWT effluent discharged to a surface impoundment located north of the former manufacturing building. During the mid-1980s, the IWT plant was modernized to meet discharge standards established by the Onondaga County Publicly Owned Treatment Works (POTW). In October 1997, the IWT plant discharge was redirected to the sewers leading to Outfall 003, in accordance with a September 25, 1997 SPDES permit. Currently, the IWT plant does not receive water streams. In June of 2002, the IWT clarifiers and effluent holding tanks were decommissioned and removed.

Closed surface impoundments. During its operational history, the facility operated two surface impoundments on the northern portion of the facility property. Impoundment locations are indicated on Figure 2-2.

Impoundment #1 was constructed in 1963 and received treated effluent from the IWT plant and stormwater runoff from paved areas. Prior to the early 1980s, an overflow pipe from the IWT sump connected to the storm sewer leading to Impoundment #1. In the early 1980s, the overflow pipe was plugged and a containment area was constructed to contain IWT sump overflow, which was pumped out by tanker following overflow events. Impoundment #2 was constructed in 1979 and was designed to collect stormwater runoff and oil which may have been present in the runoff. The two surface impoundments were closed in 1989 under a RCRA closure and post-closure monitoring program. Prior to closure, sediments in the former impoundments were sampled in 1986 and in 1988. The 1986 sample results indicated that PCBs were present in sediments at concentrations ranging from 200 to 300 milligram per kilogram (mg/kg) (Impoundment #1) and up to 17 mg/kg (Impoundment #2). Several metals including chromium, iron, mercury, and zinc were also detected in these sediments. In 1988 sample results indicated that PCBs were present in sediments at concentrations ranging from 35 to 6,400 mg/kg (Weston 1988 and 1989). The closure process consisted of the removal and disposal of impacted sediment from the two impoundments. Impoundment #2 was backfilled with clean soil, regraded, and covered with a soil layer and vegetative seeding. Impoundment #1 was backfilled with clean soil and with PCB-containing soil from the Meadowbrook/Hookway site in Syracuse, New York, regraded, and covered with 1 ft of clay, 1.5 to 2 ft of topsoil, and vegetative seeding. A post-closure quarterly groundwater monitoring program was conducted until September 25, 1997, when the Order became effective. The Order required quarterly monitoring of fifteen wells and annual monitoring of four wells. In February 2000, NYSDEC and GM agreed, based on analytical results, to modify the monitoring program to annually for eight wells (Hartnett 2000 and Benjamin 2000).

Process/Storm/Sanitary Sewer Systems. The process sewer system is located beneath the floor of the former manufacturing building. The sewers are constructed of vitrified clay and range in diameter from 4 to 18 inches. The process sewer system formerly served the paint room and, prior to that, the plating operations. Operations which contributed flow to the process sewer system are inactive. Historically, the process sewers discharged to the IWT plant. The sanitary sewer system at the facility discharges to the Onondaga County POTW.

Historically, the storm sewer system at the facility comprised piping associated with surface water discharge outfalls designated 003 and 004, as depicted on Figure 2-3. The storm sewer system drained precipitation runoff from the facility ground and roof, and received IWT plant treated effluent when the IWT was operating. Both Outfalls 003 and 004 discharged to Ley Creek under the terms of the September 25, 1997 SPDES permit.

A portion of the historical stormwater collection system is located beneath the former manufacturing building. This part of the system was formerly connected to downspouts from the building roof and conveyed stormwater from the roof through the facility property and eventually to Ley Creek. In the mid-1980s, the underground system beneath the facility floor was abandoned, and a new overhead system was constructed. The new overhead system ties into the existing main storm sewer system outdoors. Portions of the main storm sewer outdoor piping were rehabilitated (either by sliplining or cured in place liner) or replaced altogether during this period of time as well. The storm sewers beneath the building were plugged, and oil/water collection sumps were installed to intercept water and oil within the lines. Storm sewer modifications are discussed in detail in the October 2010 *Revised RI/FS Report* for the facility.

Because oil continued to be observed in some of the oil/water collection sumps, a Storm Sewer Televising IRM that included cleaning and televising of the sumps and accessible portions of the piping associated with these sumps was implemented. Based on the results of the Storm Sewer Televising IRM, a work plan was submitted for rehabilitation efforts which were implemented as the Storm Sewer Rehabilitation IRM. The Storm Sewer Rehabilitation IRM consisted of rehabilitation of portions of the storm sewer and selected manholes to mitigate infiltration of groundwater, rerouting of the roof drain that directs water collected from the southeastern portion of the roof to manhole B9; and improvements to the western courtyard sewer system. The stormwater IRMs are described in detail in the October 2010 *Revised RI/FS Report* for the facility (O'Brien & Gere 2010).

End-of-pipe treatment was implemented as the SPDES Treatment System IRM, in accordance with the NYSDEC-approved design (O'Brien & Gere 2002a). The SPDES Treatment System IRM consisted of the construction of a

retention basin, connection of facility storm sewers to the retention basin eliminating Outfall 004, and treatment of stormwater prior to discharge at Outfall 003. The treatment system was constructed and became operational in April 2003.

Former drainage swale. Historical aerial photographs of the Former IFG Facility from 1957 to 1972 indicated the presence of a drainage swale running from GM's property to Ley Creek. Topographic information from 1973 indicated the presence of a branch of the former drainage swale leading from the eastern edge of the former Impoundment #1. Over the years, this drainage feature was filled in. Subsurface samples collected from the historical drainage feature exhibited concentrations of PCBs and were characterized as dark stained material. The estimated historical location of the former drainage swale is depicted on Figure 2-2. Three soil removals were conducted to address the former drainage swale material:

- Areas associated with the former drainage swale North of Factory Avenue at the Ley Creek PCB Dredgings Site found to be visually impacted by the presence of PCBs were remediated in late December 1999 in accordance with the December 14, 1999 NYSDEC-approved work as part of the PCB Dredging Site Remedial Construction (O'Brien & Gere 2001a).
- In conjunction with installation of the Ley Creek Relief Interceptor Sewer, PCB laden soil was removed as an IRM from along the alignment of the sewer along Factory Avenue, directly north of the facility property. This removal was conducted in 1991 in accordance with a NYSDEC-approved work plan as described in the October 2010 *Revised RI/FS Report* for the facility (O'Brien & Gere 2010).
- Areas associated with the former drainage swale on the Former IFG Facility property were addressed by GM under the Former Drainage Swale IRM at the Former IFG Facility. This removal was completed in 2004 in accordance with a NYSDEC-approved work plan, as described in the October 2010 *Revised RI/F Report* for the facility (O'Brien & Gere 2010).

2.5.3 History of Former IFG Facility Regulated Discharges

Facility stormwater discharges have been regulated under a SPDES permit. Facility wastewaters were also discharged to the POTW. These programs are discussed below.

SPDES/Clean Water Act (CWA) Program. The Former IFG Facility has been the subject of National Pollutant Discharge Elimination System (NPDES) or SPDES permits and consent orders since 1972, when the first NPDES permit was issued. In 1972, two outfalls were permitted: Outfall 001, which discharged drainage from the eastern portion of the facility, and Outfall 002, which discharged IWT plant treated effluent and drainage from the western portion of the facility. Outfalls 001 and 002 combined and discharged to Ley Creek. Later SPDES permit renewals established Outfall 003 to monitor the combined discharge from Outfalls 001 and 002, and Outfall 004 to monitor storm drainage from the facility parking lots, as well as areas upgradient and off-site of the facility. In 1986, IWT plant effluent was removed from the SPDES discharge and directed to the Onondaga County POTW. IWT plant effluent was returned to Outfall 003 under the SPDES permit, which became effective September 25, 1997, and to which the Order is appended. Since then, Outfall 004 has been removed, and Outfall 04I no longer requires sampling. The current SPDES permit contains discharge limitations and monitoring requirements for Outfall 003. Historical and current outfalls are depicted on Figure 2-3.

In 1981, GM entered into a Consent Order with NYSDEC (No. 7-0383) for investigation of the source of PCB-contaminated oil being discharged to a holding pond prior to discharge to Ley Creek. This investigation detected leakage from the underground hydraulic oil sumps beneath the former manufacturing building. It was also identified that PCB-contaminated oil was infiltrating into the storm sewer system beneath the former manufacturing building and subsequently discharging with the storm sewer discharge. In accordance with a revised 1983 Consent Order with NYSDEC (No. 7-0383), the underground hydraulic oil sumps were abandoned, and the underground hydraulic oil tanks were removed. Additionally, the portion of the storm sewer system beneath the former manufacturing building was abandoned, and eight oil/water collection sumps were installed in the vicinity of the plugged storm sewer lines to collect oil and water accumulating in the abandoned lines. Oil/water collection sumps were pumped to the IWT plant for treatment.

In accordance with a 1982 SPDES permit renewal, GM conducted a hydrogeological investigation in the vicinity of the former coal pile area. Additionally, groundwater in the vicinity of the coal pile and powerhouse was monitored monthly and reported quarterly under the SPDES permit until September 25, 1997, when the current SPDES permit became effective.

GM entered into a 1985 Consent Order (Case #7-0585) with NYSDEC to address continuing issues related to:

- Suspected continued infiltration of PCB-containing hydraulic oil into the sewer systems subsequent to installation and operation of the oil/water collection sumps
- Wastewater treatment effectiveness
- Overall impact, if any, of facility operations on subsurface soil and groundwater on the property.

In compliance with this Consent Order, GM conducted a series of engineering studies and modifications in subsequent years. The following efforts were performed to reduce discharges to Ley Creek:

- Additional replacement of storm sewer piping underneath the Manufacturing Building with overhead piping and plugging of inactive storm sewers
- Sliplining or Insituform® lining of portions of the storm sewer system
- Two-phased hydrogeological investigation at the facility
- Stormwater outfall assessment
- Modification of the IWT plant and redirection of treated process wastewater discharge to the Onondaga County POTW
- Closure of Impoundments #1 and #2
- Connection of the storm sewer lines which formerly discharged to the surface impoundments into one line discharging through Outfall 003 to Ley Creek
- Application for a SPDES permit amendment for stormwater discharge through Outfalls 003 and 004.

In 1986, GM entered into a SPDES Consent Order with NYSDEC to investigate and remediate a release of thinner from three underground storage tanks (USTs) and associated piping located on the west side of the facility. The tanks formerly stored thinners (xylene, toluene and ethylbenzene) associated with the facility's painting operations. The tanks were removed in 1985, and impacted soil and groundwater were identified. An investigation was performed and a remedial action plan was developed to remediate the thinner plume (EDI Engineering & Science [EDI] 1986). The remedial program consists of the operation of two groundwater recovery trenches and sampling and analysis of groundwater monitoring wells. This recovery system was installed in late 1986 and has been operational since. Periodic monitoring well sampling to monitor the system continues to be conducted.

Onondaga County Industrial Wastewater Program. In the mid-1980s, GM elected to discontinue its process water discharge to Ley Creek and discharge this water instead to the Onondaga County POTW under the terms of an industrial wastewater discharge permit. Accordingly, Onondaga County POTW issued GM Industrial Wastewater Discharge Permit No. 97, and GM began discharging in late 1986. The terms of the permit required a self-monitoring program, which consisted of monthly sampling and analysis of several components of the discharge and quarterly reporting to Onondaga County. IWT plant effluent was redirected from discharge to the POTW to discharge to Ley Creek via Outfall 003 under the current SPDES permit, effective September 25, 1997.

2.6 FORMER IFG FACILITY REMEDIAL ACTIVITIES

As discussed in the October 2010 *Revised RI/FS Report* (O'Brien & Gere 2010), several remedial efforts were conducted at the Former IFG Facility. Some of these remedial activities resulted in the removal of off-site soil.

Remedial activities that have been implemented for the facility and resulted in removal of off-site soil are the Ley Creek Relief Interceptor Sewer Area IRM, the Former Drainage Swale IRM, Former Landfill IRM, the Factory Avenue IRM, the SA-26 IRM, and the Niagara Mohawk Drainage Channel IRM. In addition to these IRMs, the nearby Ley Creek PCB Dredgings Site was remediated in 2001. It should be noted that the SPDES Treatment System IRM resulted in the treatment of stormwater discharges from the facility property to Ley Creek, and the recommended remedy for the Former IFG Facility property includes the installation of a perimeter hydraulic control system which would result in the interception of migration of contaminated groundwater to off-site media. Details related to these completed and proposed remedial activities are presented in the *Revised Off-site RI Report* (O'Brien & Gere 2013a).

3. SUMMARY OF RI AND RISK ASSESSMENT

3.1 NATURE AND EXTENT OF CONTAMINATION

A detailed description of the investigations and nature and extent of contamination is provided in the *Revised Off-site RI Report* (O'Brien & Gere 2013a). This section provides a summary of the impacts to media off-site from the Former IFG Facility (exclusive of groundwater). In general, constituents of concern identified for the Former IFG Facility were detected in environmental media in Ley Creek between Townline Road and Route 11. In addition, facility-related constituents of concern were detected in portions of the FEMA 100-yr floodplain of Ley Creek between Townline Road and Route 11 and in the wetland located on the northern portion of the National Grid property directly adjacent to and west of the Former IFG Facility property. The location of the Former IFG Facility is depicted on Figure 1-1. The off-site areas are depicted on Figure 2-1. Since submittal of the *Revised Off-site RI Report*, sediment samples collected in Ley Creek in 1985 have been added for consideration in the volumes of media to be addressed and corrections pertaining to depths of sediment samples collected by NYSDEC in1996 have been made to the sediment results presented in that report. Updated tables and figures presenting the analytical data results are included in Appendix A.

Based on the evaluation of soil samples collected from off-site media from the Ley Creek Floodplain Area, National Grid Wetland Area and Factory Avenue Area, PCBs, VOCs, SVOCs and site-related metals are present at concentrations above corresponding Part 375 Unrestricted SCOs. PCBs, SVOCs and site-related metals were present at concentrations above the corresponding Part 375 SCOs for the Protection of Ecological Receptors in these areas as well. In addition, sediment samples collected in Ley Creek between Townline Road and Route 11 exhibited concentrations of PCBs, SVOCs and site-related metals above corresponding NYS sediment criteria. The nature and extent of contamination can be summarized as follows:

- ***Ley Creek Floodplain Area.*** Soil samples collected along the 100-year floodplain of Ley Creek between Townline Road and Route 11 exhibited concentrations of PCBs greater than the Part 375 Unrestricted SCO of 0.1 mg/kg for PCBs in each sample collected at concentrations up to 35 NJ mg/kg. However, samples having concentrations greater than the Part 375 SCO for the Protection of Ecological Receptors of 1 mg/kg PCBs were limited to three areas characterized by samples LCFP-3N, LCFP-6N and LCFP-7N.

  PCB concentrations above the Part 375 SCO for the Protection of Ecological Receptors in the vicinity of LCFP-3N are present at depths up to 6 ft below ground surface (bgs) along approximately 180 ft of the northern bank of Ley Creek in the vicinity of sample LCFP-3N. Perimeter samples exhibited concentrations below 1 mg/kg in each direction except for the easternmost sample, which exhibited a concentration of 6.4 mg/kg PCBs. This area is referred to as the Ley Creek Floodplain hotspot.

  The extent of contamination in the vicinity of sample locations LCFP-6N and LCFP-7N is anticipated to be fairly localized and extends to 2 and 1 ft bgs, respectively.

- ***Factory Avenue Area - Vicinity of LeMoyne Avenue.*** Though not likely impacted by the Former IFG Facility, another area evaluated within the 100-year floodplain of Ley Creek was in the vicinity of the intersection of LeMoyne Avenue and Factory Avenue, in an area zoned for industrial and commercial use. At this location, PCBs, VOCs, SVOCs and site-related metals were detected at concentrations above the corresponding Part 375 Unrestricted SCO in soil samples along the road shoulders to depths of approximately 3 ft bgs. However, concentrations of these constituents above the corresponding Part 375 Commercial SCOs show limited impacts in this area.

- ***Factory Avenue Area – North of Former IFG Facility.*** The majority of samples collected along this narrow strip of land between the northern Former IFG Facility property limits and Factory Avenue were collected in connection with the northern extent of excavations in the vicinity of the National Grid underground gas line. Several samples exhibited concentrations of PCBs above the Part 375 Unrestricted SCO. In addition to hot-spot confirmatory samples, several surface soil samples were collected and exhibit PCB concentrations above the Part 375 Unrestricted SCO. Several surface soil samples exhibited concentrations of PCBs above the Part

375 Commercial SCO of 1 mg/kg. This area is zoned for industrial use. Only one surface soil sample exhibited concentrations of PCBs above the Part 375 Industrial SCO of 25 mg/kg.

- ***National Grid Wetland Area.*** Soil samples collected on the property to the west of the Former IFG Facility focused on the drainage ditch between the wetland and Factory Avenue, the wetland located on the northern portion of the property and on several hot-spot areas removed as part of IRMs implemented in connection with the Former IFG Facility. Soil samples collected in the drainage ditch each exhibited PCBs or site-related metals at concentrations above the corresponding Part 375 Unrestricted SCOs. However, concentrations of PCBs and site-related metals above the corresponding Part 375 SCOs for the Protection of Ecological Receptors show that soil above these SCOs extends to depths up to 3.5 ft bgs along the drainage ditch from the northwest corner of the Former IFG Facility to sample WLSD08-4.

  Soil samples collected to evaluate contamination in the wetland exhibited concentrations of PCBs and site-related metals above Part 375 Unrestricted SCOs at depths up to 2.75 ft bgs. Concentrations of PCBs and site-related metals above the corresponding Part 375 SCOs for the Protection of Ecological Receptors were bounded to the south. These detections were present across the approximately 550-ft wide wetland south approximately 140 ft from Factory Avenue in the western half of the wetland and south approximately 230 ft from Factory Avenue in the eastern half of the wetland. This was also the case for most of the detections of site-related metals.

  Hot-spot confirmatory samples were collected in connection with a hot-spot removal completed on the National Grid property near the Former IFG Facility property boundary. Confirmatory samples exhibited concentrations above Part 375 Unrestricted SCOs, however, in general, hot-spot excavations extended until an underground duct bank was encountered.

- ***Sediment.*** Samples collected from Ley Creek between Townline Road and Route 11 exhibited concentrations of SVOCs, PCBs and site-related metals at concentrations above the corresponding available NYS Sediment Criteria. Upstream samples also exhibited concentrations of SVOCS, PCBs and site-related metals above the available corresponding NYS Sediment Criteria during the three investigations. PCBs in both surface and subsurface sediments and site-related metals in surface sediments were detected at higher concentrations in samples collected between Townline Road and Route 11, as compared to corresponding concentrations in sediments samples collected upstream of Townline Road. With the exception of chromium, site-related metals were detected at higher average concentrations in upstream samples. Most average SVOC concentrations in surface and subsurface sediments were higher in upstream samples.

- ***Surface Water.*** One off-site surface water sample collected in Ley Creek exhibited concentration of PCBs above the NYS Class B surface water standard. In addition, one surface water sample collected from the drainage ditch located at the northwest corner of the Former IFG Facility exhibited PCB concentrations above the NYS Class B surface water standards.

- ***Biota.*** Biota samples collected in Ley Creek exhibited concentrations of PCBs, SVOCs and site-related metals in samples collected between Townline Road and Route 11 and in samples collected upstream of Townline Road. PCBs and SVOCs were detected at slightly higher average concentrations between Townline Road and Route 11 as compared to upstream samples. Similarly, chromium and lead were detected at higher average concentrations in samples collected between Townline Road and Route 11, while copper and zinc were detected at higher concentrations in upstream samples. No criteria are available for screening of biota samples.

The above summarized nature and extent of contamination discussion takes into account past remedial activities that were conducted in off-site areas. A more detailed description of the nature and extent of contamination is presented in the *Revised Off-site RI Report* (O'Brien & Gere 2013a).

3.2 SUMMARY OF RISK ASSESSMENTS

3.2.1 Human Health Risk Assessment

The Off-Site Human Health Risk Assessment (HHRA) addressed exposures to media in the above-mentioned areas. Health risks were evaluated for the following potential human receptor populations identified for the off-site areas studied:

- Current and future child fish consumers (exposed to fish tissue)
- Current and future adolescent fisherpersons [exposed to surface water, surface sediment (0-1 ft bgs), fish tissue, surface soil, and outdoor air]
- Current and future adult fisherpersons [exposed to surface water, surface sediment (0-1 ft bgs), fish tissue, surface soil, and outdoor air]
- Future dredge workers [exposed to surface water, surface and subsurface sediment (0-3 ft bgs), surface soil (0-1 ft bgs), and outdoor air]
- Current and future older child trespassers [exposed to surface water, surface soil (0-1 ft bgs), and outdoor air]
- Current and future adult trespassers [exposed to surface water, surface soil (0-1 ft bgs), and outdoor air]
- Future utility workers [exposed to surface and subsurface soil (0-10 ft bgs), and outdoor air]

Hazard indices (HI) and cancer risks were derived based on the reasonable maximum exposure (RME) and central tendency (CT) exposure parameters, which were established in accordance with USEPA Risk Assessment Guidance for Superfund. The derived cancer risks were within acceptable limits for all receptors. The non-cancer hazard for the dredge worker was also within acceptable regulatory limits. Non-cancer hazards for all other receptors exceeded the acceptable threshold (HI of 1). Unacceptable RME HIs ranged from 4.0 for the child fish consumer to 200 for the utility worker. These off-site hazards are driven by:

- Highly chlorinated PCBs[2] in fish tissue.
- Less chlorinated PCBs[3] and highly chlorinated PCBs in Ley Creek and the Ley Creek Floodplain (Exposure Unit-1) surface sediment (0-1 ft bgs).
- Less chlorinated PCBs, highly chlorinated PCBs, and total PCBs in the Ley Creek Floodplain Area, National Grid Wetland Area and Factory Avenue Area (Exposure Unit-2) surface soil and subsurface soil (0-10 ft bgs).

There are uncertainties inherent in every risk assessment and, in general, the approaches for dealing with this uncertainty overestimate risk/hazard. Therefore, the risk values estimated should generally be thought of as high-end estimates of the risk, and actual risks are probably lower than the calculated values. The primary area of uncertainty that is unique to this HHRA is related to the impact of outliers in the datasets on exposure point concentrations and hazard estimates. An evaluation of outliers and their effect on hazard estimates highlights the possibility that targeted excavation and removal of surface soil and sediment is likely to bring the hazard associated with off-site media concentrations closer to an acceptable level.

3.2.2 Baseline Ecological Risk Assessment

A Baseline Ecological Risk Assessment (BERA) has been prepared for the Off -Site Areas and is included as Appendix E of the *Revised Off-site RI Report* (O'Brien & Gere 2013c). Potentially impacted communities in the

[2] Highly chlorinated PCBs were defined as Aroclors 1248, 1254, 1260, and 1268.
[3] Less chlorinated PCBs were defined as Aroclors 1221, 1232, 1016, and 1242.

Off-Site Areas include those associated with the Ley Creek Area, the National Grid Wetland Area, and the Ley Creek Floodplain Area.

Potential ecological risk to aquatic receptors in the Ley Creek Exposure Area based on screening results indicated that risks to the benthic invertebrate community are the result of direct contact exposures to total PCBs and PAHs, and potential risks to fish are related to the metals barium and iron in Ley Creek surface water. Food chain models for piscivorous birds (belted kingfisher and great blue heron) and semi-piscivorous mammals (mink) at Ley Creek indicated only two constituents (methylmercury and total PCBs) had no observed adverse effects level (NOAEL)-based hazard quotients (HQs) greater than one, but less than 10. Methylmercury is not considered a site-related metal.

Screening results for terrestrial plants and soil invertebrates in the National Grid Wetland Area indicated that the primary risk drivers are metals (chromium, copper, lead, and zinc) and total PCBs. The food chain model for insectivorous birds (American robin) and insectivorous mammals (short-tailed shrew) resulted with the following constituents with HQs greater than one: metals, total PCBs, and bis(2-ethylhexyl)phthalate.

Risk to terrestrial plants and soil invertebrates in the Ley Creek Floodplain Exposure Area based on screening is driven primarily by chromium and total PCBs. The food chain model for American robin and short-tailed shrew for this area resulted in metals (chromium, lead, thallium, vanadium and zinc) and total PCBs with HQs greater than one. Thallium and vanadium are not considered site-related metals.

4. REMEDIAL ACTION OBJECTIVES AND PRELIMINARY REMEDIATION GOALS

This section presents the development of RAOs and identification of PRGs. RAOs are medium-specific goals for protecting human health and the environment, that are based on engineering judgment taking into account SCGs and risk based information. As part of the development of RAOs, site-specific SCGs are identified. In New York State, the identification of SCGs for the soil medium takes into consideration land use. Consideration of land use warrants identification of the intended and reasonably anticipated future used of the areas being considered for the FS. As such, the following sections describe the identification of SCGs, and provide a discussion on land use.

PRGs are identified to provide a preliminary acceptable contaminant level or range of levels for a given exposure route that might aid in the identification of cleanup criteria for the site and are used in the identification of areas and volumes of media to be considered in the FS. As described in USEPA's *Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA* (USEPA 1988), PRGs are meant to be based on readily available information such as reference doses (Rfds) and risk-specific doses (RSDs) or frequently used standards such as SCGs. The actual remedial goals and cleanup criteria to be used for the remedy will be selected by NYSDEC.

4.1 IDENTIFICATION OF POTENTIAL STANDARDS, CRITERIA, AND GUIDANCE

There are three types of SCGs: chemical-, location-, and action-specific SCGs. Chemical-specific SCGs are health- or risk-based numerical values or methodologies which, when applied to site-specific conditions, result in the establishment of numerical values. These values establish the acceptable amount or concentration of a chemical that may remain in, or be discharged to the ambient environment. Location-specific SCGs set restrictions on activities based on the characteristics of the facility or immediate environs. Action-specific SCGs set controls or restrictions on particular types of remedial actions once the remedial actions have been identified as part of a remedial alternative. The identification of potential SCGs is documented in Table 4-1. The rationale for the selection of chemical-specific SCGs related to New York State's 6 NYCRR 375 SCOs and land use is further described below.

4.2 LAND USE AND SELECTION OF SOIL CLEANUP OBJECTIVES

Consistent with 6 NYCRR 375-1.8 (f) and DER-10 4.2 (i) the current, intended and reasonably anticipated future uses of the off-site areas are considered when selecting SCOs. As described in Section 2, the off-site areas consist of areas located outside the property boundaries of the Former IFG Facility that have been impacted by historical activities at the Former IFG Facility. Soil in the following areas is considered in this FS: the Ley Creek floodplain between Townline Road and Route 11, the National Grid wetland adjacent to the western facility property boundary, and property directly north of the Former IFG facility to the south of Factory Avenue and the shoulder along Factory Avenue between Route 11 and Factory Avenue. The following property use information is relevant to these areas:

- Soil associated with the 19-acre Ley Creek PCB Dredgings Site, located north of the facility across Factory Avenue, has been addressed through hotspot removal and construction of a vegetative soil cover. The Ley Creek PCB Dredgings Site is zoned as vacant land with one parcel that is zoned industrial/utility. The Ley Creek PCB Dredgings Site property is subject to deed restrictions that restrict the excavation of soil beneath the vegetative soil cover and preclude the potable use of groundwater.
- The portion of the Ley Creek floodplain that is a part of the off-site areas addressed in this report extends along the north and south banks of Ley Creek between Townline Road and Route 11. Property parcels in this portion of the Ley Creek floodplain are zoned industrial/utility, commercial, vacant, residential, and public service.
- The National Grid Wetland west of the facility is located on an approximately 22-acre parcel owned and used by National Grid for the Teall Avenue Electrical Substation (H&A 2001). The property is accessed by a single access road that runs parallel to the Former IFG Facility western property boundary between the substation

and Factory Avenue. Access is restricted to National Grid employees by a locked chain. This parcel is zoned industrial/utility.

- Property along Factory Avenue directly north of the Former IFG Facility is zoned industrial. Access to this area by the public is not restricted along Factory Avenue.
- Property along Factory Avenue in the vicinity of the LeMoyne Avenue intersection is zoned industrial and commercial. Access to this area by the public is not restricted along Factory Avenue.

Based on habitat, the following areas were identified for protection of ecological resources:

- Property within the National Grid Wetland
- Portions of the Ley Creek floodplain between Townline Road and Route 11.

Given that the reasonably anticipated future use for the off-site areas is a blend of residential, commercial, and industrial uses, and certain areas are viable habitat for ecological resources, 6 NYCRR Part 375 Restricted Use SCOs are identified as appropriate SCOs for off-site areas as follows:

- 6 NYCRR Part 375 SCOs for Residential Use and 6 NYCRR Part 375 SCOs for the Protection of Ecological Resources are identified for the Ley Creek Floodplain
- 6 NYCRR Part 375 SCOs for Industrial Use and 6 NYCRR Part 375 SCOs for the Protection of Ecological Resources are identified for the wetland area on the National Grid property
- 6 NYCRR Part 375 SCOs for Industrial Use are identified for the area between the National Grid access road and the western Former IFG Facility property line
- 6 NYCRR Part 375 SCOs for Commercial Use are identified for the following areas:
  - Area along Factory Avenue directly north of the Former IFG Facility (though zoned industrial, this area is accessible to the general public, therefore, commercial SCOs are proposed)
  - Area in the vicinity of the Factory Avenue and LeMoyne Avenue intersection (though portions of this areas are zoned industrial, this area is accessible to the general public, therefore, commercial SCOs are proposed).

The SCOs for the Protection of Ecological Resources were not identified as appropriate SCOs for the area between the Former IFG Facility and Factory Avenue, and between the National Grid access road and the Former IFG Facility property as a result of the urbanized and/or industrialized nature of these areas.

Off-site groundwater will be addressed together with on-site RI/FS efforts. Concentrations in off-site shallow groundwater samples do not suggest widespread contamination. Concentrations in off-site deep groundwater are the result of groundwater sources of contamination located at the Former IFG Facility, upgradient of off-site groundwater. For these reasons, 6 NYCRR Part 375 SCOs for the protection of groundwater were not considered for off-site soil.

4.3 POTENTIAL PRELIMINARY REMEDIAL GOALS

As described in USEPA's *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* (USEPA 1988) PRGs are used to quantify protection of human health and the environment. PRGs specify an acceptable contaminant level or range of levels for an exposure route, and are established based on readily available information such as risk/hazard calculations based on standardized exposure assumptions and toxicity values [*e.g.*, USEPA Regional Screening Levels (USEPA 2012)] and/or frequently used standards, criteria and guidance values.

The selection of PRGs in this FS was based on a review of SCGs and consideration of the site-specific risk assessments. Specifically, the following were considered during the identification of PRGs:

- Promulgated standards that provide for protection of human health and ecological resources for soil
- Risk calculations for ecological receptors exposed to soil
- Rural soil background concentrations for habitat areas
- Non-promulgated sediment criteria
- Risk calculations for human receptors exposed to sediment
- Risk calculations for ecological receptors exposed to sediment
- Upstream sediment concentrations

The list of information considered in the identification of PRGs is presented in Appendix B. A description of the methodology used to calculate the risk-based concentrations that were considered as potential PRGs is also presented in Appendix B. The following sections describe the potential PRGs identified for off-site media of concern.

4.3.1 Potential Preliminary Remedial Goals for Soil

The values considered as potential soil PRGs are presented in Table B1 of Appendix B. New York State SCOs exist for protection of human health. These SCOs have been identified as potential PRGs based on exposures that are consistent with reasonably anticipated land uses (*e.g.*, commercial use for the Factory Ave Area, residential use for portions of the Ley Creek Floodplain).

Similarly, as identified above in Section 4.1, New York State's SCOs also exist for protection of ecological resources. These have been identified as potential PRGs in areas considered viable habitat for ecological resources (*e.g.*, National Grid Wetland, portions of the Ley Creek Floodplain).

As documented in the *Off-site BERA Report* (Appendix E, O'Brien & Gere 2013c), potential risks were estimated for terrestrial receptors exposed to off-site soil. As described in Appendix B, site-specific concentrations corresponding to acceptable risk were calculated using the BERA food web models. These were identified as risk-based potential PRGs.

In addition to chemical-specific SCGs and site-specific risk calculations, rural soil background concentrations, as provided in NYSDEC and NYSDOH's technical support document related to the SCOs (NYSDEC and NYSDOH 2006), were also identified as potential PRGs for inorganic constituents in soil.

Potential PRGs for soil are summarized in Table 4-2. These potential PRGs will be considered in Section 5 for the development of areas and volumes of off-site media to be addressed.

4.3.2 Potential Preliminary Remedial Goals for Sediment

The values considered as potential sediment PRGs are presented in Table B2 of Appendix B. Promulgated standards for protection of human health based on sediment exposure are not available. As identified above in Section 4.1, New York State guidance criteria exist for humans as it relates to sediment quality. These have been identified as potential PRGs for Ley Creek.

As documented in the *Off-site HHRA Report* (Appendix D, O'Brien & Gere 2013b), estimated unacceptable risks for human receptors exposed to sediment were driven by PCBs. Though potential human health risks were identified for the ingestion of fish in Ley Creek, the identification of PRGs related to human health risk focused on risks for direct contact with sediments. Ingestion of fish by human receptors is not anticipated to be a reasonable future exposure route because of the limited access to Ley Creek between Townline Road and Route 11 and the type of fish observed in this reach of Ley Creek (non-game species such as dace, sunfish and darters, generally less than 6 inches in length). Sediment concentrations corresponding to acceptable risks were calculated for exposures to PCBs in sediments using the HHRA risk models, as described in Appendix B. These concentrations were identified as potential PRGs for PCBs.

Promulgated standards for protection of ecological receptors exposed to sediment are not available. As identified above in Section 4.1, New York State guidance criteria exist for ecological receptors as it relates to sediment quality. These have been identified as potential PRGs for Ley Creek.

As documented in the *Off-site BERA Report* (Appendix E, O'Brien & Gere 2013c), risks were identified for ecological receptors exposed to sediment in Ley Creek. Site-specific concentrations corresponding to acceptable risk were calculated for PCBs using the BERA food web models, as described in Appendix B. These concentrations were identified as potential PRGs.

In addition to chemical-specific SCGs and site-specific risk calculations, upstream sediment concentrations were also identified as potential PRGs in sediment.

Potential PRGs for soil are summarized in Table 4-3. These potential PRGs will be considered in Section 5 for the development of areas and volumes of off-site media to be addressed.

4.4 REMEDIAL ACTION OBJECTIVES

As described above, RAOs are medium-specific goals for protecting human health and the environment. RAOs form the basis for the FS by providing overall goals for facility remediation. The RAOs are considered during the identification of appropriate remedial technologies and development of alternatives for the facility, and later during the evaluation of remedial alternatives.

RAOs are based on engineering judgment and risk-based information established in the HHRA and BERA presented in Appendices E and D of the *Revised Off-Site RI Report* (O'Brien & Gere 2013a). Additionally, potentially applicable SCGs, current, intended and anticipated future land use at the facility and its surroundings, and nature and extent of contaminants exceeding SCGs and risk-based cleanup objectives are considered when establishing RAOs.

As presented in the BERA, only two constituents (barium and iron, both not site-related metals) in Ley Creek surface water had average detected concentrations that exceeded the minimum of the selected screening criteria. In the National Grid Wetland ditch surface water, only one constituent (total PCBs) had an average detected concentration that exceeded the minimum selected screening criteria. Unacceptable risks associated with human and ecological receptor exposures to surface waters were not identified for off-Site areas. Further, the elimination and/or reduction of contributions from contaminated sediments and soils from Ley Creek and the National Grid wetland is expected to result in the achievement of the New York State water quality standards for these surface waters. For these reasons, RAOs were not developed for surface water.

As documented in the HHRA, ingestion of fish from Ley Creek was estimated to result in unacceptable risks to humans. However, as described in Appendix B, fishing is not anticipated in the Ley Creek reach between Townline Road and Route 11 due to poor access to the creek and to the undesirable species of fish that have been observed in the creek. Further, PCB fish tissue concentrations are likely due to sediment PCB concentrations. Thus, addressing constituents in Ley Creek sediment would by extension address fish tissue concentrations in the creek. For these reasons RAOs were not developed for fish in Ley Creek, but rather, RAOs have been developed for Ley Creek sediment.

The RAOs identified for off-site soil and sediment are presented below.

4.4.1 RAOs for Soil

RAOs for Public Health Protection

- Address, to the extent practicable, potentially unacceptable human health risks associated with exposure to soils in portions of the Ley Creek floodplain area, National Grid wetland and access road areas, and Factory Avenue areas. Specifically, prevent to the extent practicable:
  - Ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

- Address, to the extent practicable, migration of soils in the Ley Creek floodplain area, National Grid wetland area, and Factory Avenue area that could potentially result in contamination of surface water and/or sediment. Specifically, prevent to the extent practicable:
  - Migration of contaminants that would result in groundwater or surface water contamination at levels that are associated with unacceptable ecological risk.
- Address, to the extent practicable, potentially unacceptable ecological risks associated with exposure to soil in portions of the Ley Creek floodplain area and in the National Grid wetland area. Specifically, prevent to the extent practicable:
  - Impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.
  - Exposure of ecological resources to soil exhibiting concentrations that are above acceptable ecological risk thresholds.

4.4.2 RAOs for Sediment

RAOs for Public Health Protection

- Address, to the extent practicable, potentially unacceptable human health risks associated with exposure to Ley Creek sediment. Specifically, prevent to the extent practicable:
  - Direct contact with contaminated sediments.
  - Site-related sediment contamination which may result in fish advisories.

RAOs for Environmental Protection

- Address, to the extent practicable, migration of soils in the Ley Creek floodplain area, National Grid wetland area, and Factory Avenue area that could potentially result in contamination of surface water and/or sediment. Specifically, prevent to the extent practicable:
  - Migration of contaminants that would result in surface water or sediment contamination at levels that area associated with unacceptable ecological risk.
- Address, to the extent practicable, potentially unacceptable ecological risks associated with exposure to Ley Creek sediment. Specifically, prevent to the extent practicable:
  - Impacts to biota from ingestion/direct contact with sediments causing toxicity or impacts from bioaccumulation through the aquatic food chain.

5. IDENTIFICATION OF AREAS AND VOLUMES OF MEDIA

Volumes of affected media were estimated based on the nature and extent of contamination identified in the March 2013 *Revised Off-site RI Report*, and on selected potential PRGs presented in Section 4. It should be noted that certain updates have been made to the sediment results presented in the *Revised Off-site RI Report*. The tables and figures provided in Appendix A reflect these updates. The rationale for the selection of PRGs for media volume calculations is presented in this section.

5.1 PRGS USED FOR VOLUME ESTIMATION

5.1.1 Proposed PRGs for Reasonably Anticipated Future Use

Current land use for off-site areas discussed in this FS Report is presented in Section 4.2. It is expected that the reasonably anticipated future use of these areas will be consistent with the current land use. As described in Section 4.3, potential PRGs have been identified for affected media. The information considered in the selection of potential PRGs is discussed in Section 4.3, and further described in Appendix B. To estimate areas and volumes of media required to be addressed to meet reasonably anticipated future use, the following PRGs were used in volume calculations.

Soil PRGs

The proposed soil PRGs for the reasonably anticipated future land-use alternative are the NYCRR Part 375 SCOs for the land-use that corresponds to a particular off-site area (*e.g.*, industrial for the non-wetland areas on the National Grid property and commercial for the Factory Avenue areas), as described in Section 4.2.

As the National Grid Wetland and portions of the Ley Creek floodplain (Ley Creek banks) are recognized as viable ecological habitat, PRGs for these areas were based on a consideration of ecological resources. As such, the PRGs used in volume calculations for the National Grid Wetland and portions of the Ley Creek floodplain (Ley Creek banks) are the NYCRR Part 375 SCOs for the protection of ecological resources. The proposed soil PRGs for the National Grid Wetland are also protective for human health for industrial land use, which is the current zoning and reasonably anticipated future land use for this area. Similarly, the proposed soil PRGs for the portions of the floodplain along the Ley Creek banks are also protective for human health for residential use, which is the most conservative current zoning and reasonably anticipated future land use for this area. These PRGs are summarized in Table 5-1. The rationale for the PRG selection is also presented in Table 5-1.

Sediment PRGs

The proposed sediment PRGs used for the estimation of areas and volumes of sediment to be addressed in Ley Creek between Townline Road and Route 11 to meet reasonably anticipated future use were selected as follows: PRGs used in volume calculations focus on the main risks drivers, PCBs, for which two proposed sediment PRGs were used. One PRG (2.2 mg/kg PCBs) is derived using a risk-based calculation protective of direct exposure of ecological receptors to sediment in Ley Creek and one PRG (1 mg/kg PCBs) is the cleanup goal for sediments that has been used in the past for hazardous waste sites by USEPA Region 2, including those in New York State and is derived using a risk-based calculation. Both of these PRGs are protective of human health based on site-specific risk-based calculations that account for incidental ingestion and direct contact with sediment by dredging workers and fisherpersons.

These PRGs are summarized in Table 5-2. The rationale for the PRG selection is also presented in Table 5-2.

5.1.2 PRGS for Unrestricted Use

Consistent with DER-10 Section 4.4 (b)(3), an alternative capable of achieving the goal of pre-disposal or unrestricted condition was developed for this FS. To estimate areas and volumes of media required to be addressed to meet pre-disposal or unrestricted condition, the following PRGs were used.

Soil PRGs

The soil PRGs used for estimation of areas and volumes of soil to be addressed to meet pre-disposal or unrestricted condition use are the NYCRR Part 375 SCOs for unrestricted use. These PRGs are summarized in Table 5-3.

Sediment PRGs

For the volume calculation of sediments to be remediated, PRGs focus on the main risk drivers, PCBs. The sediment PRG used to estimate the areas and volumes of sediment to be addressed in Ley Creek between Townline Road and Route 11 to meet pre-disposal or unrestricted condition is the average upstream concentration for PCBs. The average upstream concentration was based on samples collected from the North Branch of Ley Creek, Sanders Creek, and the South Branch of Ley Creek. The PRG and rationale for the PRG selection is presented in Table 5-4.

5.2 AREA AND VOLUME ESTIMATES

Areas of affected media were estimated based on a comparison of sample results to proposed PRGs for two scenarios: reasonably anticipated future use and unrestricted use. Generally, the areal extent of contamination was assumed, for purposes of this FS, to extend to halfway between a sample location exhibiting a concentration greater than the PRG and a sample exhibiting a concentration less than the PRG. In situations where the boundary concentration was above the PRG, it was assumed, for purposes of this FS, that the affected medium extends an additional 20 ft beyond the boundary sample.

Reasonably anticipated future use scenario areas and volumes

Soil volume estimations for the reasonably anticipated future use scenarios are as follows:

- Reasonably anticipated future use Scenario A:
  - ***National Grid Property.*** Within the National Grid wetland, it is estimated that approximately 7,800 cubic yards of soil exceed the NYCRR Part 375 SCOs for the protection of ecological resources to depths of 1 and 2.5 ft bgs. The 1-ft depth was selected to be consistent with the depth of soil that was considered in the BERA for ecological risk estimations while the depth was extended to an average of 2.5 ft in a select area to address PCBs in excess of 50 mg/kg. Approximately 30 cubic yards of soil was identified along the National Grid access road based on soil concentrations exceeding the NYCRR Part 375 SCO for industrial use to depths ranging from 1 to 3 ft.
  - ***Ley Creek Floodplain.*** Within the Ley Creek floodplain, it is estimated that approximately 2,900 cubic yards of soil exceed the NYCRR Part 375 SCOs for the protection of ecological resources to a an average depth of 2 ft below grade. Depths were extended to 4 ft and 6 ft to address soils in the Ley Creek floodplain hot spot area.
  - ***Factory Avenue.*** Approximately 450 cubic yards of soil was identified along Factory Avenue, between LeMoyne Avenue and Route 11, and approximately 740 cubic yards of soil was identified along Factory Avenue to the north of the former IFG facility, for a total of 1,190 cubic yards. Soil volumes are based on NYCRR Part 375 SCOs for commercial use to a depth of 1 ft. This depth was selected to be protective of incidental trespassers.

The areal extents of the affected off-site soil for the reasonably anticipated future use under Scenario A are illustrated on Figures 5-1a, 5-2, 5-3a, and 5-4a. The volumes of affected soil are summarized in Table 5-5.

- Reasonably anticipated future use Scenario B:
  - ***National Grid Property.*** Within the National Grid wetland, it is estimated that approximately 8,600 cubic yards of soil exceed the NYCRR Part 375 SCOs for the protection of ecological resources to depths of 1 and 2.5 ft. The 1-ft depth was selected to be consistent with the depth of soil that was considered in the BERA for ecological risk estimations while the depth was extended to an average of 2.5 ft in a select area to

address PCBs in excess of 50 mg/kg. A depth of 2.5 ft was also selected to address soil concentrations exceeding NYCRR Part 375 SCOs for the protection of ecological resources identified within soil samples to an average depth of 2.5 ft below grade. Approximately 30 cubic yards of soil was identified along the National Grid access road based on soil concentrations exceeding the NYCRR Part 375 SCO for industrial use to depths ranging from 1 to 3 ft.

- ***Ley Creek Floodplain.*** Within the Ley Creek floodplain, it is estimated that approximately 2,900 cubic yards of soil exceed the NYCRR Part 375 SCOs for the protection of ecological resources to an average depth of 2 ft below grade. Depths were extended to 4 ft and 6 ft to address soils in the Ley Creek floodplain hot spot area.
- ***Factory Avenue.*** Approximately 1,100 cubic yards of soil was identified along Factory Avenue, between LeMoyne Avenue and Route 11, and approximately 2,500 cubic yards of soil was identified along Factory Avenue to the north of the former IFG facility, for a total of 3,600 cubic yards. Soil volumes are based on NYCRR Part 375 SCOs for commercial use to depths ranging from 1 to 4 ft below grade and would be protective of incidental trespassers.

The areal extents of the affected off-site soil for the reasonably anticipated future use under Scenario B are illustrated on Figures 5-1b, 5-2, 5-3b, and 5-4b. The volumes of affected soil are summarized in Table 5-5.

Sediment volume estimations for the reasonably anticipated future use scenarios assumed removal of sediment as follows:

- Reasonably anticipated future use Scenario A:
  - ***Ley Creek***. Approximately 7,200 cubic yards of sediment was identified at PCB concentrations greater than 2.2 mg/kg in Ley Creek between Townline Road and Route 11 (*i.e.*, removal of erodible sediment within the affected reach down to hard substrate). Sediment volume estimates were based on an average sediment depth of 1.25 ft.
- Reasonably anticipated future use Scenario B:
  - ***Ley Creek***. Approximately 9,600 cubic yards of sediment was identified at PCB concentrations greater than 1 mg/kg in Ley Creek between Townline Road and Route 11 (*i.e.*, removal of erodible sediment within the affected reach down to hard substrate). Sediment volume estimates were based on an average sediment depth of 1.25 ft.

The areal extent of the affected off-site sediments for the reasonably anticipated future use Scenarios A and B are illustrated on Figures 5-5a and 5-5b, respectively. The volumes of affected sediment are summarized in Table 5-5.

Pre-disposal or unrestricted use scenario areas and volumes

Soil volume estimates for the unrestricted use scenario assumed removal of soil exhibiting concentrations in excess of the corresponding proposed PRGs, to average depths based on sample results. As described in Section 5.1.1, the NYCRR Part 375 SCOs for unrestricted use were used as PRGs for this scenario. Approximately 31,460 cubic yards of soil was identified on the National Grid property, within the Ley Creek floodplain and along Factory Avenue in exceedance of the NYCRR Part 375 SCO for unrestricted use.

Sediment volume estimates for the unrestricted use scenario assumed removal of sediment present in Ley Creek (*i.e.*, removal of erodible sediment to hard substrate) between Townline Road and Route 11. The removal in Ley Creek was assumed to be from bank to bank in the creek. Approximately 13,200 cubic yards of sediment was identified within Ley Creek in exceedance of the 0.28 mg/kg PRG for sediment.

The areal extent of the affected off-site soil and sediments for the unrestricted use scenario are illustrated on Figures 5-6 through 5-10. The volumes of affected soil and sediment are summarized in Table 5-5.

6. REMEDIAL TECHNOLOGIES AND PROCESS OPTIONS

Following the development of RAOs, remedial technologies and process options are identified. These technologies and process options will be combined into alternatives to satisfy the RAOs. The first step in the identification of technologies and process options is the development of general response actions (GRAs), which are medium-specific actions that address the RAOs. Following the development of GRAs, technologies and process options are identified for each GRA. Technologies and process options are screened and evaluated to narrow down a list of technologies and representative process options that will be appropriate for inclusion in remedial alternatives for the site. This section presents the GRAs, technologies and process options for off-site media. This section also documents the screening and evaluation of technologies and process options.

6.1. GENERAL RESPONSE ACTIONS

GRAs are medium-specific actions which may be combined into alternatives to satisfy the RAOs. General response actions that address the RAOs related to the off-site media to be addressed in the FS are:

- Soil:
  - No further action
  - Institutional controls
  - Engineering controls
  - Containment
  - *In situ* treatment
  - Removal
  - *Ex situ* treatment
  - Disposal
- Sediment:
  - No further action
  - Institutional controls
  - Natural recovery
  - Containment
  - *In situ* treatment
  - Removal
  - *Ex situ* treatment
  - Disposal

6.2. IDENTIFICATION AND SCREENING OF REMEDIAL TECHNOLOGIES AND PROCESS OPTIONS

Potentially applicable remedial technology types and process options were identified for each GRA during this step. Technologies and process options were screened on the basis of technical implementability. Technical implementability for each identified process option was evaluated with respect to contaminant information, physical characteristics, and areas and volumes of affected media.

Descriptions of technologies and process options identified for this FS are presented in Tables 6-1 and 6-2, respectively. Technologies and process options that were viewed as not implementable were not considered further in the FS. The remedial technologies retained for further consideration for each medium of concern are presented below.

- Soil
  - Institutional controls: Access/use restrictions, soil management plan, and periodic reviews
  - Containment: vegetated/asphalt/gravel cover
  - Removal: excavation and vacuum/hydro excavation
  - *Ex situ* treatment: chemical treatment
  - Disposal: on-site and off-site disposal
- Sediment
  - Institutional controls: periodic reviews
  - Removal: excavation
  - *Ex situ* treatment: chemical and physical treatment
  - Disposal: on-site and off-site disposal

6.3. EVALUATION OF PROCESS OPTIONS

Remedial technologies and process options were evaluated further according to the criteria of effectiveness, implementability, and cost. The effectiveness criterion includes the evaluation of:

- Potential effectiveness of the process option meeting remediation objectives and handling the estimated volumes or areas of media
- Potential effects on human health and the environment during construction and implementation
- Reliability of the process options for facility contaminants and conditions.

Technical and institutional aspects of implementing the process options were assessed for the implementability criterion.

The capital and operational and maintenance (O&M) costs of each process option were evaluated as to whether they were high, medium, or low relative to other process options of the same technology type.

Based on the evaluation, the more favorable process options of each technology type were chosen as representative process options. The selection of representative process options simplifies the assembly and evaluation of the alternatives, but does not eliminate other process options. The process option actually used to implement remediation may change during the remedial design phase. The screening and evaluation of process options is presented in Tables 6-1 and 6-2. A description of the representative process options for retained technologies is presented, by GRA and technology for each medium, in the following sections.

6.3.1 Representative Process Options for Soil

No Further Action

The no further action GRA must be considered in the FS, as required by the National Contingency Plan (NCP) (40 CFR Part 300.430) and NYSDEC DER-10 Section 4.4(b)3 (NYSDEC 2010a).

Institutional Controls

Environmental easement/deed restriction, a soil management plan, and periodic reviews were identified as representative process options associated with the institutional controls GRA for soil.

- ***Environmental easement/deed restriction.*** An environmental easement would be recorded for the property documenting land use restrictions precluding activities that would potentially expose contaminated materials (and require health and safety precautions) or impair the integrity of engineered covers in certain areas without prior review and approval by NYSDEC.
- ***Soil management plan.*** A soil management plan would provide procedures for the handling and management of soil during remedial or maintenance activities.
- ***Periodic reviews.*** Periodic reviews, such as five-year reviews, would be conducted to evaluate the remediation areas with regard to continuing protection of human health and the environment, as required by the NCP where contaminated materials remain.

Containment

Containment systems provide a means of minimizing erosion of soil as a result of wind and surface water flow, and limiting direct contact with underlying soil. A vegetated/asphalt/gravel cover was identified as a representative process option associated with the containment GRA for soil.

- ***Vegetated/asphalt/gravel cover.*** A vegetated, asphalt, or gravel cover would consist of a soil layer of an appropriate thickness to match surrounding grade at restoration followed by a top restoration layer of vegetation, asphalt, or gravel. The selection of a restoration layer would be based upon the given area or restoration requirements within the covered area (*i.e.*, mowed lawn, access road). The cover would minimize contact with impacted surface soil. Grading and cover installation would be performed such that drainage is promoted, erosion is minimized, and cover integrity is protected. Routine cover maintenance, consisting of mowing of vegetation and inspections for integrity, would be necessary. As indicated in NYSDEC DER-10 Section 4.1(f)2, a soil cover is a required element of any remedy where surface soil contamination is present (NYSDEC 2010a). Such a soil cover is required to be 1 foot thick for sites with industrial usage. Consistent with existing surface cover, vegetation, asphalt, or gravel will be applied as the top restoration layer. Soil used for the construction of a vegetated soil cover will be suitable to sustain vegetation.

Removal

Mechanical excavation was identified as a representative process option associated with the removal GRA for soil.

- ***Mechanical excavation.*** Mechanical excavation of soil would be implemented using construction equipment such as backhoes and front-end loaders. Dewatering of saturated soil is anticipated to be necessary following excavation. Dewatering consists of separating liquid from excavated soil and may be necessary when excavations extend into groundwater. Separated fluids may require treatment prior to discharge. Excavated areas would be restored.

Disposal

Disposal of material consists of proper management and final disposition of excavated materials. On-site consolidation and a commercial landfill were identified as representative process options associated with the disposal GRA for soil.

- ***On-site consolidation.*** Excavated soil that is not characterized as hazardous waste would be consolidated on-site. Following soil consolidation, the area would be restored with a vegetative or asphalt cap.
- ***Commercial landfill.*** Excavated soil that is characterized as TSCA waste would be transported to a TSCA-regulated commercial landfill for disposal. Excavated soil not characterized as hazardous or as TSCA waste would be transported to a permitted non-hazardous waste landfill for disposal.

6.3.2 Representative Process Options for Sediment

No Further Action

The no further action GRA must be considered in the FS, as required by the National Contingency Plan (NCP) (40 CFR Part 300.430) and NYSDEC DER-10 Section 4.4(b)3 (NYSDEC 2010a).

Institutional Controls

Periodic reviews were identified as representative process options associated with the institutional controls GRA for sediment.

- ***Periodic reviews.*** Periodic reviews, such as five-year reviews, would be conducted to evaluate the facility with regard to continuing protection of human health and the environment, as required by the NCP where contaminated sediment remains in place.

Removal

Mechanical excavation was identified as a representative process option associated with the removal GRA for sediment.

- ***Mechanical excavation.*** Mechanical excavation of sediment would be implemented using construction equipment such as backhoes and front-end loaders. Isolation of creek water would be implemented using means such as by-pass pumping. By-pass pumping would be implemented in conjunction with stream restrictions such as coffer-dams. Dewatering of saturated sediment is anticipated to be necessary following excavation. Dewatering consists of separating liquid from removed sediment. Separated fluids may require treatment prior to discharge.

Disposal

Disposal of material would consist of proper management and final disposition of excavated materials. An off-site commercial landfill was identified as the representative process option associated with the disposal GRA for sediment.

- ***On-site consolidation.*** Excavated sediment that is not characterized as hazardous waste would be consolidated on-site. Following sediment consolidation, the area would be restored with a vegetative or asphalt cap.
- ***Commercial landfill.*** Excavated sediment would be transported to an off-site commercial landfill. Sediment that is characterized as hazardous or TSCA waste would be transported to a permitted hazardous or TSCA commercial landfill for disposal. Excavated sediment not characterized as hazardous or as TSCA waste would be transported to a permitted non-hazardous waste landfill for disposal.

7. ASSEMBLY OF REMEDIAL ALTERNATIVES

Remedial alternatives were developed by assembling technologies and representative process options into combinations that address the RAOs. In addition to addressing RAOs, a goal of the FS, as stated in the NYSDEC DER-10 Section 4.4 (b) and consistent with 6 NYCRR Part 375-2.8(b), is to identify and evaluate alternatives that include restoration of the facility to pre-disposal or unrestricted conditions (with respect to soil), to the extent feasible. Also, required for consideration by NYSDEC DER-10 and the NCP is evaluation of a no action alternative. Three remedial alternatives were developed to address off-site media. No action is presented below as Alternative 1, while the restoration to pre-disposal conditions alternative is represented below as Alternative 3. Remedial alternatives and their components are presented in the attached Table 7-1.

The three remedial alternatives that have been assembled for further consideration are:

- Alternative 1 is the no further action alternative.
- Alternatives 2A and 2B include soil and sediment removal and disposal, and containment. The extent of soil and sediment removal are based on reasonably anticipated future use of off-site areas.
- Alternative 3 also includes soil and sediment removal and disposal, and containment. The extents of soil and sediment removal are based on unrestricted use and unlimited exposure in off-site areas.

A description of each alternative is included in the following subsections.

7.1 ALTERNATIVE 1 – NO FURTHER ACTION

Alternative 1 is the no further action alternative. The no further action alternative is required by the NCP (40 CFR Part 300.430) and NYSDEC DER-10 Section 4.4(b)3 (NYSDEC 2010a) and serves as a benchmark for the evaluation of action alternatives.

7.2 COMMON ELEMENTS FOR ALTERNATIVES 2 AND 3

The following common remedial elements are included in Alternatives 2A, 2B and 3:

Vegetative/Asphalt/Gravel Cover for Factory Avenue Area

Excavated soil areas along Factory Avenue will be restored with a vegetative, asphalt, or gravel cover. The cover would comprise an indicator layer fabric and a minimum of 12-inches of clean soil and with a vegetated, gravel or sub-base and asphalt top restoration layer, as appropriate, for the area being restored. This results in a total cover area of approximately 0.86 acres for Alternatives 2A and 2B, and approximately 1.2 acres for Alternative 3 along Factory Avenue.

Use Restrictions

It is anticipated that following excavation of soil for Alternatives 2A and 2B, soil would remain in some areas areas at concentrations above levels that allow for unrestricted land use and unlimited exposure. Similarly, it is possible that due to the presence of underground utilities, soil could remain following excavation of soil for Alternative 3 in some areas at concentrations above levels that allow for unrestricted land use and unlimited exposure. In such a case, an environmental easement would be recorded for the properties documenting land use restrictions precluding activities that would potentially expose contaminated materials or impair the integrity of engineered covers in certain areas without prior review and approval by NYSDEC. Because these properties are not owned by RACER, coordination with property owners would be necessary.

Soil Management Plan

It is anticipated that following excavation of soil for Alternatives 2A and 2B, soil would remain in some areas at concentrations above levels that allow for unrestricted land use and unlimited exposure. Similarly, it is possible that due to the presence of underground utilities, soil could remain following excavation of soil for Alternative 3 in some areas at concentrations above levels that allow for unrestricted land use and unlimited exposure. As

such, a soil management plan would be implemented to outline necessary engineering and institutional controls for the handling and management of soil. The soil management plan would detail the implementation of consolidation (temporary or permanent), off-site disposal, and soil characterization.

Periodic Reviews

Because Alternative 2A and 2B alternatives would result in soil with concentrations above levels that allow for unrestricted use and unlimited exposure, and because it is possible that such concentrations may also remain following the soil removal envisioned for Alternative 3, CERCLA requires that the site be reviewed at least once every five years. Five-year reviews would be conducted, if necessary, to evaluate and document the continued effectiveness of the remedy with regard to the protection of human health and the environment.

7.3 ALTERNATIVES 2A AND 2B – REASONABLY ANTICIPATED FUTURE USE ALTERNATIVES

Alternatives 2A and 2B include excavation and disposal of affected off-site soil and sediment to meet reasonably anticipated future land uses, containment, use restrictions, a soil management plan and periodic reviews. The anticipated excavation and disposal remedial elements are described below:

Mechanical Excavation – Alternative 2A

Mechanical Excavation of Soil

Alternative 2A includes mechanical excavation of surface and subsurface soil within the National Grid wetland, in proximity to the National Grid access road, along portions of the Ley Creek floodplain, along Factory Avenue north of the Former IFG Facility, and along Factory Avenue between Route 11 and LeMoyne Avenue to allow reasonably anticipated future land use. Reasonably anticipated future land use constitutes the following:

- Continued industrial use for the neighboring National Grid property (including consideration of ecological resources within the wetland)
- Residential use for areas addressed in the Ley Creek floodplain (including considerations of ecological resources along the Ley Creek banks) and
- Commercial use of the property along Factory Avenue.

The estimated volume of soil to be excavated for Alternative 2A would be approximately 11,930 cubic yards. Most excavations are anticipated to be approximately 1 ft in depth, with some limited areas excavated to depths as deep as 6 ft within the Ley Creek floodplain hot spot. Volumes estimated for each area are summarized in Table 5-5. Areal extent and associated depths are illustrated on Figures 5-1a, 5-2, 5-3a, and 5-4a. Volumes to be excavated would be finalized during design. For purposes of cost estimation, a pre-characterization program is assumed to be implemented to further refine the areal extent of floodplain soil to be excavated.

It is assumed that National Grid Wetland soil will require *ex situ* dewatering prior to final disposition. It is assumed that approximately 132,000 gallons of water would be generated and could require treatment based on an assumed 40% average final solids content for dewatered soil; the released water is based on an assumed 17% increase in % solids from an average 24% solids. Based on site data, half of the excavated target soils is assumed to be at or above 40% solids and will therefore not contribute water for treatment.

With the exception of the National Grid Wetland excavations, excavated areas would be restored with vegetation, asphalt, or gravel, as appropriate, to restore to existing conditions. Restoration of the National Grid Wetland will consist of placement of backfill and 1 ft of topsoil and establishment of wetland vegetation.

Fill needs at the Former IFG Facility could be explored in the event that beneficial reuse of excavated material could meet facility fill needs. Under such a scenario portions or all excavated material may be relocated on-site. For purposes of cost estimation, off-site disposal has been assumed for this alternative.

With the exception of soil from a portion of the National Grid Wetland, excavated soil is assumed to be disposed as non-hazardous soil. For cost estimating purposes, approximately 5,800 cubic yards of the soil excavated from the National Grid Wetland is assumed to exhibit PCB concentrations above 50 mg/kg.

Mechanical Excavation of Sediment

Alternative 2A includes mechanical excavation of sediment in Ley Creek, such that reasonably anticipated future use can be supported (including consideration of ecological resources). The estimated volume of target material would be approximately 7,200 cubic yards based on PCB concentrations in sediment exceeding the 2.2 mg/kg PRG. The locations and assumed excavation extents for sediment removal are illustrated on Figure 5-5a. It is assumed that for reaches indicated for sediment removal, the sediment will be removed from bank to bank, to the extent practicable, until the unconsolidated bed material is reached. For volume estimation, an average excavation depth of 1.25 ft was assumed. It is assumed that excavated sediment will require *ex situ* dewatering prior to final disposition. It is assumed that approximately 122,000 gallons of water would be generated and require treatment based on an assumed 40% average final solids content for dewatered sediment; the released water is based on an assumed 17% increase in % solids from an average 24% solids. Based on site data, half of the excavated target soils is assumed to be at or above 40% solids and will therefore not contribute water for treatment.. Restoration of Ley Creek would consist of placement of approximately 0.5 ft of clean sand over disturbed areas.

Fill needs at the Former IFG Facility could be explored in the event that beneficial reuse of excavated material could meet facility fill needs. Under such a scenario portions or all excavated material may be relocated on-site, and an appropriate cover, if necessary, would be installed. For purposes of cost estimation, off-site disposal has been assumed for this alternative.

Mechanical Excavation – Alternative 2B

Similar to Alternative 2A, Alternative 2B includes mechanical excavation of surface and subsurface soil within the National Grid wetland, in proximity to the National Grid access road, along portions of the Ley Creek floodplain, along Factory Avenue north of the Former IFG Facility, and along Factory Avenue between Route 11 and LeMoyne Avenue to allow reasonably anticipated future land use, as described in Section 4.2. Alternative 2B includes an expanded vertical extent of excavation.

The estimated volume of soil to be excavated for Alternative 2B would be approximately 15,130 cubic yards. Most excavations are anticipated to be approximately 1 to 4 ft in depth; with some limited areas excavated to depths as deep as 6 ft within the Ley Creek floodplain hot spot. Volumes estimated for each area are summarized in Table 5-5. Areal extent and associated depths are illustrated on Figures 5-1b, 5-2, 5-3b, and 5-4b. Volumes to be excavated would be finalized during design. For purposes of cost estimation, a pre-characterization program is assumed to be implemented to better define the aerial extent of floodplain soil to be excavated.

It is assumed that National Grid Wetland soil will require *ex situ* dewatering prior to final disposition. It is assumed that approximately 146,000 gallons of water would be generated and require treatment based on an assumed 40% average final solids content for dewatered soil; the released water is based on an assumed 17% increase in % solids from an average 24% solids. Based on site data, half of excavated target soils is assumed to be at or above 40% solids and will therefore not contribute water for treatment.

With the exception of the National Grid Wetland excavations, excavated areas would be restored with vegetation, asphalt, or gravel, as appropriate, to restore to existing conditions. Restoration of the National Grid Wetland will consist of placement of backfill and approximately 1 ft of topsoil and establishment of wetland vegetation.

Fill needs at the Former IFG Facility could be evaluated in the event that beneficial reuse of excavated material could meet facility fill needs. Under such a scenario portions or all excavated material may be relocated on-site. For purposes of cost estimation, off-site disposal has been assumed for this alternative.

With the exception of soil from a portion of the National Grid Wetland, excavated soil is assumed to be disposed as non-hazardous soil. For cost estimating purposes, approximately 5,800 cubic yards of the soil excavated from the National Grid Wetland is assumed to exhibit PCB concentrations above 50 mg/kg.

Mechanical Excavation of Sediment

Alternative 2B includes mechanical excavation of sediment in Ley Creek, such that unrestricted use can be supported (including consideration of ecological resources). The estimated volume of target material would be approximately 9,600 cubic yards based on PCB concentrations in sediments exceeding the 1 mg/kg PRG. The locations and assumed excavation extents for sediment removal are illustrated on Figure 5-5b. It is assumed that for reaches indicated for sediment removal, the sediment will be removed from bank to bank, to the extent practicable, until the unconsolidated bed material is reached. For volume estimation, an average excavation depth of 1.25 ft was assumed. It is assumed that excavated sediment will require *ex situ* dewatering prior to final disposition. It is assumed that approximately 162,000 gallons of water would require treatment based on an assumed 40% final solids content for dewatered sediment; the released water is based on an assumed 17% increase in % solids from an average 24% solids. Based on site data, half of the excavated target soils is assumed to be at or above 40% solids and will therefore not contribute water for treatment.. Restoration of Ley Creek would consist of placement of approximately 0.5 ft of clean sand.

Fill needs at the Former IFG Facility could be explored in the event that beneficial reuse of excavated material could meet facility fill needs. Under such a scenario portions or all excavated material may be relocated on-site, and an appropriate cover, if necessary, would be installed. For purposes of cost estimation, off-site disposal has been assumed for this alternative.

7.3 ALTERNATIVE 3 – UNRESTRICTED FUTURE USE ALTERNATIVE

Alternative 3 includes excavation, disposal and containment of affected off-site soil and sediment, such that the resulting areas can support unrestricted use. If necessary, five-year reviews, a soil management plan would also be included in this remedy. The anticipated excavation and disposal remedial elements are further described below:

Mechanical Excavation of Soil

Alternative 3 includes mechanical excavation of surface and subsurface soil exhibiting concentrations greater than SCOs for unrestricted use within the National Grid wetland, in proximity of the National Grid access road, along portions of the Ley Creek floodplain, and at two locations along Factory Avenue. It should be noted that the presence of underground utilities may hinder full excavation along Factory Avenue and on the National Grid property near the access road.

The approximate volume of soil associated with Alternative 3 would be approximately 31,460cubic yards with average excavation depths ranging from 0 to 10 ft bgs. Volumes estimated for each area are summarized in Table 5-5. Areal extent and associated depths are illustrated on Figures 5-6 through 5-9. Volumes to be excavated would be finalized during design. For purposes of cost estimation, a pre-characterization program is assumed to be implemented to further define the areal extent of floodplain soil to be excavated.

It is assumed that National Grid Wetland soil will require *ex situ* dewatering prior to final disposition. It is assumed that approximately 256,000 gallons of water would be generated and require treatment based on an assumed 40% average final solids content for dewatered soil; the released water is based on an assumed 17% increase in % solids from an average 24% solids. Based on site data, half of excavated target soils is assumed to be at or above 40% solids and will therefore not contribute water for treatment.

With the exception of the National Grid Wetland excavated areas would be restored with vegetation, asphalt, or gravel, as appropriate, to restore to current conditions. Restoration of the National Grid Wetland will consist of backfilling, appropriate soil placement and establishment of wetland vegetation.

Fill needs at the Former IFG Facility could be explored in the event that beneficial reuse of excavated material could meet facility fill needs. Under such a scenario portions or all excavated material may be relocated on-site. For purposes of cost estimation, off-site disposal has been assumed for this alternative.

With the exception of soil from a portion of the National Grid Wetland and some locations north of the Former IFG Facility, excavated soil is assumed to be disposed as non-hazardous soil. For cost purposes, approximately 6,330 cubic yards of the soil excavated from the National Grid Wetland, and approximately 3,950 cubic yards (one half the volume) of material excavated from the vicinity of Factory Avenue is assumed to exhibit PCB concentrations above 50 mg/kg.

Mechanical Excavation of Sediment

Alternative 3 includes the mechanical excavation of sediment exhibiting concentrations greater than NYS Sediment Criteria within Ley Creek. The estimated volume of target material associated with sediment removal in Alternative 3 would be approximately 13,200 cubic yards. As illustrated on Figure 5-10, excavation limits for Alternative 3 assume removal of the full depth of sediments from bank to bank within Ley Creek between Townline Road and Route 11. For volume estimation, an average excavation depth of 1.25 ft was assumed. It is assumed that excavated sediment will require *ex situ* dewatering prior to final disposition. It is assumed that approximately 223,000 gallons of water would require treatment based on an assumed 40% average final solids content for dewatered sediment; the released water is based on an assumed 17% increase in % solids from an average 24% solids. Based on site data, half of the excavated target soils is assumed to be at or above 40% solids and will therefore not contribute water for treatment.. Restoration of Ley Creek will consist of placement of 0.5 ft of clean sand over disturbed areas.

Fill needs at the Former IFG Facility could be evaluated in the event that beneficial reuse of excavated material could meet facility fill needs. Under such a scenario portions or all excavated material may be relocated on-site. For purposes of cost estimation, off-site disposal has been assumed for this alternative.

8. DETAILED ANALYSIS OF REMEDIAL ALTERNATIVES

This section documents the detailed analysis of the three remedial alternatives that were developed during the FS. The detailed analysis of the alternatives was conducted consistent with NYSDEC DER-10 Section 4.2 (NYSDEC 2010a) and USEPA's *Guidance for Conducting Remedial Investigations and Feasibility Studies* under CERCLA (USEPA 1988). This section describes the individual and comparative analysis of the remedial alternatives with respect to nine evaluation criteria that embody the specific statutory requirements that must be evaluated to satisfy the DER-10 and CERCLA remedy selection requirements.

8.1 INDIVIDUAL ANALYSIS OF ALTERNATIVES

The preambles to the NCP (Federal Register 1990) and NYSDEC DER-10 Section 4.2 indicate that, during remedy selection, nine criteria should be categorized into three groups: threshold criteria, primary balancing criteria, and modifying criteria. The two threshold criteria, overall protection of human health and the environment, and compliance with SCGs, must be satisfied in order for an alternative to be eligible for selection. Long-term effectiveness and permanence; reduction of toxicity, mobility, or volume through treatment; short-term impact and effectiveness; implementability; and cost are primary balancing criteria that are used to balance the differences between alternatives. An additional primary balancing criterion under NYSDEC DER-10 includes an evaluation of land use. The modifying criterion of community acceptance is formally considered after public comment is received.

The objective of the detailed analysis of remedial alternatives was to analyze and present sufficient information to allow the alternatives to be compared and a remedy selected. The analysis consisted of an individual assessment of each alternative with respect to the seven above referenced evaluation criteria that encompass statutory requirements and overall feasibility and acceptability.

In the individual analysis of remedial alternatives, each of the remedial alternatives was evaluated with respect to the above-listed evaluation criteria. The criteria are described below and the summary of this analysis is presented in Table 8-1.

8.1.1 Overall Protection of Human Health and Environment

The analysis of each alternative with respect to this criterion provides an evaluation of whether the alternative would achieve and maintain adequate protection and a description of how site risks would be eliminated, reduced, or controlled through treatment, engineering, or institutional controls. The ability of each alternative to achieve RAOs is also described. The evaluation of each alternative with respect to overall protection of human health and the environment is presented in Table 8-1.

8.1.2 Compliance with Standards, Criteria and Guidelines

Each alternative is evaluated to assess whether it would attain SCGs or provide grounds for invoking a waiver. Potential SCGs for the facility are presented in Table 4-1. The evaluation of each alternative with respect to compliance with SCGs is presented in Table 8-1.

8.1.3 Long-Term Effectiveness and Permanence

Each alternative is evaluated to assess the long-term effectiveness and permanence it would afford. Factors considered, as appropriate, include:

- the magnitude of potential residual risk from materials remaining at the conclusion of the remedial activities. The characteristics of the remaining materials are considered to the degree that they remain hazardous, taking into account their mobility, toxicity and volume, as well as their propensity to bioaccumulate.
- the adequacy and reliability of controls, such as containment systems and institutional controls, necessary to manage materials left on-site. This factor addresses the uncertainties of remedial components, the assessment of the potential need to replace components of the alternative, and the potential exposure pathways and risks posed should the remedial action need replacement.

- the long-term sustainability of the remedy, considering DER-31 *Green Remediation* (NYSDEC 2010b), total environmental and sustainability impacts (*e.g.*, greenhouse gas sources, materials reused on-site versus disposed, remedy maintenance requirements), and metrics related to direct and indirect impacts for each alternative (*e.g.*, energy, emissions, fuel, volume of material reused).

The evaluation of each alternative with respect to long-term effectiveness and permanence is presented in Table 8-1.

8.1.4 Reduction of Toxicity, Mobility or Volume through Treatment

For each alternative, the degree to which the alternative results in the reduction of mobility, toxicity or volume is assessed. Factors considered, as appropriate, include:

- the treatment or recycling processes the alternative would employ and the materials it would treat
- the amount of hazardous substances, pollutants, or contaminants that would be treated or recycled
- the degree of expected reduction of mobility, toxicity or volume of the waste due to treatment or recycling and the specification of which reduction(s) would occur
- the degree to which treatment would be irreversible
- the type and quantity of residuals that would remain following treatment, considering the persistence, toxicity, mobility and propensity to bioaccumulate such hazardous substances and their constituents
- the degree to which treatment would reduce the inherent hazards posed by the facility.

The evaluation of each alternative with respect to reduction in toxicity, mobility or volume through treatment is presented in Table 8-1.

8.1.5 Short-Term Impact and Effectiveness

The short-term impacts of each alternative are assessed, considering the following:

- short-term potential risks that might be posed to the community during implementation of the alternative
- potential impacts to workers during implementation of the remedy and the effectiveness and reliability of protective measures
- potential environmental impacts of the remedial action and the effectiveness and reliability of mitigative measures during implementation
- time until protection would be achieved
- the short-term sustainability of the remedy, considering DER-31 *Green Remediation* (NYSDEC, 2010b), total environmental and sustainability impacts (*e.g.*, greenhouse gas sources and materials reused on-site versus disposed during construction-phase activities) and metrics related to direct and indirect impacts, and construction-phase impacts (e.g., energy, emissions, fuel, volume of material reused and disposed off-site).

The evaluation of each alternative with respect to short-term impact and effectiveness is presented in Table 8-1.

8.1.6 Implementability

Each alternative is assessed relative to the ease or difficulty of implementation by considering the following types of factors, as appropriate:

- technical feasibility, including technical difficulties and unknowns associated with the construction and operation of a technology, the reliability of the technology, the ease of undertaking additional remedial actions, and the ability to monitor the effectiveness of the remedy
- administrative feasibility, including activities needed to coordinate with other offices and agencies

- ability and time required to obtain any necessary approvals and permits from agencies
- availability of services and materials, including the availability of adequate off-site treatment, storage and disposal capacity and services; the availability of necessary equipment and specialists, provisions to obtain necessary additional resources; and the availability of prospective technologies.

The evaluation of each alternative with respect to implementability is presented in Table 8-1.

8.1.7. Cost

For the cost analysis, cost estimates were prepared for each alternative based on vendor information and quotations, cost estimating guides, and experience. Cost estimates were prepared for the purpose of alternative comparison and were based on area-specific information, when available. The cost estimates include capital costs, annual O&M costs, and present worth cost. The present worth cost for these alternatives were calculated for the expected duration of the remedy at a 7 % discount rate, consistent with the Office of Management and Budget (OMB) 2012 discount rates as documented in Appendix C of OMB Circular No. A-94, *Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs*. The individual cost estimates for the remedial alternatives are included in Tables 8-2 through 8-4, and summarized in Table 8-1.

8.1.8. Land Use

Pursuant to NYSDEC DER-10 Section 4.2(i), each alternative is assessed relative to the current, intended and reasonably anticipated future use of the site and its surroundings by considering the following factors, as appropriate:

- Current land use and historical and/or recent development patterns
- Consistency of proposed land use with applicable zoning laws and maps
- Brownfield opportunity areas
- Consistency of proposed land use with applicable comprehensive master plans or any other applicable land-use plan formally adopted by a municipality
- Proximity to property currently used for residential use and to urban, commercial, industrial, agricultural and recreational areas
- Written and oral comments submitted by the public as part of citizen participation activities on the proposed land use
- Environmental justice concerns
- Proximity of the facility to cultural and natural resources
- Vulnerability of groundwater to contamination that might migrate from the facility
- Final use determination of the facility.

Land use is discussed for each of the off-site areas in Section 4-2. The evaluation of each alternative with respect to land use is presented in Table 8-1.

8.1.9 Community Acceptance

Community acceptance will be addressed during the public comment period prior to the ROD.

8.2 COMPARATIVE ANALYSIS OF ALTERNATIVES

The detailed analysis of alternatives also included a comparative evaluation designed to consider the relative performance of the alternatives and identify major trade-offs among them. The comparative evaluation of alternatives is presented in the following subsections. In the comparative analysis of alternatives, the performance of each alternative relative to the others was evaluated for each criterion.

As described above in Section 8.1, the detailed evaluation with respect to the FS criteria for each of the alternatives is presented in Table 8-1.

8.2.1 Overall Protection of Human Health and Environment

Alternative 1 relies on natural attenuation to address overall protection of human health and the environment. Alternatives 2 and 3 would both address overall protection of human health and the environment by removing or controlling exposures to off-site media. While Alternative 3 would provide for unrestricted use of off-site areas, Alternative 2 Scenarios A and B would be protective of human health and the environment for current and reasonably anticipated future use of these areas. As it relates to Alternative 2A, the selected PRG for sediment in Ley Creek has been based on site-specific risk calculations and reflects potential risk to the most sensitive ecological receptor evaluated in the BERA. As described in the BERA, many uncertainties exist in the risk calculations which are likely to result in an overestimate of risk. For this reason, the calculated site-specific risk-based PRG is considered to be conservative. Alternative 2 Scenario B would provide an added level of protectiveness for human receptors by allowing for consumption of fish in the remediated reach of Ley Creek. The selected PRG for sediment in Alternative 2 Scenario B is based on risk-based calculations and is consistent with USEPA Region 2 sediment remediation goals for sites in New York State.

RAOs would be met through active remedial components in both Alternatives 2 and 3. Alternative 1 relies on natural attenuation to meet RAOs. Natural attenuation of persistent site-related contaminants such as PCBs is not anticipated to achieve RAOs in the foreseeable future.

8.2.2 Compliance with Standards, Criteria and Guidelines

As summarized in Table 4-1, chemical-, location-, and action-specific SCGs were identified for the off-site areas. Alternative 1 relies on natural attenuation to address SCGs. Natural attenuation of persistent site-related contaminants such as PCBs is not anticipated to achieve SCGs in the foreseeable future. Both Alternatives 2 and 3 would address SCGs. While Alternative 3 is expected to attain unrestricted use SCGs in off-site areas, Alternative 2 Scenarios A and B would achieve current and reasonably anticipated future use SCGs for these areas.

8.2.3 Long-Term Effectiveness and Permanence

Alternative 1 relies on natural attenuation to address risks. Natural attenuation of persistent site-related contaminants such as PCBs is not anticipated to address identified risks in the foreseeable future. Both Alternatives 2 and 3 would address residual risks. While Alternative 3 results in lesser residual risks, the controls included in Alternative 2 Scenarios A and B adequately address residual risks for current and reasonably anticipated future use of these areas.

Alternative 1 does not include controls. For both Alternatives 2 and 3, residual risks associated with soil not removed due to the presence of underground utilities would be mitigated by capping and institutional controls.

Of the active remedial alternatives, Alternative 2A is anticipated to result in the lower environmental footprint.

8.2.4 Reduction of Toxicity, Mobility or Volume through Treatment

No active treatment processes are included under Alternative 1. Treatment through natural degradation processes would continue. Treatment residues associated with dewatering processes included under Alternatives 2 and 3 are anticipated. Treatment residuals are not expected to be hazardous. While not a treatment process, excavation of soil and sediment included in Alternatives 2 and 3 would result in an irreversible reduction in toxicity, mobility and volume of these materials. Alternative 3 would result in more volume addressed than Alternative 2. Alternative 2 Scenario B would result in slightly more volume addressed than in Alternative 2 Scenario A. The estimated volumes of media to be excavated for Alternatives 2 and 3 are summarized in Table 5-5.

8.2.5 Short-Term Impact and Effectiveness

No short-term impacts to community or workers are associated with implementation of Alternative 1. Both Alternatives 2 and 3 would be implemented such that dust, surface runoff, and sediment erosion would be controlled and proper health and safety measures would be established and implemented during remedial

activities. RAOs would be addressed upon implementation of Alternatives 2 and 3. Alternative 1 is not anticipated to meet RAOs in the foreseeable future.

Green remediation techniques, as detailed in DER-31 *Green Remediation* (NYSDEC 2010b), would be considered for each alternative to reduce short-term environmental impacts. Green remediation best practices such as the following may be considered:

- Reduction in vehicle idling, including both on and off road vehicles and construction equipment during construction
- Beneficial reuse of material that would otherwise be considered a waste. Approaches such as these could be implemented if facility fill needs coincide with material excavation. In such an event a Beneficial Use Determination (BUD) and NYSDEC approval would be obtained to reuse excavation spoils to meet backfill or grading needs at the Former IFG Facility.
- Use of Ultra Low Sulfur Diesel (ULSD).

There are no environmental impacts associated with implementation of Alternative 1. When environmental impacts relative to the environmental footprint for each alternative are considered, it is anticipated that Alternative 3 would result in a greater environmental impact due to direct emissions and fuel consumption, as this alternative includes greater use of heavy equipment and transportation of material to be disposed from, or imported to, the site when compared to Scenarios A and B of Alternative 2.

8.2.6 Implementability

Each alternative is readily implementable. Excavation of soil and sediment are reliable means of controlling exposure to contaminated media. Therefore, Alternatives 2 and 3 are equally reliable remedies. Excavation of soil in the vicinity of the underground utilities under both Alternatives 2 and 3 may present challenges and render full removal of intended volumes infeasible. Institutional controls included in Alternatives 2 and 3 would be reliable means for managing residual risks, if any. Off-site treatment, storage and disposal facilities, equipment, specialists, and materials necessary for both Alternatives 2 and 3 would be readily available. Coordination with other agencies including USEPA, NYSDEC, Onondaga County, the Town of Salina, and property owners would be necessary for both Alternatives 2 and 3. If necessary, additional remedial actions and monitoring would be readily implementable for both Alternatives 2 and 3.

8.2.7 Cost

Detailed cost estimates for Alternatives 1 through 3 are included as Tables8-2 through 8-5.

Alternative 1, the no further action alternative, is the least cost alternative with no associated costs.

Alternative 2 Scenario A, which includes institutional controls, capping, soil and sediment excavation, dewatering of excavated sediments, and off-site disposal, has an estimated present worth of approximately $11,818,000.

Alternative 2 Scenario B, which includes institutional controls, capping, soil and sediment excavation, dewatering of excavated sediments, and off-site disposal, has an estimated present worth of approximately $14,088,000.

Alternative 3, which includes institutional controls, soil and sediment excavation, dewatering of excavated sediments, and off-site disposal, has an estimated present worth of approximately $22,260,000.

For cost purposes, the O&M for the Alternatives 2 and 3 was assumed to include wetland restoration in years 1 through 7 and periodic reviews in years 5, 10, 15, 20, 25 and 30.

8.2.8 Land use

Implementation of both Alternatives 2 and 3 would be consistent with current, intended and reasonably anticipated future use of the areas. Implementation of Alternative 1 would require additional property

restrictions over those consistent with current, intended and reasonably anticipated future use for some off-site areas.

8.2.9 Community acceptance

Community acceptance would be addressed during the preferred alternative public comment period prior to the ROD.

9. FEASIBILITY STUDY CONCLUSIONS AND RECOMMENDATIONS

The FS was conducted consistent with the requirements of NYSDEC DER-10 and the NCP. As such, RAOs were identified to address the elimination or mitigation of significant threats to human health and the environment presented by historical operations at the Former IFG Facility as required by 6 NYCRR Part 375-2.8(a) and the cost-effective protectiveness of human health and the environment and attainment of SCGs as required by the NCP. The threats to human health and the environment were identified through completion of risk assessments and comparison of concentrations in affected off-site media to SCGs.

Based on a detailed evaluation of the three alternatives developed in the FS using specific criteria required by the pertinent regulations and guidance, RACER recommends Alternative 2A as the final remedy for the facility. Alternative 2A is recommended, because it provides protectiveness to human health and the environment at a lower cost than Alternatives 2B and 3. In addition, implementation of Alternative 2A results in the smallest environmental footprint when compared to Alternatives 2B and 3. Alternative 2A includes the following remedial elements:

- Excavation of soil in areas exhibiting constituent concentrations greater than acceptable concentrations given the reasonably anticipated future property use and potential receptors
- Restoration of excavated areas, as appropriate given reasonably anticipated future property use and potential receptor needs
- Excavation of sediment in Ley Creek with concentrations greater than selected PRGs that take into account risks to receptors
- Institutional controls, environmental easement, periodic reviews, and a site management plan.

Alternative 2A addresses the RAOs as follows:

- ***Soil RAOs for Public Health Protection.*** Alternative 2A addresses potentially unacceptable human health risks associated with exposure to soils in portions of the Ley Creek floodplain area, National Grid wetland and access road areas, and Factory Avenue areas through excavation, restoration of excavated surfaces, institutional controls and a soil management plan. Removal of soil and restoration of surfaces prevent ingestion/direct contact with soil contamination. Volumes of soil to be removed in off-site areas have been based on concentrations above NYSDEC-promulgated soil cleanup objectives for the protection of human receptors taking into account reasonably anticipated future use of each area. The implementation of institutional controls and a soil management plan (that would describe requirements to be met in the event that impacted soil left in place is disturbed) provide for protection relative to human health associated with exposures to affected soil thereby providing added protection to human health.
- ***Soil RAOs for Environmental Protection.*** Alternative 2A addresses migration of soils in the Ley Creek floodplain area, National Grid wetland area, and Factory Avenue area that could potentially result in contamination of surface water and/or sediment through excavation, restoration of excavated surfaces, and a soil management plan. Removal of soil and restoration of surfaces prevent migration of contaminants and eliminate the pathway that could result in unacceptable ecological risk.

  In addition, Alternative 2A address potentially unacceptable ecological risks associated with exposure to soil in portions of the Ley Creek floodplain area and in the National Grid wetland area. Removal of soil and restoration of surfaces would prevent ingestion/direct contact with soil. Volumes of soil to be removed in the National Grid wetland and portions of the Ley Creek floodplain have been based on concentrations greater than the NYSDEC-promulgated soil cleanup objectives for the protection of ecological resources. The implementation of a soil management plan (that would describe requirements to be met in the event that impacted soil left in place is disturbed) provide for protection relative to ecological risks associated with disturbing affected soil.

- ***Sediment RAOs for Public Health Protection.*** Alternative 2A addresses potentially unacceptable human health risks associated with exposure to Ley Creek sediment through sediment removal. Removal of sediment precludes direct contact with this affected media and reduces the availability of constituents in sediment that might bioaccumulate in fish and result in fish advisories. Volumes of sediment to be removed from Ley Creek have been based on site-specific risk-based concentrations reflective of a conservative estimate that are above levels acceptable for the protection of human receptors taking into account reasonably anticipated future use of Ley Creek.
- ***Sediment RAOs for Environmental Protection.*** Alternative 2A addresses migration of soils in the Ley Creek floodplain area, National Grid wetland area, and Factory Avenue area that could potentially result in contamination of surface water and/or sediment, through sediment removal. Removal of sediment and restoration of surfaces prevent migration of contaminants.

  In addition, Alternative 2A addresses potentially unacceptable ecological risks associated with exposure to Ley Creek sediment, through removal of sediment. Removal of sediment eliminates the pathway that could result in unacceptable ecological risk. Volumes of sediment to be removed from Ley Creek have been based on site-specific risk-based concentrations reflective of a conservative estimate.

Implementation of Alternative 2A would result in an inherent environmental footprint associated with the use of heavy construction equipment and energy consumption to transport excavated materials for disposal. The following green remediation techniques, as detailed in DER-31 *Green Remediation* (NYSDEC 2010b) will be considered during the design phase of Alternative 2A remedial components:

- Use of renewable energy and/or purchase of renewable energy credits
- Reduction in vehicle idling, including both on and off road vehicles and construction equipment
- Beneficially reuse material that would otherwise be considered a waste
- Use of ULSD.

Alternative 2A satisfies the two threshold criteria, overall protection of human health and the environment, and compliance with SCGs. When comparing Alternative 2A to Alternatives 2B and 3 using the primary balancing criteria, it is evident that equal protectiveness is provided using Alternative 2A at a lower cost. In addition, this level of protectiveness can be achieved with a smaller environmental footprint than that associated with implementation of Alternatives 2B and 3.

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Syracuse, New York
Off-Site Feasibility Study

TABLE 4-1: EVALUATION OF POTENTIAL STANDARDS, CRITERIA AND GUIDANCE (SCGs)

Medium/Location/ Action	Citation	Requirements	Comments	Potential SCG	Alt(s)
Potential Chemical-Specific SCGs					
Soil	6 New York Code of Rules and Regulations (NYCRR) Part 375-6 Remedial Program Soil Cleanup Objectives (SCOs)	Provides SCOs for various property uses. Property uses for which SCOs are provided are Unrestricted, Residential, Restricted Residential, Commercial and Industrial Uses. SCOs are also provided for the protection of ecological receptors and groundwater.	Potentially applicable to off-site area soils, based on current and reasonable future property use.	Yes	All
	New York State Department of Environmental Conservation (NYSDEC) Commissioner's Policy - Soil Cleanup Guidance	Guidance that provides framework and procedures for the selection of soil cleanup levels. As part of the procedures, supplemental soil cleanup levels are provided.	Potentially applicable to off-site area soils, based on current and reasonable future property use.	Yes	All
Ley Creek Surface Water	NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 - Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations	This TOGS presents NYSDEC Division of Water ambient water quality standards and guidance values and groundwater effluent limitations. The authority for these values is derived from Article 17 of the Environmental Conservation law and 6 NYCRR Parts 700-706, Water Quality.	Potentially applicable to Ley Creek surface water.	Yes	All
Ley Creek Sediment	NYSDEC 1999 Technical Guidance for Screening of Contaminated Sediments - Sediment Quality Criteria	State guidance document that provides sediment quality criteria for aquatic sediments.	Potentially applicable to Ley Creek sediment.	Yes	All
Potential Location-Specific SCGs					
Wetlands	6 NYCRR 663 - Freshwater wetland permit requirements	Actions occurring in a designated freshwater wetland (within 100 ft) must be approved by NYSDEC or its designee. Activities occurring adjacent to freshwater wetlands must: be compatible with preservation, protection, and conservation of wetlands and benefits; result in no more than insubstantial degradation to or loss of any part of the wetland; and be compatible with public health and welfare.	Potentially applicable based on available mapping which shows that the wetland area on the National Grid property west of the facility is a portion of State-mapped wetland SYE 6. In addition, wetland SYE 6 extends north and south of the NYS Thruway, north and south side of Factory Avenue, and east and west of Townline Road.	Yes	2A, 2B and 3
Wetlands and 100-yr floodplain	United States Environmental Protection Agency (USEPA) Office of Solid Waste and Emergency Response (OSWER) Directive 9280.0-02 (August 1985) - Policy on Floodplains and Wetlands Assessments for Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Actions	Superfund actions must meet the substantive requirements of Executive Order 11988 (Floodplain Management) and Executive Order 11990 (Protection of Wetlands). Executive Order 11988 requires that consideration of flood hazards and floodplain management including restoration and preservation as natural undeveloped floodplains be included in the evaluation of the potential effects of remedial actions. Executive Order 11990 requires that activities occurring in wetlands be conducted in such a manner as to minimize the destruction, loss and degradation of wetlands.	Potentially applicable because portions of off-site areas are within floodplain and/or wetland areas. Specifically, portions of off-site areas are located in the 100-yr floodplain for Ley Creek and based on available mapping, the wetland area on the National Grid property west of the facility is a portion of State-mapped wetland SYE 6. In addition, wetland SYE 6 extends north and south of the NYS Thruway, north and south side of Factory Avenue, and east and west of Townline Road.	Yes	2A, 2B and 3

TABLE 4-1: EVALUATION OF POTENTIAL STANDARDS, CRITERIA AND GUIDANCE (SCGs)

Medium/Location/ Action	Citation	Requirements	Comments	Potential SCG	Alt(s)
Potential Location-Specific SCGs (continued)					
100-yr floodplain	6 NYCRR 373-2.2 - Location standards for hazardous waste treatment, storage, and disposal facilities - 100-yr floodplain	Hazardous waste treatment, storage, or disposal facilities located in a 100-yr floodplain must be designed, constructed, operated and maintained to prevent washout of hazardous waste during a 100-yr flood.	Portions of off-site areas are located in the 100-yr floodplain for Ley Creek. Based on analytical results of soil and sediment, there is the potential for some excavated materials to exhibit concentrations of PCBs in excess of 50 mg/kg, and thus, be categorized as hazardous waste in New York State. Potentially applicable for soil, sediment or construction waters found to be hazardous waste and requiring temporary storage or treatment as part of remedy implementation.	Yes	All
Within 61 meters (200 ft) of a fault displaced in Holocene time	40 Code of Federal Regulations (CFR) Part 264.18	New treatment, storage, or disposal of hazardous waste is not allowed.	Not applicable. Off-site areas are not located within 200 ft of a fault displaced in Holocene time, as listed in 40 CFR 264 Appendix VI.	No	None
River or stream	16 United States Code (USC) 661 - Fish and Wildlife Coordination Act	Requires protection of fish and wildlife in a stream when performing activities that modify a stream or river.	Potentially applicable to remediation of Ley Creek sediment.	Yes	2A, 2B and 3
Habitat of an endangered or threatened species	6 NYCRR 182	Provides requirements to minimize damage to habitat of an endangered species.	Not applicable, as no endangered or threatened species or their habitat were found in the off-site areas.	No	None
	Endangered Species Act	Provides a means for conserving various species of fish, wildlife, and plants that are threatened with extinction.	Not applicable, as no endangered or threatened species or their habitat were found in the off-site areas.	No	None
Historical property or district	National Historic Preservation Act	Remedial actions are required to account for the effects of remedial activities on any historic properties included on or eligible for inclusion on the National Register of Historic Places.	Not applicable, as no historic properties were identified in the off-site areas.	No	None
Construction in a floodplain	6 NYCRR 500 - Floodplain management regulations development permits	Hazardous waste treatment, storage, or disposal facilities located in a 100-yr floodplain must be designed, constructed, operated and maintained to prevent washout of hazardous waste during a 100-yr flood.	Portions of off-site areas are located in the 100-yr floodplain for Ley Creek. Based on analytical results of soil and sediment, there is the potential for some excavated materials to exhibit concentrations of PCBs in excess of 50 mg/kg, and thus, be categorized as hazardous waste in New York State. Potentially applicable.	Yes	2A, 2B and 3
Treatment actions	6 NYCRR 373 - Hazardous waste management facilities	Provides requirements for managing hazardous wastes.	Based on analytical results of soil and sediment, there is the potential for some excavated materials to exhibit concentrations of PCBs in excess of 50 mg/kg, and thus, be categorized as hazardous waste in New York State. Potentially applicable to excavated soil and sediment.	Yes	2A, 2B and 3

TABLE 4-1: EVALUATION OF POTENTIAL STANDARDS, CRITERIA AND GUIDANCE (SCGs)

Medium/Location/ Action	Citation	Requirements	Comments	Potential SCG	Alt(s)
Potential Action-Specific SCGs					
General excavation	6 NYCRR 257-3 - Air Quality Standards	Provide limitations for generation of constituents including particulate matter.	Not applicable because dust emissions would not be from a point source. May be relevant for consideration during dust generating activities such as earth moving, grading and excavation of soil.	Yes	2A, 2B and 3
	40 CFR 50.1 through 50.12 - National Ambient Air Quality Standards.	Provides air quality standards for pollutants considered harmful to public health and the environment. The six principle pollutants include carbon monoxide, lead, nitrogen dioxide, particulates, ozone, and sulfur oxides.	Potentially applicable during dust generating activities such as earth moving, grading, and excavation of soil.	Yes	2A, 2B and 3
Generation and disposal of hazardous material and treatment residuals	6 NYCRR 360 - Solid Waste Management Facilities	Provides requirements for management of solid wastes, including disposal and closure of disposal facilities.	Potentially applicable to excavated soil and sediment, and to treatment residuals associated with construction water management.	Yes	2A, 2B and 3
Construction	29 CFR Part 1910 - Occupational Safety and Health Standards - Hazardous Waste Operations and Emergency Response	Remedial activities must be in accordance with applicable Occupational Safety and Health Administration (OSHA) requirements.	Applicable for construction phase of remediation.	Yes	2A, 2B and 3
	29 CFR Part 1926 - Safety and Health Regulations for Construction	Remedial construction activities must be in accordance with applicable OSHA requirements.	Applicable for construction phase of remediation.	Yes	2A, 2B and 3
Transportation	6 NYCRR 364 - Waste Transporter Permits	Hazardous waste transport must be conducted by a hauler permitted under 6 NYCRR 364.	Based on analytical results of soil and sediment, there is the potential for some excavated materials to exhibit concentrations of PCBs in excess of 50 mg/kg, and thus, be categorized as hazardous waste in New York State. Potentially applicable.	Yes	2A, 2B and 3
	6 NYCRR Part 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters, and Facilities	Substantive hazardous waste generator and transportation requirements must be met when hazardous waste is generated for disposal. Generator requirements include obtaining a USEPA Identification Number and manifesting hazardous waste for disposal.	Based on analytical results of soil and sediment, there is the potential for some excavated materials to exhibit concentrations of PCBs in excess of 50 mg/kg, and thus, be categorized as hazardous waste in New York State. Potentially applicable.	Yes	2A, 2B and 3
	49 CFR 172-174 and 177-179 - Department of Transportation (DOT) Regulations	Hazardous waste transport to off-site disposal facilities must be conducted in accordance with applicable DOT requirements	Based on analytical results of soil and sediment, there is the potential for some excavated materials to exhibit concentrations of PCBs in excess of 50 mg/kg, and thus, be categorized as hazardous waste in New York State. Potentially applicable.	Yes	2A, 2B and 3

TABLE 4-1: EVALUATION OF POTENTIAL STANDARDS, CRITERIA AND GUIDANCE (SCGs)

Medium/Location/ Action	Citation	Requirements	Comments	Potential SCG	Alt(s)
Potential Action-Specific SCGs (continued)					
Land disposal of hazardous waste	6 NYCRR 376 - Land disposal restrictions	Provides treatment standards to be met prior to land disposal of hazardous wastes.	Based on analytical results of soil and sediment, there is the potential for some excavated materials to exhibit concentrations of PCBs in excess of 50 mg/kg, and thus, be categorized as hazardous waste in New York State. Potentially applicable.	Yes	2A, 2B and 3
Disposal of Toxic Substances Control Act (TSCA) waste	40 CFR 761	Provides requirements for disposal of TSCA wastes.	Based on analytical results of soil and sediment, there is the potential for some excavated materials to exhibit concentrations of PCBs in excess of 50 mg/kg, and thus, be categorized as TSCA waste. Potentially applicable.	Yes	2A, 2B and 3
Discharge to surface water	6 NYCRR 750 through 758 - State Pollutant Discharge Elimination System (SPDES) Regulations	Substantive requirements associated with discharge to a water body (limitations and monitoring requirements) would be set by NYSDEC.	Applicable to treated water from dewatering operations in the event that these are discharged to Ley Creek.	Yes	2A, 2B and 3
Generation of air emissions	NYS Air Guide 1	Provides annual guideline concentrations (AGLs) and short-term guideline concentrations (SGCs) for specific chemicals. These are property boundary limitations that would result in no adverse health effects.	Potentially applicable.	Yes	2A, 2B and 3
	NYS Technical Administration Guidance Memorandum (TAGM) 4031 - Dust Suppressing and Particle Monitoring at Inactive Hazardous Waste Disposal Sites	Provides limitations on dust emissions.	Potentially applicable.	Yes	2A, 2B and 3
Construction storm water management	NYSDEC General permit for storm water discharges associated with construction activities. Pursuant to Article 17 Titles 7 and 8 and Article 70 of the Environmental Conservation Law.	The regulation prohibits discharge of materials other than storm water and all discharges that contain a hazardous substance in excess of reportable quantities established by 40 CFR 117.3 or 40 CFR 302.4, unless a separate NPDES permit has been issued to regulate those discharges. A permit must be acquired if activities involve disturbance of 5 acres or more. If the project is covered under the general permit, the following are required: development and implementation of a storm water pollution prevention plan; development and implementation of a monitoring program; all records must be retained for a period of at least 3 years after construction is complete.	Potentially applicable.	Yes	2A, 2B and 3

TABLE 4-1: EVALUATION OF POTENTIAL STANDARDS, CRITERIA AND GUIDANCE (SCGs)

Medium/Location/ Action	Citation	Requirements	Comments	Potential SCG	Alt(s)

Notes:
CFR - Code of Federal Regulations
DOT - Department of Transportation
NPDES - National Pollutant Discharge Elimination Discharge System
NYCRR - New York Code of Rules and Regulations
NYSDEC - New York State Department of Environmental Conservation
PCB - Polychlorinated biphenyl
SCO - Soil Cleanup Objective
TAGM - NYS Technical Administration Guidance Memorandum
TSCA - Toxic Substances Control Act
USEPA - United States Environmental Protection Agency

TABLE 4-2: POTENTIAL PRELIMINARY REMEDIAL GOALS FOR SOIL

CONSTITUENT	AREA	POTENTIAL PRELIMINARY REMEDIAL GOAL FOR SOIL (mg/kg)	DERIVATION NOTE	RATIONALE
PCBs	Factory Ave Area (North of Former IFG Facility)	1	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. While reasonably anticipated future use is anticipated to be industrial based on zoning, selection of the commercial land use takes into account current unrestricted access by the public to this area. Selected PRG is protective of human health. Not considered quality habitat.
	National Grid Property Along Access Road	25	NYCRR Part 375 Soil Cleanup Objective for Industrial Use	Promulgated Soil Cleanup Objective for Industrial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	Factory Ave Area (at Lemoyne Ave)	1	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	Ley Creek Floodplain	1	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Mixed land use including commercial, industrial and residential. Promulgated Soil Cleanup Objective for Residential Land Use considered for selection of PRG. Near-creek banks may be considered quality habitat. Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources considered for selection of PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use, and protective of ecological receptors.
	National Grid Wetland	1	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources selected as PRG. Selected PRG is protective of ecological receptors, based on the SCO.
	Off-site Soil	0.1	NYCRR Part 375 Soil Cleanup Objective for Unrestricted Use (NYSDEC 2006)	Promulgated Soil Cleanup Objective for Unrestricted Land Use

TABLE 4-2: POTENTIAL PRELIMINARY REMEDIAL GOALS FOR SOIL

CONSTITUENT	AREA	POTENTIAL PRELIMINARY REMEDIAL GOAL FOR SOIL (mg/kg)	DERIVATION NOTE	RATIONALE
Arsenic	Factory Ave Area (North of Former IFG Facility)	16	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. While reasonably anticipated future use is anticipated to be industrial based on zoning, selection of the commercial land use takes into account current unrestricted access by the public to this area. Selected PRG is protective of human health. Not considered quality habitat.
	National Grid Property Along Access Road	16	NYCRR Part 375 Soil Cleanup Objective for Industrial Use	Promulgated Soil Cleanup Objective for Industrial Land Use selected as PRG. Selected PRG is protective of human health, based on land use-based SCO. Not considered quality habitat.
	Factory Ave Area (at Lemoyne Ave)	16	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	Ley Creek Floodplain	13	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Mixed land use including commercial, industrial and residential. Promulgated Soil Cleanup Objective for Residential Land Use considered for selection of PRG. Near-creek banks may be considered quality habitat. Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources considered for selection of PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use, and protective of ecological receptors.
	National Grid Wetland	13	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources selected as PRG. Selected PRG is protective of ecological receptors, based the SCO.
	Off-site Soil	13	NYCRR Part 375 Soil Cleanup Objective for Unrestricted Use (NYSDEC 2006)	Promulgated Soil Cleanup Objective for Unrestricted Land Use

TABLE 4-2: POTENTIAL PRELIMINARY REMEDIAL GOALS FOR SOIL

CONSTITUENT	AREA	POTENTIAL PRELIMINARY REMEDIAL GOAL FOR SOIL (mg/kg)	DERIVATION NOTE	RATIONALE
Chromium	Factory Ave Area (North of Former IFG Facility)	1,500	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. While reasonably anticipated future use is anticipated to be industrial based on zoning, selection of the commercial land use takes into account current unrestricted access by the public to this area. Selected PRG is protective of human health. Not considered quality habitat.
	National Grid Property Along Access Road	6,800	NYCRR Part 375 Soil Cleanup Objective for Industrial Use	Promulgated Soil Cleanup Objective for Industrial Land Use selected as PRG. Selected PRG is protective of human health, based on land use-based SCO. Not considered quality habitat.
	Factory Ave Area (at Lemoyne Ave)	1,500	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	Ley Creek Floodplain	36	NYCRR Part 375 Soil Cleanup Objective for Residential Use	Mixed land use including commercial, industrial and residential. Promulgated Soil Cleanup Objective for Residential Land Use considered for selection of PRG. Near-creek banks may be considered quality habitat. Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources considered for selection of PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use, and protective of ecological receptors.
	National Grid Wetland	41	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources selected as PRG. Selected PRG is protective of ecological receptors, based the SCO.
	Off-site Soil	30	NYCRR Part 375 Soil Cleanup Objective for Unrestricted Use (NYSDEC 2006)	Promulgated Soil Cleanup Objective for Unrestricted Land Use

TABLE 4-2: POTENTIAL PRELIMINARY REMEDIAL GOALS FOR SOIL

CONSTITUENT	AREA	POTENTIAL PRELIMINARY REMEDIAL GOAL FOR SOIL (mg/kg)	DERIVATION NOTE	RATIONALE
Copper	Factory Ave Area (North of Former IFG Facility)	270	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. While reasonably anticipated future use is anticipated to be industrial based on zoning, selection of the commercial land use takes into account current unrestricted access by the public to this area. Selected PRG is protective of human health. Not considered quality habitat.
	National Grid Property Along Access Road	10,000	NYCRR Part 375 Soil Cleanup Objective for Industrial Use	Promulgated Soil Cleanup Objective for Industrial Land Use selected as PRG. Selected PRG is protective of human health, based on land use-based SCO. Not considered quality habitat.
	Factory Ave Area (at Lemoyne Ave)	270	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	Ley Creek Floodplain	50	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Mixed land use including commercial, industrial and residential. Promulgated Soil Cleanup Objective for Residential Land Use considered for selection of PRG. Near-creek banks may be considered quality habitat. Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources considered for selection of PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use, and protective of ecological receptors.
	National Grid Wetland	50	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources selected as PRG. Selected PRG is protective of ecological receptors, based the SCO.
	Off-site Soil	50	NYCRR Part 375 Soil Cleanup Objective for Unrestricted Use (NYSDEC 2006)	Promulgated Soil Cleanup Objective for Unrestricted Land Use

TABLE 4-2: POTENTIAL PRELIMINARY REMEDIAL GOALS FOR SOIL

CONSTITUENT	AREA	POTENTIAL PRELIMINARY REMEDIAL GOAL FOR SOIL (mg/kg)	DERIVATION NOTE	RATIONALE
Lead	Factory Ave Area (North of Former IFG Facility)	1,000	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. While reasonably anticipated future use is anticipated to be industrial based on zoning, selection of the commercial land use takes into account current unrestricted access by the public to this area. Selected PRG is protective of human health. Not considered quality habitat.
	National Grid Property Along Access Road	3,900	NYCRR Part 375 Soil Cleanup Objective for Industrial Use	Promulgated Soil Cleanup Objective for Industrial Land Use selected as PRG. Selected PRG is protective of human health, based on land use-based SCO. Not considered quality habitat.
		800	USEPA Industrial Soil Regional Screening Level (RSL)	USEPA Regional Screening Level Summary Table (USEPA 2012)
	Factory Ave Area (at Lemoyne Ave)	1,000	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	Ley Creek Floodplain	63	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Mixed land use including commercial, industrial and residential. Promulgated Soil Cleanup Objective for Residential Land Use considered for selection of PRG. Near-creek banks may be considered quality habitat. Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources considered for selection of PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use, and protective of ecological receptors.
	National Grid Wetland	63	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources selected as PRG. Selected PRG is protective of ecological receptors, based the SCO.
	Off-site Soil	63	NYCRR Part 375 Soil Cleanup Objective for Unrestricted Use (NYSDEC 2006)	Promulgated Soil Cleanup Objective for Unrestricted Land Use

TABLE 4-2: POTENTIAL PRELIMINARY REMEDIAL GOALS FOR SOIL

CONSTITUENT	AREA	POTENTIAL PRELIMINARY REMEDIAL GOAL FOR SOIL (mg/kg)	DERIVATION NOTE	RATIONALE
Nickel	Factory Ave Area (North of Former IFG Facility)	310	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. While reasonably anticipated future use is anticipated to be industrial based on zoning, selection of the commercial land use takes into account current unrestricted access by the public to this area. Selected PRG is protective of human health. Not considered quality habitat.
	National Grid Property Along Access Road	10,000	NYCRR Part 375 Soil Cleanup Objective for Industrial Use	Promulgated Soil Cleanup Objective for Industrial Land Use selected as PRG. Selected PRG is protective of human health, based on land use-based SCO. Not considered quality habitat.
	Factory Ave Area (at Lemoyne Ave)	310	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	Ley Creek Floodplain	30	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Mixed land use including commercial, industrial and residential. Promulgated Soil Cleanup Objective for Residential Land Use considered for selection of PRG. Near-creek banks may be considered quality habitat. Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources considered for selection of PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use, and protective of ecological receptors.
	National Grid Wetland	30	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources selected as PRG. Selected PRG is protective of ecological receptors, based the SCO.
	Off-site Soil	30	NYCRR Part 375 Soil Cleanup Objective for Unrestricted Use (NYSDEC 2006)	Promulgated Soil Cleanup Objective for Unrestricted Land Use

TABLE 4-2: POTENTIAL PRELIMINARY REMEDIAL GOALS FOR SOIL

CONSTITUENT	AREA	POTENTIAL PRELIMINARY REMEDIAL GOAL FOR SOIL (mg/kg)	DERIVATION NOTE	RATIONALE
Zinc	Factory Ave Area (North of Former IFG Facility)	10,000	NYCRR Part 375 Soil Cleanup Objective for Industrial Use	Promulgated Soil Cleanup Objective for Industrial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	National Grid Property Along Access Road	10,000	NYCRR Part 375 Soil Cleanup Objective for Industrial Use	Promulgated Soil Cleanup Objective for Industrial Land Use selected as PRG. Selected PRG is protective of human health, based on land use-based SCO. Not considered quality habitat.
	Factory Ave Area (at Lemoyne Ave)	10,000	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	Ley Creek Floodplain	109	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Mixed land use including commercial, industrial and residential. Promulgated Soil Cleanup Objective for Residential Land Use considered for selection of PRG. Near-creek banks may be considered quality habitat. Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources considered for selection of PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use, and protective of ecological receptors.
	National Grid Wetland	109	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources selected as PRG. Selected PRG is protective of ecological receptors, based the SCO.
	Off-site Soil	109	NYCRR Part 375 Soil Cleanup Objective for Unrestricted Use (NYSDEC 2006)	Promulgated Soil Cleanup Objective for Unrestricted Land Use

Notes:
Chromium PRGs refer to Trivalent Chromium.
SCO - Soil Cleanup Objective
PRG - Preliminary Remedial Goal
PCBs - Polychlorinated Biphenyls
NYSDEC - New York State Department of Environmental Conservation
USEPA - United States Environmental Protection Agency
- New York Code of Rules and Regulations (NYCRR) Subpart 375 SCO (Protection of Ecological Resources, Commercial Use, and Industrial Use) from NYCRR Subpart 375-6 Remedial Program SCOs, Table 6.8(b) Restricted Use SCOs, promulgated regulation effective December 14, 2006.
- NYCRR Subpart 375 SCO (Unrestricted Use) from NYCRR Subpart 375-6 Remedial Program SCOs, Table 6.8(a) Unrestricted Use SCOs, promulgated regulation effective December 14, 2006.

Off-site soil includes: Soil in the Factory Avenue areas (between the Former IFG Facility northern property boundary and Factory Avenue and along the shoulder of Factory Avenue between Lemoyne Avenue and Route 11); soil in the National Grid Wetland and access road along the National Grid property; and soil in the Ley Creek Floodplain.

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TABLE 4-3: POTENTIAL PRELIMINARY REMEDIAL GOALS FOR SEDIMENT

CONSTITUENT	SELECTED PRG FOR CALCULATION OF REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES (mg/kg)	DERIVATION NOTE	RATIONALE
PCBs	2.2	Calculated based on Site-specific BSAF for protection of mink (Appendix B)	Site-specific risk-based calculation for acceptable ecological risk selected as PRG. Selected PRG is protective of human health, based on site-specific human risk calculation for direct contact with sediments.
	1	USEPA Region 2 policy Risk-Based Concentration	Protective of human consumption of fish tissue impacted via bioaccumulation of PCBs from sediment (USEPA Region 2). Risk-based calculation based on fish tissue concentration associated with a noncancer hazard quotient of 1 and an acess lifetime cancer risk of $4x10^{-5}$.
		Used Previously as Cleanup Goal in New York State	Previously Selected Cleanup Goal for New York State Hazardous Waste Sites; memorialized in the General Motors-Massena Record of Decision.
	0.28	Average Upstream Concentration*	Average upstream concentration selected as PRG to be reflective of upstream site-specific conditions. Selected PRG is protective of ecological receptors, based on site-specific ecological risk-based calculation. Selected PRG is protective of human health, based on site-specific human risk calculations for direct contact with sediments.

Notes:
PRG - Preliminary Remedial Goal
PCBs - Polychlorinated Biphenyls
BSAF - Biota-sediment accumulation factor
NYSDEC - New York State Department of Environmental Conservation
USEPA - United States Environmental Protection Agency
* - Average for Upstream Surface Sediment used for consistency (BERA risk calculations use surface sediment; 0-0.5 ft).

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TABLE 5-1: SUMMARY OF PRGs SELECTED FOR CALCULATION OF SOIL REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES

CONSTITUENT	AREA	SELECTED PRG FOR CALCULATION OF REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES (mg/kg)	DERIVATION NOTE	RATIONALE
PCBs	Factory Ave Area (North of Former IFG Facility)	1	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. While reasonably anticipated future use is anticipated to be industrial based on zoning, selection of the commercial land use takes into account current unrestricted access by the public to this area. Selected PRG is protective of human health. Not considered quality habitat.
	National Grid Property Along Access Road	25	NYCRR Part 375 Soil Cleanup Objective for Industrial Use	Promulgated Soil Cleanup Objective for Industrial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	Factory Ave Area (at Lemoyne Ave)	1	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	Ley Creek Floodplain	1	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Mixed land use including commercial, industrial and residential. Promulgated Soil Cleanup Objective for Residential Land Use considered for selection of PRG. Near-creek banks may be considered quality habitat. Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources considered for selection of PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use, and protective of ecological receptors.
	National Grid Wetland	1	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources selected as PRG. Selected PRG is protective of ecological receptors, based on the SCO.

TABLE 5-1: SUMMARY OF PRGs SELECTED FOR CALCULATION OF SOIL REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES

CONSTITUENT	AREA	SELECTED PRG FOR CALCULATION OF REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES (mg/kg)	DERIVATION NOTE	RATIONALE
Arsenic	Factory Ave Area (North of Former IFG Facility)	16	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. While reasonably anticipated future use is anticipated to be industrial based on zoning, selection of the commercial land use takes into account current unrestricted access by the public to this area. Selected PRG is protective of human health. Not considered quality habitat.
	National Grid Property Along Access Road	16	NYCRR Part 375 Soil Cleanup Objective for Industrial Use	Promulgated Soil Cleanup Objective for Industrial Land Use selected as PRG. Selected PRG is protective of human health, based on land use-based SCO. Not considered quality habitat.
	Factory Ave Area (at Lemoyne Ave)	16	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	Ley Creek Floodplain	13	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Mixed land use including commercial, industrial and residential. Promulgated Soil Cleanup Objective for Residential Land Use considered for selection of PRG. Near-creek banks may be considered quality habitat. Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources considered for selection of PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use, and protective of ecological receptors.
	National Grid Wetland	13	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources selected as PRG. Selected PRG is protective of ecological receptors, based the SCO.

TABLE 5-1: SUMMARY OF PRGs SELECTED FOR CALCULATION OF SOIL REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES

CONSTITUENT	AREA	SELECTED PRG FOR CALCULATION OF REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES (mg/kg)	DERIVATION NOTE	RATIONALE
Chromium	Factory Ave Area (North of Former IFG Facility)	1,500	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. While reasonably anticipated future use is anticipated to be industrial based on zoning, selection of the commercial land use takes into account current unrestricted access by the public to this area. Selected PRG is protective of human health. Not considered quality habitat.
	National Grid Property Along Access Road	6,800	NYCRR Part 375 Soil Cleanup Objective for Industrial Use	Promulgated Soil Cleanup Objective for Industrial Land Use selected as PRG. Selected PRG is protective of human health, based on land use-based SCO. Not considered quality habitat.
	Factory Ave Area (at Lemoyne Ave)	1,500	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	Ley Creek Floodplain	36	NYCRR Part 375 Soil Cleanup Objective for Residential Use	Mixed land use including commercial, industrial and residential. Promulgated Soil Cleanup Objective for Residential Land Use considered for selection of PRG. Near-creek banks may be considered quality habitat. Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources considered for selection of PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use, and protective of ecological receptors.
	National Grid Wetland	41	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources selected as PRG. Selected PRG is protective of ecological receptors, based the SCO.

TABLE 5-1: SUMMARY OF PRGs SELECTED FOR CALCULATION OF SOIL REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES

CONSTITUENT	AREA	SELECTED PRG FOR CALCULATION OF REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES (mg/kg)	DERIVATION NOTE	RATIONALE
Copper	Factory Ave Area (North of Former IFG Facility)	270	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. While reasonably anticipated future use is anticipated to be industrial based on zoning, selection of the commercial land use takes into account current unrestricted access by the public to this area. Selected PRG is protective of human health. Not considered quality habitat.
	National Grid Property Along Access Road	10,000	NYCRR Part 375 Soil Cleanup Objective for Industrial Use	Promulgated Soil Cleanup Objective for Industrial Land Use selected as PRG. Selected PRG is protective of human health, based on land use-based SCO. Not considered quality habitat.
	Factory Ave Area (at Lemoyne Ave)	270	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	Ley Creek Floodplain	50	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Mixed land use including commercial, industrial and residential. Promulgated Soil Cleanup Objective for Residential Land Use considered for selection of PRG. Near-creek banks may be considered quality habitat. Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources considered for selection of PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use, and protective of ecological receptors.
	National Grid Wetland	50	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources selected as PRG. Selected PRG is protective of ecological receptors, based the SCO.

TABLE 5-1: SUMMARY OF PRGs SELECTED FOR CALCULATION OF SOIL REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES

CONSTITUENT	AREA	SELECTED PRG FOR CALCULATION OF REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES (mg/kg)	DERIVATION NOTE	RATIONALE
Lead	Factory Ave Area (North of Former IFG Facility)	1,000	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. While reasonably anticipated future use is anticipated to be industrial based on zoning, selection of the commercial land use takes into account current unrestricted access by the public to this area. Selected PRG is protective of human health. Not considered quality habitat.
	National Grid Property Along Access Road	3,900	NYCRR Part 375 Soil Cleanup Objective for Industrial Use	Promulgated Soil Cleanup Objective for Industrial Land Use selected as PRG. Selected PRG is protective of human health, based on land use-based SCO. Not considered quality habitat.
		800	USEPA Industrial Soil Regional Screening Level (RSL)	USEPA Regional Screening Level Summary Table (USEPA 2012)
	Factory Ave Area (at Lemoyne Ave)	1,000	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	Ley Creek Floodplain	63	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Mixed land use including commercial, industrial and residential. Promulgated Soil Cleanup Objective for Residential Land Use considered for selection of PRG. Near-creek banks may be considered quality habitat. Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources considered for selection of PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use, and protective of ecological receptors.
	National Grid Wetland	63	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources selected as PRG. Selected PRG is protective of ecological receptors, based the SCO.

TABLE 5-1: SUMMARY OF PRGs SELECTED FOR CALCULATION OF SOIL REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES

CONSTITUENT	AREA	SELECTED PRG FOR CALCULATION OF REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES (mg/kg)	DERIVATION NOTE	RATIONALE
Nickel	Factory Ave Area (North of Former IFG Facility)	310	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. While reasonably anticipated future use is anticipated to be industrial based on zoning, selection of the commercial land use takes into account current unrestricted access by the public to this area. Selected PRG is protective of human health. Not considered quality habitat.
	National Grid Property Along Access Road	10,000	NYCRR Part 375 Soil Cleanup Objective for Industrial Use	Promulgated Soil Cleanup Objective for Industrial Land Use selected as PRG. Selected PRG is protective of human health, based on land use-based SCO. Not considered quality habitat.
	Factory Ave Area (at Lemoyne Ave)	310	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	Ley Creek Floodplain	30	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Mixed land use including commercial, industrial and residential. Promulgated Soil Cleanup Objective for Residential Land Use considered for selection of PRG. Near-creek banks may be considered quality habitat. Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources considered for selection of PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use, and protective of ecological receptors.
	National Grid Wetland	30	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources selected as PRG. Selected PRG is protective of ecological receptors, based the SCO.

TABLE 5-1: SUMMARY OF PRGs SELECTED FOR CALCULATION OF SOIL REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES

CONSTITUENT	AREA	SELECTED PRG FOR CALCULATION OF REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES (mg/kg)	DERIVATION NOTE	RATIONALE
Zinc	Factory Ave Area (North of Former IFG Facility)	10,000	NYCRR Part 375 Soil Cleanup Objective for Industrial Use	Promulgated Soil Cleanup Objective for Industrial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	National Grid Property Along Access Road	10,000	NYCRR Part 375 Soil Cleanup Objective for Industrial Use	Promulgated Soil Cleanup Objective for Industrial Land Use selected as PRG. Selected PRG is protective of human health, based on land use-based SCO. Not considered quality habitat.
	Factory Ave Area (at Lemoyne Ave)	10,000	NYCRR Part 375 Soil Cleanup Objective for Commercial Use	Promulgated Soil Cleanup Objective for Commercial Land Use selected as PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use. Not considered quality habitat.
	Ley Creek Floodplain	109	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Mixed land use including commercial, industrial and residential. Promulgated Soil Cleanup Objective for Residential Land Use considered for selection of PRG. Near-creek banks may be considered quality habitat. Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources considered for selection of PRG. Selected PRG is protective of human health, based the SCO corresponding to the reasonably anticipated future land use, and protective of ecological receptors.
	National Grid Wetland	109	NYCRR Part 375 Soil Cleanup Objective for Protection of Ecological Resources	Ecological habitat area. Promulgated Soil Cleanup Objective for Protection of Ecological Resources selected as PRG. Selected PRG is protective of ecological receptors, based the SCO.

Notes:
Chromium PRGs refer to Trivalent Chromium.
SCO - Soil Cleanup Objective
PRG - Preliminary Remedial Goal
PCBs - Polychlorinated Biphenyls
NYSDEC - New York State Department of Environmental Conservation
USEPA - United States Environmental Protection Agency
- New York Code of Rules and Regulations (NYCRR) Subpart 375 SCO (Protection of Ecological Resources, Commercial Use, and Industrial Use) from NYCRR Subpart 375-6 Remedial Program SCOs, Table 6.8(b) Restricted Use SCOs, promulgated regulation effective December 14, 2006.

- NYCRR Subpart 375 SCO (Unrestricted Use) from NYCRR Subpart 375-6 Remedial Program SCOs, Table 6.8(a) Unrestricted Use SCOs, promulgated regulation effective December 14, 2006.

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TABLE 5-2: SUMMARY OF PRGs SELECTED FOR CALCULATION OF SEDIMENT REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES

CONSTITUENT	SELECTED PRG FOR CALCULATION OF REASONABLY ANTICIPATED FUTURE USE AREAS AND VOLUMES (mg/kg)	DERIVATION NOTE	RATIONALE
PCBs	2.2	Calculated based on Site-specific BSAF for protection of mink (Appendix B)	Site-specific risk-based calculation for acceptable ecological risk selected as PRG. Selected PRG is protective of human health, based on site-specific human risk calculation for direct contact with sediments.
	1	USEPA Region 2 policy Risk-Based Concentration	Protective of human consumption of fish tissue impacted via bioaccumulation of PCBs from sediment (USEPA Region 2). Risk-based calculation based on fish tissue concentration associated with a noncancer hazard quotient of 1 and an acess lifetime cancer risk of $4x10^{-5}$.
		Used Previously as Cleanup Goal in New York State	Previously Selected Cleanup Goal for New York State Hazardous Waste Sites; memorialized in the General Motors-Massena Record of Decision.

Notes:
PRG - Preliminary Remedial Goal
PCBs - Polychlorinated Biphenyls
BSAF - Biota-sediment accumulation factor
NYSDEC - New York State Department of Environmental Conservation
USEPA - United States Environmental Protection Agency

TABLE 5-3: SUMMARY OF PRGs SELECTED FOR CALCULATION OF SOIL UNRESTRICTED USE AREAS AND VOLUMES

CONSTITUENT	SELECTED PRG FOR CALCULATION OF UNRESTRICTED USE AREAS AND VOLUMES (mg/kg)	DEVIATION NOTE	RATIONALE
PCBs	0.1	NYCRR Part 375 Soil Cleanup Objective for Unrestricted Use (NYSDEC 2006)	Promulgated Soil Cleanup Objective for Unrestricted Land Use
Arsenic	13	NYCRR Part 375 Soil Cleanup Objective for Unrestricted Use (NYSDEC 2006)	Promulgated Soil Cleanup Objective for Unrestricted Land Use
Chromium	30	NYCRR Part 375 Soil Cleanup Objective for Unrestricted Use (NYSDEC 2006)	Promulgated Soil Cleanup Objective for Unrestricted Land Use
Copper	50	NYCRR Part 375 Soil Cleanup Objective for Unrestricted Use (NYSDEC 2006)	Promulgated Soil Cleanup Objective for Unrestricted Land Use
Lead	63	NYCRR Part 375 Soil Cleanup Objective for Unrestricted Use (NYSDEC 2006)	Promulgated Soil Cleanup Objective for Unrestricted Land Use
Nickel	30	NYCRR Part 375 Soil Cleanup Objective for Unrestricted Use (NYSDEC 2006)	Promulgated Soil Cleanup Objective for Unrestricted Land Use
Zinc	109	NYCRR Part 375 Soil Cleanup Objective for Unrestricted Use (NYSDEC 2006)	Promulgated Soil Cleanup Objective for Unrestricted Land Use

Notes:
Chromium PRG refers to Trivalent Chromium.
PRG - Preliminary Remedial Goal
PCBs - Polychlorinated Biphenyls
New York Code of Rules and Regulations (NYCRR) Subpart 375 SCO (Unrestricted Use) from NYCRR Subpart 375-6 Remedial Program SCOs, Table 6.8(a) Unrestricted Use SCOs, promulgated regulation effective December 14, 2006.
NYSDEC - New York State Department of Environmental Conservation

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TABLE 5-4: SUMMARY OF PRGs SELECTED FOR CALCULATION OF SEDIMENT UNRESTRICTED USE AREAS AND VOLUMES

CONSTITUENT	SELECTED PRG FOR UNRESTRICTED USE AREAS AND VOLUMES (mg/kg)	DERIVATION NOTE	RATIONALE
PCBs	0.28	Average Upstream Concentration*	Average upstream concentration selected as PRG to be reflective of upstream site-specific conditions. Selected PRG is protective of ecological receptors, based on site-specific ecological risk-based calculation. Selected PRG is protective of human health, based on site-specific human risk calculations for direct contact with sediments.

Notes:
PRG - Preliminary Remedial Goal
PCBs - Polychlorinated Biphenyls
* - Average for Upstream Surface Sediment used for consistency (BERA risk calculations use surface sediment; 0-0.5 ft).

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TABLE 5-5: SUMMARY OF ESTIMATED VOLUMES OF MEDIA OF CONCERN

MEDIUM	LOCATION		REASONABLY ANTICIPATED FUTURE USE (Cubic Yards)*			UNRESTRICTED USE (Cubic Yards)	
			PRG	Scenario A (Cubic Yards)	Scenario B (Cubic Yards)	PRG	
Soil	National Grid Property	Wetland	NYCRR Subpart 375 SCO (Protection of Eco. Resources)	7,800	8,600	NYCRR Subpart 375 SCO (Unrestricted Use)	14,400
		Access Road	NYCRR Subpart 375 SCO (Industrial Use)	30	30		760
		Total		***7,830***	***8,630***		***15,160***
	Ley Creek Floodplain	Portions of Ley Creek Floodplain proximate to Ley Creek	NYCRR Subpart 375 SCO (Protection of Eco. Resources)	*2,900*	*2,900*	NYCRR Subpart 375 SCO (Unrestricted Use)	*8,400*
		Total		***2,900***	***2,900***		***8,400***
	Factory Avenue	Between Lemoyne Avenue and Route 11	NYCRR Subpart 375 SCO (Commercial Use)	450	1,100	NYCRR Subpart 375 SCO (Unrestricted Use)	3,400
		North of Former IFG Facility	NYCRR Subpart 375 SCO (Commercial Use)	740	2,500		4,500
		Total		***1,190***	***3,600***		***7,900***
Sediment	Ley Creek	Ley Creek between Townline Road and Route 11	2.2 mg/kg PCBs (site-specific risk based calculation)	7,174	---	0.28 mg/kg PCBs (Upstream background**)	13,200
			1 mg/kg PCBs (protective of human fish consumption)	---	9,663		
		Total		***7,200***	***9,600***		***13,200***

Notes:
- SCO: Soil Cleanup Objective
- PRG: Preliminary Remediation Goal

* - Wetland volumes for Scenario A assume depth of excavation 1 ft, the ecologically active zone (exclusive of PBC concentrations > 50 mg/kg). For Scenario A depth of excavations > 50 mg/kg are based on concentrations > 50 mg/kg. Wetland volumes for Scenario B assume average depth of removal based on concentrations > PRGs.

** - The PRG (Upstream Background) used for the Unrestricted Use volume refers to the site-specific background (upstream) concentration for PCBs. Volumes assume removal of loose sediment from bank to bank in affected reaches.

- New York Code of Rules and Regulations (NYCRR) Subpart 375 SCO (Protection of Ecological Resources, Commercial Use, and Industrial Use) from NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (SCOs), Table 6.8(b) Restricted Use SCOs, promulgated regulation effective December 14, 2006.
- NYSCRR Subpart 375 SCO (Unrestricted Use) from NYCRR Subpart 375-6 Remedial Program SCOs, Table 6.8(a) Unrestricted Use SCOs, promulgated regulation effective December 14, 2006.

Derivation of sediment PRGs further discussed in Section 4.5.2 and Appendix B.
- Soil and sediment excavation limits for reasonably anticipated future use are illustrated on Figures 5-1 through 5-5.
- Soil and sediment excavation limits for unrestricted use are illustrated on Figures 5-6 through 5-10.

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TABLE 6-1: SCREENING AND EVALUATION OF REMEDIAL TECHNOLOGIES AND PROCESS OPTIONS FOR SOIL

GENERAL RESPONSE ACTION	REMEDIAL TECHNOLOGY	PROCESS OPTION	DESCRIPTION	IMPLEMENTABILITY	EFFECTIVENESS	RELATIVE COST	RETAINED OR NOT RETAINED FOR FURTHER CONSIDERATION
No further action	None	No further action	No action.	Readily implementable.	Not effective in mitigating potential for contact with exposed soil and/or surface soil in off-site areas.	No capital No O&M	Required for consideration by NYSDEC DER-10 and the NCP. Representative process option for all areas.
Institutional controls	Access/use restrictions	Environmental easement/deed restriction	Implementation of access and land use restrictions that would preclude the conduct of activities that would potentially disturb or expose contaminated soil (and require health and safety precautions) without prior review and approval by NYSDEC.	Implementable. Would require coordination with property owners for parcels not owned by RACER.	Effective means of precluding activities that would potentially disturb or expose contaminated soil materials.	Medium capital cost No O&M cost	Retained; representative process option for all areas where contamination remains above levels that allow for unrestricted use and unlimited exposure.
		Soil management plan	Implementation of soil management procedures for the handling of soil during remedial or maintenance activities.	Readily implementable. Would require coordination with property owners for parcels not owned by RACER.	Effective means of communicating soil management and handling procedures.	Low capital Low O&M	Retained; representative process option for all areas where contamination remains above levels that allow for unrestricted use and unlimited exposure.
		Periodic reviews	Periodic reviews are required by DER-10 where institutional and engineering controls, monitoring plans, and/or operations and maintenance activities are implemented on a site. The purpose of the reviews is to evaluate the areas in regard to the continuing protection of human health and the environment and to provide documentation of remedy effectiveness.	Readily implementable.	Effective means of evaluating continued protection to human health and the environment.	No capital Low O&M	Representative process option for all areas where contamination remains above levels that allow for unrestricted use and unlimited exposure.
Engineering controls	Fencing	Fencing	Installation of fencing surrounding areas of contamination that present human health concerns.	Difficult to implement on properties not owned by RACER Trust.	Effective means of restricting human contact with soil material.	Medium capital cost Low O&M cost	Not retained because off-site areas are not owned by RACER Trust.
Containment	Capping	Vegetated/asphalt/gravel cover	Use of a cover consisting of top soil with vegetation, asphalt, or gravel to minimize erosion and contact with impacted surface soil. Top restoration cover selected based upon site use and restoration requirements within the covered area. Grading and cover installation would be performed such that drainage is promoted, erosion is minimized, and cover integrity is protected. As indicated by NYSDEC's DER-10, a cover is a required element of any remedy where surface soil contamination is present. The cover is required to be one foot thick for sites with industrial usage and suitable to sustain vegetative growth.	Difficult to implement and maintain on properties not owned by RACER Trust.	Effective means of minimizing erosion of, and direct contact with exposed soil, and infiltration of surface water.	Low capital Low O&M	Retained as representative process option for Factory Avenue Area. Not retained for other areas.
		Low permeability cover	Use of low permeability cover to minimize surface water infiltration, encourage runoff and control erosion, and isolate and contain soil. Low permeability cover components may consist of low permeability clay or a geomembrane system. Vegetation, asphalt, concrete, or gravel may be utilized as the top layer based upon site use and restoration requirements within the covered area.	Difficult to implement and maintain on properties not owned by RACER Trust.	Effective means of minimizing erosion of, and direct contact with exposed soil, and infiltration of surface water. Limitations to end use would be incurred by presence of low-permeability cover.	High capital Low O&M	Not Retained for off-site areas. Retained for on-site use in conjunction with on-site containment.

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TABLE 6-1: SCREENING AND EVALUATION OF REMEDIAL TECHNOLOGIES AND PROCESS OPTIONS FOR SOIL

GENERAL RESPONSE ACTION	REMEDIAL TECHNOLOGY	PROCESS OPTION	DESCRIPTION	IMPLEMENTABILITY	EFFECTIVENESS	RELATIVE COST	RETAINED OR NOT RETAINED FOR FURTHER CONSIDERATION
In situ treatment	Natural degradation	Monitored natural attenuation	Long-term monitoring of the natural biotic and abiotic degradation of organic constituents.	Readily implementable.	Potentially effective over the long-term for attenuation of organic constituents. Not effective for metals or PCBs. Evaluation of attenuation mechanisms would be necessary.	Low capital Low O&M	Not Retained
	Biological	Enhanced bioremediation	Injection of microbial populations, nutrient sources, or electron donors into the subsurface to enhance biological degradation of organic constituents. Bioremediation amendments can be applied to the subsurface via injection points, a modified landfarming process, or tilling of the soil.	Soil would likely require nutrients and/or altering of oxidation/reduction conditions to facilitate degradation. Tilling of soil could also be performed to enhance oxygen availability to microbes for shallow soil.	Effective for treatment of VOCs and nonhalogenated SVOCs. Not effective treatment for PCBs or metals. Low permeability soils, subsurface heterogeneity, and underground utility corridors could cause uneven distribution of electron donors and/or microorganisms, resulting in pockets of untreated contaminants. Treatability study would likely be required.	Medium capital Low O&M	Not Retained
		Bioventing	Injection of low air flow rates in the subsurface to provide enough oxygen to sustain microbial activity, thereby stimulating the natural *in situ* biodegradation of aerobically degradable compounds in soil.	Potentially implementable for shallow unsaturated soil. Not implementable for saturated soil without dewatering.	Effective for treatment of nonhalogenated VOCs, select halogenated VOCs, and nonhalogenated SVOCs. Not effective treatment for PCBs or metals. Treatability study would likely be required.	Medium capital Low O&M	Not Retained
		Phytoremediation	Use of plants to remove, transfer, stabilize, or destroy contaminants in soil.	Difficult to implementable on properties not owned by RACER Trust.	Potentially effective for treatment of VOCs, nonhalogenated SVOCs and metals contamination in shallow soil. Not effective for deep soil. Treatability study would likely be required.	High capital Low O&M	Not Retained
	Chemical	Chemical oxidation	Injection of oxidation agents such as hydrogen peroxide, ozone, sodium persulfide, Fenton's reagent and/or permanganate into the subsurface. Oxidation reactions chemically convert constituents to non-hazardous or less toxic compounds that are more stable, less mobile, and/or inert. Oxidation agents can be applied to the subsurface via injection points, deep soil mixing, or soil fracturing.	Advanced oxidant delivery techniques could enhance effectiveness as a result of improved distribution within the treatment zone. Disrupts natural attenuation processes.	Potentially effective for reducing VOCs and halogenated SVOCs in the saturated and unsaturated zones. Low permeability soils, subsurface heterogeneity, and underground utility corridors could cause uneven distribution of oxidants, resulting in pockets of untreated contaminants when injection point delivery techniques are implemented. Not effective treatment for metals or PCBs. Treatability study would likely be required.	High capital Low O&M	Not Retained
		Flushing	Water, aqueous solution, surfactants, or cosolvents are injected into the subsurface. The extraction fluid is utilized to enhance contaminant solubility. Contaminants are leached into the groundwater and subsequently removed through a collection system and treated *ex situ* .	Extraction fluid would require recovery and *ex situ* treatment. Potential for mobilization of contaminants.	Effective for enhancing removal of VOCs and metals. Potentially effective for enhancing the removal of SVOCs and PCBs. Low permeability soils, subsurface heterogeneity, and underground utility corridors could cause uneven distribution of solution, resulting in pockets of untreated contaminants. Treatability study would likely be required.	Medium capital No O&M	Not Retained

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TABLE 6-1: SCREENING AND EVALUATION OF REMEDIAL TECHNOLOGIES AND PROCESS OPTIONS FOR SOIL

GENERAL RESPONSE ACTION	REMEDIAL TECHNOLOGY	PROCESS OPTION	DESCRIPTION	IMPLEMENTABILITY	EFFECTIVENESS	RELATIVE COST	RETAINED OR NOT RETAINED FOR FURTHER CONSIDERATION
In situ treatment	Physical	Soil-vapor extraction (SVE)	Vacuum is applied through extraction wells within the vadose zone to create a pressure/concentration gradient that induces organics sorbed on the soil, dissolved in soil-pore water and/or present as vapor to volatilize. Extracted vapors are removed from the soil through extraction wells and treated *ex situ* as needed.	Potentially implementable for unsaturated soil. Off-gas treatment may be required.	Effective means of removing VOCs in permeable soils. Not effective treatment for SVOCs, PCBs and metals. Potentially limited effectiveness as a result of low permeability soils, presence of subsurface utilities that would provide preferential pathways, and subsurface heterogeneity.	Medium capital Low O&M	Not Retained
		Multi-phase extraction (MPE)	A high-pressure vacuum is applied through extraction wells to simultaneously extract groundwater and vapors from the subsurface. Extracted groundwater and vapors are separated and treated *ex situ* .	Potentially implementable. Off-gas treatment may be required.	Effective for removal of VOCs in unsaturated and saturated soil. Not effective for treatment of PCBs and metals. Effectiveness limited for removal of SVOCs. Pumping test potentially required to identify well placement and appropriate pumping rates.	Medium capital Medium O&M	Not Retained
		Solidification/stabilization	Contaminants are physically bound or enclosed within a stabilized mass (solidification), or chemical reactions are induced between stabilizing agent and contaminants to reduce their mobility (stabilization).	Potentially implementable for unsaturated soil. Volume increases with agent addition.	Effective for *in situ* stabilization and reduction in mobility of metals. Potentially effective for SVOCs and PCBs. Not effective treatment for VOCs. Treatability study would likely be required.	Low capital Medium O&M	Not Retained
	Thermal	Hot water or steam injection	Injection of hot water or steam through injection wells to enhance the recovery of organic contaminants. The injected steam heats the surrounding subsurface, volatilizing organic contaminants, with collection through a series of extraction wells, and subsequent treatment.	Potentially implementable in conjunction with an SVE system. Management of hazards associated with steam generation required. Could potentially cause soil fracturing. Off-gas treatment may be required.	Effective for enhancing the removal of VOCs and SVOCs in unsaturated and saturated soil. Not effective treatment for PCBs or metals. Heterogeneous soil could limit effectiveness. Treatability study would likely be required.	High capital No O&M	Not Retained
		Electrical resistance heating	A series of electrodes are installed around a central neutral electrode. Volatilized contaminants, produced by the heating of the soil/ surrounding the electrodes, are recovered using extraction wells and subsequently treated *ex situ* .	Potentially implementable in conjunction with groundwater extraction and an SVE system. Management of hazards associated with high voltage required. Could potentially cause soil fracturing. Off-gas treatment may be required.	Effective for enhancing the removal of VOCs in unsaturated and saturated soil. Effectiveness limited for enhancing the removal of SVOCs. Not effective treatment for PCBs or metals. Potential for uncontrolled release of hazardous vapors to the atmosphere. Treatability study would likely be required.	High capital No O&M	Not Retained
		Radio frequency heating	Heating of soil using a configuration of electrodes to enhance the recovery of organic constituents. Heated soil is bound by two rows of electrodes that act as ground electrodes. A third row of electrodes is implanted halfway between the ground rows, acting as a capacitor. Electromagnetic energy is applied, heating the surrounding soil volume, causing organic contaminants to vaporize. Extraction wells remove contaminant vapors for *ex situ* treatment.	Potentially implementable in conjunction with an SVE system. Off-gas treatment may be required.	Effective for enhancing the removal of VOCs in unsaturated soil. Effectiveness limited for enhancing the removal of SVOCs. Not effective treatment for PCBs or metals. Potential for uncontrolled release of hazardous vapors to the atmosphere. Treatability study would likely be required.	High capital No O&M	Not Retained

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TABLE 6-1: SCREENING AND EVALUATION OF REMEDIAL TECHNOLOGIES AND PROCESS OPTIONS FOR SOIL

GENERAL RESPONSE ACTION	REMEDIAL TECHNOLOGY	PROCESS OPTION	DESCRIPTION	IMPLEMENTABILITY	EFFECTIVENESS	RELATIVE COST	RETAINED OR NOT RETAINED FOR FURTHER CONSIDERATION
In situ treatment	Thermal	Thermal conduction	Heat is applied to soil through steel wells or thermal blanket. Organic contaminants are volatilized through heating, and subsequently collected for treatment at the surface.	Potentially implementable in conjunction with an SVE system. Could potentially cause soil fracturing. Off-gas treatment may be required.	Effective for enhancing the removal of VOCs, and PCBs in unsaturated and saturated soil. Limited effectiveness for enhancing the removal of SVOCs. Not effective for metals. Potential for uncontrolled recovery system and release of hazardous vapors to the atmosphere. Treatability study would likely be required.	High capital No O&M	Not Retained
		Vitrification	An electric current is utilized to melt soil at extremely high temperatures (1,600 to 2,000 ºC to 2,900 to 3,650 ºF) and thereby immobilize most inorganics and destroy organics by pyrolysis.	Potentially implementable for *in situ* treatment of source area soil.	Effective for VOCs, SVOCs, PCBs, and metals in unsaturated soil. Potential for volume reduction. Off-gas treatment likely required. Treatability study would likely be required.	High capital No O&M	Not Retained
Removal	Excavation	Mechanical excavation	Use of construction equipment to remove contaminated soil. Dewatering (separation of soil particles from liquid particles) would likely be necessary for saturated soil.	Potentially implementable. Shoring or side slopes required for deep excavations. Water management required for saturated soil. Further management of excavated soil required. National Grid Wetland area would require restoration following excavation. Clearing of trees and vegetation would be required prior to excavation.	Effective for removal of contaminated soil. Effective for small volumes of soil and hot spot removal within accessible areas.	Medium capital No O&M	Retained; representative process option.
		Vacuum/Hydro Excavation	Use of a vacuum truck (and water, if necessary) to remove contaminated soil. Pressurized water is used to dig and breakup soil. The resulting water and soil slurry is removed using a vacuum truck.	Potentially implementable for National Grid Wetland area soil. Further management of excavated soil and water required. National Grid Wetland area would require restoration following excavation. Clearing of trees and vegetation would be required, possibly on a selective basis.	Effective for removal of shallow contaminated soil. Effective for small volumes of soil and hot spot removal within accessible areas. Hydro excavation is typically more precise than mechanical excavation and allows for removal of soil around existing vegetation.	High capital No O&M	Retained
Ex situ treatment	Biological	Biopiles	Excavated soil is mixed with soil amendments and placed in aboveground enclosures. Compost is formed into piles and aerated with blowers or vacuum pumps using an aerated static pile composting process. Naturally occurring microorganisms are stimulated through the addition of nutrients, oxygen, and cometabolites to enhance the degradation of organic contaminants into less toxic constituents.	Potentially implementable.	Effective treatment for halogenated and nonhalogenated VOCs and SVOCs. Not effective treatment for metals. Treatability study would likely be required.	High capital High O&M	Not Retained
		Landfarming	Contaminated soil is excavated, applied into lined beds, and periodically turned over or tilled to aerate the waste. Naturally occurring microorganisms are stimulated through the addition of nutrients, oxygen, and cometabolites to enhance the degradation of organic contaminants into less toxic constituents.	Potentially implementable.	Effective treatment for nonhalogenated SVOCs. Potentially effective treatment for halogenated and nonhalogenated VOCs, halogenated SVOCs, and PCBs. Not effective treatment for metals. Treatability study would likely be required.	High capital High O&M	Not Retained
	Chemical	Chemical oxidation	*Ex situ* treatment of contaminated soil using oxidants such as ozone, hydrogen peroxide, hypochlorites, permanganate, Fenton's reagent and/or sodium persulfide. Oxidation reactions chemically convert constituents to non-hazardous or less toxic compounds that are more stable, less mobile, and/or inert.	Potentially implementable.	Effective for removal of metals. Potentially effective for VOCs, SVOCs, and PCBs. Treatability study would likely be required.	Low capital Low O&M	Retained
		Chemical dechlorination	Reagent used to dechlorinate PCB and VOC contaminants. The products of the reaction are non-toxic, non-mutagenic, and non-bioaccumulative. In this process, reagents are mixed with soil and heated in a reactor.	Potentially implementable. Wastewater would require further management.	Effective for treatment of halogenated VOCs and SVOCs. Not effective treatment for nonhalogenated VOCs and SVOCs or metals. Treatability study would likely be required.	Low capital Low O&M	Retained

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TABLE 6-1: SCREENING AND EVALUATION OF REMEDIAL TECHNOLOGIES AND PROCESS OPTIONS FOR SOIL

GENERAL RESPONSE ACTION	REMEDIAL TECHNOLOGY	PROCESS OPTION	DESCRIPTION	IMPLEMENTABILITY	EFFECTIVENESS	RELATIVE COST	RETAINED OR NOT RETAINED FOR FURTHER CONSIDERATION
Ex situ treatment	Chemical	Extraction/washing	Waste contaminated soil and extractant are mixed in an extractor, thereby dissolving the contaminants. The extracted solution is then placed in a separator, where the contaminants and extractant are separated for treatment and further use.	Potentially implementable. Solution and residual would require further management.	Effective for removal of VOCs, SVOCs, PCBs, and metals. Heterogeneous soils may reduce performance. Treatability study would likely be required.	Low capital Low O&M	Retained
	Physical	Particle size separation	Sieves and screens of different sizes are used to concentrate contaminants into smaller volumes. Most organic and inorganic contaminants tend to bind, either chemically or physically, to other soil particles. Separating the fine particles from the coarser particles will effectively concentrate the contaminants into a smaller volume of soil that could be further treated or disposed.	Implementable. Not implementable for inaccessible soil (i.e., soil covered by buildings). Separated materials would require further management.	Effective for separation of particle sizes and debris removal for further treatment and disposal. Potentially effective for VOCs, SVOCs, PCBs and metals.	Medium capital Low O&M	Not retained
		Solidification/stabilization	Contaminants are physically bound or enclosed within a stabilized mass (solidification), or chemical reactions are induced between stabilizing agent and contaminants to reduce their mobility (stabilization). Solidification and stabilization involve mixing treatment agents with the contaminated soil yielding a crystalline, glassy or polymeric framework around the contaminants.	Potentially implementable. Accommodation of volume increase with agent addition necessary. Solidified/stabilized matrix would require further management.	Effective for reducing mobility of SVOCs, PCBs, and metals. Not effective treatment for VOCs. Treatability study would likely be required.	Low capital Medium O&M	Not Retained
	Thermal	Incineration	Combustion of organic contaminants present in soil in commercial incinerator at temperatures generally between 1600 and 2200 degrees F. Organic substances are oxidized into products that generally include CO_2, H_2O vapor, SO_2, NOx, HCl gases and ash.	Potentially implementable. Products of thermal destruction/incineration such as particulates, SO_2, NOx, HCl and products of incomplete combustion would require air emission controls to prevent release of air pollutants to the atmosphere. Ash stabilization and disposal would be required. PCB incineration is regulated under TSCA. As a result, a limited number of off-site incinerators within the United States are permitted to burn PCBs.	Effective for removal of VOCs, SVOCs, and PCBs. Not effective for metals. Metals would be contained in ash, which may require stabilization prior to disposal. Treatability study would likely be required.	High capital No O&M	Not Retained
		Low temperature thermal desorption	Use of direct or indirect heat to volatilize organic contaminants at temperatures generally between 200 and 1,000 degrees F. The volatilized contaminants from the thermal desorption process are typically directed to a secondary system from incineration, adsorption on activated carbon, or recovery by condensation.	Potentially implementable. If volatilized contaminants are incinerated, further treatment of acid gases and particulates would be required. Residuals would require further management.	Effective for removal of VOCs, SVOCs, and PCBs. Not effective for metals. Treatability study would likely be required.	High capital No O&M	Not Retained

TABLE 6-1: SCREENING AND EVALUATION OF REMEDIAL TECHNOLOGIES AND PROCESS OPTIONS FOR SOIL

GENERAL RESPONSE ACTION	REMEDIAL TECHNOLOGY	PROCESS OPTION	DESCRIPTION	IMPLEMENTABILITY	EFFECTIVENESS	RELATIVE COST	RETAINED OR NOT RETAINED FOR FURTHER CONSIDERATION
Ex situ treatment	Thermal	Pyrolysis	Chemical decomposition of organic materials is induced by heat in the absence of oxygen at temperatures around 800 degrees F. Organic materials are transformed into gaseous components and solid residue (coke) containing fixed carbon and ash.	Potentially implementable. Residuals would require further management.	Potentially effective for treatment of VOCs. Effective for treatment of SVOCs and PCBs. Not effective for metals. Treatability study would likely be required.	High capital No O&M	Not Retained
		Thermal gas-phase reduction	Conversion of organic contaminated material into gas, which is injected into a chamber with a heated hydrogen atmosphere. The organics are converted to methane gas and hydrochloric acid. The methane is used to heat the reactor that achieves conversion. The hydrochloric acid is moved into a scrubber chamber and converted into a solution of sodium chloride and water. This process is an alternative to incineration; with the absence of free oxygen, the reaction can prevent the formation of dioxin constituents.	Potentially implementable. Air emission controls would potentially be required.	Effective for removal of VOCs, SVOCs, and PCBS. Not effective for metals. Treatability study would likely be required.	Medium capital No O&M	Not Retained
Disposal	On-site disposal	Consolidation	Disposal of excavated soil in consolidation area and/or reused as fill at the Former IFG Facility.	Potentially implementable. Excavated soil not exhibiting hazardous characteristics and exhibiting concentrations below soil cleanup levels for industrial sites could be used as fill at the Former IFG Facility.	Effective for soil and treatment residuals suitable for land disposal.	Medium capital No O&M	Retained
	Off-site disposal	Commercial landfill	Excavated soil that is characterized as hazardous waste would be transported to a RACER-approved permitted hazardous or TSCA commercial landfill for disposal, provided the soil meets land disposal restrictions. Excavated soil not characterized as hazardous or TSCA waste would be transported to a RACER-approved permitted non-hazardous waste landfill for disposal.	Implementable for excavated soil that meets land disposal restrictions.	Effective for soil and treatment residuals suitable for land disposal.	High capital No O&M	Retained; representative process option.

Notes:
This table includes technologies and process options to address constituents of concern in surface soil and subsurface soil within the Ley Creek Floodplain, National Grid Wetland area, and Factory Avenue area soil.
DER-10 - Division of Environmental Remediation Technical Guidance for Site Investigation and Remediation
NYSDEC - New York State Department of Environmental Conservation
NCP - National Oil and Hazardous Substances Contingency Plan
O&M - Operation and maintenance
PCB - Polychlorinated biphenyl
RACER Trust - Revitalizing Auto Communities Environmental Response Trust
SVE - Soil vapor extraction
SVOC - Semi-volatile organic compound
TSCA - Toxic Substances Control Act
VOC - Volatile organic compound

TABLE 6-2: SCREENING AND EVALUATION OF REMEDIAL TECHNOLOGIES AND PROCESS OPTIONS FOR LEY CREEK SEDIMENT

GENERAL RESPONSE ACTION	REMEDIAL TECHNOLOGY	PROCESS OPTION	DESCRIPTION	IMPLEMENTABILITY	EFFECTIVENESS	RELATIVE COST	RETAINED OR NOT RETAINED FOR FURTHER CONSIDERATION
No further action	None	No further action	No action.	Readily implementable.	Would not likely meet RAOs unless used with other technology.	No capital No O&M	Required for consideration by NYSDEC DER-10 and the NCP. Representative process option.
Institutional controls	Institutional measure	Periodic reviews	Periodic reviews are required by DER-10 where institutional and engineering controls, monitoring plans, and/or operations and maintenance activities are implemented on a site. The purpose of the reviews is to evaluate the areas in regard to the continuing protection of human health and the environment and to provide documentation of remedy effectiveness.	Readily implementable.	Effective means of documenting operation and monitoring of the remedy.	Low capital Low O&M	Retained; representative process option.
Natural Recovery	Natural Recovery	Natural Recovery	Natural recovery which occurs through a variety of physical, chemical, and/or biological processes that act singly or in combination to reduce contaminant concentrations.	Readily implementable.	Effective only in depositional areas and only if upstream material is free of contaminants. Current upstream sediment is not free of contaminants.	Low capital Low O&M	Retained.
Containment	Containment	*In Situ* Capping	Clean granular material (primarily sand and gravel) engineered to resist erosion is placed on top of *in situ* sediments as a cap. Chemical containment media, such as activated carbon, can be incorporated into the cap to provide chemical as well as physical isolation.	The need to provide armoring against scouring forces, retain water depths and the presence of hard pan at 0 to 1 ft depths limits implementability.	Effectiveness for all classes of contaminants dependent on cap composition. Reduces available water depth.	High capital Medium O&M	Not Retained
In situ treatment	Biological	Phytoremediation	Use of plants to degrade, extract, and/or immobilize constituents in sediments within the root zones of plants.	Implementable.	Emerging technology. Potential for contaminants to become more bioavailable if transferred to plant material and ingested by biota. Treatability study would likely be required.	Medium capital Low O&M	Not Retained
		Biological Treatment	Uses natural microbial processes to promote microbial growth to degrade or transform contaminants to less toxic or nontoxic forms in the environment.	Difficult to control environmental conditions on a creek bottom to achieve desired mixing of reagents. Nutrient addition complicated by dilution due to creek flow.	Potentially effective for treatment for some VOCs. Not demonstrated technology for treatment of PCBs. Not effective for metals. Treatability study would likely be required.	Medium capital Low O&M	Not Retained.
	Chemical	Chemical Treatment	Uses chemical reagents mixed in sediment to degrade or transform contaminants to less toxic or nontoxic forms in the environment, through chelation, dechlorination, or oxidation of constituents.	Difficult to control environmental conditions on a creek bottom to achieve desired mixing of reagents. Reagent addition complicated by dilution due to creek flow.	Potentially effective for reducing VOCs and halogenated SVOCs. Treatability study would likely be required.	High capital Low O&M	Not Retained
	Physical	Solidification/stabilization	Contaminants are physically bound or enclosed within a stabilized mass (solidification) to reduce their mobility (stabilization). Solidification and stabilization involve mixing treatment agents with the contaminated sediment.	Difficult to control environmental conditions on a creek bottom to achieve desired mixing of reagents. Volume increases with agent addition and may adversely affect creek flow. Reagent addition complicated by dilution due to creek flow.	Effective for reducing mobility of SVOCs, PCBs, and metals. Not effective treatment for VOCs. Treatability study would likely be required.	High capital Low O&M	Not Retained
Removal	Dredging	Mechanical Dredging	Physical removal of sediment from the water body by means of a clamshell, excavator bucket or similar; typically associated with deeper water depths. Dewatering of dredged material is typically necessary prior to treatment, transportation or disposal.	Not implementable due to low water depth. The small size of Ley Creek is not conducive to mechanical dredging equipment.	Effective for removal of impacted material.	High capital No O&M	Not Retained
		Hydraulic Dredging	Physical removal of sediment from the water body by pumping surface waters to entrain sediment as a slurry. Primarily in conjunction with a cutter head to dislodge settled sediments from the dredge surface. Dewatering of dredged slurry is required prior to treatment, transportation or disposal.	Not implementable due to low water depth, low flow rate and presence of debris. The small size of Ley Creek is not conducive to hydraulic dredging equipment.	Effective for removal of impacted material.	High capital No O&M	Not Retained
	Excavation	Mechanical excavation	Physical removal of sediment with by-pass pumping prior to excavation or near-shore and shallow locations.	Implementable with by-pass pumping.	Effective for removal of impacted material.	High capital No O&M	Retained; representative process option.

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GENERAL RESPONSE ACTION	REMEDIAL TECHNOLOGY	PROCESS OPTION	DESCRIPTION	IMPLEMENTABILITY	EFFECTIVENESS	RELATIVE COST	RETAINED OR NOT RETAINED FOR FURTHER CONSIDERATION
Ex situ treatment	Biological	Biopiles	Excavated sediment is mixed with amendments and placed in aboveground enclosures. Compost is formed into piles and aerated with blowers or vacuum pumps using an aerated static pile composting process. Naturally occurring microorganisms are stimulated through the addition of nutrients, oxygen, and cometabolites to enhance the degradation of organic contaminants into less toxic constituents.	Potentially implementable.	Effective treatment for halogenated and nonhalogenated SVOCs. Not effective treatment for metals. Treatability study would likely be required.	High capital High O&M	Not Retained
		Landfarming	Contaminated sediment is excavated, applied into lined beds, and periodically turned over or tilled to aerate the waste. Naturally occurring microorganisms are stimulated through the addition of nutrients, oxygen, and cometabolites to enhance the degradation of organic contaminants into less toxic constituents.	Potentially implementable.	Effective treatment for nonhalogenated SVOCs. Potentially effective treatment for halogenated SVOCs, and PCBs. Not effective treatment for metals. Treatability study would likely be required.	High capital High O&M	Not Retained
	Chemical	Chemical oxidation	*Ex situ* treatment of contaminated sediment using oxidants such as ozone, hydrogen peroxide, hypochlorites, permanganate, Fenton's reagent and/or sodium persulfide. Oxidation reactions chemically convert constituents to non-hazardous or less toxic compounds that are more stable, less mobile, and/or inert.	Potentially implementable.	Effective for removal of metals. Potentially effective for SVOCs. Treatability study would likely be required.	Low capital Low O&M	Retained
		Chemical dechlorination	Reagent prepared from polyethylene glycol and potassium hydroxide to dechlorinate PCB and VOC contaminants through a nucleophilic substitution process. The products of the reaction are non-toxic, non-mutagenic, and non-bioaccumulative. In this process, reagents are mixed with sediment and heated in a reactor.	Potentially implementable. Wastewater would require further management.	Effective for treatment of halogenated SVOCs. Not effective treatment for nonhalogenated SVOCs or metals. Treatability study would likely be required.	Low capital Low O&M	Retained
		Extraction/washing	Waste contaminated sediment and extractant are mixed in an extractor, thereby dissolving the contaminants. The extracted solution is then placed in a separator, where the contaminants and extractant are separated for treatment and further use.	Potentially implementable. Solution and residual would require further management.	Effective for removal of SVOCs, PCBs, and metals. Heterogeneous sediments may reduce performance. Treatability study would likely be required.	High capital Low O&M	Not Retained
	Physical	Particle size separation	Sieves and screens of different sizes are used to concentrate contaminants into smaller volumes. Most organic and inorganic contaminants tend to bind, either chemically or physically, to sediment particles. Separating the fine particles from the coarser particles will effectively concentrate the contaminants into a smaller volume of sediment that could be further treated or disposed.	Implementable. Separated materials would require further management.	Effective for separation of particle sizes and debris removal for further treatment and disposal.	Medium capital Low O&M	Retained
		Solidification/stabilization	Contaminants are physically bound or enclosed within a stabilized mass (solidification), or chemical reactions are induced between stabilizing agent and contaminants to reduce their mobility (stabilization). Solidification and stabilization involve mixing treatment agents with the contaminated sediment yielding a crystalline, glassy or polymeric framework around the contaminants.	Potentially implementable. Accommodation of volume increase with agent addition necessary. Solidified/stabilized matrix would require further management.	Effective for reducing mobility of SVOCs, PCBs, and metals. Not effective treatment for VOCs. Treatability study would likely be required.	Low capital Medium O&M	Not Retained

TABLE 6-2: SCREENING AND EVALUATION OF REMEDIAL TECHNOLOGIES AND PROCESS OPTIONS FOR LEY CREEK SEDIMENT

GENERAL RESPONSE ACTION	REMEDIAL TECHNOLOGY	PROCESS OPTION	DESCRIPTION	IMPLEMENTABILITY	EFFECTIVENESS	RELATIVE COST	RETAINED OR NOT RETAINED FOR FURTHER CONSIDERATION
Ex situ treatment	Thermal	Incineration	Combustion of organic contaminants present in sediment in commercial incinerator at temperatures generally between 1600 and 2200 degrees F. Organic substances are oxidized into products that generally include CO2, H2O vapor, SO2, NOx, HCl gases and ash.	Potentially implementable. Products of thermal destruction/incineration such as particulates, SO2, NOx, HCl and products of incomplete combustion would require air emission controls to prevent release of air pollutants to the atmosphere. Ash stabilization and disposal would be required. PCB incineration is regulated under TSCA. As a result, a limited number of off-site incinerators within the United States are permitted to burn PCBs.	Effective for removal of SVOCs, and PCBs. Not effective for metals. Metals would be contained in ash, which may require stabilization prior to disposal. Treatability study would likely be required.	High capital No O&M	Not Retained
		Low temperature thermal desorption	Use of direct or indirect heat to volatilize organic contaminants at temperatures generally between 200 and 1,000 degrees F. The volatilized contaminants from the thermal desorption process are typically directed to a secondary system from incineration, adsorption on activated carbon, or recovery by condensation. If volatilized contaminants are incinerated, further treatment of acid gases and particulates would be required.	Potentially implementable. If volatilized contaminants are incinerated, further treatment of acid gases and particulates would be required. Residuals would require further management.	Effective for removal of SVOCs, and PCBs. Not effective for metals. Metals would be contained in ash, which may require stabilization prior to disposal. Treatability study would likely be required.	High capital No O&M	Not Retained
		Pyrolysis	Chemical decomposition of organic materials is induced by heat in the absence of oxygen at temperatures around 800 degrees F. Organic materials are transformed into gaseous components and solid residue (coke) containing fixed carbon and ash.	Potentially implementable. Residuals would require further management.	Effective for treatment of SVOCs and PCBs. Not effective for metals. Treatability study would likely be required.	High capital No O&M	Not Retained
		Thermal gas-phase reduction	Conversion of organic contaminated material into gas, which is injected into a chamber with a heated hydrogen atmosphere. The organics are converted to methane gas and hydrochloric acid. The methane is used to heat the reactor that achieves conversion. The hydrochloric acid is moved into a scrubber chamber and converted into a solution of sodium chloride and water. This process is an alternative to incineration; with the absence of free oxygen, the reaction can prevent the formation of dioxin constituents.	Potentially implementable. Air emission controls would potentially be required.	Effective for removal of SVOCs and PCBS. Not effective for metals. Treatability study would likely be required.	High capital No O&M	Not Retained
Disposal	On-site disposal	Consolidation	Disposal of excavated sediment in containment system and/or reused as fill at the Former IFG Facility or Ley Creek PCB Dredgings Site.	Potentially implementable. Dewatered sediment not exhibiting hazardous characteristics and exhibiting concentrations below soil cleanup levels for industrial sites could be used as fill at the Former IFG Facility.	Effective for sediment and treatment residuals suitable for land disposal.	Medium capital No O&M	Retained
	Off-site disposal	Commercial landfill	Excavated sediment that is characterized as hazardous waste would be transported to a RACER-approved permitted hazardous or TSCA commercial landfill for disposal, provided the sediment meets land disposal restrictions. Excavated sediment not characterized as hazardous or TSCA waste would be transported to a RACER-approved permitted non-hazardous waste landfill for disposal.	Implementable for excavated sediment that meets land disposal restrictions.	Effective for sediment and treatment residuals suitable for land disposal.	High capital No O&M	Retained; representative process option.

Notes:

DER-10 - Division of Environmental Remediation Technical Guidance for Site Investigation and Remediation
NYSDEC - New York State Department of Environmental Conservation
NCP - National Oil and Hazardous Substances Contingency Plan
O&M - Operation and maintenance
PCB - Polychlorinated biphenyl
RACER Trust - Revitalizing Auto Communities Environmental Response Trust
RAO - Remedial Action Objective
SVOC - Semi-volatile organic compound
TSCA - Toxic Substances Control Act
VOC - Volatile organic compound

RACER Trust
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Syracuse, New York
Off-Site Feasibility Study

TABLE 7-1: COMPONENTS OF REMEDIAL ALTERNATIVES

MEDIA	GENERAL RESPONSE ACTION	REMEDIAL TECHNOLOGY/PROCESS OPTION	Alternative 1 No Further Action	Alternative 2A Reasonably Anticipated Future Use	Alternative 2B Reasonably Anticipated Future Use	Alternative 3 Unrestricted Use
Off-Site Soil	Institutional controls	Use restriction, soil management plan and periodic reviews		X	X	X*
	Capping	Vegetated/asphalt/gravel cover for Factory Avenue area		X	X	
	Removal (Reasonably Anticipated Future Use)	Mechanical excavation of soil above NYCRR Subpart 375 SCOs for anticipated land use.		X	X	
	Removal (Unrestricted Use)	Mechanical excavation of soil above SCOs for unrestricted use				X
	Disposal	Off-Site landfill disposal of excavated soil		X	X	X
Off-Site Sediment	Institutional controls	Periodic reviews		X	X	
	Removal (Reasonably Anticipated Future Use)	Mechanical excavation of Ley Creek sediment to risk-based PRGs		X	X	
	Removal (Unrestricted Use)	Mechanical excavation of Ley Creek sediment above NYS Sediment Criteria				X
	Ex situ treatment	Dewatering of excavated Ley Creek sediment following excavation		X	X	X
	Disposal	Landfill disposal of excavated Ley Creek sediment		X	X	X

Notes:

- SCOs: Soil cleanup objectives

- NYCRR Subpart 375 SCOs: New York Code of Rules and Regulations Remedial Program Soil Cleanup Objectives; Promulgated regulation effective December 14, 2006.

* Periodic reviews, institutional controls and soil management plan included in the event that soil exhibiting concentrations above levels that allow for unrestricted use and limited exposure remain due to infeasibility of soil removal (*e.g.* in areas where underground utilities are present).
- Alternative 2A Preliminary Remedial Goals (PRGs): Factory Avenue Areas - Commercial SCOs; Portions of Ley Creek Floodplain and National Grid Wetland - Ecological Resource SCOs; National Grid Access Road Area - Industrial SCOs; Ley Creek Sediment - ecological receptor risk-based (2.2 mg/kg PCBs).
- Alternative 2B PRGs: Factory Avenue Areas - Commercial SCOs; Portions of Ley Creek Floodplain and National Grid Wetland - Ecological Resource SCOs; National Grid Access Road Area - Industrial SCOs; Ley Creek Sediment - human health risk-based (1 mg/kg PCBs).
- Alternative 3 PRGs: Factory Avenue Areas, Portions of Ley Creek Floodplain, National Grid Wetland, National Grid Access Road Area - Unrestricted SCOs; Ley Creek Sediment - upstream average PCB concentration (0.28 mg/kg PCBs).
- Soil and sediment excavation limits are depicted on Figures 5-1 through 5-10.
- Soil and sediment excavation volumes are summarized in Table 5-5.

RACER Trust
Former Inland Fisher Guide Facility and Ley Creek Deferred Media Site
Syracuse, New York
Off-Site Feasibility Study

TABLE 8-1: DETAILED ANALYSIS OF REMEDIAL ALTERNATIVES

Criterion	Alternative 1 - No further action	Alternative 2A - Reasonably Anticipated Future Use Removal of soil and sediment	Alternative 2B - Reasonably Anticipated Future Use Removal of soil and sediment	Alternative 3 - Unrestricted Use Removal of soil and sediment
	● No further action	● Institutional Controls - Soil management plan, deed restrictions, periodic reviews. ● Capping - Vegetative, gravel, and asphalt cover in the Factory Avenue Area ● Excavation - Mechanical excavation to Commercial SCOs of Factory Ave area soil down to average 1 ft depth. - Mechanical excavation to Ecological Resources SCOs of Floodplain area soil to average 1 to 6 ft depth. - Mechanical excavation to Ecological Resource SCOs of Wetland area soil to average depth of 2.5 ft for total PCBs greater than 50 mg/kg with additional excavations to average depth of 1 ft. - Mechanical excavation of sediment greater than 2.2 mg/kg total PCBs in Ley Creek to an average depth of 1.25 ft. ● *Ex situ* treatment - Dewatering of excavated sediments. ● Disposal - Off-site disposal of excavated soil and sediment.	● Institutional Controls - Soil management plan, deed restrictions, periodic reviews. ● Capping - Vegetative, gravel, and asphalt cover in the Factory Avenue Area ● Excavation - Mechanical excavation to Commercial SCOs of Factory Ave area soil down to average depth of 1 to 4 ft. - Mechanical excavation to Ecological Resources SCOs of Floodplain area soil to average depth of 1 to 6 ft. - Mechanical excavation of Wetland area soil to Ecological SCOs to average depth of 2.5 ft. for total PCBs greater than 50 mg/kg with additional excavations to average depth of 1 ft (expanded volume). - Mechanical excavation of sediment greater than 1 mg/kg total PCBs in Ley Creek to an average depth of 1.25 ft. ● *Ex situ* treatment - Dewatering of excavated sediments. ● Disposal - Off-site disposal of excavated soil and sediment.	● Institutional Controls - Soil management plan, deed restrictions, periodic review, if necessary. ● Excavation - Mechanical excavation of soil greater than SCOs for unrestricted use. - Mechanical excavation of sediment greater than 0.28 mg/kg in Ley Creek. ● *Ex situ* treatment - Dewatering of excavated sediments. ● Disposal - Off-site disposal of excavated soil and sediment.
Overall Protection of Human Health and the Environment				
Overall protection of human health	Relies on natural attenuation to address overall protection of human health.	Protection of human health is provided through institutional controls and remedial elements. Specifically, protection of human health is afforded by removal of soil and sediment. Alternative 2A actively addresses each RAO. Protectiveness afforded by Alternative 2A remedial elements addresses exposures associated with the reasonably anticipated future use for each remediated area.	Protection of human health is provided through institutional controls and remedial elements. Specifically, protection of human health is afforded by removal of soil and sediment. Alternative 2B actively addresses each RAO. Protectiveness afforded by Alternative 2B remedial elements addresses exposures associated with the reasonably anticipated future use for each remediated area.	Protection of human health is provided through Alternative 3 remedial elements. Specifically, protection of human health is afforded by removal of soil and sediment. Alternative 3 actively addresses each RAO. Protectiveness afforded by Alternative 3 remedial elements addresses exposures associated with unrestricted future use for each remediated area.
Overall protection of the environment	Relies on natural attenuation to address overall protection of the environment.	Protection of the environment is provided through Alternative 2A remedial elements. Specifically, protection of ecological receptors is afforded by removal of soil and sediment. Alternative 2A actively addresses each RAO. The selected PRG for sediment has been based on site-specific risk calculations and reflects potential risk to the most sensitive ecological receptor evaluated in the BERA. The calculated site-specific risk-based PRG for sediment is considered to be conservative.	Protection of the environment is provided through Alternative 2B remedial elements. Specifically, protection of ecological receptors is afforded by removal of soil and sediment. Alternative 2B actively addresses each RAO.	Protection of the environment is provided through institutional controls and Alternative 3 remedial elements. Specifically, protection of ecological receptors is afforded by removal of soil and sediment. Alternative 3 actively addresses each RAO.

TABLE 8-1: DETAILED ANALYSIS OF REMEDIAL ALTERNATIVES

Criterion	Alternative 1 - No further action	Alternative 2A - Reasonably Anticipated Future Use Removal of soil and sediment	Alternative 2B - Reasonably Anticipated Future Use Removal of soil and sediment	Alternative 3 - Unrestricted Use Removal of soil and sediment
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Compliance with Standards, Criteria, and Guidance (SCGs)				
Compliance with chemical-specific SCGs	Relies on natural attenuation to address soil SCGs.	Alternative 2A addresses chemical-specific SCGs identified for soil and sediment in off-site areas.	Alternative 2B addresses chemical-specific SCGs identified for soil and sediment in off-site areas.	Alternative 3 addresses chemical-specific SCGs identified for soil and sediment in off-site areas.
Compliance with location-specific SCGs	Meets location-specific SCGs.	Meets location-specific SCGs.	Meets location-specific SCGs.	Meets location-specific SCGs.
Compliance with action-specific SCGs	No actions proposed for this alternative.	Treatment residuals would be managed in accordance with state and federal solid and hazardous waste management requirements. Discharge of treated water to Ley Creek would be managed in accordance with state discharge to surface water requirements. Site construction activities would be conducted in accordance with OSHA safety requirements. Transportation and disposal would be conducted in accordance with regulatory requirements.	Treatment residuals would be managed in accordance with state and federal solid and hazardous waste management requirements. Discharge of treated water to Ley Creek would be managed in accordance with state discharge to surface water requirements. Site construction activities would be conducted in accordance with OSHA safety requirements. Transportation and disposal would be conducted in accordance with regulatory requirements.	Treatment residuals would be managed in accordance with state and federal solid and hazardous waste management requirements. Discharge of treated water to Ley Creek would be managed in accordance with state discharge to surface water requirements. Site construction activities would be conducted in accordance with OSHA safety requirements. Transportation and disposal would be conducted in accordance with regulatory requirements.
Long-Term Effectiveness and Permanence				
Magnitude of residual risk	Risks to human health and the environment have been identified due to soil and sediment in off-site areas. This alternatives relies on natural attenuation to mitigate these risks.	Risk to human health and the environment associated with soil and sediment are mitigated in this alternative through soil and sediment removal. Residual risks associated with soil not removed due to the presence of underground utilities would be mitigated by capping and institutional controls. Otherwise, remaining risks would be minimal and commensurate with reasonably anticipated future use of the properties.	Risk to human health and the environment associated with soil and sediment are mitigated in this alternative through soil and sediment removal. Residual risks associated with soil not removed due to the presence of underground utilities would be mitigated by capping and institutional controls. Otherwise, remaining risks would be minimal and commensurate with reasonably anticipated future use of the properties.	Risk to human health and the environment associated with soil and sediment are mitigated in this alternative through soil and sediment removal. Residual risks associated with soil not removed due to the presence of underground utilities, if any, would be mitigated by institutional controls.
Adequacy and reliability of controls	No controls are included in this alternative.	Institutional controls are reliable means of managing risks due to soil exposures. Capping is a reliable means of controlling exposures to contaminated soil. A soil management plan is a reliable means of controlling exposure to soil.	Institutional controls are reliable means of managing risks due to soil exposures. Capping is a reliable means of controlling exposures to contaminated soil. A soil management plan is a reliable means of controlling exposure to soil.	Institutional controls are reliable means of managing risks due to soil exposures. If deemed necessary, a soil management plan is a reliable means of controlling exposures to contaminated soil.
Long-term sustainability	No active remedial components, therefore, no environmental or sustainability impacts are associated with implementation of the remedy.	No long-term environmental or sustainability impacts are anticipated as a result of implementation of this remedy.	No long-term environmental or sustainability impacts are anticipated as a result of implementation of this remedy.	No long-term environmental or sustainability impacts are anticipated as a result of implementation of this remedy.

TABLE 8-1: DETAILED ANALYSIS OF REMEDIAL ALTERNATIVES

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Reduction of Toxicity, Mobility, or Volume through Treatment				
Treatment process used and materials treated	No treatment processes included in this alternative.	*Ex situ* treatment related to sediment dewatering is anticipated with this alternative. It is anticipated that residual water may be treated for PCBs and removal of solids.	*Ex situ* treatment related to sediment dewatering is anticipated with this alternative. It is anticipated that residual water may be treated for PCBs and removal solids.	*Ex situ* treatment related to sediment dewatering is anticipated with this alternative. It is anticipated that residual water may be treated for PCBs and removal of solids.
Amount of hazardous material destroyed or treated	No treatment processes included in this alternative.	An estimated 254,000 gal of sediment dewatering fluids are anticipated to be treated under this alternative. Dewatering fluids are not anticipated to be hazardous material or to exhibit PCB concentrations in excess of 50 ppm. Approximately 5,800 CY of soil removal from the National Grid Wetland has the potential to exhibit PCB concentrations greater than 50 ppm. This volume would be removed and disposed off-site.	An estimated 308,000 gal of sediment dewatering fluids are anticipated to be treated under this alternative. Dewatering fluids are not anticipated to be hazardous material or to exhibit PCB concentrations in excess of 50 ppm. Approximately 5,800 CY of soil removal from the National Grid Wetland has the potential to exhibit PCB concentrations greater than 50 ppm. This volume would be removed and disposed off-site.	An estimated 479,000 gal of sediment dewatering fluids are anticipated to be treated under this alternative. Dewatering fluids are not anticipated to be hazardous material or to exhibit PCB concentrations in excess of 50 ppm. Approximately 6,330 CY of soil removal from the National Grid Wetland and 3,950 (one half the volume) of material excavated from the vicinity of Factory Avenue has the potential to exhibit PCB concentrations greater than 50 ppm. This volume would be removed and disposed off-site.
Degree of expected reduction in toxicity, mobility, or volume	No treatment processes included in this alternative.	Treatment is expected to reduce the toxicity of sediment dewatering fluids. While not a treatment process, removal of an estimated 11,930 CY of soil would result in a reduction of the toxicity of soil in off-site areas. Similarly, removal of an estimated 7,200 CY of sediment from Ley Creek would result in a reduction in toxicity and mobility of contaminated sediments in Ley Creek.	Treatment is expected to reduce the toxicity of sediment dewatering fluids. While not a treatment process, removal of an estimated 15,130 CY of soil would result in a reduction of the toxicity of soil in off-site areas. Similarly, removal of an estimated 9,600 CY of sediment from Ley Creek would result in a reduction in toxicity and mobility of contaminated sediments in Ley Creek.	Treatment is expected to reduce the toxicity of sediment dewatering fluids. While not a treatment process, removal of an estimated 31,460 CY of soil would result in a reduction of the toxicity of soil in off-site areas. Similarly, removal of an estimated 13,200 CY of sediment from Ley Creek would result in a reduction in toxicity and mobility of contaminated sediments in Ley Creek.
Degree to which treatment is irreversible	No treatment processes included in this alternative.	Soil and sediment excavation and disposal are irreversible. Treatment of the sediment dewatering fluids is considered irreversible.	Soil and sediment excavation and disposal are irreversible. Treatment of the sediment dewatering fluids is considered irreversible.	Soil and sediment excavation and disposal are irreversible. Treatment of the sediment dewatering fluids is considered irreversible.
Type and quantity of residuals remaining after treatment	No treatment processes included in this alternative.	Treatment residuals from sediment dewatering are aniticpated to consist of solids. Full removal of intended soil excavation volumes may not be feasible due to the presence of subsuface utilities. The quantity of residual material is unknown.	Treatment residuals from sediment dewatering are aniticpated to consist of solids. Full removal of intended soil excavation volumes may not be feasible due to the presence of subsuface utilities. The quantity of residual material is unknown.	Treatment residuals from sediment dewatering are aniticpated to consist of solids. Full removal of intended soil excavation volumes may not be feasible due to the presence of subsuface utilities. The quantity of residual material is unknown.
Short-Term Impact and Effectiveness				
Protection of community during remedial actions	No active remedial actions included in this alternative.	Dust, surface runoff, and sediment erosion, would be controlled during construction/excavation activities. Proper health and safety measures will be established and implemented during remedial activities.	Dust, surface runoff, and sediment erosion, would be controlled during construction/excavation activities. Proper health and safety measures will be established and implemented during remedial activities.	Dust, surface runoff, and sediment erosion, would be controlled during construction/excavation activities. Proper health and safety measures will be established and implemented during remedial activities.
Protection of workers during remedial actions	No active remedial actions included in this alternative.	Proper health and safety measures would be established and implemented during remedial activities, and would be effective in protecting workers from exposure to contaminants.	Proper health and safety measures would be established and implemented during remedial activities, and would be effective in protecting workers from exposure to contaminants.	Proper health and safety measures would be established and implemented during remedial activities, and would be effective in protecting workers from exposure to contaminants.

TABLE 8-1: DETAILED ANALYSIS OF REMEDIAL ALTERNATIVES

Criterion	Alternative 1 - No further action	Alternative 2A - Reasonably Anticipated Future Use Removal of soil and sediment	Alternative 2B - Reasonably Anticipated Future Use Removal of soil and sediment	Alternative 3 - Unrestricted Use Removal of soil and sediment
	● No further action	● Institutional Controls - Soil management plan, deed restrictions, periodic reviews. ● Capping - Vegetative, gravel, and asphalt cover in the Factory Avenue Area ● Excavation - Mechanical excavation to Commercial SCOs of Factory Ave area soil down to average 1 ft depth. - Mechanical excavation to Ecological Resources SCOs of Floodplain area soil to average 1 to 6 ft depth. - Mechanical excavation to Ecological Resource SCOs of Wetland area soil to average depth of 2.5 ft for total PCBs greater than 50 mg/kg with additional excavations to average depth of 1 ft. - Mechanical excavation of sediment greater than 2.2 mg/kg total PCBs in Ley Creek to an average depth of 1.25 ft. ● *Ex situ* treatment - Dewatering of excavated sediments. ● Disposal - Off-site disposal of excavated soil and sediment.	● Institutional Controls - Soil management plan, deed restrictions, periodic reviews. ● Capping - Vegetative, gravel, and asphalt cover in the Factory Avenue Area ● Excavation - Mechanical excavation to Commercial SCOs of Factory Ave area soil down to average depth of 1 to 4 ft. - Mechanical excavation to Ecological Resources SCOs of Floodplain area soil to average depth of 1 to 6 ft. - Mechanical excavation of Wetland area soil to Ecological SCOs to average depth of 2.5 ft. for total PCBs greater than 50 mg/kg with additional excavations to average depth of 1 ft (expanded volume). - Mechanical excavation of sediment greater than 1 mg/kg total PCBs in Ley Creek to an average depth of 1.25 ft. ● *Ex situ* treatment - Dewatering of excavated sediments. ● Disposal - Off-site disposal of excavated soil and sediment.	● Institutional Controls - Soil management plan, deed restrictions, periodic review, if necessary. ● Excavation - Mechanical excavation of soil greater than SCOs for unrestricted use. - Mechanical excavation of sediment greater than 0.28 mg/kg in Ley Creek. ● *Ex situ* treatment - Dewatering of excavated sediments. ● Disposal - Off-site disposal of excavated soil and sediment.
Short-Term Impact and Effectiveness (continued)				
Short-term sustainability	No active remedial actions included in this alternative.	Dust, surface runoff controls, and sediment control measures would be instituted to minimize impacts to the environment during implementation of this alternative. Green remediation techniques, as detailed in NYSDEC DER-31, will be considered for each alternative to reduce short-term environmental impacts of the selected remedy. Alternative 2A is anticipated to be more energy intensive than Alternative 1.	Dust, surface runoff controls, and sediment control measures would be instituted to minimize impacts to the environment during implementation of this alternative. Green remediation techniques, as detailed in NYSDEC DER-31, will be considered for each alternative to reduce short-term environmental impacts of the selected remedy. Alternative 2B is anticipated to be more energy intensive than Alternative 1 and 2A.	Dust, surface runoff controls, and sediment control measures would be instituted to minimize impacts to the environment during implementation of this alternative. Green remediation techniques, as detailed in NYSDEC DER-31, will be considered for each alternative to reduce short-term environmental impacts of the selected remedy. Alternative 3 is anticipated to be more energy intensive than Alternatives 1, 2A and 2B.
Time until RAOs are achieved	RAOs are not anticipated to be met by this alternative within the foreseeable future.	RAOs related to exposure to soil and sediment would be addressed upon implementation of this alternative.	RAOs related to exposure to soil and sediment would be addressed upon implementation of this alternative.	RAOs related to exposure to soil and sediment would be addressed upon implementation of this alternative.
Implementability				
Ability to construct and operate the technology	There are no technologies to be constructed in this alternative.	Excavation and capping are readily implementable. Periodic maintenance and inspection of Alternative 2A components would be anticipated to maintain integrity and operation.	Excavation and capping are readily implementable. Periodic maintenance and inspection of Alternative 2B components would be anticipated to maintain integrity and operation.	Excavation is readily implementable. Periodic maintenance and inspection of Alternative 3 components, if necessary, would be anticipated to maintain integrity and operation.
Reliability of technology	There are no technologies to be constructed in this alternative.	Institutional controls are reliable means of managing residual risks due to exposure to soil and sediments. Excavation and capping are reliable means of controlling exposures to contaminated soil. Excavation is a reliable means of controlling exposures to contaminated sediment.	Institutional controls are reliable means of managing residual risks due to exposure to soil and sediments. Excavation and capping are reliable means of controlling exposures to contaminated soil. Excavation is a reliable means of controlling exposures to contaminated sediment.	Institutional controls are reliable means of managing residual risks due to exposure to soil and sediments. Excavation and capping are reliable means of controlling exposures to contaminated soil. Excavation is a reliable means of controlling exposures to contaminated sediment.
Ease of undertaking additional remedial actions, if necessary	Additional remedial actions, if necessary, would be readily implementable.	Additional remedial actions, if necessary, are readily implementable.	Additional remedial actions, if necessary, are readily implementable.	Additional remedial actions, if necessary, would be readily implementable.
Ability to monitor effectiveness of remedy	Effectiveness of the remedy could be readily monitored.	Effectiveness of the remedy could be readily monitored. Periodic review would be included in this alternative.	Effectiveness of the remedy could be readily monitored. Periodic review would be included in this alternative.	Effectiveness of the remedy could be readily monitored. Periodic review may be included in this alternative.
Coordination with other agencies and property owners	No coordination necessary to implement this alternative.	Coordination with other agencies including USEPA, NYSDEC, Onondaga County, the Town of Salina, and property owners would be necessary.	Coordination with other agencies including USEPA, NYSDEC, Onondaga County, the Town of Salina, and property owners would be necessary.	Coordination with other agencies including USEPA, NYSDEC, Onondaga County, the Town of Salina, and property owners would be necessary.
Availability of off-site treatment storage and disposal services and capacities	No off-site treatment, storage and disposal services identified for this alternative.	Off-site treatment, storage and disposal facilities are readily available.	Off-site treatment, storage and disposal facilities are readily available.	Off-site treatment, storage and disposal facilities are readily available.
Availability of necessary equipment, specialists, and materials	No equipment, specialists and materials are identified for this alternative.	Equipment, specialists and materials are readily available.	Equipment, specialists and materials are readily available.	Equipment, specialists and materials are readily available.

TABLE 8-1: DETAILED ANALYSIS OF REMEDIAL ALTERNATIVES

Criterion	Alternative 1 - No further action	Alternative 2A - Reasonably Anticipated Future Use Removal of soil and sediment	Alternative 2B - Reasonably Anticipated Future Use Removal of soil and sediment	Alternative 3 - Unrestricted Use Removal of soil and sediment
	● No further action	● Institutional Controls - Soil management plan, deed restrictions, periodic reviews. ● Capping - Vegetative, gravel, and asphalt cover in the Factory Avenue Area ● Excavation - Mechanical excavation to Commercial SCOs of Factory Ave area soil down to average 1 ft depth. - Mechanical excavation to Ecological Resources SCOs of Floodplain area soil to average 1 to 6 ft depth. - Mechanical excavation to Ecological Resource SCOs of Wetland area soil to average depth of 2.5 ft for total PCBs greater than 50 mg/kg with additional excavations to average depth of 1 ft. - Mechanical excavation of sediment greater than 2.2 mg/kg total PCBs in Ley Creek to an average depth of 1.25 ft. ● *Ex situ* treatment - Dewatering of excavated sediments. ● Disposal - Off-site disposal of excavated soil and sediment.	● Institutional Controls - Soil management plan, deed restrictions, periodic reviews. ● Capping - Vegetative, gravel, and asphalt cover in the Factory Avenue Area ● Excavation - Mechanical excavation to Commercial SCOs of Factory Ave area soil down to average depth of 1 to 4 ft. - Mechanical excavation to Ecological Resources SCOs of Floodplain area soil to average depth of 1 to 6 ft. - Mechanical excavation of Wetland area soil to Ecological SCOs to average depth of 2.5 ft. for total PCBs greater than 50 mg/kg with additional excavations to average depth of 1 ft (expanded volume). - Mechanical excavation of sediment greater than 1 mg/kg total PCBs in Ley Creek to an average depth of 1.25 ft. ● *Ex situ* treatment - Dewatering of excavated sediments. ● Disposal - Off-site disposal of excavated soil and sediment.	● Institutional Controls - Soil management plan, deed restrictions, periodic review, if necessary. ● Excavation - Mechanical excavation of soil greater than SCOs for unrestricted use. - Mechanical excavation of sediment greater than 0.28 mg/kg in Ley Creek. ● *Ex situ* treatment - Dewatering of excavated sediments. ● Disposal - Off-site disposal of excavated soil and sediment.
Costs				
Capital cost	$0	$11,462,000	$13,732,000	$21,904,000
Present worth of operation and maintenance cost	$0	$356,300	$356,300	$356,300
Approximate total net present worth cost	$0	$11,818,000	$14,088,000	$22,260,000
Land Use				
Evaluation of land use factors	No actions are included in Alternative 1. Alternative 1 would require additional property restrictions over those consistent with current, intended and reasonably anticipated future use of the off-site areas to be protective of human receptors.	Alternative 2A results in the ability to use each property consistent with current, intended and reasonably anticipated future use of the off-site areas.	Alternative 2B results in the ability to use each property consistent with current, intended and reasonably anticipated future use of the off-site areas. In addition, this remedial alternative will allow for the future consumption of fish caught in the Site reach of Ley Creek.	Alternative 3 results in the ability to use each property with no restrictions in use.

Notes:
CY - cubic yards
DER-31 - Division of Environmental Remediation Program Policy for Green Remediation
gal - gallon
NYSDEC - New York State Department of Environmental Conservation
OSHA - Occupational Safety and Health Administration
PCB - Polychlorinated biphenyl
PRG - Preliminary Remedial Goal
RAO - Remedial Action Objective
SCG - Standard, Criteria, and Guidance
SCO - Soil Cleanup Objective
USEPA - United States Environmental Protection Agency

- Alternative 2A Preliminary Remedial Goals (PRGs): Factory Avenue Areas - Commercial SCOs; Portions of Ley Creek Floodplain and National Grid Wetland - Ecological Resource SCOs; National Grid Access Road Area - Industrial SCOs; Ley Creek Sediment - ecological receptor risk-based (2.2 mg/kg PCBs).
- Alternative 2B PRGs: Factory Avenue Areas - Commercial SCOs; Portions of Ley Creek Floodplain and National Grid Wetland - Ecological Resource SCOs; National Grid Access Road Area - Industrial SCOs; Ley Creek Sediment - human health risk-based (1 mg/kg PCBs).
- Alternative 3 PRGs: Factory Avenue Areas, Portions of Ley Creek Floodplain, National Grid Wetland, National Grid Access Road Area - Unrestricted SCOs; Ley Creek Sediment - upstream average PCB concentration (0.28 mg/kg PCBs).
- Soil and sediment excavation limits are depicted on Figures 5-1 through 5-10.
- Soil and sediment excavation volumes are summarized in Table 5-5.

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TABLE 8-2: ALTERNATIVE 1 - NO FURTHER ACTION

	QTY	UNIT	UNIT COST	TOTAL COST	Notes
DIRECT CAPITAL CONSTRUCTION COSTS					
TOTAL DIRECT CAPITAL COST				**0**	
Engineering/Design/Oversight			15%	**0**	
Legal			5%	**0**	
Contingency			20%	**0**	
TOTAL ALTERNATIVE CAPITAL COST				**0**	
OPERATION AND MAINTENANCE COSTS					
TOTAL ANNUAL O&M COST (rounded)				**$0**	

PRESENT WORTH ANALYSIS (YEARS 1-30)		**Discount**		
Cost Type	**Total Cost**	**Factor (7%)**	**Cost Per Yr**	**Present Value**
Capital Cost - Year 0	$0	1.000	$0	$0
Annual O&M - Years 1-30		12.4081	$0	$0
TOTAL PROJECT PRESENT WORTH (rounded)				**$0**

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TABLE 8-3: ALTERNATIVE 2A - REASONABLY ANTICIPATED FUTURE USE

	QTY	UNIT	UNIT COST	TOTAL COST	Notes
DIRECT CAPITAL CONSTRUCTION COSTS					
General Conditions, Surveys and Permits					
General Conditions	1	LS	$805,000	$805,000	Trailer, electrical, CAMP, Construction Management, H&S
Plan Development	1	LS	$56,000	$56,000	Dewatering Plan, HASP, Traffic Control Plan
Permits	1	LS	$46,000	$46,000	Permits and SWPP
Surveys	1	LS	$35,000	$35,000	
Access, Erosion Control, and Site Security	1	LS	$155,000	$155,000	
Pre-design Investigations	1	LS	$100,000	$100,000	Geotechnical investigation, materials testing.
General Conditions, Surveys and Permits Subtotal				**$1,197,000**	
Ley Creek Sediment and Floodplain Soil Removal					
Construction Road	2,800	LF	$39	$109,200	Stone base road.
Cofferdam	6	EA	$37,400	$224,400	50-ft long Port-a-dams.
Creek Dewatering	6	MONTH	$99,200	$595,200	Bypass pumps (up to 50-60 CFS), Maintenance, Fuel.
Sediment Dewatering Pad	1	EA	$52,400	$52,400	1,900 SY HDPE lined Pad.
Treatment of Dewatering Fluids (Bag Filters, Act Carbon)	1	LS	$151,000	$151,000	up to 60 gpm, pump, bag filters, 4000 lbs carbon total. (50% of sed; inc %solids by 17%)
Mechanical Excavation and Dewatering - Non-TSCA	7,200	CY	$107	$770,400	Average 1.25 ft depth, bank to bank, volume per Fig 5-5a, assumes 60 to 103 CY/day.
Mechanical Excavation and Dewatering - TSCA	550	CY	$145	$79,750	Assumes 200 - ft length of Ley Creek at Route 11, assumes 60 CY/day.
In-creek restoration; sand	2,700	CY	$51	$137,700	0.5-ft layer of clean sand over excavated area
Floodplain Soil Mechanical Excavation	2,900	CY	$58	$168,200	Exc depth ranges 1 to 4-ft, volume per Figs. 5-1a and 5-2, assumes 150 CY/day.
Floodplain Soil Backfill	1,800	CY	$39	$70,200	Exclusive of top 0.5-ft of soil.
Floodplain Soil Restoration; topsoil and seed	59,000	SF	$1.07	$63,130	0.5-ft layer of topsoil
Sediment and Soil Loading	10,700	CY	$7.00	$74,900	
Sediment and Soil Off-site Transport/Disposal - Non-TSCA	10,100	CY	$116.00	$1,171,600	High Acres Landfill, PCBs < 50 ppm; incl fees and 41% fuel surcharge.
Sediment Off-site Transport/Disposal - TSCA	550	CY	$244.00	$134,200	Model City Landfill, PCBs > 50 ppm, land disposal; incl fees and 41% fuel surcharge.
Ley Creek Sediment and Floodplain Soil Removal Subtotal				**$3,802,280**	
National Grid Soil Removal					
Construction Road	560	LF	$36	$20,160	Stone base road
Nat Grid Prop Clearing (Ditch wetland)	0.6	AC	$2,700	$1,620	
Nat Grid Prop Clearing (forested wetland)	3.6	AC	$4,400	$15,840	
Dewatering Pad	1	EA	$108,700	$108,700	4,000 SY HDPE lined Pad.
Treatment of Dewatering Fluids (Bag Filters, Act Carbon)	1	LS	$145,400	$145,400	up to 60 gpm, pump, bag filters, 4000 lbs carbon total. (50% of sed; inc %solids by 17%)
Mechanical Excavation(Nat Grid Area)	7,800	CY	$22	$171,600	1-ft depth within tree'd area; following tree removal, assumes 400 CY/day, Fig 5-4a
Mechanical Excavation (Access Road)	30	CY	$22	$660	Within wetland area, assumes 400 CY/day, Fig 5-4a
Loading, Transportation and Off-site Disposal - Non-TSCA	1,970	CY	$123	$242,310	High Acres Landfill, PCBs < 50 ppm; incl fees and 41% fuel surcharge.
Loading, Transportation and Off-site Disposal - TSCA	5,830	CY	$244	$1,422,520	Model City Landfill, PCBs > 50 ppm, land disposal; incl fees and 41% fuel surcharge.
Backfill	1,160	CY	$35	$40,600	
Restoration; forest	155,200	SF	$2.35	$364,720	exclusive of topsoil.
Restoration; wetland	24,000	SF	$1.41	$33,840	1-ft layer of topsoil.
Nat Grid Access Road Restoration (gravel)	300	SF	$1.85	$555	1-ft layer of topsoil.
National Grid Soil Removal Subtotal				**$2,568,525**	
Factory Avenue Soil Removal					
Traffic Control	1	LS	$6,600	$6,600.00	
Mechanical Excavation	1,200	CY	$22	$26,400.00	1-ft depth, volume per Fig. 5-3a, assumes 400 CY/day.
Loading, Transportation and Off-site Disposal - Non-TSCA	600	CY	$123	$73,800.00	High Acres Landfill, PCBs < 50 ppm; incl fees and 41% fuel surcharge.
Loading, Transportation and Off-site Disposal - TSCA	600	CY	$244	$146,400.00	Model City Landfill, PCBs > 50 ppm, land disposal; incl fees and 41% fuel surcharge.
Backfill	880	CY	$35	$30,800.00	
Restoration; topsoil and seed	17,200	SF	$0.85	$14,620.00	0.5-ft layer of topsoil.
Restoration; Asphalt	100	SF	$11	$1,100.00	Access road entrance from Factory Avenue.
Restoration; gravel	20,000	SF	$1.85	$37,000.00	Factory Avenue Shoulder, 0.5 ft gravel.
Factory Avenue Soil Removal Subtotal				**$336,720**	
TOTAL DIRECT CAPITAL COST (rounded)				**$7,905,000**	
Engineering/Design/Oversight			15%	1,185,750	
Legal			5%	395,250	
Contingency			25%	1,976,250	
TOTAL INDIRECT CAPITAL COST (rounded)				**$3,557,000.00**	
TOTAL ALTERNATIVE CAPITAL COST (rounded)				**$11,462,000.00**	

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TABLE 8-3: ALTERNATIVE 2A - REASONABLY ANTICIPATED FUTURE USE

	QTY	UNIT	UNIT COST	TOTAL COST	Notes
OPERATION AND MAINTENANCE COSTS			**$15,000.00**		Assumes up to 1 acre of maintenance required.
Annual Costs (Years 1-7)					
Wetland monitoring and Reporting	1	LS	$12,500.00	12,500	
Contingency Planting and Invasive Species Control	1	LS	$15,000.00	15,000	Assumes up to 0.5 acre of maintenance required.
TOTAL ANNUAL O&M COST (rounded)				**$27,500**	
Periodic Costs (Years 5, 10, 15, 20, 25, 30))					
5-yr reviews	1	ea	$5,000.00	$7,000	

PRESENT WORTH ANALYSIS (YEARS 1-30)		**Discount**		
Cost Type	**Total Cost**	**Factor (7%)**	**Cost Per Yr**	**Present Value**
Capital Cost - Year 0	$11,462,000	1.000	$11,462,000	$11,462,000
Annual O&M - Years 1-7		12.4081	$27,500	$341,200
Periodic Costs - Years 5, 10, 15, 20, 25, 30		2.1577	$7,000	$15,100
TOTAL PROJECT PRESENT WORTH (rounded)				**$11,818,000**

Notes:
Estimate excludes the following:
- Pre-characterization sampling in Ley Creek and National Grid Wetland
- Tax on construction and materials
- Wetland dewatering and water treatment
- Construction water treatment
- Confirmatory sampling (production rates also assume no confirmatory sampling)
- Additivies to dewater sediment
- Expenses related to obtaining property access and right-of-ways.

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TABLE 8-4: ALTERNATIVE 2B - REASONABLY ANTICIPATED FUTURE USE

	QTY	UNIT	UNIT COST	TOTAL COST	Notes
DIRECT CAPITAL CONSTRUCTION COSTS					
General Conditions, Surveys and Permits					
General Conditions	1	LS	$626,000	$626,000	Trailer, electrical, CAMP, Construction Management, H&S
Plan Development	1	LS	$56,000	$56,000	Dewatering Plan, HASP, Traffic Control Plan
Permits	1	LS	$46,000	$46,000	Permits and SWPP
Surveys	1	LS	$35,000	$35,000	
Access, Erosion Control, and Site Security	1	LS	$155,000	$155,000	
Pre-design Investigations	1	LS	$100,000	$100,000	Geotechnical investigation, materials testing.
General Conditions, Surveys and Permits Subtotal				**$1,018,000**	
Ley Creek Sediment and Floodplain Soil Removal					
Construction Road	2,800	LF	$39	$109,200	Stone base road.
Cofferdam	6	EA	$37,400	$224,400	50-ft long Port-a-dams.
Creek Dewatering	7	MONTH	$99,200	$694,400	Bypass pumps (up to 50-60 CFS), Maintenance, Fuel.
Sediment Dewatering Pad	1	EA	$52,400	$52,400	1,900 SY HDPE lined Pad.
Treatment of Dewatering Fluids (Bag Filters, Act Carbon)	1	LS	$156,400	$156,400	up to 60 gpm, pump, bag filters, 4000 lbs carbon total. (50% of sed; inc %solids by 17%)
Mechanical Excavation and Dewatering - Non-TSCA	9,600	CY	$107	$1,027,200	Average 1.25 ft depth, bank to bank, volume per Fig 5-5b, assumes 60 to 103 CY/day.
Mechanical Excavation and Dewatering - TSCA	550	CY	$145	$79,750	Assumes 200 - ft length of Ley Creek at Route 11, assumes 60 CY/day.
In-creek restoration; sand	3,620	CY	$51	$184,620	0.5-ft layer of clean sand.
Floodplain Soil Mechanical Excavation	2,900	CY	$58	$168,200	Exc depth ranges 1 to 4-ft, volume per Figs. 5-1b and 5-2, assumes 150 CY/day.
Floodplain Soil Backfill	1,807	CY	$39	$70,489	Exclusive of top 0.5-ft of soil.
Floodplain Soil Restoration; topsoil and seed	59,000	SF	$1.07	$63,130	0.5-ft layer of topsoil
Sediment and Soil Loading	13,050	CY	$7.00	$91,350	
Sediment and Soil Off-site Transport/Disposal - Non-TSCA	12,500	CY	$116.00	$1,450,000	High Acres Landfill, PCBs < 50 ppm; incl fees and 41% fuel surcharge.
Sediment Off-site Transport/Disposal - TSCA	550	CY	$244.00	$134,200	Model City Landfill, PCBs > 50 ppm, land disposal; incl fees and 41% fuel surcharge.
Ley Creek Sediment and Floodplain Soil Removal Subtotal				**$4,505,739**	
National Grid Soil Removal					
Construction Road	560	LF	$36	$20,160	Stone base road
Nat Grid Prop Clearing (Ditch wetland)	0.6	AC	$2,700	$1,620	
Nat Grid Prop Clearing (forested wetland)	3.6	AC	$4,400	$15,840	
Dewatering Pad	1	EA	$108,700	$108,700	4,000 SY HDPE lined Pad.
Treatment of Dewatering Fluids (Bag Filters, Act Carbon)	1	LS	$167,300	$167,300	up to 60 gpm, pump, bag filters, 4000 lbs carbon total. (50% of sed; inc %solids by 17%)
Mechanical Excavation(Nat Grid Area)	8,600	CY	$22	$189,200	Depth Varies; within tree'd area; following tree removal, assumes 400 CY/day, Fig 5-4b
Mechanical Excavation (Access Road)	30	CY	$22	$660	Within wetland area, assumes 400 CY/day, Fig 5-4b
Loading, Transportation and Off-site Disposal - Non-TSCA	2,770	CY	$123	$340,710	High Acres Landfill, PCBs < 50 ppm; incl fees and 41% fuel surcharge.
Loading, Transportation and Off-site Disposal - TSCA	5,830	CY	$244	$1,422,520	Model City Landfill, PCBs > 50 ppm, land disposal; incl fees and 41% fuel surcharge.
Backfill	1,960	CY	$35	$68,600	
Restoration; forest	155,200	SF	$2.35	$364,720	exclusive of topsoil.
Restoration; wetland	24,000	SF	$1.41	$33,840	1-ft layer of topsoil.
Nat Grid Access Road Restoration (gravel)	300	SF	$1.85	$555	1-ft layer of topsoil.
National Grid Soil Removal Subtotal				**$2,734,425**	
Factory Avenue Soil Removal					
Traffic Control	1	LS	$6,600	$6,600.00	
Shoring	7,445	SF	$40	$297,800.00	
Mechanical Excavation	3,600	CY	$22	$79,200.00	4-ft depth, volume per Fig. 5-3b, assumes 400 CY/day.
Loading, Transportation and Off-site Disposal - Non-TSCA	1,800	CY	$123	$221,400.00	High Acres Landfill, PCBs < 50 ppm; incl fees and 41% fuel surcharge.
Loading, Transportation and Off-site Disposal - TSCA	1,800	CY	$244	$439,200.00	Model City Landfill, PCBs > 50 ppm, land disposal; incl fees and 41% fuel surcharge.
Backfill	3,280	CY	$35	$114,800.00	
Restoration; topsoil and seed	17,200	SF	$0.85	$14,620.00	0.5-ft layer of topsoil.
Restoration; Asphalt	100	SF	$11	$1,100.00	Access road entrance from Factory Avenue.
Restoration; gravel	20,000	SF	$1.85	$37,000.00	Factory Avenue Shoulder, 0.5 ft gravel.
Factory Avenue Soil Removal Subtotal				**$1,211,720**	
TOTAL DIRECT CAPITAL COST (rounded)				**$9,470,000**	
Engineering/Design/Oversight			15%	1,420,500	
Legal			5%	473,500	
Contingency			25%	2,367,500	
TOTAL INDIRECT CAPITAL COST (rounded)				**$4,262,000.00**	
TOTAL ALTERNATIVE CAPITAL COST (rounded)				**$13,732,000.00**	

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TABLE 8-4: ALTERNATIVE 2B - REASONABLY ANTICIPATED FUTURE USE

	QTY	UNIT	UNIT COST	TOTAL COST	Notes
OPERATION AND MAINTENANCE COSTS			**$15,000.00**		Assumes up to 1 acre of maintenance required.
Annual Costs (Years 1-7)					
Wetland monitoring and Reporting	1	LS	$12,500.00	12,500	
Contingency Planting and Invasive Species Control	1	LS	$15,000.00	15,000	Assumes up to 0.5 acre of maintenance required.
TOTAL ANNUAL O&M COST (rounded)				**$27,500**	
Periodic Costs (Years 5, 10, 15, 20, 25, 30))					
5-yr reviews	1	ea	$5,000.00	$7,000	

PRESENT WORTH ANALYSIS (YEARS 1-30)		**Discount**		
Cost Type	**Total Cost**	**Factor (7%)**	**Cost Per Yr**	**Present Value**
Capital Cost - Year 0	$13,732,000	1.000	$13,732,000	$13,732,000
Annual O&M - Years 1-7		12.4081	$27,500	$341,200
Periodic Costs - Years 5, 10, 15, 20, 25, 30		2.1577	$7,000	$15,100
TOTAL PROJECT PRESENT WORTH (rounded)				**$14,088,000**

Notes:
Estimate excludes the following:
- Pre-characterization sampling in Ley Creek and National Grid Wetland
- Tax on construction and materials
- Wetland dewatering and water treatment
- Construction water treatment
- Confirmatory sampling (production rates also assume no confirmatory sampling)
- Additivies to dewater sediment
- Expenses related to obtaining property access and right-of-ways.

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TABLE 8-5: ALTERNATIVE 3 - UNRESTRICTED USE

	QTY	UNIT	UNIT COST	TOTAL COST	Notes
DIRECT CAPITAL CONSTRUCTION COSTS					
General Conditions, Surveys and Permits					
General Conditions	1	LS	$1,103,000	$1,103,000	Trailer, electrical, CAMP, Construction Management, H&S
Plan Development	1	LS	$56,000	$56,000	Const WP, Dewatering Plan, HASP, Traffic Control Plan
Permits	1	LS	$46,000	$46,000	Permits and SWPP
Surveys	1	LS	$69,000	$69,000	
Access, Erosion Control, and Site Security	1	LS	$155,000	$155,000	
Pre-design Investigations	1	LS	$100,000	$100,000	Geotechnical investigation, materials testing.
General Conditions, Surveys and Permits Subtotal				**$1,529,000**	
Ley Creek Sediment and Floodplain Soil Removal					
Construction Road	2,800	LF	$39	$109,200	Stone base road.
Cofferdam	10	EA	$37,400	$374,000	50-ft long Port-a-dams.
Creek Dewatering	10	MONTHS	$99,200	$992,000	Bypass pumps (up to 50-60 CFS), Maintenance, Fuel.
Sediment Dewatering Pad	1	EA	$136,100	$136,100	4,740 SY HDPE lined Pad.
Treatment of Dewatering Fluids (Bag Filters, Act Carbon)	1	LS	$169,900	$169,900	up to 60 gpm, pump, bag filters, 4000 lbs carbon total. (50% of sed; inc %solids by 17%)
Mechanical Excavation and Dewatering - Non-TSCA	13,200	CY	$104	$1,369,764	Average 1.25 ft depth, bank to bank, volume per Fig 5-10, assumes 60 to 103 CY/day.
Mechanical Excavation and Dewatering - TSCA	550	CY	$145	$79,750	Assumes 200 - ft length of Ley Creek at Route 11, assumes 60 CY/day.
In-creek restoration; sand	5,060	CY	$51	$258,060	0.5-ft layer of clean sand.
Floodplain Soil Mechanical Excavation - Non-TSCA	8,400	CY	$58	$487,200	Exc. depth ranges 1 to 4-ft, volume per Figs. 5-6 and 5-7.
Floodplain Soil Backfill	6,140	CY	$39	$239,460	Exclusive of top 0.5-ft of soil.
Floodplain Soil Restoration; topsoil and seed	121,900	SF	$1.07	$130,433	0.5-ft layer of topsoil
Sediment and Soil Loading	22,150	CY	$7.00	$155,050	
Sediment and Soil Off-site Transport/Disposal - Non-TSCA	21,600	CY	$116.00	$2,505,600	High Acres Landfill, PCBs < 50 ppm; incl fees and 41% fuel surcharge.
Sediment Off-site Transport/Disposal - TSCA	550	CY	$238.00	$130,900	Model City Landfill, PCBs > 50 ppm, land disposal; incl fees and 41% fuel surcharge.
Ley Creek Sediment and Floodplain Soil Removal Subtotal				**$7,137,417**	
National Grid Soil Removal					
Construction Road	560	LF	$36	$19,980	Stone base road.
Nat Grid Prop Clearing (Ditch wetland)	0.6	AC	$2,700	$1,620.00	
Nat Grid Prop Clearing (forested wetland)	4.5	AC	$4,400	$19,800.00	
Dewatering Pad	1	EA	$156,100	$156,100.00	5,672 SY HDPE lined Pad.
Treatment of Dewatering Fluids (Bag Filters, Act Carbon)	1	LS	$149,800	$149,800.00	up to 60 gpm, pump, bag filters, 4000 lbs carbon total. (50% of sed; inc %solids by 17%)
Mechanical Excavation	14,400	CY	$22	$316,800	Average 1.75 ft depth, volume per Fig 5-10, assumes 400 CY/day, Fig 5-9
Mechanical Excavation (Access Road)	760	CY	$27	$20,520	Average 2 ft depth, volume per Fig 5-10, assumes 400 CY/day, Fig 5-9
Loading, Transportation and Off-site Disposal - Nonhaz	8,830	CY	$123	$1,086,090	High Acres Landfill, PCBs < 50 ppm; incl fees and 41% fuel surcharge.
Loading, Transportation and Off-site Disposal - Haz	6,330	CY	$244	$1,544,520	Model City Landfill, PCBs > 50 ppm, land disposal; incl fees and 41% fuel surcharge.
Backfill	7,200	CY	$35	$252,000	Exclusive of top 1-ft.
Restoration; forest wetland	170,800	SF	$2.35	$401,380	1-ft layer of topsoil.
Restoration; wetland	23,500	SF	$1.41	$33,135	1-ft layer of topsoil.
Restoration; gravel	8,160	SF	$1.85	$15,096	0.5-ft layer gravel.
National Grid Soil Removal Subtotal				**$4,016,841**	
Factory Avenue Soil Removal					
Traffic Control	1	LS	$6,600	$6,600.00	
Shoring	11,950	SF	$40	$478,000.00	20-ft Sheet pile.
Mechanical Excavation	7,900	CY	$22	$173,800.00	1 to 10-ft depth, volume per Fig. 5-8, 400 CY/day.
Loading, Transportation and Off-site Disposal - Nonhaz	3,950	CY	$123	$485,850.00	High Acres Landfill, PCBs < 50 ppm; incl fees and 41% fuel surcharge.
Loading, Transportation and Off-site Disposal - Haz	3,950	CY	$244	$963,800.00	Model City Landfill, PCBs > 50 ppm, land disposal; incl fees and 41% fuel surcharge.
Backfill	7,010	CY	$35	$245,350.00	Exclusive of top 0.5-ft.
Restoration; topsoil and seed	26,000	SF	$0.85	$22,099.58	0.5-ft layer of topsoil.
Restoration; Asphalt	100	SF	$11	$1,100.00	Access road entrance from Factory Avenue.
Restoration; gravel	24,800	SF	$1.85	$45,880.00	Factory Avenue Shoulder, 0.5 ft gravel.
Factory Avenue Soil Removal Subtotal				**$2,422,480**	
TOTAL DIRECT CAPITAL COST (rounded)				**$15,106,000**	
Engineering/Design/Oversight			15%	2,265,900	
Legal			5%	755,300	
Contingency			25%	3,776,500	
TOTAL INDIRECT CAPITAL COST (rounded)				**$6,798,000.00**	
TOTAL ALTERNATIVE CAPITAL COST (rounded)				**$21,904,000.00**	

RACER Trust
Former Inland Fisher Guide Facility and Ley Creek Deferred Media Site
Syracuse, New York
Off-Site Feasibility Study

TABLE 8-5: ALTERNATIVE 3 - UNRESTRICTED USE

	QTY	UNIT	UNIT COST	TOTAL COST	Notes
OPERATION AND MAINTENANCE COSTS					
Annual Costs (Years 1-7)					
Wetland monitoring and Reporting	**1**	**LS**	**$12,500.00**	**12,500**	
Contingency Planting and Invasive Species Control	1	LS	**$15,000.00**	**15,000**	Assumes up to 1 acre of maintenance required.
TOTAL ANNUAL O&M COST (rounded)				**$27,500**	
Periodic Costs (Years 5, 10, 15, 20, 25, 30))			**$15,000.00**		Assumes up to 0.5 acre of maintenance required.
5-yr reviews	1	ea	$7,000.00	$7,000	

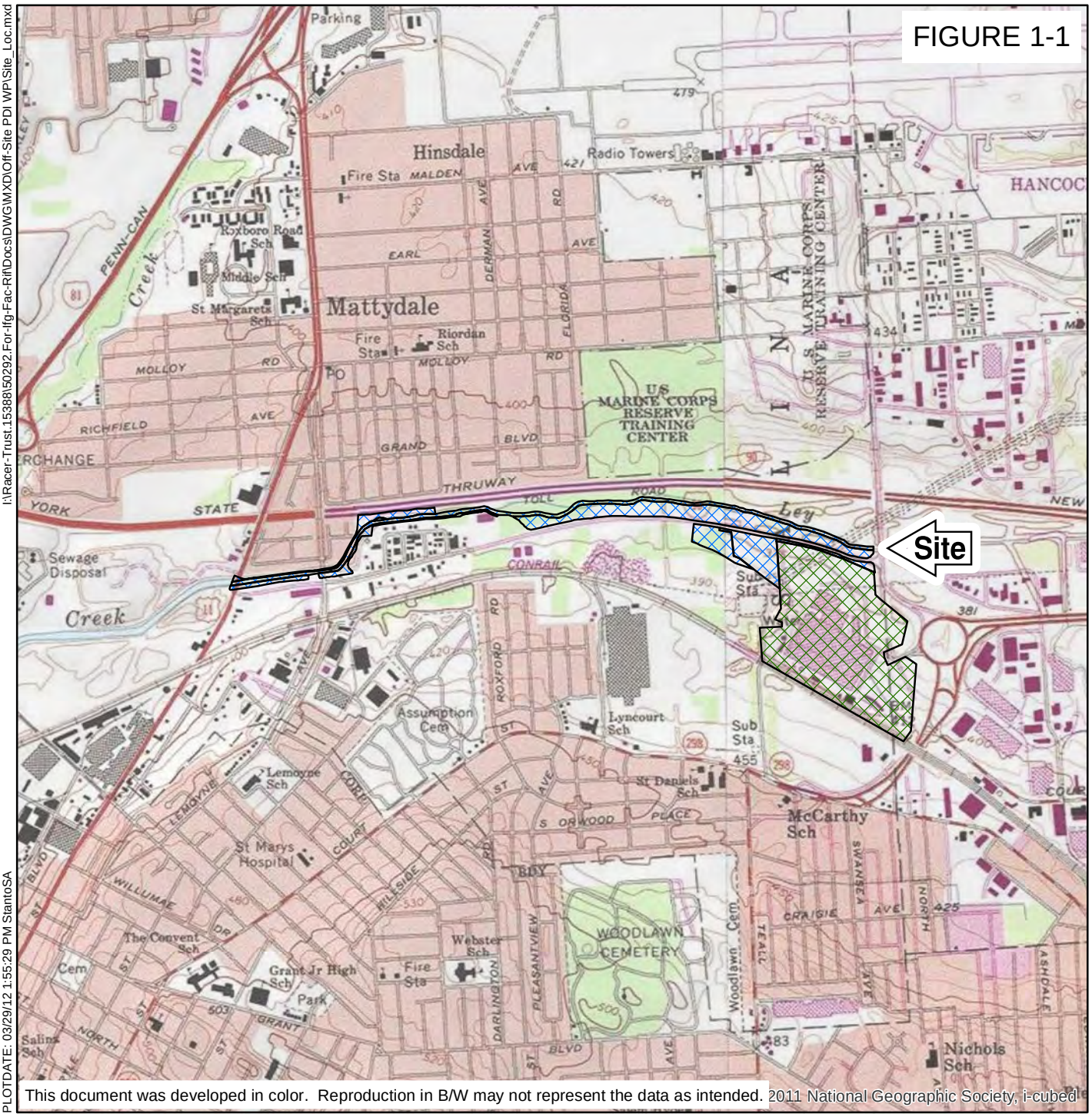
PRESENT WORTH ANALYSIS (YEARS 1-30)				
Cost Type	**Total Cost**	**Discount Factor (7%)**	**Cost Per Yr**	**Present Value**
Capital Cost - Year 0	$0	1.000	$0	$21,904,000
Annual O&M - Years 1-7		12.4081	$27,500	$341,200
Periodic Costs - Years 5, 10, 15, 20, 25, 30		2.1577	$7,000	$15,100
TOTAL PROJECT PRESENT WORTH (rounded)				**$22,260,000**

Notes:
Estimate excludes the following:
- Pre-characterization sampling in Ley Creek and National Grid Wetland
- Tax on construction and materials
- Wetland dewatering and water treatment
- Construction water treatment
- Confirmatory sampling (production rates also assume no confirmatory sampling)
- Additivies to dewater sediment
- Expenses related to obtaining property access and right-of-ways.

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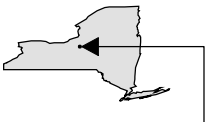
FIGURE 1-1



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AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK



QUADRANGLE LOCATION

OFF-SITE AREAS

FORMER IFG FACILITY

N

OFF-SITE FEASIBILITY STUDY

SITE LOCATION

0 1,000 2,000 4,000 6,000 8,000

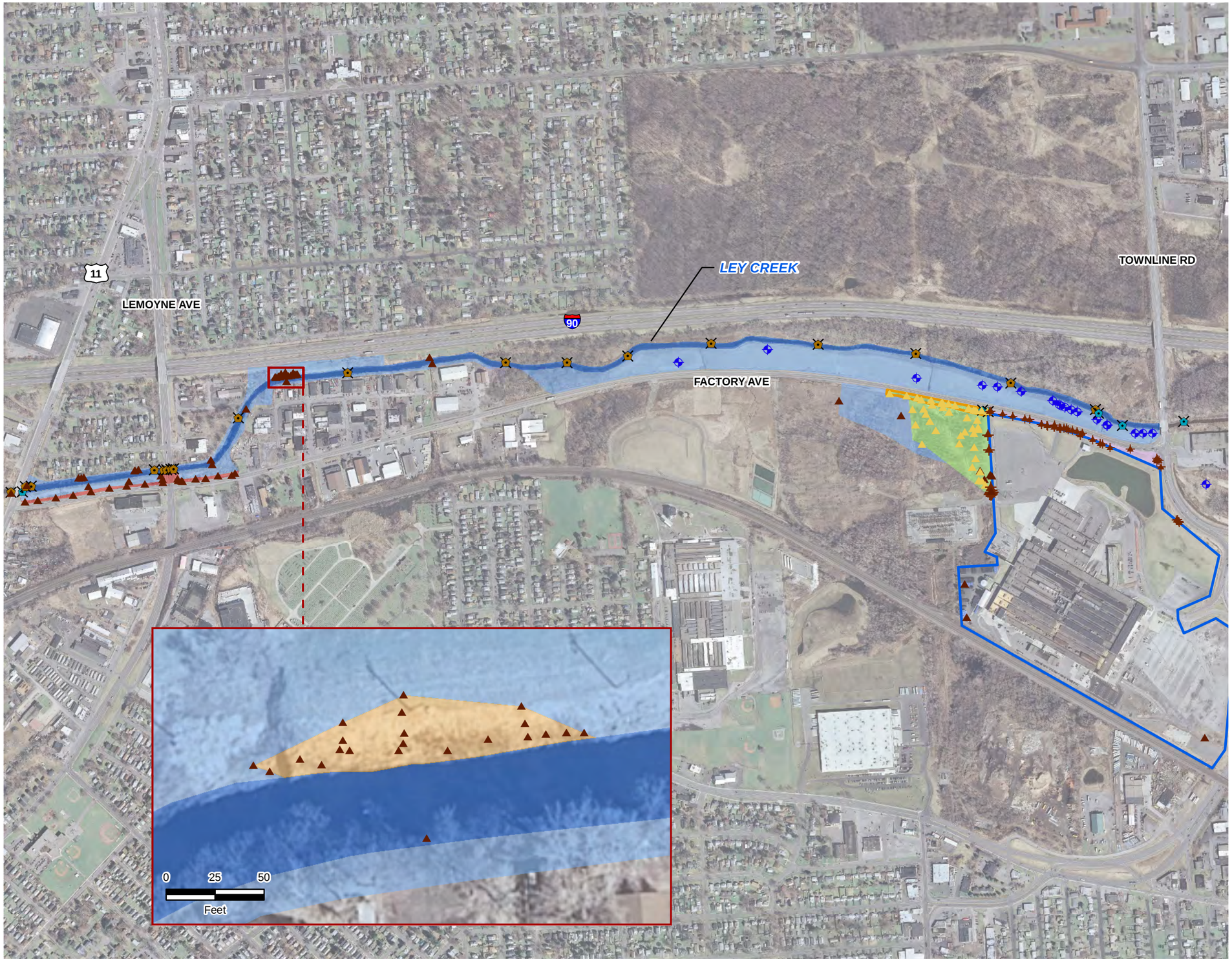
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FIGURE 2-1

N

LEGEND

- MONITORING WELL
- SOIL BORING
- SURFACE SOIL
- SOIL SAMPLE
- SEDIMENT SAMPLE
- SURFACE WATER
- FORMER IFG FACILITY PROPERTY BOUNDARY
- FACTORY AVENUE AREA
- LEY CREEK FLOODPLAIN AREA
- LEY CREEK HOT SPOT AREA
- LEY CREEK
- NATIONAL GRID WETLANDS AREA
- FACTORY AVENUE / LEMOYNE AVENUE INTERSECTION
- FACTORY AVENUE DRAINAGE DITCH

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AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE
FEASIBILITY STUDY

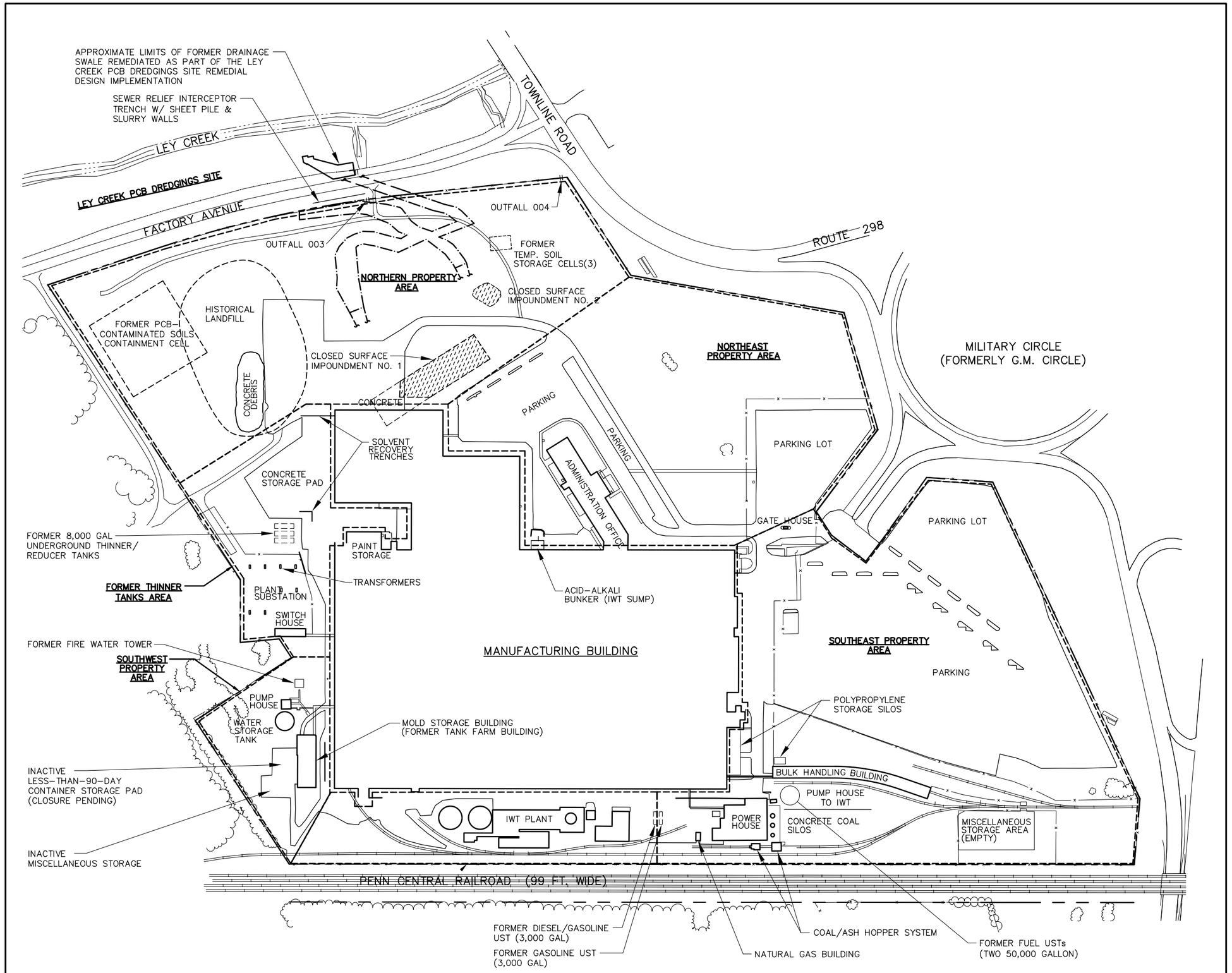
OFF-SITE AREAS

0 375 750 1,500
Feet

MAY 2013
15388.50292

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FIGURE 2–2



LEGEND

- FORMER IFG FACILITY PROPERTY BOUNDARY
- TREE LINE
- APPROX. LOCATION
- FENCE
- ESTIMATED LOCATION OF FORMER DRAINAGE SWALE

RACER TRUST
FORMER IFG FACILITY AND DEFERED MEDIA SITE
SYRACUSE, NY

OFF–SITE FEASIBILITY STUDY

HISTORIC FACILITY PLAN

0 250 500

SCALE IN FEET

FILE NO. 15388.50292–002

MAY 2013

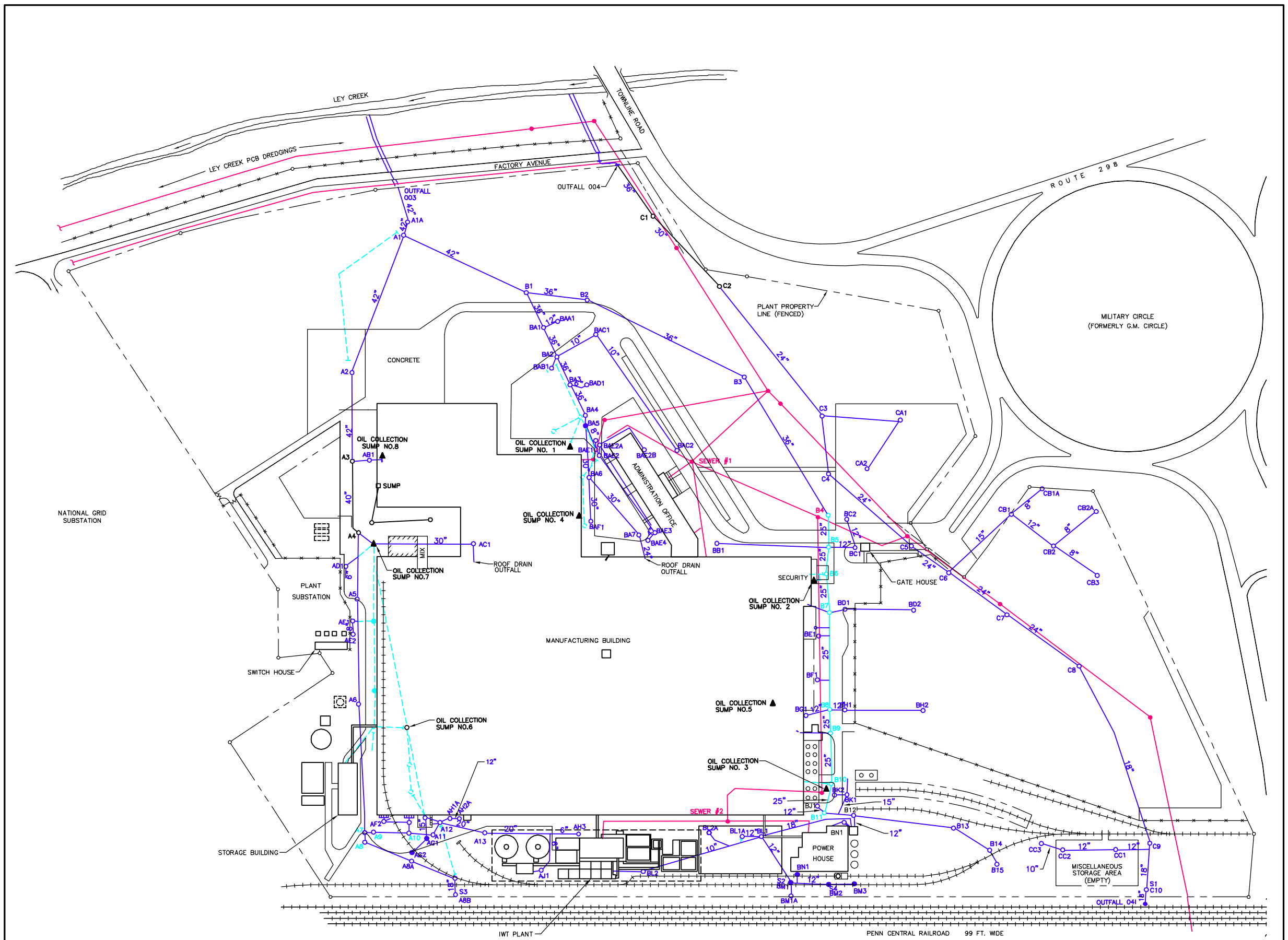
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May 03, 2013 - 2:41pm

FIGURE 2-3



LEGEND

- AB1 — ACTIVE STORM SEWER
- PLUGGED STORM SEWER
- SLIP LINED STORM SEWER
- INSITUFORMED STORM SEWER
- SANITARY SEWER
- FORMER IFG FACILITY PROPERTY BOUNDARY
- OIL COLLECTION SUMP
- MANHOLE

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AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE
FEASIBILITY STUDY

HISTORIC
STORM AND SANITARY
SEWERS

0 240 480

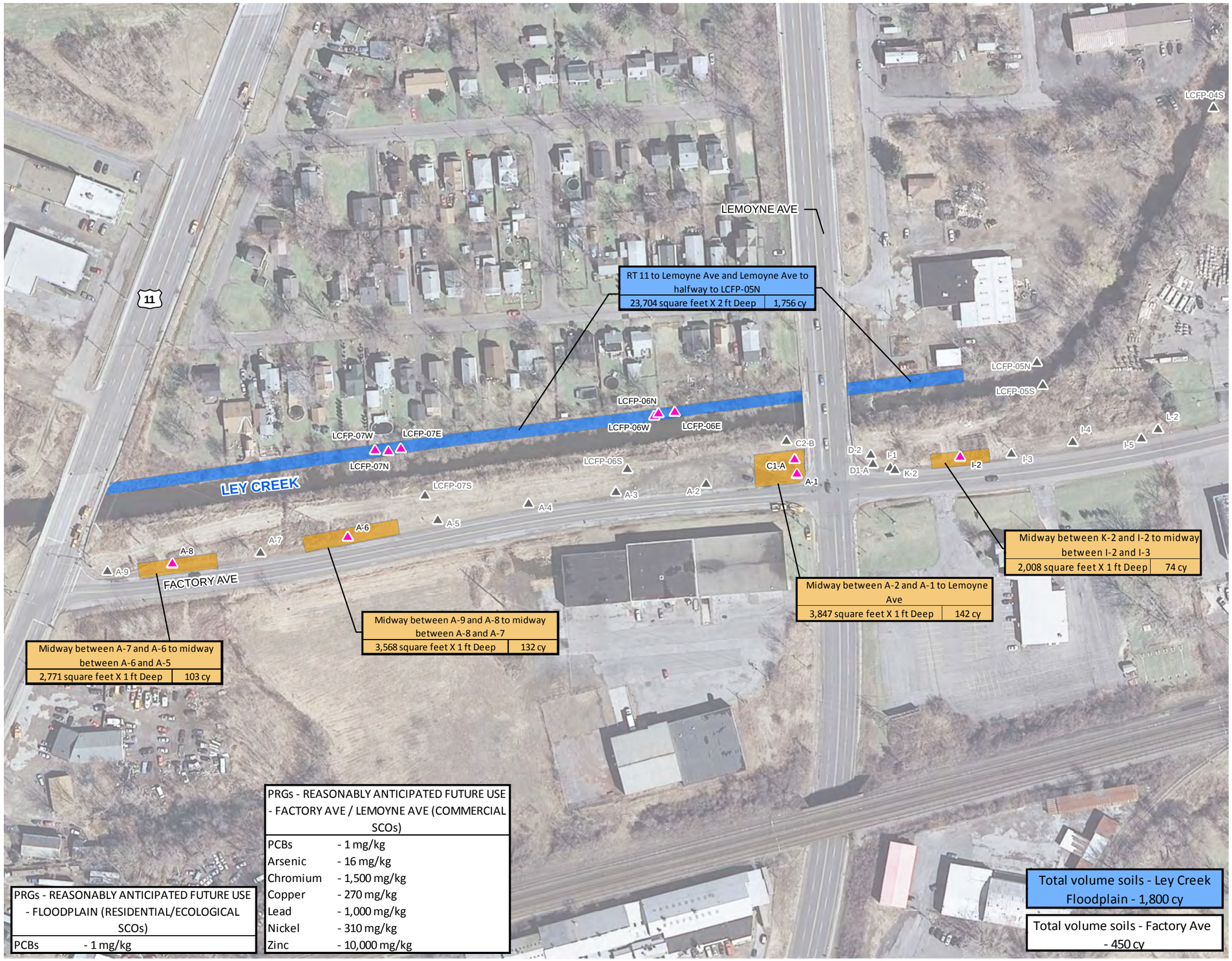
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FIGURE 5-1a



N

LEGEND

- SOIL SAMPLE > PRGs*
- SOIL SAMPLE

PROPOSED EXCAVATION EXTENT

- 1 FOOT DEPTH
- 2 FOOT DEPTH

NOTES:

* PRGs used for area limits are listed in figure box inset.
- Residential SCOs - 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs) for Residential Land Use
- Ecological SCOs - 6 NYCRR SCOs for Protection of Ecological Resources
- Commercial SCOs - 6 NYCRR Part 375 SCOs for Commercial Land Use

EXCAVATION LIMITS

RT 11 to Lemoyne Ave and Lemoyne Ave to halfway to LCFP-05N	
23,704 square feet X 2 ft Deep	1,756 cy

AREA AND DEPTH — VOLUME

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AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE
FEASIBILITY STUDY

LEY CREEK FLOODPLAIN
AND FACTORY AVE
/ LEMOYNE AVE
SOILS AREAS AND VOLUMES
(REASONABLY ANTICIPATED
FUTURE USE SCENARIO A)

0 75 150 300
Feet

MAY 2013
15388.50292

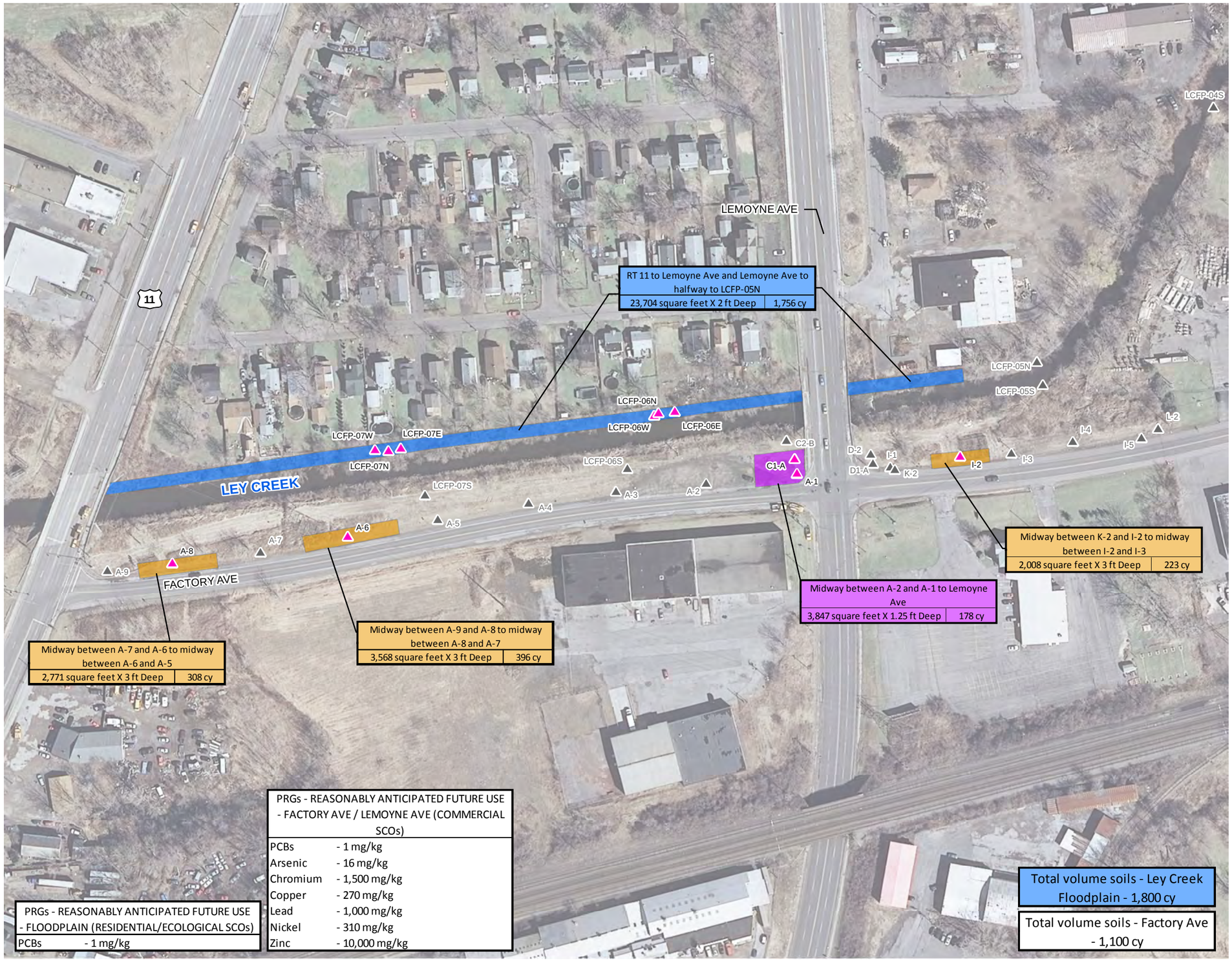
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FIGURE 5-1b



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N

LEGEND

- SOIL SAMPLE > PRGs*
- SOIL SAMPLE

PROPOSED EXCAVATION EXTENT

- 1.25 FOOT DEPTH
- 2 FOOT DEPTH
- 3 FOOT DEPTH

NOTES:

* PRGs used for area limits are listed in figure box inset.
- Residential SCOs - 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs) for Residential Land Use
- Ecological SCOs - 6 NYCRR SCOs for Protection of Ecological Resources
- Commercial SCOs - 6 NYCRR Part 375 SCOs for Commercial Land Use

EXCAVATION LIMITS

RT 11 to Lemoyne Ave and Lemoyne Ave to halfway to LCFP-05N	
23,704 square feet X 2 ft Deep	1,756 cy
AREA AND DEPTH	VOLUME

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SYRACUSE, NEW YORK

OFF-SITE
FEASIBILITY STUDY

LEY CREEK FLOODPLAIN
AND FACTORY AVE
/LEMOYNE AVE
SOILS AREAS AND VOLUMES
(REASONABLY ANTICIPATED
FUTURE USE SCENARIO B)

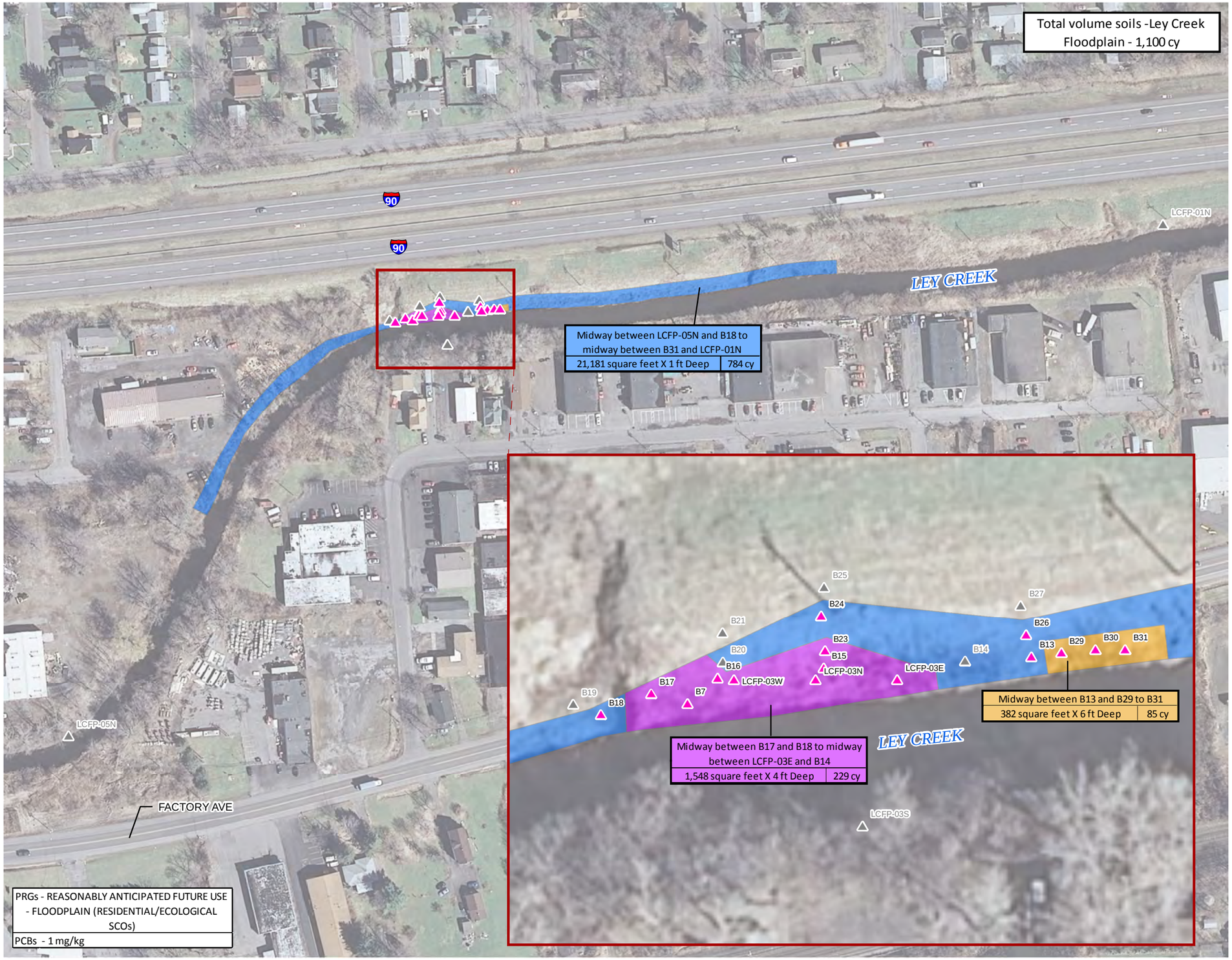
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FIGURE 5-2



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N

LEGEND

- SOIL SAMPLE > PRG*
- SOIL SAMPLE < PRG*

PROPOSED EXCAVATION EXTENT

- 1 FOOT DEPTH
- 4 FOOT DEPTH
- 6 FOOT DEPTH

NOTES:

* PRGs used for area limits are listed in figure box inset.
- Boring locations acquired from a Trimble Pro XRS GPS Unit
- Residential SCOs - 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs) for Residential Land Use
- Ecological SCOs - 6 NYCRR SCOs for Protection of Ecological Resources

EXCAVATION LIMITS

Midway between B17 and B18 to midway between LCFP-03E and B14 | 1,548 square feet X 4 ft Deep | 229 cy

AREA AND DEPTH — VOLUME

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FORMER IFG FACILITY
AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE
FEASIBILITY STUDY

FLOODPLAIN HOT SPOT AND FLOODPLAIN SOILS AREAS AND VOLUMES (REASONABLY ANTICIPATED FUTURE USE SCENARIOS A AND B)

0 75 150 300
Feet

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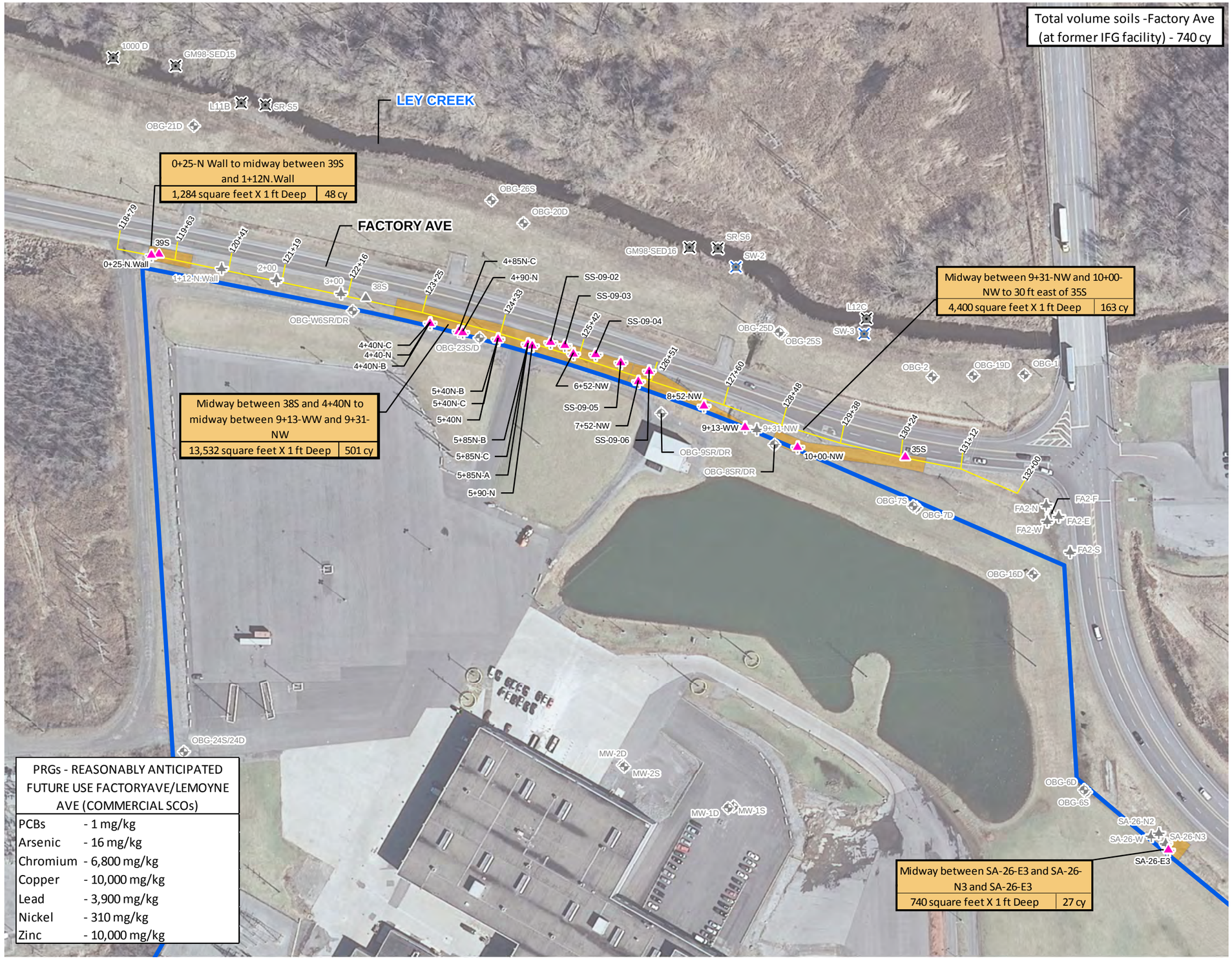
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FIGURE 5-3a



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N

LEGEND

- SOIL SAMPLE > PRGs*
- MONITORING WELL
- SOIL BORING
- SURFACE SOIL
- SEDIMENT SAMPLE
- SURFACE WATER SAMPLE
- FORMER IFG FACILITY PROPERTY BOUNDARY

PROPOSED EXCAVATION EXTENT

- 1 FOOT DEPTH

NOTE:

* PRGs used for area limits are listed in figure box inset.
- Commercial SCOs - 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs) for Commercial Land Use

EXCAVATION EXTENT

Midway between SA-26-E3 and SA-26-N3 and SA-26-E3	
740 square feet X 1 ft Deep	27 cy

AREA AND DEPTH | VOLUME

RACER TRUST
FORMER IFG FACILITY
AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE
FEASIBILITY STUDY

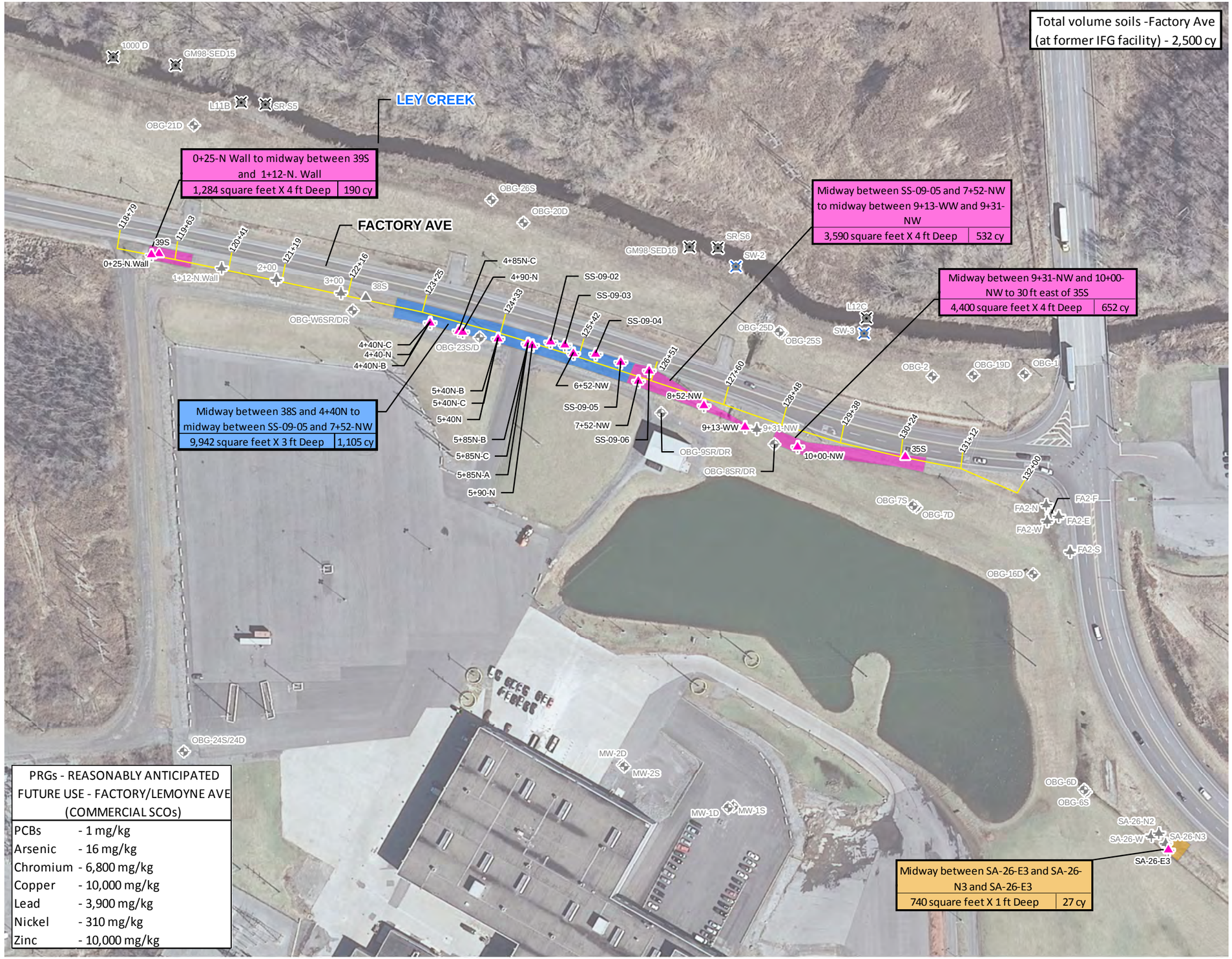
FACTORY AVENUE
(AT FORMER IFG FACILITY)
SOILS
AREAS AND VOLUMES
(REASONABLY ANTICIPATED
FUTURE USE SCENARIO A)

0 70 140 280
Feet

MAY 2013
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FIGURE 5-3b

N

LEGEND

- SOIL SAMPLE > PRGs*
- MONITORING WELL
- SOIL BORING
- SURFACE SOIL
- SEDIMENT SAMPLE
- SURFACE WATER SAMPLE
- FORMER IFG FACILITY PROPERTY BOUNDARY

PROPOSED EXCAVATION EXTENT

- 1 FOOT DEPTH
- 3 FOOT DEPTH
- 4 FOOT DEPTH

NOTES:

* PRGs used for area limits are listed in figure box inset.
- Commercial SCOs - 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs) for Commercial Land Use

EXCAVATION EXTENT

Midway between SA-26-E3 and SA-26-N3 and SA-26-E3
740 square feet X 1 ft Deep | 27 cy

AREA AND DEPTH | VOLUME

RACER TRUST
FORMER IFG FACILITY
AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE
FEASIBILITY STUDY

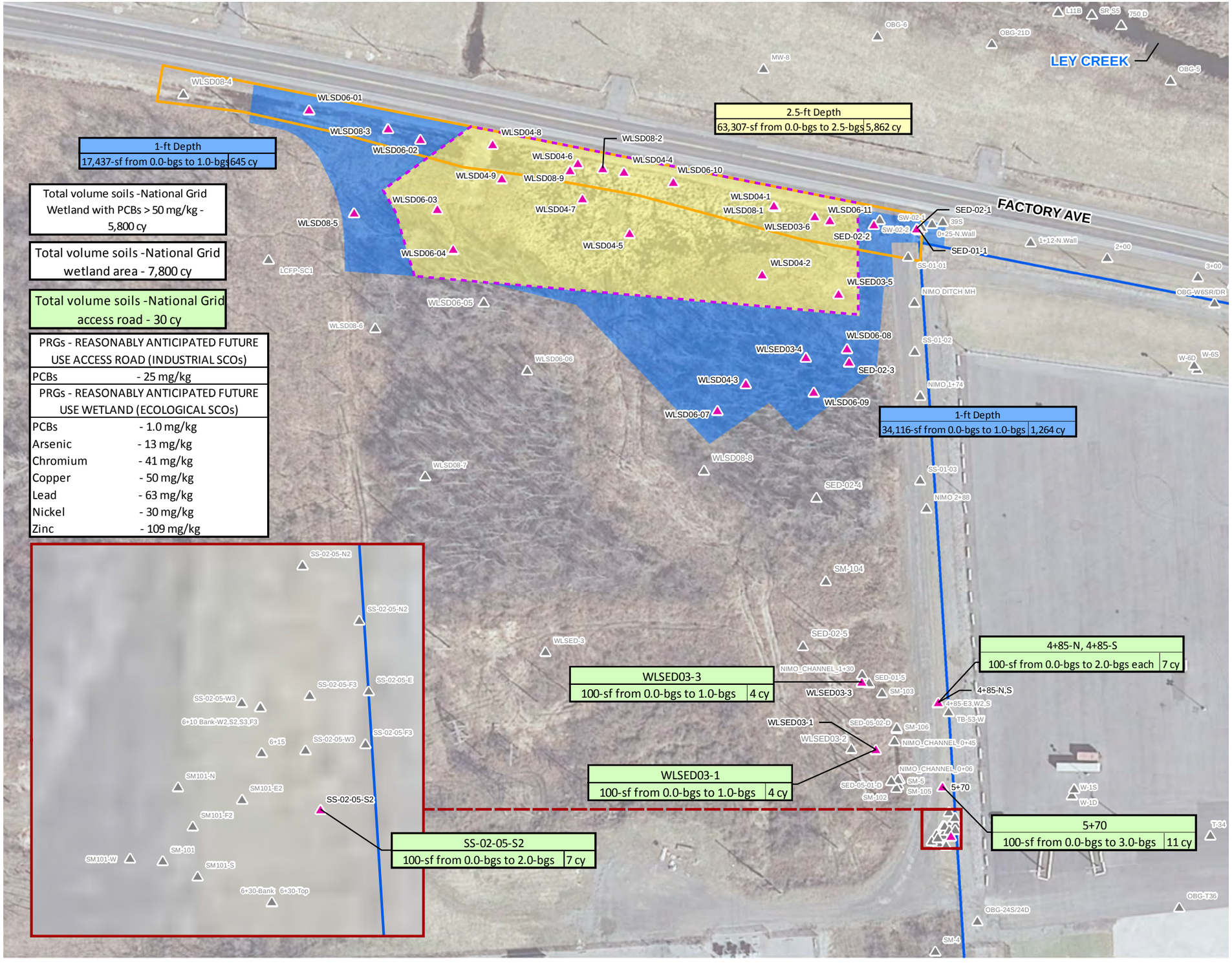
FACTORY AVENUE
(AT FORMER IFG FACILITY)
SOILS
AREAS AND VOLUMES
(REASONABLY ANTICIPATED
FUTURE USE SCENARIO B)

0 70 140 280
Feet

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FIGURE 5-4a



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N

LEGEND

- SOIL SAMPLE > PRGs*
- SOIL SAMPLE
- PCBs > 50 mg/kg
- FACTORY AVENUE DITCH

PROPOSED EXCAVATION EXTENT

- 1 FOOT DEPTH
- 2.5 FOOT DEPTH

NOTE:

* PRGs used for area limits are listed in figure box inset.
- Proposed excavation extent excludes soil sample location WLSD04-8; Nickel (0.5-1 ft bgs) is marginally above PRG.
- Industrial SCOs - NYCRR part 375 Soil Cleanup Objectives (SCOs) for Industrial Land Use
- Ecological SCOs - NYCRR Part 375 SCOs for Protection of Ecological Resources

EXCAVATION LIMITS

WLSED03-3 | 100-sf from 0.0-bgs to 1.0-bgs | 4 cy

AREA AND DEPTH | VOLUME

RACER TRUST
FORMER IFG FACILITY
AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE
FEASIBILITY STUDY

NATIONAL GRID
WETLAND AREA SOILS
AREAS AND VOLUMES
(REASONABLY ANTICIPATED
FUTURE USE SCENARIO A)

0 50 100 200
Feet

MAY 2013
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FIGURE 5-4b

1-ft Depth	
12,015-sf from 0.0-bgs to 1.0-bgs	445 cy

2.5-ft Depth	
68,378-sf from 0.0-bgs to 2.5-bgs	6,331 cy

Total volume soils -National Grid Wetland with PCBs > 50 mg/kg - 5,800 cy

Total volume soils -National Grid wetland area - 8,600 cy

Total volume soils -National Grid access road - 30 cy

PRGs - REASONABLY ANTICIPATED FUTURE USE ACCESS ROAD (INDUSTRIAL SCOs)	
PCBs	- 25 mg/kg
PRGs - REASONABLY ANTICIPATED FUTURE USE WETLAND (ECOLOGICAL SCOs)	
PCBs	- 1.0 mg/kg
Arsenic	- 13 mg/kg
Chromium	- 41 mg/kg
Copper	- 50 mg/kg
Lead	- 63 mg/kg
Nickel	- 30 mg/kg
Zinc	- 109 mg/kg

1-ft Depth	
29,241-sf from 0.0-bgs to 1.0-bgs	1,083 cy

2.5-ft Depth	
4,875-sf from 0.0-bgs to 2.5-bgs	451 cy

WLSED03-3	
100-sf from 0.0-bgs to 1.0-bgs	4 cy

WLSED03-1	
100-sf from 0.0-bgs to 1.0-bgs	4 cy

SS-02-05-S2	
100-sf from 0.0-bgs to 2.0-bgs	7 cy

4+85-N, 4+85-S	
100-sf from 0.0-bgs to 2.0-bgs each	7 cy

5+70	
100-sf from 0.0-bgs to 3.0-bgs	11 cy

LEY CREEK

FACTORY AVE

NIMO_CHANNEL_1+30

NIMO_CHANNEL_0+45

NIMO_CHANNEL_0+06

NIMO_DITCH_MH

NIMO_1+74

NIMO_2+88

LEGEND

- SOIL SAMPLE > PRGs*
- SOIL SAMPLE
- PCBs > 50 mg/kg
- FACTORY AVENUE DITCH

PROPOSED EXCAVATION EXTENT

- 1 FOOT DEPTH
- 2.5 FOOT DEPTH

NOTE:

* PRGs used for area limits are listed in figure box inset.

- Proposed excavation extent excludes soil sample location WLSD04-8; Nickel (0.5-1 ft bgs) is marginally above PRG.
- Industrial SCOs - NYCRR part 375 Soil Cleanup Objectives (SCOs) for Industrial Land Use
- Ecological SCOs - NYCRR Part 375 SCOs for Protection of Ecological Resources

EXCAVATION LIMITS

WLSED03-3	
100-sf from 0.0-bgs to 1.0-bgs	4 cy

AREA AND DEPTH — VOLUME

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AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE
FEASIBILITY STUDY

NATIONAL GRID
WETLAND AREA SOILS
AREAS AND VOLUMES
(REASONABLY ANTICIPATED
FUTURE USE SCENARIO B)

0 50 100 200
Feet

MAY 2013
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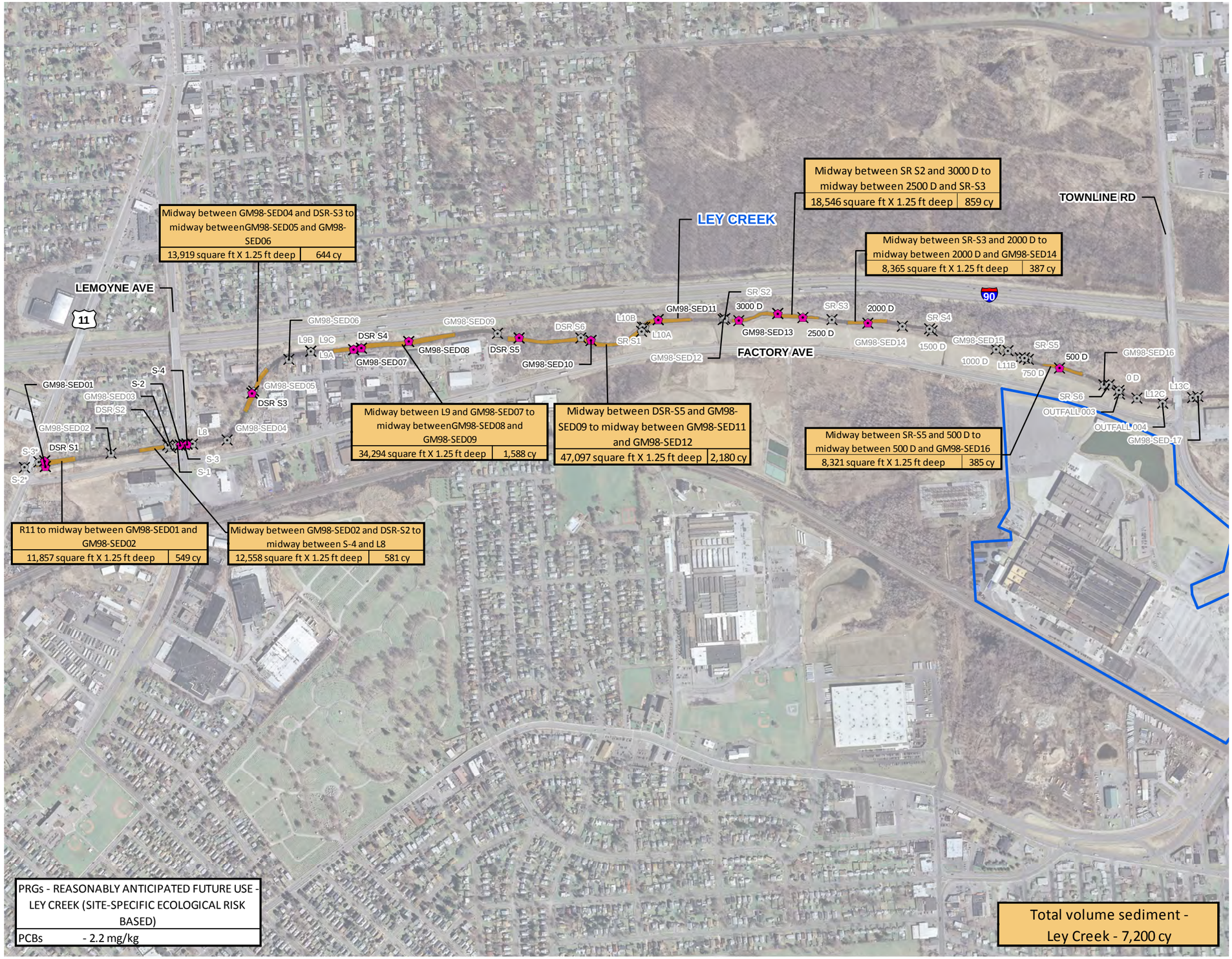
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I:\Racer-Trust.15388\50292.For-Ifg-Fac-Rifl\Docs\DWG\MXD\FS\5-5a LEY CREEK SEDIMENT AREAS AND VOLUMES RAFU.mxd

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FIGURE 5-5a



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N

LEGEND

- SEDIMENT SAMPLE > PRG*
- SED
- FORMER IFG FACILITY PROPERTY BOUNDARY
- PROPOSED EXCAVATION EXTENT

NOTES:
- Ley Creek length between Townline Rd and Route 11: 9,242 linear ft.
- Proposed excavation extent square footage was estimated using the aerial image of each relevant reach of Ley Creek.

* PRGs used in area limits are listed in figure box inset.
- PRG calculated based on site-specific Biota Sediment Accumulation Factor (BSAF) for protection of mink.

EXCAVATION LIMITS

Midway between GM98-SED02 and DSR-S2 to midway between S-4 and L8	
12,558 square ft X 1.25 ft deep	581 cy

AREA AND DEPTH | VOLUME

RACER TRUST
FORMER IFG FACILITY
AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE
FEASIBILITY STUDY

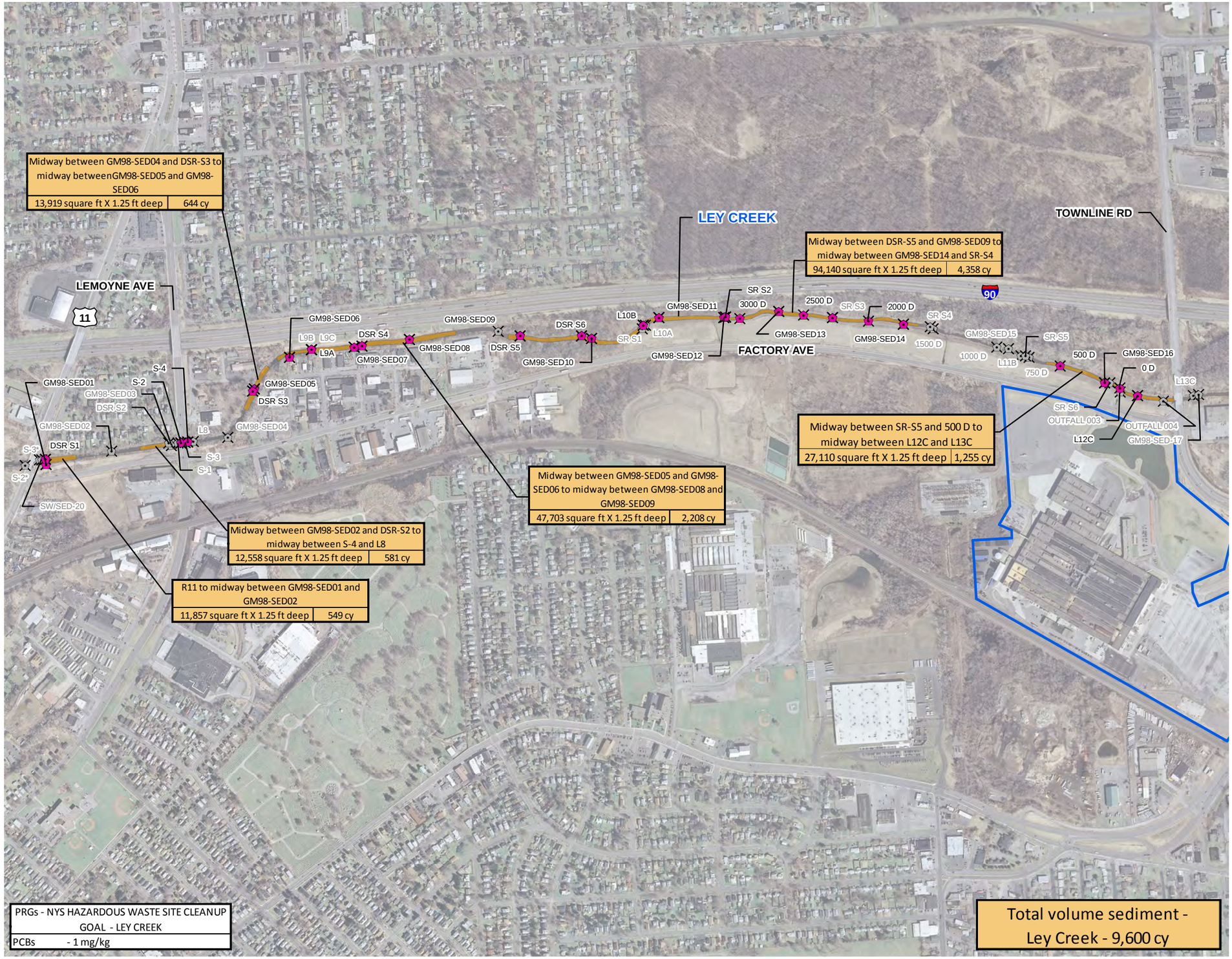
LEY CREEK
SEDIMENT
AREAS AND VOLUMES
(REASONABLY ANTICIPATED
FUTURE USE SCENARIO A)

0 375 750 1,500
Feet

MAY 2013
15388.50292

O'BRIEN & GERE

FIGURE 5-5b



LEGEND

- SEDIMENT SAMPLE > PRG*
- SED
- FORMER IFG FACILITY PROPERTY BOUNDARY
- PROPOSED EXCAVATION EXTENT

NOTES:
- Ley Creek length between Townline Rd and Route 11: 9,242 linear ft.
- Proposed excavation extent square footage was estimated using the aerial image of each relevant reach of Ley Creek.

* PRGs used in area limits are listed in figure box inset.
- PRG of 1 mg/kg for total PCBs based on previously selected cleanup goals for NYS Hazardous Waste Sites.

EXCAVATION LIMITS

R11 to midway between GM98-SED01 and GM98-SED02	
11,857 square ft X 1.25 ft deep	549 cy

AREA AND DEPTH — VOLUME

RACER TRUST
FORMER IFG FACILITY
AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE
FEASIBILITY STUDY

LEY CREEK
SEDIMENT
AREAS AND VOLUMES
(REASONABLY ANTICIPATED
FUTURE USE SCENARIO B)

0 375 750 1,500
Feet

MAY 2013
15388.50292

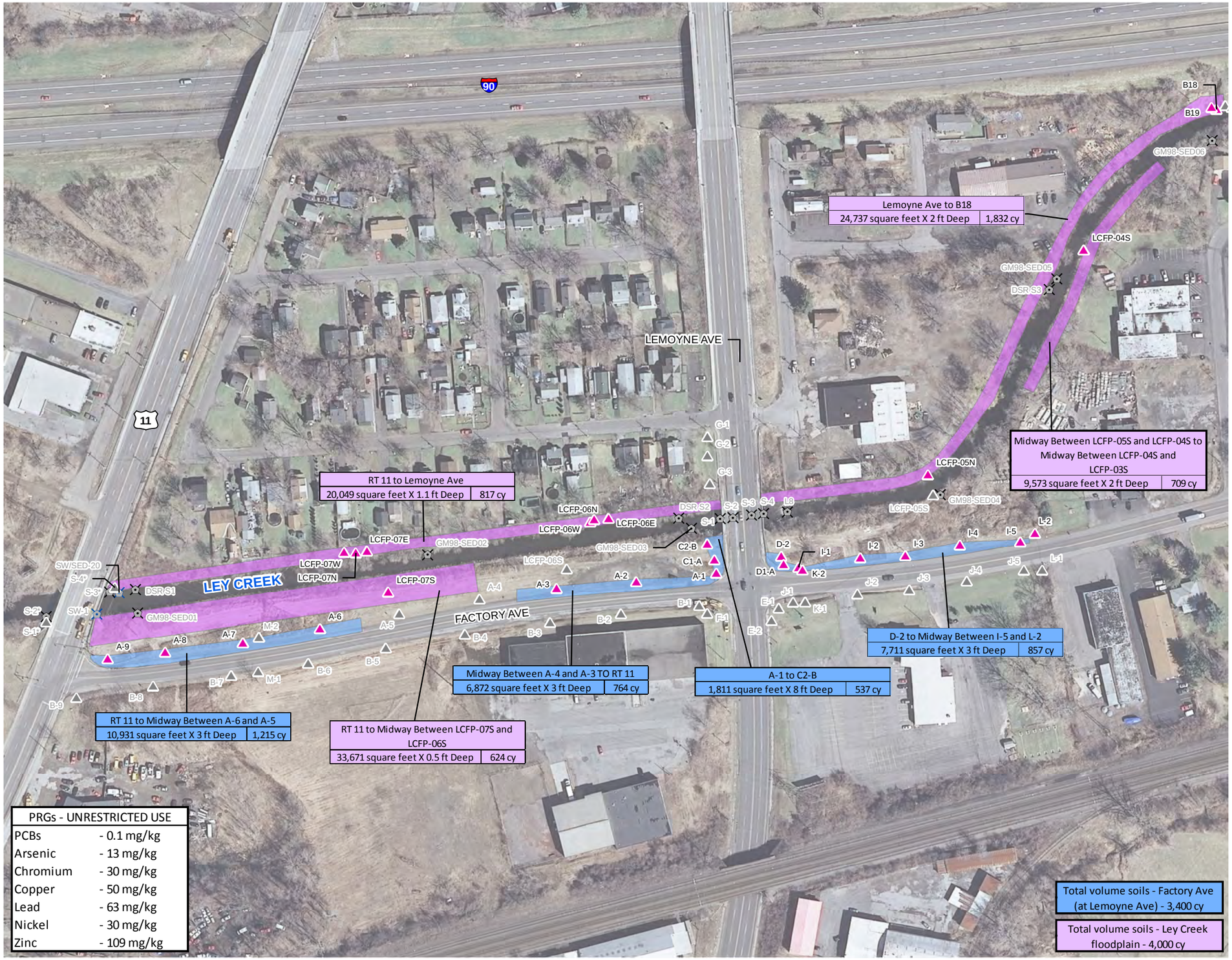
O'BRIEN & GERE

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I:\Racer-Trust.15388\50292.For-Ifg-Fac-Rifl\Docs\DWG\MXD\FS\5-5b LEY CREEK SEDIMENT AREAS AND VOLUMES RAFU.mxd

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FIGURE 5-6



N

LEGEND

- SOIL SAMPLE > PRGs*
- SOIL SAMPLE
- SEDIMENT SAMPLE
- SURFACE WATER SAMPLE

PROPOSED EXCAVATION EXTENT

- FACTORY AVE AT LEMOYNE AVE AREA
- FLOODPLAIN AREA

NOTE:

* PRGs used for area limits are listed in figure box inset.
- Unrestricted use - 6 NYCRR Part 375 Soil Cleanup Objectives for unrestricted use.

EXCVATION LIMITS

D-2 to Midway Between I-5 and L-2	
7,711 square feet X 3 ft Deep	857 cy

AREA AND DEPTH — VOLUME

RACER TRUST
FORMER IFG FACILITY AND DEFERRED MEDIA SITE SYRACUSE, NEW YORK

OFF-SITE FEASIBILITY STUDY

LEY CREEK FLOODPLAIN AND FACTORY AVE AT LEMOYNE AVE AREA SOILS AREAS AND VOLUMES (UNRESTRICTED USE)

0 85 170 340
Feet

MAY 2013
15388.50292

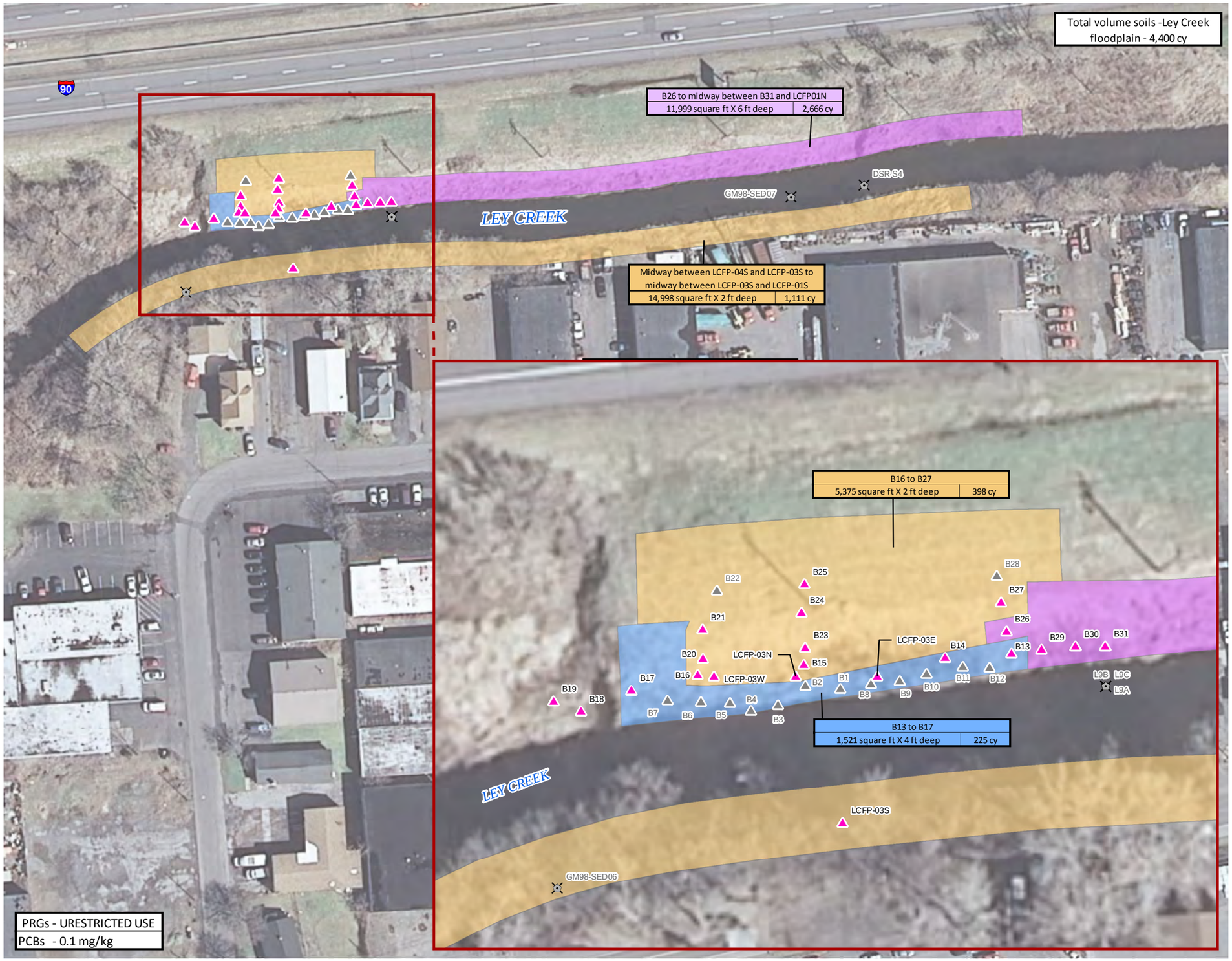
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I:\Racer-Trust.15388\50292.For-Ifg-Fac-RifDocs\DWG\MXD\FS\5-7 FLOODPLAIN HOT SPOT SOILS AREAS AND VOLUMES UNRESTRICTED USE.mxd
PLOTDATE: 01/17/13 11:27:33 AM StantoSA

FIGURE 5-7



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N

LEGEND

- SOIL SAMPLE > PRGs*
- SOIL SAMPLE
- SEDIMENT SAMPLE
- SURFACE WATER SAMPLE

PROPOSED EXCAVATION EXTENT

- 2 FOOT DEPTH
- 4 FOOT DEPTH
- 6 FOOT DEPTH

NOTE:

* PRGs used for area limits are listed in figure box inset.
- Unrestricted use - 6 NYCRR Part 375 Soil Cleanup Objectives for unrestricted use.

EXCAVATION LIMITS

B26 to midway between B31 and LCFP01N	
11,999 square ft X 6 ft deep	2,666 cy

AREA AND DEPTH — VOLUME

RACER TRUST
FORMER IFG FACILITY
AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE
FEASIBILITY STUDY
INTERIM DELIVERABLE

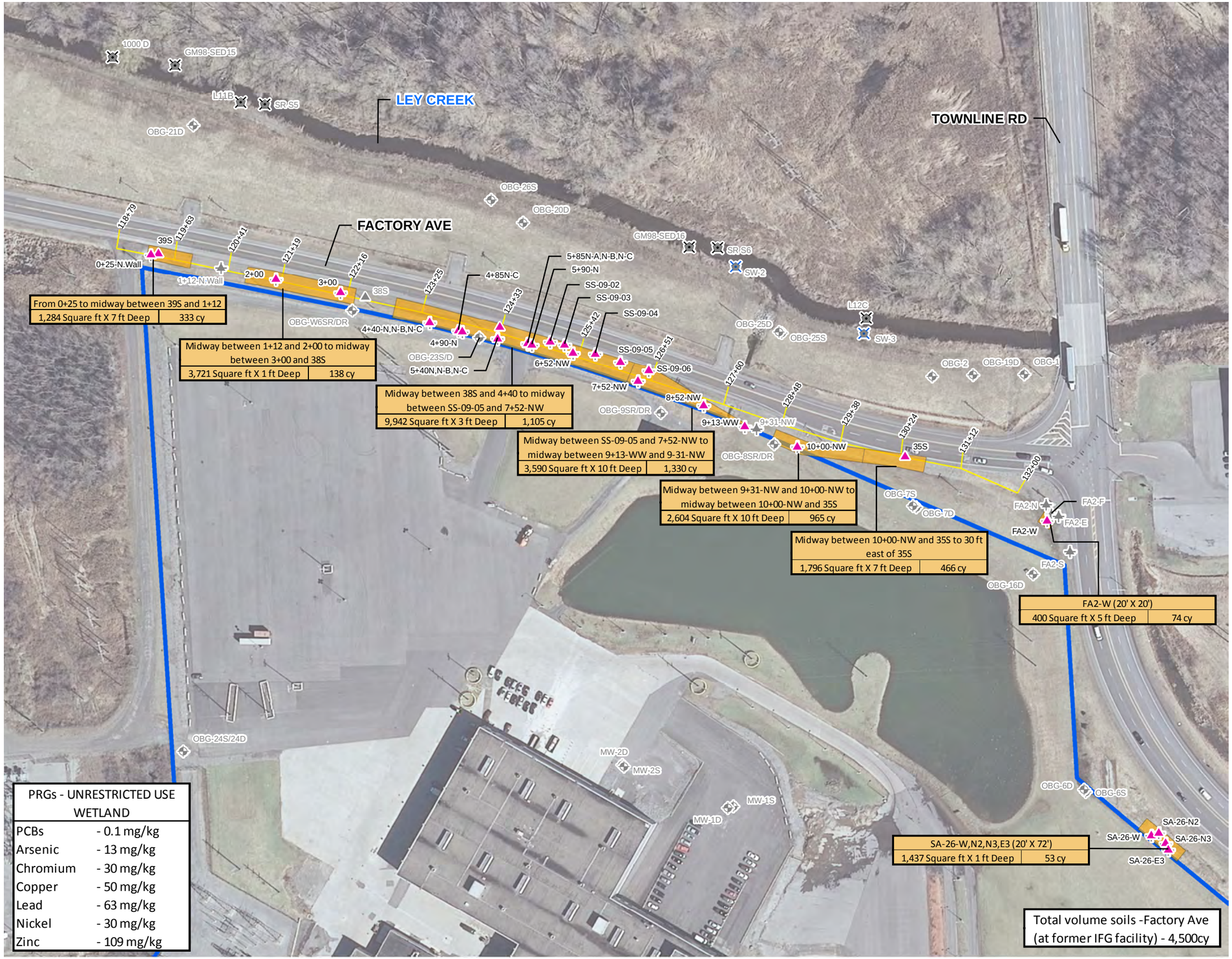
FLOODPLAIN HOT SPOT AND FLOODPLAIN SOILS
AREAS AND VOLUMES
(UNRESTRICTED USE)

0 40 80 160
Feet

MAY 2013
15388.50292

O'BRIEN & GERE

FIGURE 5-8



LEGEND

- SOIL SAMPLE > PRGs*
- MONITORING WELL
- SOILBORING
- SURFACE SOIL
- SEDIMENT SAMPLE
- SURFACE WATER SAMPLE
- PROPOSED EXCAVATION EXTENT

NOTE:
* PRGs used for area limits are listed in figure box inset.
- Unrestricted use - 6 NYCRR Part 375 Soil Cleanup Objectives for unrestricted use.

EXCAVATION LIMITS

Midway between 1+12 and 2+00 to midway between 3+00 and 38S	
3,721 Square ft X 1 ft Deep	138 cy

AREA AND DEPTH — VOLUME

RACER TRUST
FORMER IFG FACILITY
AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE
FEASIBILITY STUDY

FACTORY AVENUE
(AT FORMER IFG FACILITY)
SOILS
AREAS AND VOLUMES
(UNRESTRICTED USE)

0 70 140 280
Feet

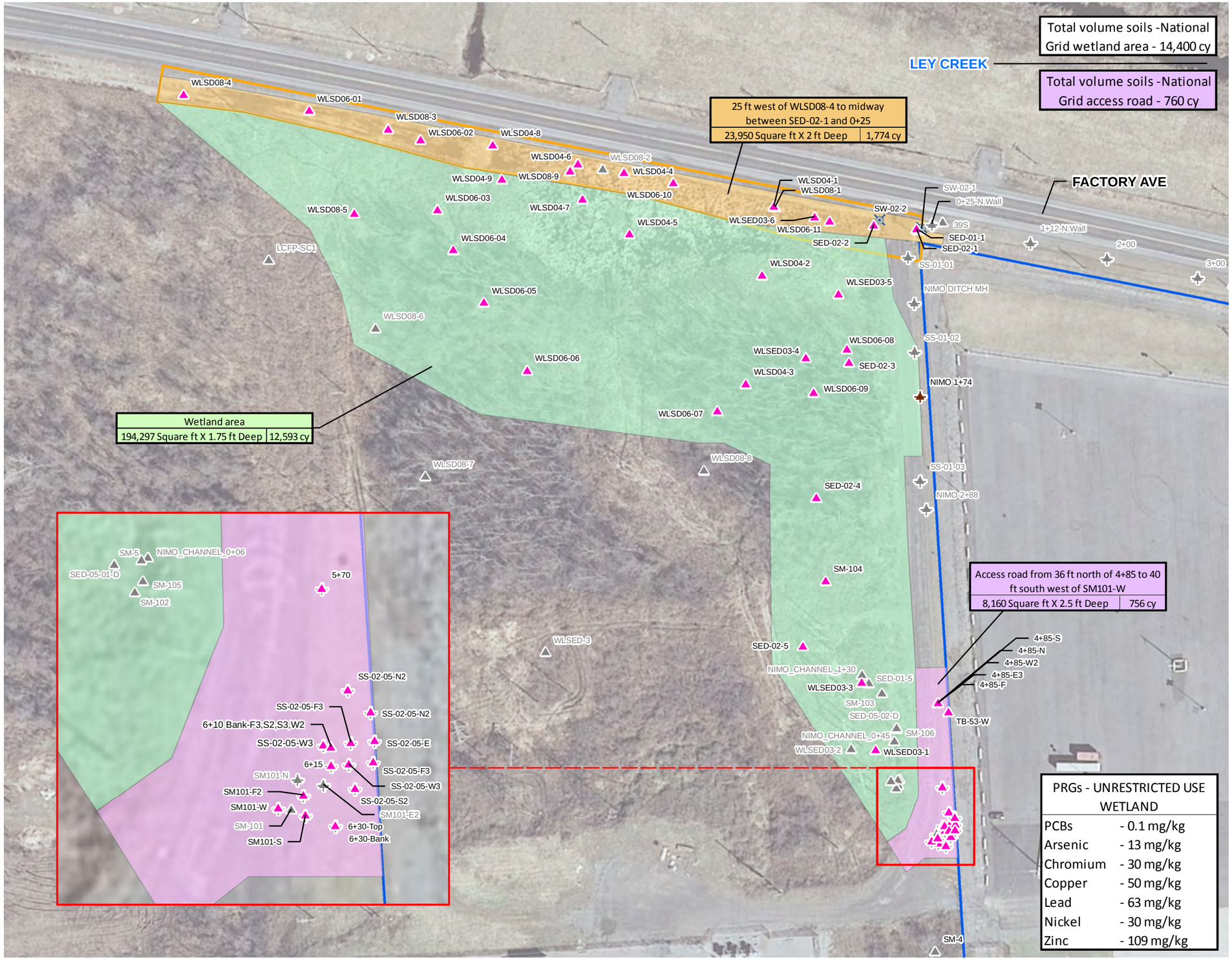
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FIGURE 5-9



LEGEND

- SOIL SAMPLE > PRGs*
- SURFACE SOIL SAMPLE > PRGs*
- SOIL SAMPLE
- SURFACE SOIL SAMPLE
- SURFACE WATER SAMPLE
- FACTORY AVENUE DITCH
- FORMER IFG FACILITY PROPERTY BOUNDARY

PROPOSED EXCAVATION EXTENT

- 1.75 FOOT DEPTH
- 2 FOOT DEPTH
- 2.5 FOOT DEPTH

NOTE:

* PRGs used for area limits are listed in figure box inset.
- Unrestricted use - 6 NYCRR Part 375 Soil Cleanup Objectives for unrestricted use.

EXCAVATION EXTENT

25 ft west of WLSD08-4 to midway between SED-02-1 and 0+25 | 23,950 Square ft X 2 ft Deep | 1,774 cy

AREA AND DEPTH | VOLUME

PRGs - UNRESTRICTED USE WETLAND	
PCBs	- 0.1 mg/kg
Arsenic	- 13 mg/kg
Chromium	- 30 mg/kg
Copper	- 50 mg/kg
Lead	- 63 mg/kg
Nickel	- 30 mg/kg
Zinc	- 109 mg/kg

0 50 100 200
Feet

RACER TRUST
FORMER IFG FACILITY
AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE
FEASIBILITY STUDY

NATIONAL GRID WETLAND SOILS
AREAS AND VOLUMES
(UNRESTRICTED USE)

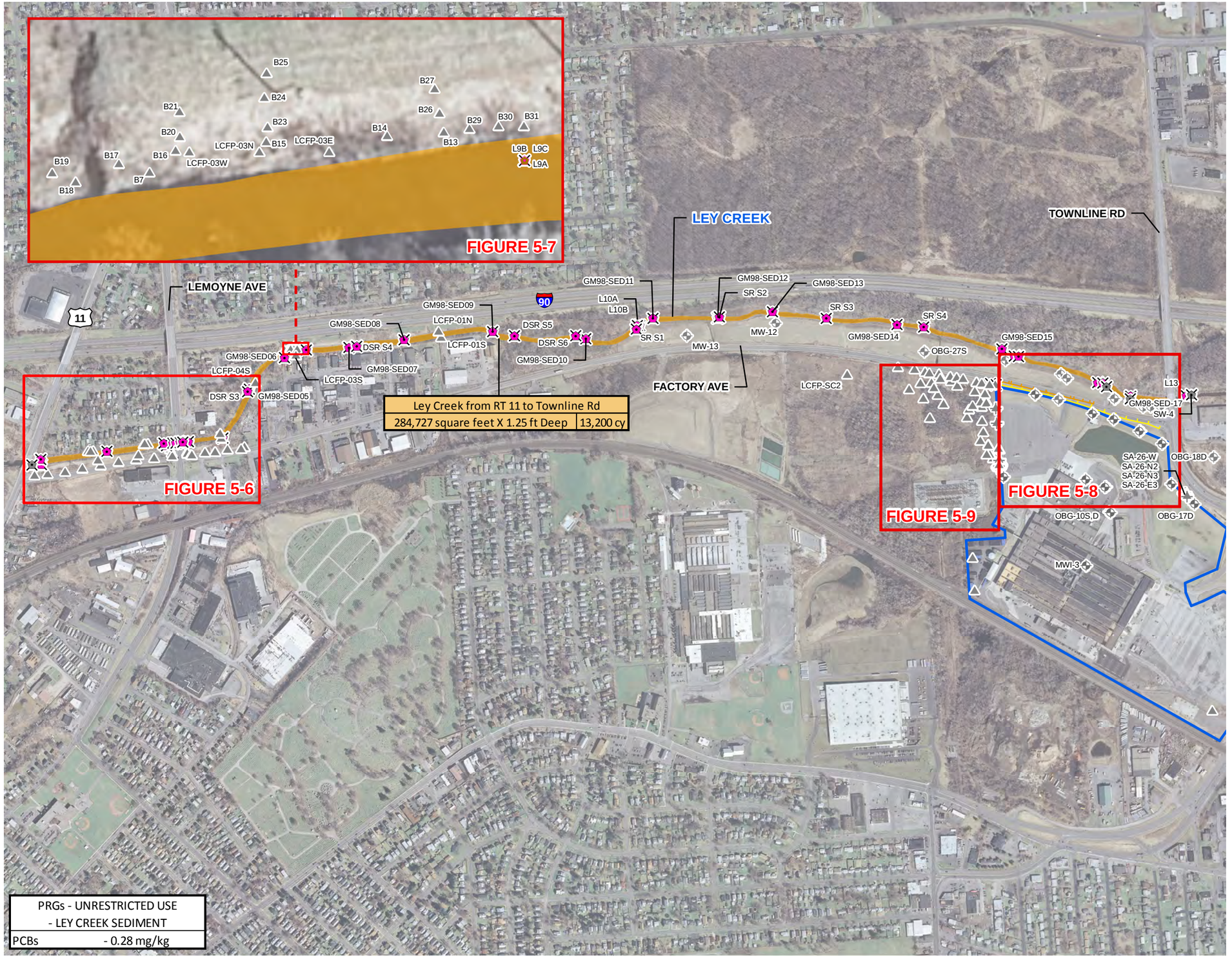
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FIGURE 5-10



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LEGEND

- SEDIMENT SAMPLE > PRG*
- MONITORING WELL
- SOIL BORING
- SURFACE SOIL
- SURFACE WATER SAMPLE
- FORMER IFG FACILITY PROPERTY BOUNDARY
- PROPOSED EXCAVATION EXTENT

NOTE:
* PRGs used for area limits are listed in figure box inset.
- Unrestricted use - 6 NYCRR Part 375 Soil Cleanup Objectives for unrestricted use.

EXCAVATION LIMITS

Ley Creek from RT 11 to Townline Rd	
284,727 square feet X 1.25 ft Deep	13,200 cy

AREA AND DEPTH — VOLUME

RACER TRUST
FORMER IFG FACILITY
AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE
FEASIBILITY STUDY

LEY CREEK
SEDIMENT
AREAS AND VOLUMES
(UNRESTRICTED USE)

0 375 750 1,500
Feet

MAY 2013
15388.50292

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Off-Site Media Analytical Data Results

Appendix A includes Tables and Figures associated with the *Revised Off-Site Remedial Investigation Report (O'Brien & Gere 2013a)* that reflect the following revisions based on April 11, 2013 comments received from the NYSDEC:

- Addition of 1985 PCB data from the EDI Engineering and Science Study, Oil and PCB Sampling and Analyses of Portions of Ley Creek
- Revision of 1996 NYSDEC sediment sample intervals

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
C&S 2009	A-1	6/23/2009	20	0	2	9	Direct push, 2" MC sampler	no	
C&S 2009	A-1	6/23/2009	20	14	16	12	Direct push, 2" MC sampler	no	
C&S 2009	A-1	6/23/2009	20	2	4	1, 9, 13, 13	Direct push, 2" MC sampler	no	
C&S 2009	A-1	6/23/2009	20	6	8	1, 9, 13, 13	Direct push, 2" MC sampler	no	
C&S 2009	A-2	6/22/2009	3	0	3	9	Direct push, 2" MC sampler	no	
C&S 2009	A-3	6/23/2009	8	0	3	9	Direct push, 2" MC sampler	no	
C&S 2009	A-3	6/23/2009	8	4	8	12	Direct push, 2" MC sampler	no	
C&S 2009	A-4	6/22/2009	3	0	3	9	Direct push, 2" MC sampler	no	
C&S 2009	A-5	6/23/2009	3	0	3	9	Direct push, 2" MC sampler	no	
C&S 2009	A-6	6/22/2009	3	0	3	9	Direct push, 2" MC sampler	no	
C&S 2009	A-7	6/22/2009	8	0	3	1, 9, 13, 13	Direct push, 2" MC sampler	no	
C&S 2009	A-7	6/22/2009	8	4	8	1, 9, 12, 13	Direct push, 2" MC sampler	no	
C&S 2009	A-8	6/22/2009	3	0	3	9	Direct push, 2" MC sampler	no	
C&S 2009	A-9	6/22/2009	3	0	3	9	Direct push, 2" MC sampler	no	
C&S 2009	C-1A	6/22/2009	12	2	5	9	Direct push, 2" MC sampler	no	
C&S 2009	C-1A	6/22/2009	12	7	9	9	Direct push, 2" MC sampler	no	
C&S 2009	C-1A	6/22/2009	12	0	3	13	Direct push, 2" MC sampler	no	
C&S 2009	C-1A	6/22/2009	12	0	2	1, 9, 13	Direct push, 2" MC sampler	no	
C&S 2009	C-1A	6/22/2009	12	5	7	1, 9, 12, 13	Direct push, 2" MC sampler	no	
C&S 2009	C-1A	6/22/2009	12	9	12	1, 9, 12, 13	Direct push, 2" MC sampler	no	
C&S 2009	C-1A	6/22/2009	12	0	2	1, 9, 12, 13	Direct push, 2" MC sampler	no	
C&S 2009	C-2B	6/22/2009	12	2	5	9	Direct push, 2" MC sampler	no	
C&S 2009	C-2B	6/22/2009	12	7	9	9	Direct push, 2" MC sampler	no	
C&S 2009	C-2B	6/22/2009	12	0	2	9, 12	Direct push, 2" MC sampler	no	
C&S 2009	C-2B	6/22/2009	12	5	7	1, 9, 13	Direct push, 2" MC sampler	no	
C&S 2009	C-2B	6/22/2009	12	9	12	1, 9, 13	Direct push, 2" MC sampler	no	
C&S 2009	D-1A	6/23/2009	5	2	5	9	Direct push, 2" MC sampler	no	
C&S 2009	D-1A	6/23/2009	5	0	2	9	Direct push, 2" MC sampler	no	
C&S 2009	D-2	6/23/2009	20	4	8	1, 9, 13, 13	Direct push, 2" MC sampler	no	
C&S 2009	D-2	6/23/2009	20	8	12	1, 9, 13, 13	Direct push, 2" MC sampler	no	
C&S 2009	D-2	6/23/2009	20	12	16	1, 9, 13, 13	Direct push, 2" MC sampler	no	
C&S 2009	D-2	6/23/2009	20	16	20	1, 9, 13, 13	Direct push, 2" MC sampler	no	
C&S 2009	D-2	6/23/2009	20	0	2	1, 9, 13, 13	Direct push, 2" MC sampler	no	
C&S 2009	D-2	6/23/2009	20	2	4	1, 9, 13	Direct push, 2" MC sampler	no	
C&S 2009	I-1	6/24/2009	3	0	3	1, 9, 13, 13	Manual slide hammer with macro-core sampler, hand	no	
C&S 2009	I-2	6/23/2009	3	0	3	1, 9, 13, 13	Direct push, 2" MC sampler	no	
C&S 2009	I-3	6/23/2009	3	0	3	1, 9, 13, 13	Direct push, 2" MC sampler	no	
C&S 2009	I-4	6/23/2009	3	0	3	1, 9, 13, 13	Direct push, 2" MC sampler	no	
C&S 2009	I-5	6/23/2009	3	0	3	1, 9, 13, 13	Direct push, 2" MC sampler	no	
C&S 2009	K-2	6/24/2009	0	0	0	1, 9, 13, 13	Direct push, 2" MC sampler	no	
C&S 2009	L-2	6/24/2009	0	0	0	1, 9, 13, 13	Direct push, 2" MC sampler	no	
C&S 2009	S-1	7/30/2009	3	1	3	9, 12	Direct push, 2" MC sampler	no	
C&S 2009	S-2	7/30/2009	3	1	3	9, 12	Direct push, 2" MC sampler	no	
C&S 2009	S-3	7/30/2009	3	1	3	9, 12	Direct push, 2" MC sampler	no	

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
C&S 2009	S-4	7/30/2009	3	1	3	1, 9, 13	Direct push, 2" MC sampler	no	
H&A NMPC 2001	SM-101	10/7/2004	N/A	0	0.5	9, 12, 14	N/A		National Grid Wetland; Removed as part of the Niagara Mohawk (National Grid) Drainage Channel IRM
H&A NMPC 2001	SM-102	10/7/2004	N/A	0	0.5	9, 12, 14	N/A		National Grid Wetland; Removed as part of the Niagara Mohawk (National Grid) Drainage Channel IRM
H&A NMPC 2001	SM-103	10/7/2004	N/A	0	0.5	9, 12, 14	N/A		National Grid Wetland; Removed as part of the Niagara Mohawk (National Grid) Drainage Channel IRM
H&A NMPC 2001	SM-104	4/10/2000	N/A	0	0.5	9, 12, 14	N/A		National Grid Wetland
NMDC IRM	NiMo channel 0 + 06	5/25/2005	N/A	1.5	2	9	Trowel - Manual	no	Confirmatory sample; Covered by 1.5-ft clean fill; Niagara Mohawk (National Grid) Drainage channel IRM.
NMDC IRM	NiMo channel 0 + 45	5/25/2005	N/A	1.5	2	9	Trowel - Manual	no	Confirmatory sample; Covered by 1.5-ft clean fill; Niagara Mohawk (National Grid) Drainage channel IRM.
NMDC IRM	NiMo channel 1 + 30	8/9/2006	N/A	1.5	2	9	Trowel - Manual	no	Confirmatory sample; Covered by 1.5-ft clean fill; Niagara Mohawk (National Grid) Drainage channel IRM.
NMDC IRM	SM-105	4/10/2000	N/A	0	0.5	9	Trowel - Manual	no	Removed as part of the Niagara Mohawk (National Grid) Drainage Channel IRM
NMDC IRM	SM-106	4/10/2000	N/A	0	0.5	9	Trowel - Manual	no	Removed as part of the Niagara Mohawk (National Grid) Drainage Channel IRM
NMDC IRM	SM-5	4/10/2000	N/A	0	0.5	1, 7, 9, 10	Trowel - Manual	no	Removed as part of the Niagara Mohawk (National Grid) Drainage Channel IRM
NMPC 1996	35S	4/18/1996	7	1	1	2	Direct push, MC sampler	no	Proposed utility pole location
NMPC 1996	35S	4/18/1996	7	2	2	2	Direct push, MC sampler	no	Proposed utility pole location
NMPC 1996	35S	4/18/1996	7	3	3	2	Direct push, MC sampler	no	Proposed utility pole location
NMPC 1996	35S	4/18/1996	7	4	4	2	Direct push, MC sampler	no	Proposed utility pole location
NMPC 1996	35S	4/18/1996	7	5	5	2	Direct push, MC sampler	no	Proposed utility pole location
NMPC 1996	35S	4/18/1996	7	6	6	2	Direct push, MC sampler	no	Proposed utility pole location
NMPC 1996	35S	4/18/1996	7	7	7	2	Direct push, MC sampler	no	Proposed utility pole location
NMPC 1996	38S	4/19/1996	7	0	6.5	2	Direct push, MC sampler	no	Proposed utility pole location
NMPC 1996	39S	4/18/1996	7	0	7	2	Direct push, MC sampler	no	Proposed utility pole location
NMPC 1996	39S	4/18/1996	7	1	1	2	Direct push, MC sampler	no	Proposed utility pole location
NMPC 1996	39S	4/18/1996	7	5	5	2	Direct push, MC sampler	no	Proposed utility pole location
NMPC 1996	39S	4/18/1996	7	6	6	2	Direct push, MC sampler	no	Proposed utility pole location
NYSDEC LC 1996	L10A	11/6/1996	N/A	0	0.92	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L10B	11/6/1996	N/A	0	0.83	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L11B	11/6/1996	N/A	0	0.67	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L12C	11/6/1996	N/A	0	0.58	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L13	11/6/1996	N/A	0	2	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L13C	11/6/1996	N/A	0	2	1, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L14	11/12/1996	N/A	0	2	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L15	11/12/1996	N/A	0	2	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L16	11/12/1996	N/A	0	2	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L17	11/12/1996	N/A	0	2	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L18	11/12/1996	N/A	0	0.83	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L19	11/12/1996	N/A	0	0.92	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
NYSDEC LC 1996	L20	11/12/1996	N/A	0	1	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L22	11/14/1996	N/A	0	**	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L24	11/14/1996	N/A	0	**	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L25	11/14/1996	N/A	0	2	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L26	11/14/1996	N/A	0	0.96	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L27	11/14/1996	N/A	0	2	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L28	11/21/1996	N/A	0	**	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L8	11/6/1996	N/A	0	0.83	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L9A	11/6/1996	N/A	0	0.5	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L9B	11/6/1996	N/A	0	0.25	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
NYSDEC LC 1996	L9C	11/6/1996	N/A	0	0.58	1, 4, 7, 9	Lexan ® tube	no	Ley Creek sediment
OBG 2004	0+25-N.wall	11/10/2003	N/A	0	1	9	Trowel - Manual	no	Factory Avenue, Informational sample
OBG 2004	1+12-N.wall	11/10/2003	N/A	0	1	9	Trowel - Manual	no	Factory Avenue, Informational sample
OBG 2004	2+00	11/3/2003	N/A	0	1	9	Trowel - Manual	no	Factory Avenue, Informational sample
OBG 2004	3+00	11/3/2003	N/A	0	1	9	Trowel - Manual	no	Factory Avenue, Informational sample
OBG 2004	4+40 N-B	10/9/2003	N/A	0	3	9	Trowel - Manual	no	4+05 - 6+20 Hot Spot confirmatory sample
OBG 2004	4+40 N-C	10/9/2003	N/A	0	3	9	Trowel - Manual	no	4+05 - 6+20 Hot Spot confirmatory sample
OBG 2004	4+40-N	9/30/2003	N/A	0	3	9	Trowel - Manual	no	4+05 - 6+20 Hot Spot confirmatory sample
OBG 2004	4+85 N-B	10/9/2003	N/A	0	3	9	Trowel - Manual	no	4+05 - 6+20 Hot Spot confirmatory sample
OBG 2004	4+85 N-C	10/9/2003	N/A	0	3	9	Trowel - Manual	no	4+05 - 6+20 Hot Spot confirmatory sample
OBG 2004	4+85-E3	11/13/2003	N/A	0	2	9	Trowel - Manual	no	4+85 Hot Spot confirmatory sample
OBG 2004	4+85-F	10/14/2003	N/A	2	2	9	Trowel - Manual	no	4+85 Hot Spot confirmatory sample
OBG 2004	4+85-N	10/23/2003	N/A	0	2	9	Trowel - Manual	no	4+85 Hot Spot confirmatory sample
OBG 2004	4+85-S	10/23/2003	N/A	0	2	9	Trowel - Manual	no	4+85 Hot Spot confirmatory sample
OBG 2004	4+85-W2	11/5/2003	N/A	0	2	9	Trowel - Manual	no	4+85 Hot Spot confirmatory sample
OBG 2004	4+90-N	9/30/2003	N/A	0	3	9	Trowel - Manual	no	4+05 - 6+20 Hot Spot confirmatory sample
OBG 2004	5+40 N-B	10/9/2003	N/A	0	3	9	Trowel - Manual	no	4+05 - 6+20 Hot Spot confirmatory sample
OBG 2004	5+40 N-C	10/9/2003	N/A	0	3	9	Trowel - Manual	no	4+05 - 6+20 Hot Spot confirmatory sample
OBG 2004	5+40-N	9/30/2003	N/A	0	3	9	Trowel - Manual	no	4+05 - 6+20 Hot Spot confirmatory sample
OBG 2004	5+70	10/17/2003	N/A	0	0	9	Trowel - Manual	no	5+70 Hot Spot confirmatory sample
OBG 2004	5+85 N-A	10/9/2003	N/A	0	3	9	Trowel - Manual	no	4+05 - 6+20 Hot Spot confirmatory sample
OBG 2004	5+85 N-B	10/9/2003	N/A	0	3	9	Trowel - Manual	no	4+05 - 6+20 Hot Spot confirmatory sample
OBG 2004	5+85 N-C	10/9/2003	N/A	0	3	9	Trowel - Manual	no	4+05 - 6+20 Hot Spot confirmatory sample
OBG 2004	5+90-N	9/30/2003	N/A	0	3	9	Trowel - Manual	no	4+05 - 6+20 Hot Spot confirmatory sample
OBG 2004	6+10 Bank -F3	9/30/2003	N/A	3	3	9	Trowel - Manual	no	Niagara Mohawk Swale
OBG 2004	6+10 Bank -S3	9/30/2003	N/A	0	3	9	Trowel - Manual	no	Niagara Mohawk Swale
OBG 2004	6+10 Bank-S2	10/12/2004	N/A	0	3	9	Trowel - Manual	no	Niagara Mohawk Swale
OBG 2004	6+10 Bank-W2	10/12/2004	N/A	0	3	9	Trowel - Manual	no	Niagara Mohawk Swale
OBG 2004	6+15	10/22/2003	N/A	0	0	9	Trowel - Manual	no	6+15 Hot Spot
OBG 2004	6+30-Bank	10/17/2003	N/A	0	0	9	Trowel - Manual	no	6+30 Hot Spot
OBG 2004	6+30-Top	10/17/2003	N/A	0	0	9	Trowel - Manual	no	6+30 Hot Spot
OBG 2004	NIMO 1+74	10/13/2003	N/A	0	1	9	Trowel - Manual	no	Niagara Mohawk access road
OBG 2004	NIMO 2+88	10/13/2003	N/A	0	1	9	Trowel - Manual	no	Niagara Mohawk access road
OBG 2004	NIMO DITCH MH	10/13/2003	N/A	0	1	9	Trowel - Manual	no	Niagara Mohawk access road
OBG 2004	SM101-E2	10/12/2004	N/A	0	2	9	Trowel - Manual	no	Niagara Mohawk Swale
OBG 2004	SM101-F2	10/12/2004	N/A	2	2	9	Trowel - Manual	no	Niagara Mohawk Swale
OBG 2004	SM101-N	10/7/2004	N/A	0	1	9	Trowel - Manual	no	Niagara Mohawk Swale
OBG 2004	SM101-S	10/7/2004	N/A	0	1	9	Trowel - Manual	no	Niagara Mohawk Swale
OBG 2004	SM101-W	10/7/2004	N/A	0	1	9	Trowel - Manual	no	Niagara Mohawk Swale
OBG 2004	SS-02-05-E	10/14/2003	N/A	0	1	9	Trowel - Manual	no	SS-02-05 Hot Spot confirmatory sample
OBG 2004	SS-02-05-F3	11/5/2003	N/A	3	3	9	Trowel - Manual	no	SS-02-05 Hot Spot confirmatory sample
OBG 2004	SS-02-05-N2	10/22/2003	N/A	0	2	9	Trowel - Manual	no	SS-02-05 Hot Spot confirmatory sample
OBG 2004	SS-02-05-S2	10/22/2003	N/A	0	2	9	Trowel - Manual	no	SS-02-05 Hot Spot confirmatory sample
OBG 2004	SS-02-05-W3	11/6/2003	N/A	0	3	9	Trowel - Manual	no	SS-02-05 Hot Spot confirmatory sample

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
OBG 2004	TB-53-W	10/14/2003	N/A	0	4	9	Trowel - Manual	no	SS-02-05 Hot Spot confirmatory sample
OBG 2005	10+00-NW	9/15/2004	N/A	8	10	9	Trowel - Manual	no	Former Drainage Swale eastern branch confirmatory sample
OBG 2005	6+52-NW	8/17/2004	N/A	0	0	9	Trowel - Manual	no	Former Drainage Swale northern branch confirmatory sample
OBG 2005	7+52-NW	8/18/2004	N/A	8	10	9	Trowel - Manual	no	Former Drainage Swale northern branch confirmatory sample
OBG 2005	8+52-NW	9/14/2004	N/A	8	10	9	Trowel - Manual	no	Former Drainage Swale northern branch confirmatory sample
OBG 2005	9+13-WW	9/20/2004	N/A	8	10	9	Trowel - Manual	no	Former Drainage Swale eastern branch confirmatory sample
OBG 2005	9+31-NW	9/20/2004	N/A	8	10	9	Trowel - Manual	no	Former Drainage Swale eastern branch confirmatory sample
OBG 2007A	FA2	7/19/2005	N/A	0	5	9	Trowel - Manual	no	Factory Avenue IRM confirmatory sample
OBG 2007A	FA2-E	7/19/2005	N/A	0	5	9	Trowel - Manual	no	Factory Avenue IRM confirmatory sample
OBG 2007A	FA2-F	7/19/2005	N/A	5	5	9	Trowel - Manual	no	Factory Avenue IRM confirmatory sample
OBG 2007A	FA2-N	7/19/2005	N/A	0	5	9	Trowel - Manual	no	Factory Avenue IRM confirmatory sample
OBG 2007A	FA2-S	7/19/2005	N/A	0	5	9	Trowel - Manual	no	Factory Avenue IRM confirmatory sample
OBG 2007A	FA2-W	7/19/2005	N/A	0	5	9	Trowel - Manual	no	Factory Avenue IRM confirmatory sample
OBG 2007B	SA-26-E3	9/27/2006	N/A	0	1	9	Trowel - Manual	no	SA-26 Excavation IRM confirmatory sample
OBG 2007B	SA-26-F	9/27/2006	N/A	0	1	9	Trowel - Manual	no	SA-26 Excavation IRM confirmatory sample
OBG 2007B	SA-26-N2	8/9/2006	N/A	0	1	9	Trowel - Manual	no	SA-26 Excavation IRM confirmatory sample
OBG 2007B	SA-26-N3	9/27/2006	N/A	0	1	9	Trowel - Manual	no	SA-26 Excavation IRM confirmatory sample
OBG 2007B	SA-26-W	7/19/2006	N/A	0	1	9	Trowel - Manual	no	SA-26 Excavation IRM confirmatory sample
OBG 2009	SS-09-01	6/24/2009	N/A	0	0	8, 9	Hand auger, disposable scoop, hand trowel, or shovel	no	Additional surface soil sampling
OBG 2009	SS-09-02	6/24/2009	N/A	0	0	8, 9	Hand auger, disposable scoop, hand trowel, or shovel	no	Additional surface soil sampling
OBG 2009	SS-09-03	6/24/2009	N/A	0	0	8, 9	Hand auger, disposable scoop, hand trowel, or shovel	no	Additional surface soil sampling
OBG 2009	SS-09-04	6/25/2009	N/A	0	0	8, 9	Hand auger, disposable scoop, hand trowel, or shovel	no	Additional surface soil sampling
OBG 2009	SS-09-05	6/25/2009	N/A	0	0	8, 9	Hand auger, disposable scoop, hand trowel, or shovel	no	Additional surface soil sampling
OBG 2009	SS-09-06	6/25/2009	N/A	0	0	8, 9	Hand auger, disposable scoop, hand trowel, or shovel	no	Additional surface soil sampling
OBG LC 2008	DSR S1A	6/18/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	DSR S1B	6/18/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	DSR S2A	6/18/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	DSR S2B	6/18/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	DSR S3A	6/18/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	DSR S3B	6/18/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
OBG LC 2008	DSR S4A	6/19/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	DSR S4B	6/19/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	DSR S5A	6/19/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	DSR S5B	6/19/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	DSR S6A	6/19/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	DSR S6B	6/19/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	NBR S1A	6/25/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	NBR S1B	6/25/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	NBR S2A	6/25/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	NBR S2B	6/25/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	NBR S3A	6/25/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	NBR S3B	6/25/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	SBR S1A	6/24/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	SBR S1B	6/26/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	SBR S2A	6/24/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	SBR S2B	6/26/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	SBR S3A	6/24/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	SBR S3B	6/24/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	SCR S1A	6/24/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	SCR S1B	6/24/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	SCR S2A	6/25/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	SCR S2B	6/25/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	SCR S3A	6/25/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	SCR S3B	6/26/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	SRS 1A	6/19/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	SRS 1B	6/19/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	SRS 2A	6/23/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	SRS 2B	6/26/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	SRS 3A	6/23/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	SRS 3B	6/23/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
OBG LC 2008	SRS 4A	6/23/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	SRS 4B	6/23/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	SRS 5A	6/23/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	SRS 5B	6/23/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 2008	SRS 6A	6/24/2008	1	0	0.5	8, 9, 12, 14-17	2.75" Lexan ® tube, shovel, and/or Eckman dredge	no	Characterize fish exposure and nature and extent of affected sediment
OBG LC 2008	SRS 6B	6/26/2008	1	0.5	1	8, 9, 12, 14-17	2.75" Lexan ® tube and/or bucket auger	no	Nature and extent of affected sediment
OBG LC 98/99	GM98-SED01	11/17/1998	1	0	0.5	12, 14, 18	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED01	11/17/1998	1	0.5	1	12, 14, 18	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED02	11/17/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED03	11/17/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED04	11/17/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED05	11/18/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED06	11/18/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED07	11/18/1998	1	0.5	1	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED07	11/18/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14, 18	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED08	11/18/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED09	11/18/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED10	11/18/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED11	11/18/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14, 18	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED11	11/18/1998	1	0.5	1	3, 4, 6, 8, 9, 11, 14, 18	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED12	11/19/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED13	11/19/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED14	11/19/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED15	11/19/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED16	11/19/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14, 18	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED17	11/19/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14, 18	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED18	11/19/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14, 18	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED18	11/19/1998	1	0.5	1	3, 4, 6, 8, 9, 11, 14, 18	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED19	11/19/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14, 18	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED20	11/20/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14, 18	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED20	11/20/1998	1	0.5	1	3, 4, 6, 8, 9, 11, 14, 18	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED21	11/20/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED21	11/20/1998	1	0.5	1	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED22	11/20/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED23	11/20/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED24	11/20/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED25	11/20/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC 98/99	GM98-SED26	11/20/1998	1	0	0.5	3, 4, 6, 8, 9, 11, 14	Polycarbonate tubing or shovel	no	
OBG LC FP 2003	LCFP-1N	10/9/2003	1.58	0	0.5	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-1N	10/9/2003	1.58	0.5	1	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-1N	10/9/2003	1.58	1	1.58	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-1S	10/7/2003	2	0	0.5	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-1S	10/7/2003	2	0.5	1	9	2" SS Sampler	no	

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
OBG LC FP 2003	LCFP-1S	10/7/2003	2	1	2	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-3N	10/7/2003	2	0	0.5	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-3N	10/7/2003	2	0.5	1	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-3N	10/7/2003	2	1	2	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-3S	10/7/2003	2	0	0.5	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-3S	10/7/2003	2	0.5	1	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-3S	10/7/2003	2	1	2	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-4S	10/7/2003	2	0	0.5	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-4S	10/7/2003	2	0.5	1	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-4S	10/7/2003	2	1	2	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-5N	10/8/2003	2	0	0.5	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-5N	10/8/2003	2	0.5	1	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-5N	10/8/2003	2	1	2	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-5S	10/7/2003	2	0	0.5	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-5S	10/7/2003	2	0.5	1	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-5S	10/7/2003	2	1	2	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-6N	10/7/2003	1.58	0	0.5	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-6N	10/7/2003	1.58	0.5	1	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-6N	10/7/2003	1.58	1	1.58	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-6S	10/8/2003	10	0	0.5	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-6S	10/8/2003	10	0.5	1	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-6S	10/8/2003	10	1	2	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-6S	10/8/2003	10	2	4	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-6S	10/8/2003	10	4	6	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-6S	10/8/2003	10	6	8	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-6S	10/8/2003	10	8	10	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-7N	10/7/2003	1.4	0	0.5	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-7N	10/7/2003	1.4	0.5	1	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-7N	10/7/2003	1.4	1	1.4	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-7S	10/8/2003	10	0	0.5	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-7S	10/8/2003	10	0.5	1	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-7S	10/8/2003	10	1	2	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-7S	10/8/2003	10	2	4	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-7S	10/8/2003	10	4	6	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-7S	10/8/2003	10	6	8	9	2" SS Sampler	no	
OBG LC FP 2003	LCFP-7S	10/8/2003	10	8	10	9	2" SS Sampler	no	
OBG LC FP 2004	LCFP-03E	6/7/2004	2	0	0.5	9	Hand auger	no	
OBG LC FP 2004	LCFP-03E	6/7/2004	2	0.5	1	9	Hand auger	no	
OBG LC FP 2004	LCFP-03E	6/7/2004	2	1	2	9	Hand auger	no	
OBG LC FP 2004	LCFP-03W	6/7/2004	2	0	0.5	9	Hand auger	no	
OBG LC FP 2004	LCFP-03W	6/7/2004	2	0.5	1	9	Hand auger	no	
OBG LC FP 2004	LCFP-03W	6/7/2004	2	1	2	9	Hand auger	no	
OBG LC FP 2004	LCFP-06E	6/7/2004	1	0	0.5	9	Hand auger	no	
OBG LC FP 2004	LCFP-06E	6/7/2004	1	0.5	1	9	Hand auger	no	
OBG LC FP 2004	LCFP-06W	6/7/2004	1	0	0.5	9	Hand auger	no	
OBG LC FP 2004	LCFP-06W	6/7/2004	1	0.5	1	9	Hand auger	no	

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
OBG LC FP 2004	LCFP-07E	6/7/2004	2	0	0.5	9	Hand auger	no	
OBG LC FP 2004	LCFP-07E	6/7/2004	2	0.5	1	9	Hand auger	no	
OBG LC FP 2004	LCFP-07E	6/7/2004	2	1	2	9	Hand auger	no	
OBG LC FP 2004	LCFP-07W	6/7/2004	2	0	0.5	9	Hand auger	no	
OBG LC FP 2004	LCFP-07W	6/7/2004	2	0.5	1	9	Hand auger	no	
OBG LC FP 2004	LCFP-07W	6/7/2004	2	1	2	9	Hand auger	no	
OBG LC FP 2004	LCFP-SC1	6/7/2004	2	0	0.5	9	Hand auger	no	
OBG LC FP 2004	LCFP-SC1	6/7/2004	2	0.5	1	9	Hand auger	no	
OBG LC FP 2004	LCFP-SC1	6/7/2004	2	1	2	9	Hand auger	no	
OBG LC FP 2004	LCFP-SC2	6/7/2004	2	0	0.5	9	Hand auger	no	
OBG LC FP 2004	LCFP-SC2	6/7/2004	2	0.5	1	9	Hand auger	no	
OBG LC FP 2004	LCFP-SC2	6/7/2004	2	1	2	9	Hand auger	no	
OBG LC FP 2005	B1	6/22/2009	N/A	--	--	N/A	N/A	no	No laboratory sample collected
OBG LC FP 2005	B10	6/22/2009	N/A	--	--	N/A	N/A	no	No laboratory sample collected
OBG LC FP 2005	B11	6/22/2009	N/A	--	--	N/A	N/A	no	No laboratory sample collected
OBG LC FP 2005	B12	6/22/2009	N/A	--	--	N/A	N/A	no	No laboratory sample collected
OBG LC FP 2005	B13	11/7/2005	4	0	4	9	Direct push, MC sampler	no	
OBG LC FP 2005	B14	11/7/2005	4	0	4	9	Direct push, MC sampler	no	
OBG LC FP 2005	B15	11/7/2005	4	0	4	9	Direct push, MC sampler	no	
OBG LC FP 2005	B16	11/7/2005	4	0	4	9	Direct push, MC sampler	no	
OBG LC FP 2005	B2	8/16/2007	N/A	--	--	N/A	N/A	no	No laboratory sample collected
OBG LC FP 2005	B3	8/16/2007	N/A	--	--	N/A	N/A	no	No laboratory sample collected
OBG LC FP 2005	B4	8/16/2007	N/A	--	--	N/A	N/A	no	No laboratory sample collected
OBG LC FP 2005	B5	8/16/2007	N/A	--	--	N/A	N/A	no	No laboratory sample collected
OBG LC FP 2005	B6	8/16/2007	N/A	--	--	N/A	N/A	no	No laboratory sample collected
OBG LC FP 2005	B7	11/7/2005	4	0	4	9	Direct push, MC sampler	no	
OBG LC FP 2005	B8	11/7/2005	N/A	--	--	N/A	N/A	no	No laboratory sample collected
OBG LC FP 2005	B9	11/7/2005	N/A	--	--	N/A	N/A	no	No laboratory sample collected
OBG LC FP 2007	B17	8/16/2007	4	2	4	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B17	8/16/2007	4	0	2	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B18	8/16/2007	2	0	2	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B19	8/16/2007	2	0	2	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B20	8/16/2007	4	0	2	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B20	8/16/2007	4	2	4	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B21	8/16/2007	2	0	2	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B23	8/16/2007	4	0	2	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B23	8/16/2007	4	2	4	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B24	8/16/2007	4	0	2	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B24	8/16/2007	4	2	4	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B25	8/16/2007	2	0	2	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B26	8/16/2007	6	0	2	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B26	8/16/2007	6	2	4	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B26	8/16/2007	6	4	6	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B27	8/16/2007	4	0	2	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B27	8/16/2007	4	2	4	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B29	8/16/2007	7	0	2	9, 16	Direct push, MC sampler	no	

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
OBG LC FP 2007	B29	8/16/2007	7	2	4	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B29	8/16/2007	7	4	6	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B29	8/16/2007	7	6	7	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B30	8/16/2007	6	0	2	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B30	8/16/2007	6	4	6	9, 16	Direct push, MC sampler	no	
OBG LC FP 2007	B31	8/16/2007	6	4	6	9, 16	Direct push, MC sampler	no	
OBG SO 1986	OBG-1	10/30/2006	12	0	2	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-1	10/30/2006	12	2	4	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-1	10/30/2006	12	4	6	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-1	10/30/2006	12	6	8	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-1	10/30/2006	12	8	10	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-1	10/30/2006	12	10	12	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-2	10/30/2006	6	0	2	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-2	10/30/2006	6	2	4	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-2	10/30/2006	6	4	6	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-3	11/2/2006	12	0	2	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-3	11/2/2006	12	2	4	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-3	11/2/2006	12	4	6	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-3	11/2/2006	12	6	8	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
OBG SO 1986	OBG-3	11/2/2006	12	8	10	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-3	11/2/2006	12	10	12	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-4	11/2/2006	12	0	2	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-4	11/2/2006	12	2	4	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-4	11/2/2006	12	4	6	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-4	11/2/2006	12	6	8	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-4	11/2/2006	12	8	10	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-4	11/2/2006	12	10	12	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-5	11/2/2006	12	0	2	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-5	11/2/2006	12	2	4	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-5	11/2/2006	12	4	6	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-5	11/2/2006	12	6	8	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-5	11/2/2006	12	8	10	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-5	11/2/2006	12	10	12	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-6	11/2/2006	18	0	2	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
OBG SO 1986	OBG-6	11/2/2006	18	2	4	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-6	11/2/2006	18	2	4	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-6	11/2/2006	18	4	6	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-6	11/2/2006	18	6	8	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-6	11/2/2006	18	8	10	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-6	11/2/2006	18	10	12	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-6	11/2/2006	18	12	14	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-6	11/2/2006	18	14	16	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-6	11/2/2006	18	16	18	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7A	11/2/2006	12	0	2	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7A	11/2/2006	12	2	4	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7A	11/2/2006	12	4	6	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7A	11/2/2006	12	6	8	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7A	11/2/2006	12	8	10	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7A	11/2/2006	12	10	12	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
OBG SO 1986	OBG-7B	11/2/2006	12	0	2	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7B	11/2/2006	12	2	4	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7B	11/2/2006	12	4	6	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7B	11/2/2006	12	6	8	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7B	11/2/2006	12	8	10	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7B	11/2/2006	12	10	12	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7C	11/2/2006	12	0	2	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7C	11/2/2006	12	2	4	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7C	11/2/2006	12	4	6	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7C	11/2/2006	12	6	8	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7C	11/2/2006	12	8	10	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG SO 1986	OBG-7C	11/2/2006	12	10	12	2, 5	3.25" HSA, SS Sampler	yes	This location was used for geologic information only. Samples not utilized in RI datset.
OBG WL 2002	SED-02-1A	5/14/2002	0.5	0	0.5	1, 7, 9, 10, 14	Lexan ® tube and/or shovel	no	
OBG WL 2002	SED-02-2A	5/14/2002	1	0	0.5	1, 7, 9, 10, 14	Lexan ® tube and/or shovel	no	
OBG WL 2002	SED-02-2B	5/14/2002	1	0.5	1	1, 7, 9, 10, 14	Lexan ® tube and/or shovel	no	
OBG WL 2002	SED-02-3A	5/14/2002	1	0	0.5	1, 7, 9, 10, 14	Lexan ® tube and/or shovel	no	
OBG WL 2002	SED-02-3B	5/14/2002	1	0.5	1	1, 7, 9, 10, 14	Lexan ® tube and/or shovel	no	
OBG WL 2002	SED-02-4A	5/14/2002	1	0	0.5	1, 7, 9, 10, 14	Lexan ® tube and/or shovel	no	
OBG WL 2002	SED-02-4B	5/14/2002	1	0.5	1	1, 7, 9, 10	Lexan ® tube and/or shovel	no	No TOC analysis due to low sample recovery
OBG WL 2002	SED-02-5A	5/14/2002	1	0	0.5	1, 7, 9, 10, 14	Lexan ® tube and/or shovel	no	
OBG WL 2002	SED-02-5B	5/14/2002	1	0.5	1	1, 7, 9, 10, 14	Lexan ® tube and/or shovel	no	
OBG WL 2003	WLSED03-1	10/13/2003	1	0.5	1	9, 10, 14	Lexan ® tube	no	
OBG WL 2003	WLSED03-1	10/13/2003	1	0	0.5	9, 10, 14	Lexan ® tube	no	

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
OBG WL 2003	WLSED03-2	10/13/2003	1	0.5	1	9, 10, 14	Lexan ® tube	no	
OBG WL 2003	WLSED03-2	10/13/2003	1	0	0.5	9, 10, 14	Lexan ® tube	no	
OBG WL 2003	WLSED03-3	10/13/2003	1	0.5	1	9, 10, 14	Lexan ® tube	no	
OBG WL 2003	WLSED03-3	10/13/2003	1	0	0.5	9, 10, 14	Lexan ® tube	no	
OBG WL 2003	WLSED03-4	10/13/2003	1	0.5	1	9, 10, 14	Lexan ® tube	no	
OBG WL 2003	WLSED03-4	10/13/2003	1	0	0.5	9, 10, 14	Lexan ® tube	no	
OBG WL 2003	WLSED03-5	10/13/2003	1	0.5	1	9, 10, 14	Lexan ® tube	no	
OBG WL 2003	WLSED03-5	10/13/2003	1	0	0.5	9, 10, 14	Lexan ® tube	no	
OBG WL 2003	WLSED03-6	10/13/2003	1	0.5	1	9, 10, 14	Lexan ® tube	no	
OBG WL 2003	WLSED03-6	10/13/2003	1	0	0.5	9, 10, 14	Lexan ® tube	no	
OBG WL 2004	WLSD04-1	6/2/2004	1.4	0	0.5	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-1	6/2/2004	1.4	0.5	1	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-1	6/2/2004	1.4	1	1.4	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-2	6/2/2004	2.3	0	0.5	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-2	6/2/2004	2.3	0.5	1	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-2	6/2/2004	2.3	1.4	1.8	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-2	6/2/2004	2.3	1.8	2.3	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-3	6/2/2004	2.25	0	0.5	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-3	6/2/2004	2.25	0.5	1	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-3	6/2/2004	2.25	1	1.5	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-3	6/2/2004	2.25	1.5	2.25	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-4	6/2/2004	1	0	0.5	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-4	6/2/2004	1	0.5	1	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-5	6/2/2004	1	0	0.5	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-5	6/2/2004	1	0.5	1	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-6	6/2/2004	1	0	0.5	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-6	6/2/2004	1	0.5	1	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-7	6/2/2004	1	0	0.5	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-7	6/2/2004	1	0.5	1	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-8	6/2/2004	1	0	0.5	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-8	6/2/2004	1	0.5	1	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-9	6/2/2004	1	0	0.5	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2004	WLSD04-9	6/2/2004	1	0.5	1	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2006	WLSD06-1	5/2/2006	1.83	0	0.42	9, 10, 14	Shovel - Manual	no	Drainage ditch, south side of Factory Avenue
OBG WL 2006	WLSD06-1	5/2/2006	1.83	0.42	0.83	9, 10, 14	2 and 4 inch Lexan ® tube	no	Drainage ditch, south side of Factory Avenue
OBG WL 2006	WLSD06-1	5/2/2006	1.83	0.83	1.33	9, 10, 14	2 and 4 inch Lexan ® tube	no	Drainage ditch, south side of Factory Avenue
OBG WL 2006	WLSD06-1	5/2/2006	1.83	1.33	1.83	9, 10, 14	2 and 4 inch Lexan ® tube	no	Drainage ditch, south side of Factory Avenue
OBG WL 2006	WLSD06-10	5/3/2006	2.83	1	1.83	9, 10, 14	2 and 4 inch Lexan ® tube	no	Drainage ditch, south side of Factory Avenue
OBG WL 2006	WLSD06-10	5/3/2006	2.83	1.83	2.83	9, 10, 14	2 and 4 inch Lexan ® tube	no	Drainage ditch, south side of Factory Avenue
OBG WL 2006	WLSD06-11	5/3/2006	1.83	1	1.5	9, 10, 14	2 and 4 inch Lexan ® tube	no	Drainage ditch, south side of Factory Avenue
OBG WL 2006	WLSD06-11	5/3/2006	1.83	1.5	1.83	9, 10, 14	2 and 4 inch Lexan ® tube	no	Drainage ditch, south side of Factory Avenue
OBG WL 2006	WLSD06-2	5/2/2006	2.3	0	0.5	9, 10, 14	Shovel - Manual	no	Drainage ditch, south side of Factory Avenue
OBG WL 2006	WLSD06-2	5/2/2006	2.3	0.5	1	9, 10, 14	2 and 4 inch Lexan ® tube	no	Drainage ditch, south side of Factory Avenue
OBG WL 2006	WLSD06-2	5/2/2006	2.3	1	1.5	9, 10, 14	2 and 4 inch Lexan ® tube	no	Drainage ditch, south side of Factory Avenue
OBG WL 2006	WLSD06-2	5/2/2006	2.3	1.5	2.3	9, 10, 14	2 and 4 inch Lexan ® tube	no	Drainage ditch, south side of Factory Avenue
OBG WL 2006	WLSD06-3	5/2/2006	2.67	0	0.5	9, 10, 14	Shovel - Manual	no	Wetland sample

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
OBG WL 2006	WLSD06-3	5/2/2006	2.67	0.5	1	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-3	5/2/2006	2.67	1	1.67	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-3	5/2/2006	2.67	1.67	2.67	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-4	5/2/2006	2.75	0	0.5	9, 10, 14	Shovel - Manual	no	Wetland sample
OBG WL 2006	WLSD06-4	5/2/2006	2.75	0.5	1	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-4	5/2/2006	2.75	1	1.75	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-4	5/2/2006	2.75	1.75	2.75	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-5	5/2/2006	2.92	0	0.5	9, 10, 14	Shovel - Manual	no	Wetland sample
OBG WL 2006	WLSD06-5	5/2/2006	2.92	0.5	1.17	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-5	5/2/2006	2.92	1.17	2.17	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-5	5/2/2006	2.92	2.17	2.92	9, 10, 14	Dutch auger	no	Wetland sample
OBG WL 2006	WLSD06-6	5/3/2006	3	0	0.67	9, 10, 14	Shovel - Manual	no	Wetland sample
OBG WL 2006	WLSD06-6	5/3/2006	3	0.67	1.17	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-6	5/3/2006	3	1.17	1.92	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-6	5/3/2006	3	1.92	3	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-7	5/3/2006	2.67	0	0.58	9, 10, 14	Shovel - Manual	no	Wetland sample
OBG WL 2006	WLSD06-7	5/3/2006	2.67	0.58	1.08	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-7	5/3/2006	2.67	1.08	1.67	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-7	5/3/2006	2.67	1.67	2.67	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-8	5/3/2006	2.5	1	1.83	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-8	5/3/2006	2.5	1.83	2.67	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-9	5/3/2006	2.5	1	1.67	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2006	WLSD06-9	5/3/2006	2.5	1.67	2.5	9, 10, 14	2 and 4 inch Lexan ® tube	no	Wetland sample
OBG WL 2008	WLSD08-1	6/10/2008	3.5	2.5	3	9, 10, 14	Bucket auger and Lexan ® tube	no	
OBG WL 2008	WLSD08-1	6/10/2008	3.5	3	3.5	9, 10, 14	Bucket auger and Lexan ® tube	no	
OBG WL 2008	WLSD08-3	6/10/2008	3.67	2.67	3.17	9, 10, 14	Bucket auger and Lexan ® tube	no	
OBG WL 2008	WLSD08-3	6/10/2008	3.67	3.17	3.67	9, 10, 14	Bucket auger and Lexan ® tube	no	
OBG WL 2008	WLSD08-4	6/10/2008	3	0	0.5	9, 10, 14	Shovel - Manual	no	
OBG WL 2008	WLSD08-4	6/10/2008	3	0.5	1	9, 10, 14	Lexan ® tube	no	
OBG WL 2008	WLSD08-4	6/10/2008	3	1	2	9, 10, 14	Lexan ® tube	no	
OBG WL 2008	WLSD08-4	6/10/2008	3	2	3	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2008	WLSD08-5	6/11/2008	2.67	0	0.54	9, 10, 14	Shovel - Manual	no	
OBG WL 2008	WLSD08-5	6/11/2008	2.67	0.58	1	9, 10, 14	Lexan ® tube	no	
OBG WL 2008	WLSD08-5	6/11/2008	2.67	1	2	9, 10, 14	Lexan ® tube	no	
OBG WL 2008	WLSD08-5	6/11/2008	2.67	2	2.67	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2008	WLSD08-6	6/11/2008	3	0	0.5	9, 10, 14	Shovel - Manual	no	
OBG WL 2008	WLSD08-6	6/11/2008	3	0.5	1	9, 10, 14	Lexan ® tube	no	
OBG WL 2008	WLSD08-6	6/11/2008	3	1	2	9, 10, 14	Lexan ® tube	no	
OBG WL 2008	WLSD08-6	6/11/2008	3	2	3	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2008	WLSD08-7	6/11/2008	3	0	0.5	9, 10, 14	Shovel - Manual	no	
OBG WL 2008	WLSD08-7	6/11/2008	3	0.5	1	9, 10, 14	Lexan ® tube	no	
OBG WL 2008	WLSD08-7	6/11/2008	3	1	2.1	9, 10, 14	Lexan ® tube	no	
OBG WL 2008	WLSD08-7	6/11/2008	3	2.1	3	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2008	WLSD08-8	6/11/2008	3	0	0.5	9, 10, 14	Shovel - Manual	no	
OBG WL 2008	WLSD08-8	6/11/2008	3	0.5	1	9, 10, 14	Lexan ® tube	no	
OBG WL 2008	WLSD08-8	6/11/2008	3	1	2	9, 10, 14	Lexan ® tube	no	

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
OBG WL 2008	WLSD08-8	6/11/2008	3	2.17	3	9, 10, 14	Lexan ® tube and/or hand auger	no	
OBG WL 2008	WLSD08-9	6/12/2008	3.5	2.5	3	9, 10, 14	Bucket auger and Lexan ® tube	no	
OBG WL 2008	WLSD08-9	6/12/2008	3.5	3	3.5	9, 10, 14	Bucket auger and Lexan ® tube	no	
ON CTY 1991	122.00	1991	17	17	17	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	123.00	1991	18	17	18	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	123.40	1991	8	8	8	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	123.87	1991	0	0	0	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	124.00	1991	9	8	9	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	126.40	1991	10	10	10	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	127.10	1991	10	9	10	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	127.41	1991	6	6	6	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	129.50	1991	10	10	10	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	129.50	1991	10	5	5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	130.40	1991	14	8	9	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	130.40	1991	14	13	14	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	131.00	1991	19	18	19	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	131.80	1991	8	7	8	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	124+30	6/13/1991	8	8	8	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-3	1991	14.5	5	5.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-3	1991	14.5	9.5	10	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-3	1991	14.5	14	14.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-3	1991	14.5	1	1.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-4	1991	14.5	4	5.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-4	1991	14.5	6	6.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
ON CTY 1991	LC-4	1991	14.5	9.5	10	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-4	1991	14.5	14	14.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-5	1991	14.5	6	6.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-5	1991	14.5	8	8.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-5	1991	14.5	14	14.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-5	1991	14.5	1	1.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-6	1991	14.5	6	6.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-6	1991	14.5	9	9.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-6	1991	14.5	14	14.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-6	1991	14.5	1	1.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-7	1991	14.5	1	1.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-7	1991	14.5	1.5	14.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-7	1991	14.5	1.5	14.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
ON CTY 1991	LC-7	1991	14.5	1.5	14.5	2	N/A	no	Removed as part of Ley Creek Interceptor Sewer IRM
C&S 1992	S-2	1992	1.33	0	0.67	1,2	Not specified	no	Ley Creek sediment sample. 1992 NYSDOT Route 11 Bridge Project.
C&S 1992	S-2	1992	1.33	0.67	1.33	1,2	Not specified	no	Ley Creek sediment sample. 1992 NYSDOT Route 11 Bridge Project.
C&S 1992	S-3	1992	1.33	0	0.67	1,2	Not specified	no	Ley Creek sediment sample. 1992 NYSDOT Route 11 Bridge Project.
C&S 1992	S-3	1992	1.33	0.67	1.33	1,2	Not specified	no	Ley Creek sediment sample. 1992 NYSDOT Route 11 Bridge Project.
CHA 1998	SED-20	1998	0.5	0	0.5	1,2,4,6	3" SS sampler	no	Ley Creek sediment sample. Town of Salina Landfill RI.
CHA 1998	SED-20D	1998	1	0.5	1	1,2,4,6	3" SS sampler	no	Ley Creek sediment sample. Town of Salina Landfill RI.
1985 Upstream	1000 N Bank	6/11/1985		0	1.5	9			
1985 Upstream	1000 Center	6/11/1985		0	1.5	9			
1985 Upstream	1000 S Bank	6/11/1985		0	1.5	9			
1985 Upstream	500 N Bank	6/11/1985		0	1	9			
1985 Upstream	500 Center	6/11/1985		0	1	9			
1985 Upstream	500 S Bank	6/11/1985		0	0.5	9			
1985 Ley Creek	0 N Bank	6/11/1985		0	1	9			
1985 Ley Creek	0 Center	6/11/1985		0	1	9			
1985 Ley Creek	0 S Bank	6/11/1985		0	1	9			
1985 Ley Creek	500 N Bank	6/11/1985		0	1.5	9			
1985 Ley Creek	500 Center	6/11/1985		0	1	9			
1985 Ley Creek	500 S Bank	6/11/1985		0	1.5	9			
1985 Ley Creek	750 S Bank	6/11/1985		0	1.5	9			
1985 Ley Creek	1000 N Bank	6/11/1985		0	1	9			

Table 3-1: Soil Boring Installation and Sediment Sample Summary

Investigation	Boring ID	Date	Boring/Sample End Depth (ft bgs)	Intervals Sampled (ft bgs)		Analyses	Installation / Sampling Method	Monitoring Well Installed	Comments
1985 Ley Creek	1000 Center	6/11/1985		0	0.92	9			
1985 Ley Creek	1000 S Bank	6/11/1985		0	1	9			
1985 Ley Creek	1500 N Bank	6/11/1985		0	1	9			
1985 Ley Creek	1500 Center	6/11/1985		0	1	9			
1985 Ley Creek	1500 S Bank	6/11/1985		0	1.33	9			
1985 Ley Creek	2000 N Bank	6/11/1985		0	1.5	9			
1985 Ley Creek	2000 Center	6/11/1985		0	1.13	9			
1985 Ley Creek	2000 S Bank	6/11/1985		0	1.42	9			
1985 Ley Creek	2500 N Bank	6/11/1985		0	1	9			
1985 Ley Creek	2500 Center	6/11/1985		0	0.83	9			
1985 Ley Creek	2500 S Bank	6/11/1985		0	0.67	9			
1985 Ley Creek	3000 N Bank	6/11/1985		0	1	9			
1985 Ley Creek	3000 Center	6/11/1985		0	0.42	9			
1985 Ley Creek	3000 S Bank	6/11/1985		0	0.71	9			

Notes:

(1)	SVOCs	USEPA Test Method 8270
(2)	PCBs	USEPA Test Method 8080
(3)	Mercury	USEPA Test Method 7470
(4)	Metals	USEPA Test Method 6010
(5)	oil & grease	USEPA Test Method 1664
(6)	VOCs	NYSDEC ASP Method 5030A/8021B
(7)	VOCs	USEPA Test Method 8260B
(8)	SVOCs	NYSDEC ASP Method 3550B/8270C
(9)	PCBs	NYSDEC ASP Method 3550B/8082
(10)	Site-related metals	NYSDEC ASP Method 3050B/6010B; arsenic, chromium, copper, lead, nickel, and zinc
(11)	Total Cyanide	NYSDEC ASP Method 9010B/9014
(12)	TCL/TAL	NYSDEC ASP Methods 5030A/8260A, 3550B/8270C, 3550B/8081A, 3550B/8082, 3005A/6010B, 7470A, 9010B/9014, 7841
(13)	Mercury	USEPA Test Method 7471A
(14)	TOC	Lloyd Kahn Method
(15)	Methyl mercury	USEPA Test Method 1630
(16)	Percent moisture	USEPA Test Method 160.3
(17)	AVS/SEM	USEPA Test Method 821-R-91-100
(18)	PCDD/PCDF	USEPA Test Method 8290
(19)	Pesticides	USEPA Test Method 8081
	AVS/SEM	Acid volatile sulfide/Simultaneously extracted metals bioavailability
	ft bgs	feet below ground surface
	HAS	Hollow stem auger
	MC	Macro-core
	N/A	Not applicable
	NYSDEC	New York State Department of Environmental Conservation
	PCBs	Polychlorinated biphenyls
	PCDD/PCDF	Dioxins and Furans
	SS	Split spoon
	SVOCs	Semivolatile organic compounds
	TCL/TAL	Target compound list/Target analyte list
	TOC	Total organic carbon
	USEPA	United States Environmental Protection Agency
	VOCs	Volatile organic compounds

Key:

Investigation	
OBG SO 1986	O'Brien & Gere. Report - Hydrogeological Investigation of Fill Area Along Ley Creek. April 1987.
COCCIARDI 1991	O'Brien & Gere. Ley Creek Relief Interceptor Sewer Area IRM Sampling Program. 1990-1991.
ON CTY 1991	Onondaga County. PCB soil sampling figure. November 12, 1991.
NMPC 1996	Niagara Mohawk Power Corporation. Factory Ave Electric Projects PCB Sampling and Analysis Report. May 1996.
NYSDEC LC 1996	NYSDEC Sediment and Surface Water Sampling Program. 1997.
NMDC IRM	Niagara Mohawk Drainage Channel (NMDC) IRM Work Plan. April 2005.
OBG LC 98/99	O'Brien & Gere. Supplemental Remedial Investigation/Feasibility Study Work Plan. June 1998. O'Brien & Gere. Final Supplemental Remedial Investigation/Feasibility Study Work Plan. November 1999.
OBG 2005	O'Brien & Gere. Former Drainage Swale IRM. 2005.
OBG LC FP 2005	O'Brien & Gere. Additional Supplemental Remedial Investigation and Addendum investigation floodplain sampling and delineation (Based on October 2003 and June 2004 sampling activities. 2005.
OBG WL 2006	O'Brien & Gere. Additional Supplemental Remedial Investigation additional wetland sampling activities (Based on data obtained during the May 2002, October 2003, and June 2004 sampling events) for the purpose of implementing an interim remedial measure. 2005.
OBG 2007A	O'Brien & Gere. Factory Ave IRM. 2007.
OBG 2007B	O'Brien & Gere. SA-26 Excavation Interim Remedial Measure Work Plan. 2005.
OBG LC FP 2007	O'Brien & Gere. Additional Supplemental Remedial Investigation and Addenda Investigation floodplain sampling Work Plan. March 2007.
OBG LC 2008	O'Brien & Gere. Additional Supplemental Remedial Investigation and Addenda Investigation Ley Creek sampling Work Plan. May 2008.
OBG WL 2008	O'Brien & Gere. Additional Supplemental Remedial Investigation and Addenda Investigation wetland sampling Work Plan. October 2007.
C&S 2009	C&S Engineers. Hazardous Waste and Contaminated Materials Assessment Report. 2009
OBG 2009	O'Brien & Gere. Additional Site Soil Evaluation (O'Brien & Gere 2006) surface soil sampling activities Work Plan. September 2008.

RACER Trust
Former IFG Facility and Deferred Media Site
Syracuse, New York
Off-Site Remedial Investigation

Table 4-5A: Upstream Surface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED17	GM98-SED18	GM98-SED19	GM98-SED20	GM98-SED21	GM98-SED22	GM98-SED23
	Sample Date	11/19/1998	11/19/1998	11/19/1998	11/20/1998	11/20/1998	11/20/1998	11/20/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
1,1,1-Trichloroethane	NC	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
1,1,2,2-Tetrachloroethane	0.01	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
1,1,2-Trichloroethane	0.02	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
1,1-Dichloroethane	NC	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
1,1-Dichloroethylene	0.001	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
1,2,4-Trichlorobenzene	2.76	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	5.64	---	---	---	---	---	---	---
1,2-Dibromo-3-Chloropropane	NC	---	---	---	---	---	---	---
1,2-Dibromomethane	NC	---	---	---	---	---	---	---
1,2-Dichlorobenzene	0.36	0.036 UJ	0.007 U	0.006 U	0.006 UJ	0.007 U	0.007 UJ	0.007 U
1,2-Dichloroethane	0.02	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
1,2-Dichloroethene (trans)	NC	---	---	---	---	---	---	---
1,2-Dichloropropane	NC	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
1,3,5-Trimethylbenzene	NC	---	---	---	---	---	---	---
1,3-Dichlorobenzene	0.36	0.036 U	0.007 U	0.006 U	0.006 UJ	0.007 U	0.007 UJ	0.007 U
1,4-Dichlorobenzene	0.36	0.036 U	0.007 U	0.006 U	0.006 UJ	0.007 U	0.007 UJ	0.007 U
2-Butanone	NC	---	---	---	---	---	---	---
2-Chloroethyl vinyl ether	NC	0.071 UJ	0.015 UJ	0.013 UJ	0.012 UJ	0.014 UJ	0.013 UJ	0.013 UJ
2-Hexanone	NC	---	---	---	---	---	---	---
4-Methyl-2-Pentanone	NC	---	---	---	---	---	---	---
Acetone	NC	---	---	---	---	---	---	---
Benzene	0.02	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
Bromodichloromethane	NC	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
Bromoform	NC	0.071 U	0.015 U	0.013 U	0.012 UJ	0.014 U	0.013 UJ	0.013 U
Bromomethane	NC	0.071 U	0.015 U	0.013 U	0.012 UJ	0.014 U	0.013 UJ	0.013 U
Carbon Disulfide	NC	---	---	---	---	---	---	---

Table 4-5A: Upstream Surface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED17	GM98-SED18	GM98-SED19	GM98-SED20	GM98-SED21	GM98-SED22	GM98-SED23
	Sample Date	11/19/1998	11/19/1998	11/19/1998	11/20/1998	11/20/1998	11/20/1998	11/20/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
Carbon Tetrachloride	0.02	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
Chlorinated Fluorocarbon (freon 113)	NC	---	---	---	---	---	---	---
Chlorobenzene	0.11	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
Chloroethane	NC	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
Chloroform	NC	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.00134 UJ	0.002 J
Chloromethane	NC	0.071 U	0.015 U	0.013 U	0.012 UJ	0.014 U	0.013 UJ	0.013 U
cis-1,2-Dichloroethylene	NC	0.007 U	0.001 U	0.001 U	0.002 J	0.001 U	0.001 UJ	0.001 U
cis-1,3-Dichloropropylene	NC	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
Cyclohexane	NC	---	---	---	---	---	---	---
Cymene (p-Isopropyltoluene)	NC	---	---	---	---	---	---	---
Dibromochloromethane	NC	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
Dichlorodifluoromethane	NC	0.071 U	0.015 U	0.013 U	0.012 UJ	0.014 U	0.013 UJ	0.013 U
Ethylbenzene	0.73	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
Hexachlorobutadiene	NC	---	---	---	---	---	---	---
Isopropylbenzene	0.36	---	---	---	---	---	---	---
Methyl Acetate	NC	---	---	---	---	---	---	---
Methyl tert-Butyl ether	NC	---	---	---	---	---	---	---
Methylcylohexane	NC	---	---	---	---	---	---	---
Methylene chloride	NC	0.007 U	0.001 U	0.00128 U	0.065 J	0.00145 U	0.00134 UJ	0.00131 U
m-Xylene	2.79	---	---	---	---	---	---	---
Naphthalene	0.91	---	---	---	---	---	---	---
n-Butylbenzene	NC	---	---	---	---	---	---	---
n-Propylbenzene	NC	---	---	---	---	---	---	---
o-Xylene	2.79	---	---	---	---	---	---	---
sec-Butylbenzene	NC	---	---	---	---	---	---	---
Styrene	NC	---	---	---	---	---	---	---

Table 4-5A: Upstream Surface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED17	GM98-SED18	GM98-SED19	GM98-SED20	GM98-SED21	GM98-SED22	GM98-SED23
	Sample Date	11/19/1998	11/19/1998	11/19/1998	11/20/1998	11/20/1998	11/20/1998	11/20/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
Tetrachloroethene	0.02	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
Toluene	1.49	0.007 U	0.001 U	0.001 U	0.012 J	0.006 NJ	0.001 UJ	0.001 U
trans-1,2-Dichloroethylene	NC	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
trans-1,3-Dichloropropylene	NC	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
Trichloroethylene	0.06	0.007 U	0.001 U	0.001 U	0.038 J	0.001 U	0.001 UJ	0.001 U
Trichlorofluoromethane	NC	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
Vinyl Chloride	0.002	0.007 U	0.001 U	0.001 U	0.001 UJ	0.001 U	0.001 UJ	0.001 U
Xylene (total)	2.79	0.021 U	0.004 U	0.004 U	0.005 J	0.004 U	0.004 UJ	0.004 U

See notes on last page.

Table 4-5A: Upstream Surface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Upstream	Upstream	Upstream
	Sample Location	GM98-SED24	GM98-SED25	GM98-SED26
	Sample Date	11/20/1998	11/20/1998	11/20/1998
	Start Depth (ft)	0	0	0
	End Depth (ft)	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**			
1,1,1-Trichloroethane	NC	0.002 U	0.001 UJ	0.002 UJ
1,1,2,2-Tetrachloroethane	0.01	0.002 U	0.001 UJ	0.002 UJ
1,1,2-Trichloroethane	0.02	0.002 U	0.001 UJ	0.002 UJ
1,1-Dichloroethane	NC	0.002 U	0.001 UJ	0.002 UJ
1,1-Dichloroethylene	0.001	0.002 U	0.001 UJ	0.002 UJ
1,2,4-Trichlorobenzene	2.76	---	---	---
1,2,4-Trimethylbenzene	5.64	---	---	---
1,2-Dibromo-3-Chloropropane	NC	---	---	---
1,2-Dibromomethane	NC	---	---	---
1,2-Dichlorobenzene	0.36	0.009 U	0.007 UJ	0.008 UJ
1,2-Dichloroethane	0.02	0.002 U	0.001 UJ	0.002 UJ
1,2-Dichloroethene (trans)	NC	---	---	---
1,2-Dichloropropane	NC	0.002 U	0.001 UJ	0.002 UJ
1,3,5-Trimethylbenzene	NC	---	---	---
1,3-Dichlorobenzene	0.36	0.009 U	0.007 UJ	0.008 UJ
1,4-Dichlorobenzene	0.36	0.009 U	0.007 UJ	0.008 UJ
2-Butanone	NC	---	---	---
2-Chloroethyl vinyl ether	NC	0.018 UJ	0.014 UJ	0.016 UJ
2-Hexanone	NC	---	---	---
4-Methyl-2-Pentanone	NC	---	---	---
Acetone	NC	---	---	---
Benzene	0.02	0.002 U	0.001 UJ	0.002 UJ
Bromodichloromethane	NC	0.002 U	0.001 UJ	0.002 UJ
Bromoform	NC	0.018 U	0.014 UJ	0.016 UJ
Bromomethane	NC	0.018 U	0.014 UJ	0.016 UJ
Carbon Disulfide	NC	---	---	---

Table 4-5A: Upstream Surface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Upstream	Upstream	Upstream
	Sample Location	GM98-SED24	GM98-SED25	GM98-SED26
	Sample Date	11/20/1998	11/20/1998	11/20/1998
	Start Depth (ft)	0	0	0
	End Depth (ft)	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**			
Carbon Tetrachloride	0.02	0.002 U	0.001 UJ	0.002 UJ
Chlorinated Fluorocarbon (freon 113)	NC	---	---	---
Chlorobenzene	0.11	0.002 U	0.001 UJ	0.002 UJ
Chloroethane	NC	0.002 U	0.001 UJ	0.002 UJ
Chloroform	NC	0.002 U	0.001 UJ	0.00164 UJ
Chloromethane	NC	0.018 U	0.014 UJ	0.016 UJ
cis-1,2-Dichloroethylene	NC	0.002 U	0.001 UJ	0.002 UJ
cis-1,3-Dichloropropylene	NC	0.002 U	0.001 UJ	0.002 UJ
Cyclohexane	NC	---	---	---
Cymene (p-Isopropyltoluene)	NC	---	---	---
Dibromochloromethane	NC	0.002 U	0.001 UJ	0.002 UJ
Dichlorodifluoromethane	NC	0.018 U	0.014 UJ	0.016 UJ
Ethylbenzene	0.73	0.003 NJ	0.001 UJ	0.002 UJ
Hexachlorobutadiene	NC	---	---	---
Isopropylbenzene	0.36	---	---	---
Methyl Acetate	NC	---	---	---
Methyl tert-Butyl ether	NC	---	---	---
Methylcylohexane	NC	---	---	---
Methylene chloride	NC	0.00176 U	0.00137 UJ	0.00164 UJ
m-Xylene	2.79	---	---	---
Naphthalene	0.91	---	---	---
n-Butylbenzene	NC	---	---	---
n-Propylbenzene	NC	---	---	---
o-Xylene	2.79	---	---	---
sec-Butylbenzene	NC	---	---	---
Styrene	NC	---	---	---

Table 4-5A: Upstream Surface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Upstream	Upstream	Upstream
	Sample Location	GM98-SED24	GM98-SED25	GM98-SED26
	Sample Date	11/20/1998	11/20/1998	11/20/1998
	Start Depth (ft)	0	0	0
	End Depth (ft)	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**			
Tetrachloroethene	0.02	0.002 U	0.001 UJ	0.002 UJ
Toluene	1.49	0.002 U	0.001 UJ	0.002 NJ
trans-1,2-Dichloroethylene	NC	0.002 U	0.001 UJ	0.002 UJ
trans-1,3-Dichloropropylene	NC	0.002 U	0.001 UJ	0.002 UJ
Trichloroethylene	0.06	0.002 U	0.001 UJ	0.002 UJ
Trichlorofluoromethane	NC	0.002 U	0.001 UJ	0.002 UJ
Vinyl Chloride	0.002	0.002 U	0.001 UJ	0.002 UJ
Xylene (total)	2.79	0.005 U	0.004 UJ	0.01 NJ

See notes on last page.

NOTES:
1. Units in milligrams per kilogram (mg/kg) or parts per million (ppm)
2. VOCs - Volatile organic compounds
3. VOC analysis performed using United States Environmental Protection Agency (USEPA) Method SW8260.
4. "---" indicates the compound was not analyzed for.
5. "U" indicates the compound was analyzed for but not detected.
6. "J" indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
7. "UJ" indicates the compound was not detected and the reporting detection limit is estimated.
8. "NJ" indicates the compound was tentatively identified; the reported concentration is estimated.
9. Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC)
Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening of Contaminated Sediments.
10. Sediment data is screened against the most conservative sediment quality criteria (SCoc) presented in the NYSDEC
Technical Guidance for Screening of Contaminated Sediments.
11. Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (30,331 mg/kg)
within the Upstream sampling reach at depths of 0-0.5 feet (surface sediment).
12. **Bold** values indicate an exceedance of sediment data screening criteria.
13. "**" indicates unknown sample end depth.

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Table 4-5B: Upstream Subsurface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED18	GM98-SED20	GM98-SED21	L25	L27
	Sample Date	11/19/1998	11/20/1998	11/20/1998	11/14/1996	11/14/1996
	Start Depth (ft)	0.5	0.5	0.5	0	0
	End Depth (ft)	1	1	1	1.33	1.25
Chemical Name	**Sediment Criteria**					
1,1,1-Trichloroethane	NC	0.001 U	0.001 R	0.001 U	0.018 U	0.015 U
1,1,2,2-Tetrachloroethane	0.004	0.001 U	0.001 R	0.001 U	0.018 U	0.015 UJ
1,1,2-Trichloroethane	0.01	0.001 U	0.001 R	0.001 U	0.018 U	0.015 U
1,1-Dichloroethane	NC	0.001 U	0.001 R	0.001 U	0.018 UJ	0.015 U
1,1-Dichloroethylene	0.0003	0.001 U	0.001 R	0.001 U	0.018 U	0.015 U
1,2,4-Trichlorobenzene	1.24	---	---	---	0.62 U	0.51 U
1,2,4-Trimethylbenzene	2.53	---	---	---	---	---
1,2-Dibromo-3-Chloropropane	NC	---	---	---	---	---
1,2-Dibromomethane	NC	---	---	---	---	---
1,2-Dichlorobenzene	0.16	0.007 U	0.006 R	0.006 U	0.62 U	0.51 U
1,2-Dichloroethane	0.01	0.001 U	0.001 R	0.001 U	0.018 U	0.015 U
1,2-Dichloroethene (trans)	NC	---	---	---	0.018 U	0.015 U
1,2-Dichloropropane	NC	0.001 U	0.001 R	0.001 U	0.018 U	0.015 U
1,3,5-Trimethylbenzene	NC	---	---	---	---	---
1,3-Dichlorobenzene	0.16	0.007 U	0.006 R	0.006 U	0.62 U	0.51 U
1,4-Dichlorobenzene	0.16	0.007 U	0.006 R	0.006 U	0.62 U	0.51 U
2-Butanone	NC	---	---	---	0.018 U	0.012 J
2-Chloroethyl vinyl ether	NC	0.014 UJ	0.013 R	0.013 UJ	---	---
2-Hexanone	NC	---	---	---	0.018 U	0.015 UJ
4-Methyl-2-Pentanone	NC	---	---	---	0.018 U	0.015 U
Acetone	NC	---	---	---	0.037 J	0.037
Benzene	0.01	0.001 U	0.002 J	0.001 U	0.018 U	0.015 U
Bromodichloromethane	NC	0.001 U	0.001 R	0.001 U	0.018 U	0.015 U
Bromoform	NC	0.014 U	0.013 R	0.013 U	0.018 U	0.015 U
Bromomethane	NC	0.014 U	0.013 R	0.013 U	0.018 U	0.015 U
Carbon Disulfide	NC	---	---	---	0.018 U	0.011 J

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Table 4-5B: Upstream Subsurface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED18	GM98-SED20	GM98-SED21	L25	L27
	Sample Date	11/19/1998	11/20/1998	11/20/1998	11/14/1996	11/14/1996
	Start Depth (ft)	0.5	0.5	0.5	0	0
	End Depth (ft)	1	1	1	1.33	1.25
Chemical Name	**Sediment Criteria**					
Carbon Tetrachloride	0.01	0.001 U	0.001 R	0.001 U	0.018 U	0.015 U
Chlorinated Fluorocarbon (freon 113)	NC	---	---	---	---	---
Chlorobenzene	0.05	0.001 U	0.001 R	0.001 U	0.018 U	0.015 UJ
Chloroethane	NC	0.001 U	0.001 R	0.001 U	0.018 U	0.015 U
Chloroform	NC	0.001 U	0.001 R	0.001 U	0.018 U	0.015 U
Chloromethane	NC	0.014 U	0.013 R	0.013 U	0.018 U	0.015 U
cis-1,2-Dichloroethylene	NC	0.001 U	0.001 R	0.001 U	---	---
cis-1,3-Dichloropropylene	NC	0.001 U	0.001 R	0.001 U	0.018 U	0.015 U
Cyclohexane	NC	---	---	---	---	---
Cymene (p-Isopropyltoluene)	NC	---	---	---	---	---
Dibromochloromethane	NC	0.001 U	0.001 R	0.001 U	0.018 U	0.015 U
Dichlorodifluoromethane	NC	0.014 U	0.013 R	0.013 U	---	---
Ethylbenzene	0.33	0.001 U	0.001 R	0.001 U	0.018 U	0.015 UJ
Hexachlorobutadiene	NC	---	---	---	0.62 U	0.51 U
Isopropylbenzene	0.16	---	---	---	---	---
Methyl Acetate	NC	---	---	---	---	---
Methyl tert-Butyl ether	NC	---	---	---	---	---
Methylcylohexane	NC	---	---	---	---	---
Methylene chloride	NC	0.00141 U	0.36 J	0.00129 U	0.018 U	0.015 U
m-Xylene	1.25	---	---	---	---	---
Naphthalene	0.41	---	---	---	0.29 J	**0.55**
n-Butylbenzene	NC	---	---	---	---	---
n-Propylbenzene	NC	---	---	---	---	---
o-Xylene	1.25	---	---	---	---	---
sec-Butylbenzene	NC	---	---	---	---	---
Styrene	NC	---	---	---	0.018 U	0.015 UJ

Table 4-5B: Upstream Subsurface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED18	GM98-SED20	GM98-SED21	L25	L27
	Sample Date	11/19/1998	11/20/1998	11/20/1998	11/14/1996	11/14/1996
	Start Depth (ft)	0.5	0.5	0.5	0	0
	End Depth (ft)	1	1	1	1.33	1.25
Chemical Name	**Sediment Criteria**					
Tetrachloroethene	0.01	0.001 U	0.001 R	0.001 U	0.018 U	0.015 UJ
Toluene	0.67	0.001 U	0.016 NJ	0.001 U	0.018 U	0.015 UJ
trans-1,2-Dichloroethylene	NC	0.001 U	0.001 R	0.001 U	---	---
trans-1,3-Dichloropropylene	NC	0.001 U	0.001 R	0.001 U	0.018 U	0.015 U
Trichloroethylene	0.03	0.001 U	0.022 J	0.001 U	0.018 U	0.015 U
Trichlorofluoromethane	NC	0.001 U	0.001 R	0.001 U	---	---
Vinyl Chloride	0.001	0.001 U	0.001 R	0.001 U	0.018 U	0.015 U
Xylene (total)	1.25	0.004 U	0.004 NJ	0.004 U	0.018 U	0.015 UJ

See notes on last page.

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NOTES:
1. Units in milligrams per kilogram (mg/kg) or parts per million (ppm)
2. VOCs - Volatile organic compounds
3. VOC analysis performed using United States Environmental Protection Agency (USEPA) Method SW8260.
4. "---" indicates the compound was not analyzed for.
5. "U" indicates the compound was analyzed for but not detected.
6. "J" indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
7. "UJ" indicates the compound was not detected and the reporting detection limit is estimated.
8. "NJ" indicates the compound was tentatively identified; the reported concentration is estimated.
9. "B" indicates the analyte was found in the associated blank.
10. Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC)
Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening of Contaminated Sediments.
11. Sediment data is screened against the most conservative sediment quality criteria (SCoc) presented in the NYSDEC
Technical Guidance for Screening of Contaminated Sediments.
12. Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (13,616 mg/kg)
within the Upstream sampling reach at depths of 0.5-1 feet (subsurface sediment).
13. **Bold** values indicate an exceedance of sediment data screening criteria.

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Table 4-5C: Ley Creek Deferred Media Surface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED01	GM98-SED02	GM98-SED03	GM98-SED04	GM98-SED05	GM98-SED06	GM98-SED07
	Sample Date	11/17/1998	11/17/1998	11/17/1998	11/17/1998	11/18/1998	11/18/1998	11/18/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
1,1,1-Trichloroethane	NC	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
1,1,2,2-Tetrachloroethane	0.01	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
1,1,2-Trichloroethane	0.02	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
1,1-Dichloroethane	NC	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
1,1-Dichloroethylene	0.001	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
1,2,4-Trichlorobenzene	2.99	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	6.11	---	---	---	---	---	---	---
1,2-Dibromo-3-Chloropropane	NC	---	---	---	---	---	---	---
1,2-Dibromomethane	NC	---	---	---	---	---	---	---
1,2-Dichlorobenzene	0.39	---	0.008 U	0.036 U	0.006 U	0.007 UJ	0.009 U	0.008 U
1,2-Dichloroethane	0.02	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
1,2-Dichloroethene (trans)	NC	---	---	---	---	---	---	---
1,2-Dichloropropane	NC	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
1,3,5-Trimethylbenzene	NC	---	---	---	---	---	---	---
1,3-Dichlorobenzene	0.39	---	0.008 U	0.036 U	0.006 U	0.007 UJ	0.009 U	0.008 U
1,4-Dichlorobenzene	0.39	---	0.008 U	0.036 U	0.006 U	0.007 UJ	0.009 U	0.008 U
2-Butanone	NC	0.005 J	---	---	---	---	---	---
2-Chloroethyl vinyl ether	NC	---	0.017 UJ	0.071 UJ	0.012 UJ	0.014 UJ	0.017 UJ	0.017 UJ
2-Hexanone	NC	0.018 U	---	---	---	---	---	---
4-Methyl-2-Pentanone	NC	0.018 U	---	---	---	---	---	---
Acetone	NC	0.015 J	---	---	---	---	---	---
Benzene	0.02	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
Bromodichloromethane	NC	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
Bromoform	NC	0.018 U	0.017 U	0.071 U	0.012 U	0.014 U	0.017 U	0.017 U
Bromomethane	NC	0.018 U	0.017 U	0.071 U	0.012 U	0.014 U	0.017 U	0.017 U
Carbon Disulfide	NC	0.018 U	---	---	---	---	---	---

Table 4-5C: Ley Creek Deferred Media Surface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED01	GM98-SED02	GM98-SED03	GM98-SED04	GM98-SED05	GM98-SED06	GM98-SED07
	Sample Date	11/17/1998	11/17/1998	11/17/1998	11/17/1998	11/18/1998	11/18/1998	11/18/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
Carbon Tetrachloride	0.02	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
Chlorinated Fluorocarbon (freon 113)	NC	---	---	---	---	---	---	---
Chlorobenzene	0.12	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
Chloroethane	NC	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
Chloroform	NC	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
Chloromethane	NC	0.018 U	0.017 U	0.071 U	0.012 U	0.014 U	0.017 U	0.017 U
cis-1,2-Dichloroethylene	NC	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
cis-1,3-Dichloropropylene	NC	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
Cyclohexane	NC	---	---	---	---	---	---	---
Cymene (p-Isopropyltoluene)	NC	---	---	---	---	---	---	---
Dibromochloromethane	NC	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
Dichlorodifluoromethane	NC	---	0.017 U	0.071 U	0.012 U	0.014 U	0.017 U	0.017 U
Ethylbenzene	0.79	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
Hexachlorobutadiene	NC	---	---	---	---	---	---	---
Isopropylbenzene	0.39	---	---	---	---	---	---	---
Methyl Acetate	NC	---	---	---	---	---	---	---
Methyl tert-Butyl ether	NC	---	---	---	---	---	---	---
Methylcylohexane	NC	---	---	---	---	---	---	---
Methylene chloride	NC	0.018 U	0.002 U	0.007 U	0.001 U	0.00143 U	0.00171 U	0.00168 U
m-Xylene	3.02	---	---	---	---	---	---	---
Naphthalene	0.99	---	---	---	---	---	---	---
n-Butylbenzene	NC	---	---	---	---	---	---	---
n-Propylbenzene	NC	---	---	---	---	---	---	---
o-Xylene	3.02	---	---	---	---	---	---	---
sec-Butylbenzene	NC	---	---	---	---	---	---	---
Styrene	NC	0.018 U	---	---	---	---	---	---

Table 4-5C: Ley Creek Deferred Media Surface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED01	GM98-SED02	GM98-SED03	GM98-SED04	GM98-SED05	GM98-SED06	GM98-SED07
	Sample Date	11/17/1998	11/17/1998	11/17/1998	11/17/1998	11/18/1998	11/18/1998	11/18/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
Tetrachloroethene	0.03	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
Toluene	1.61	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
trans-1,2-Dichloroethylene	NC	0.018 U	0.002 U	0.007 U	0.001 U	0.001 UJ	0.002 U	0.002 U
trans-1,3-Dichloropropylene	NC	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
Trichloroethylene	0.07	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
Trichlorofluoromethane	NC	---	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
Vinyl Chloride	0.002	0.018 U	0.002 U	0.007 U	0.001 U	0.001 U	0.002 U	0.002 U
Xylene (total)	3.02	0.018 U	0.005 U	0.021 U	0.004 U	0.004 U	0.005 U	0.005 U

See notes on last page.

Table 4-5C: Ley Creek Deferred Media Surface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED08	GM98-SED09	GM98-SED10	GM98-SED11	GM98-SED12	GM98-SED13	GM98-SED14
	Sample Date	11/18/1998	11/18/1998	11/18/1998	11/18/1998	11/19/1998	11/19/1998	11/19/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
1,1,1-Trichloroethane	NC	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	0.010	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
1,1,2-Trichloroethane	0.020	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
1,1-Dichloroethane	NC	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
1,1-Dichloroethylene	0.001	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
1,2,4-Trichlorobenzene	2.991	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	6.113	---	---	---	---	---	---	---
1,2-Dibromo-3-Chloropropane	NC	---	---	---	---	---	---	---
1,2-Dibromomethane	NC	---	---	---	---	---	---	---
1,2-Dichlorobenzene	0.394	0.009 U	0.006 U	0.008 U	0.008 U	0.007 U	0.007 U	0.007 U
1,2-Dichloroethane	0.023	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
1,2-Dichloroethene (trans)	NC	---	---	---	---	---	---	---
1,2-Dichloropropane	NC	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
1,3,5-Trimethylbenzene	NC	---	---	---	---	---	---	---
1,3-Dichlorobenzene	0.394	0.009 U	0.006 U	0.008 U	0.008 U	0.007 U	0.007 U	0.007 U
1,4-Dichlorobenzene	0.394	0.009 U	0.006 U	0.008 U	0.008 U	0.007 U	0.007 U	0.007 U
2-Butanone	NC	---	---	---	---	---	---	---
2-Chloroethyl vinyl ether	NC	0.018 UJ	0.012 UJ	0.016 UJ	0.016 UJ	0.015 UJ	0.015 UJ	0.014 UJ
2-Hexanone	NC	---	---	---	---	---	---	---
4-Methyl-2-Pentanone	NC	---	---	---	---	---	---	---
Acetone	NC	---	---	---	---	---	---	---
Benzene	0.020	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
Bromodichloromethane	NC	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
Bromoform	NC	0.018 U	0.012 U	0.016 U	0.016 U	0.015 U	0.015 U	0.014 U
Bromomethane	NC	0.018 U	0.012 U	0.016 U	0.016 U	0.015 U	0.015 U	0.014 U
Carbon Disulfide	NC	---	---	---	---	---	---	---

Table 4-5C: Ley Creek Deferred Media Surface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED08	GM98-SED09	GM98-SED10	GM98-SED11	GM98-SED12	GM98-SED13	GM98-SED14
	Sample Date	11/18/1998	11/18/1998	11/18/1998	11/18/1998	11/19/1998	11/19/1998	11/19/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
Carbon Tetrachloride	0.020	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
Chlorinated Fluorocarbon (freon 113)	NC	---	---	---	---	---	---	---
Chlorobenzene	0.115	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
Chloroethane	NC	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
Chloroform	NC	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
Chloromethane	NC	0.018 U	0.012 U	0.016 U	0.016 U	0.015 U	0.015 U	0.014 U
cis-1,2-Dichloroethylene	NC	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
cis-1,3-Dichloropropylene	NC	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
Cyclohexane	NC	---	---	---	---	---	---	---
Cymene (p-Isopropyltoluene)	NC	---	---	---	---	---	---	---
Dibromochloromethane	NC	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
Dichlorodifluoromethane	NC	0.018 U	0.012 U	0.016 U	0.016 U	0.015 U	0.015 U	0.014 U
Ethylbenzene	0.789	0.002 U	0.002 NJ	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
Hexachlorobutadiene	NC	---	---	---	---	---	---	---
Isopropylbenzene	0.394	---	---	---	---	---	---	---
Methyl Acetate	NC	---	---	---	---	---	---	---
Methyl tert-Butyl ether	NC	---	---	---	---	---	---	---
Methylcylohexane	NC	---	---	---	---	---	---	---
Methylene chloride	NC	0.00176 U	0.00124 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
m-Xylene	3.023	---	---	---	---	---	---	---
Naphthalene	0.986	---	---	---	---	---	---	---
n-Butylbenzene	NC	---	---	---	---	---	---	---
n-Propylbenzene	NC	---	---	---	---	---	---	---
o-Xylene	3.023	---	---	---	---	---	---	---
sec-Butylbenzene	NC	---	---	---	---	---	---	---
Styrene	NC	---	---	---	---	---	---	---

Table 4-5C: Ley Creek Deferred Media Surface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED08	GM98-SED09	GM98-SED10	GM98-SED11	GM98-SED12	GM98-SED13	GM98-SED14
	Sample Date	11/18/1998	11/18/1998	11/18/1998	11/18/1998	11/19/1998	11/19/1998	11/19/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
Tetrachloroethene	0.026	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
Toluene	1.610	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethylene	NC	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
trans-1,3-Dichloropropylene	NC	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
Trichloroethylene	0.066	0.002 U	0.003	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
Trichlorofluoromethane	NC	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
Vinyl Chloride	0.002	0.002 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U
Xylene (total)	3.023	0.005 U	0.004 U	0.00477 U	0.005 U	0.004 U	0.004 U	0.004 U

See notes on last page.

Table 4-5C: Ley Creek Deferred Media Surface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED15	GM98-SED16	SED-20
	Will	11/19/1998	11/19/1998	8/26/1998
	Start Depth (ft)	0	0	0
	End Depth (ft)	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**			
1,1,1-Trichloroethane	NC	0.001 U	0.001 U	ND
1,1,2,2-Tetrachloroethane	0.010	0.001 U	0.001 U	ND
1,1,2-Trichloroethane	0.020	0.001 U	0.001 U	ND
1,1-Dichloroethane	NC	0.001 U	0.001 U	ND
1,1-Dichloroethylene	0.001	0.001 U	0.001 U	ND
1,2,4-Trichlorobenzene	2.991	---	---	ND
1,2,4-Trimethylbenzene	6.113	---	---	ND
1,2-Dibromo-3-Chloropropane	NC	---	---	ND
1,2-Dibromomethane	NC	---	---	ND
1,2-Dichlorobenzene	0.394	0.007 U	0.007 U	ND
1,2-Dichloroethane	0.023	0.001 U	0.001 U	ND
1,2-Dichloroethene (trans)	NC	---	---	ND
1,2-Dichloropropane	NC	0.001 U	0.001 U	ND
1,3,5-Trimethylbenzene	NC	---	---	ND
1,3-Dichlorobenzene	0.394	0.007 U	0.007 U	ND
1,4-Dichlorobenzene	0.394	0.007 U	0.007 U	ND
2-Butanone	NC	---	---	ND
2-Chloroethyl vinyl ether	NC	0.014 UJ	0.015 UJ	ND
2-Hexanone	NC	---	---	ND
4-Methyl-2-Pentanone	NC	---	---	ND
Acetone	NC	---	---	0.014
Benzene	0.020	0.001 U	0.001 U	ND
Bromodichloromethane	NC	0.001 U	0.001 U	ND
Bromoform	NC	0.014 U	0.015 U	ND
Bromomethane	NC	0.014 U	0.015 U	ND
Carbon Disulfide	NC	---	---	ND

Table 4-5C: Ley Creek Deferred Media Surface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED15	GM98-SED16	SED-20
	Will	11/19/1998	11/19/1998	8/26/1998
	Start Depth (ft)	0	0	0
	End Depth (ft)	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**			
Carbon Tetrachloride	0.020	0.001 U	0.001 U	ND
Chlorinated Fluorocarbon (freon 113)	NC	---	---	ND
Chlorobenzene	0.115	0.001 U	0.001 U	ND
Chloroethane	NC	0.001 U	0.001 U	ND
Chloroform	NC	0.001 U	0.001 U	ND
Chloromethane	NC	0.014 U	0.015 U	ND
cis-1,2-Dichloroethylene	NC	0.001 U	0.001 U	ND
cis-1,3-Dichloropropylene	NC	0.001 U	0.001 U	ND
Cyclohexane	NC	---	---	ND
Cymene (p-Isopropyltoluene)	NC	---	---	ND
Dibromochloromethane	NC	0.001 U	0.001 U	ND
Dichlorodifluoromethane	NC	0.014 U	0.015 U	ND
Ethylbenzene	0.789	0.001 U	0.001 U	ND
Hexachlorobutadiene	NC	---	---	ND
Isopropylbenzene	0.394	---	---	ND
Methyl Acetate	NC	---	---	ND
Methyl tert-Butyl ether	NC	---	---	ND
Methylcylohexane	NC	---	---	ND
Methylene chloride	NC	0.001 U	0.001 U	ND
m-Xylene	3.023	---	---	ND
Naphthalene	0.986	---	---	ND
n-Butylbenzene	NC	---	---	ND
n-Propylbenzene	NC	---	---	ND
o-Xylene	3.023	---	---	ND
sec-Butylbenzene	NC	---	---	ND
Styrene	NC	---	---	ND

Table 4-5C: Ley Creek Deferred Media Surface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED15	GM98-SED16	SED-20
	Will	11/19/1998	11/19/1998	8/26/1998
	Start Depth (ft)	0	0	0
	End Depth (ft)	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**			
Tetrachloroethene	0.026	0.001 U	0.001 U	ND
Toluene	1.610	0.001 U	0.001 U	ND
trans-1,2-Dichloroethylene	NC	0.001 U	0.001 U	ND
trans-1,3-Dichloropropylene	NC	0.001 U	0.001 U	ND
Trichloroethylene	0.066	0.001 U	0.001 U	ND
Trichlorofluoromethane	NC	0.001 U	0.001 U	ND
Vinyl Chloride	0.002	0.001 U	0.001 U	ND
Xylene (total)	3.023	0.004 U	0.004 U	ND

See notes on last page.

NOTES:
1. Units in milligrams per kilogram (mg/kg) or parts per million (ppm)
2. VOCs - Volatile organic compounds
3. VOC analysis performed using United States Environmental Protection Agency (USEPA) Method SW8260.
4. "---" indicates the compound was not analyzed for.
5. "U" indicates the compound was analyzed for but not detected.
6. "J" indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
7. "UJ" indicates the compound was not detected and the reporting detection limit is estimated.
8. "NJ" indicates the compound was tentatively identified; the reported concentration is estimated.
9. Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC)
Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening of Contaminated Sediments.
10. Sediment data is screened against the most conservative sediment quality criteria (SCoc) presented in the NYSDEC
Technical Guidance for Screening of Contaminated Sediments.
11. Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (32,864 mg/kg)
within the Ley Creek sampling reach at depths of 0-0.5 feet (surface sediment).
12. Bold values indicate an exceedance of sediment data screening criteria.
13. "ND" indicated not detected.

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Former IFG Facility and Deferred Media Site
Syracuse, New York
Off-Site Remedial Investigation

Table 4-5D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED01	GM98-SED07	GM98-SED11	S-4	SED-20D
	Sample Date	11/17/1998	11/18/1998	11/18/1998	7/30/2009	8/26/1998
	Start Depth (ft)	0.5	0.5	0.5	1	0.5
	End Depth (ft)	1	1	1	3	1
Chemical Name	**Sediment Criteria**					
1,1,1-Trichloroethane	NC	0.016 U	0.002 U	0.009 U	0.0005 U	ND
1,1,2,2-Tetrachloroethane	0.007	0.016 U	0.002 U	0.009 U	0.0011 U	ND
1,1,2-Trichloroethane	0.014	0.016 U	0.002 U	0.009 U	0.00035 U	ND
1,1-Dichloroethane	NC	0.016 U	0.002 U	0.009 U	0.00034 U	ND
1,1-Dichloroethylene	0.0005	0.016 U	0.002 U	0.009 U	0.00085 U	ND
1,2,4-Trichlorobenzene	2.1	---	---	---	0.00042 U	ND
1,2,4-Trimethylbenzene	4.3	---	---	---	0.0005 U	ND
1,2-Dibromo-3-Chloropropane	NC	---	---	---	0.0014 U	ND
1,2-Dibromomethane	NC	---	---	---	0.00026 U	ND
1,2-Dichlorobenzene	0.28	---	0.008 U	0.043 U	0.001 U	ND
1,2-Dichloroethane	0.016	0.016 U	0.002 U	0.009 U	0.00035 U	ND
1,2-Dichloroethene (trans)	NC	---	---	---	---	ND
1,2-Dichloropropane	NC	0.016 U	0.002 U	0.009 U	0.00035 U	ND
1,3,5-Trimethylbenzene	NC	---	---	---	0.00044 U	ND
1,3-Dichlorobenzene	0.28	---	0.008 U	0.043 U	0.00098 U	ND
1,4-Dichlorobenzene	0.28	---	0.008 U	0.043 U	0.00097 U	ND
2-Butanone	NC	0.006 J	---	---	0.0094 U	ND
2-Chloroethyl vinyl ether	NC	---	0.016 UJ	0.087 UJ	---	ND
2-Hexanone	NC	0.016 U	---	---	0.0024 U	ND
4-Methyl-2-Pentanone	NC	0.016 U	---	---	0.0023 U	ND
Acetone	NC	0.021 J	---	---	0.031 J	0.014J
Benzene	0.014	0.016 U	0.002 U	0.009 U	0.00034 U	ND
Bromodichloromethane	NC	0.016 U	0.002 U	0.009 U	0.00035 U	ND
Bromoform	NC	0.016 U	0.016 U	0.087 U	0.00064 U	ND
Bromomethane	NC	0.016 U	0.016 U	0.087 U	0.00063 U	ND
Carbon Disulfide	NC	0.016 U	---	---	0.007	ND

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Table 4-5D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED01	GM98-SED07	GM98-SED11	S-4	SED-20D
	Sample Date	11/17/1998	11/18/1998	11/18/1998	7/30/2009	8/26/1998
	Start Depth (ft)	0.5	0.5	0.5	1	0.5
	End Depth (ft)	1	1	1	3	1
Chemical Name	**Sediment Criteria**					
Carbon Tetrachloride	0.014	0.016 U	0.002 U	0.009 U	0.00025 U	ND
Chlorinated Fluorocarbon (freon 113)	NC	---	---	---	0.00073 U	ND
Chlorobenzene	0.082	0.016 U	0.002 U	0.009 U	0.0003 U	ND
Chloroethane	NC	0.016 U	0.002 U	0.009 U	0.0011 U	ND
Chloroform	NC	0.016 U	0.002 U	0.009 U	0.00043 U	ND
Chloromethane	NC	0.016 U	0.016 U	0.087 U	0.00042 U	ND
cis-1,2-Dichloroethylene	NC	0.016 U	0.002 U	0.009 U	0.00034 U	ND
cis-1,3-Dichloropropylene	NC	0.016 U	0.002 U	0.009 U	0.00039 U	ND
Cyclohexane	NC	---	---	---	0.00032 U	ND
Cymene (p-Isopropyltoluene)	NC	---	---	---	0.00055 U	ND
Dibromochloromethane	NC	0.016 U	0.002 U	0.009 U	0.00038 U	ND
Dichlorodifluoromethane	NC	---	0.016 U	0.087 U	0.00057 U	ND
Ethylbenzene	0.56	0.016 U	0.002 U	0.009 U	0.00048 U	ND
Hexachlorobutadiene	NC	---	---	---	---	ND
Isopropylbenzene	0.28	---	---	---	0.00045 U	ND
Methyl Acetate	NC	---	---	---	0.00037 U	ND
Methyl tert-Butyl ether	NC	---	---	---	0.00068 U	ND
Methylcylohexane	NC	---	---	---	0.0023 J	ND
Methylene chloride	NC	0.016 U	0.002 U	0.009 U	0.0015 JB	ND
m-Xylene	2.1	---	---	---	0.0012 U	ND
Naphthalene	0.70	---	---	---	---	ND
n-Butylbenzene	NC	---	---	---	0.0006 U	ND
n-Propylbenzene	NC	---	---	---	0.00055 U	ND
o-Xylene	2.1	---	---	---	0.00035 U	ND
sec-Butylbenzene	NC	---	---	---	0.0006 U	ND
Styrene	NC	0.016 U	---	---	0.00035 U	ND

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Table 4-5D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Volatile Organic Compounds

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED01	GM98-SED07	GM98-SED11	S-4	SED-20D
	Sample Date	11/17/1998	11/18/1998	11/18/1998	7/30/2009	8/26/1998
	Start Depth (ft)	0.5	0.5	0.5	1	0.5
	End Depth (ft)	1	1	1	3	1
Chemical Name	**Sediment Criteria**					
Tetrachloroethene	0.019	0.016 U	0.002 U	0.009 U	0.00072 U	ND
Toluene	1.14	0.016 U	0.002 U	0.009 U	0.00093 U	ND
trans-1,2-Dichloroethylene	NC	0.016 U	0.002 U	0.009 U	0.0012 U	ND
trans-1,3-Dichloropropylene	NC	0.016 U	0.002 U	0.009 U	0.00071 U	ND
Trichloroethylene	0.047	0.016 U	0.002 U	0.009 U	0.00034 U	ND
Trichlorofluoromethane	NC	---	0.002 U	0.009 U	0.00048 U	ND
Vinyl Chloride	0.002	0.016 U	0.002 U	0.009 U	0.0022 U	ND
Xylene (total)	2.14	0.016 U	0.005 U	0.026 U	0.00028 U	ND

See notes on last page.

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NOTES:
1. Units in milligrams per kilogram (mg/kg) or parts per million (ppm)
2. VOCs - Volatile organic compounds
3. VOC analysis performed using United States Environmental Protection Agency (USEPA) Method SW8260.
4. "---" indicates the compound was note analyzed for.
5. "U" indicates the compound was analyzed for but not detected.
6. "J" indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
7. "UJ" indicates the compound was not detected and the reporting detection limit is estimated.
8. "B" indicates the analyte was found in the associated blank.
9. Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC)
Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening of Contaminated Sediments.
10. Sediment data is screened against the most conservative sediment quality criteria (SCoc) presented in the NYSDEC
Technical Guidance for Screening of Contaminated Sediments.
11. Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (23,307 mg/kg)
within the Ley Creek sampling reach at depths of 0.5-3.5 feet (subsurface sediment).
12. Bold values indicate an exceedance of sediment data screening criteria.
13. "ND" indicates not detected.

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Table 4-6A: Upstream Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	L18	L19	L20	L22	L24	L26	L28
	Sample Date	11/12/1996	11/12/1996	11/12/1996	11/14/1996	11/14/1996	11/14/1996	11/21/1996
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.83	0.92	0.1	**	**	0.96	**
Chemical Name	**Sediment Criteria**							
1,2,4-Trichlorobenzene	2.76	---	---	---	---	---	---	---
Chyrsene	NC	0.41 U	7.5 D	3.7 D	4.3 D	1.1	14 D	0.097 J
1,2-Dichlorobenzene	0.36	---	---	---	---	---	---	---
1,3-Dichlorobenzene	0.36	---	---	---	---	---	---	---
1,4-Dichlorobenzene	0.36	---	---	---	---	---	---	---
2,2'-oxybis(1-Chloropropane)	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
2,4,5-Trichlorophenol	NC	1 U	1.1 U	1.1 U	1.4 U	1.2 U	1.3 U	1.3 U
2,4,6-Trichlorophenol	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
2,4-Dichlorophenol	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
2,4-Dimethylphenol	NC	0.41 U	0.45 U	0.048 J	0.57 U	0.49 U	0.53 U	0.51 U
2,4-Dinitrophenol	NC	1 U	1.1 U	1.1 U	1.4 UJ	1.2 UJ	1.3 UJ	1.3 UJ
2,4-Dinitrotoluene	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
2,6-Dinitrotoluene	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
2-Chloronaphthalene	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
2-Chlorophenol	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
2-Methylnaphthalene	1.03	0.41 U	0.45 J	**1.2**	0.44 J	0.05 J	0.27 J	0.51 U
2-Methylphenol	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
2-Nitroaniline	NC	1 U	1.1 U	1.1 U	1.4 U	1.2 U	1.3 U	1.3 U
2-Nitrophenol	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
3&4-Methylphenol	NC	---	---	---	---	---	---	---
3,3'-Dichlorobenzidine	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
3-Nitroaniline	NC	1 U	1.1 U	1.1 U	1.4 U	1.2 U	1.3 U	1.3 U
4,6-Dinitro-2-Methylphenol	NC	1 U	1.1 U	1.1 U	1.4 UJ	1.2 UJ	1.3 UJ	1.3 UJ
4-Bromophenyl Phenyl Ether	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
4-chloro-3-Methylphenol	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
4-Chloroaniline	NC	0.41 UJ	0.45 UJ	0.45 UJ	0.57 UJ	0.49 UJ	0.53 UJ	0.51 UJ

Table 4-6A: Upstream Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	L18	L19	L20	L22	L24	L26	L28
	Sample Date	11/12/1996	11/12/1996	11/12/1996	11/14/1996	11/14/1996	11/14/1996	11/21/1996
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.83	0.92	0.1	**	**	0.96	**
Chemical Name	**Sediment Criteria**							
4-Chlorophenyl Phenyl Ether	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
4-Methylphenol	NC	0.41 U	0.12 J	0.34 J	0.18 J	0.49 U	0.071 J	0.51 U
4-Nitroaniline	NC	1 U	1.1 U	1.1 U	1.4 U	1.2 U	1.3 U	1.3 U
4-Nitrophenol	NC	1 U	1.1 U	1.1 U	1.4 U	1.2 U	1.3 U	1.3 U
Acenaphthene	4.25	0.41 U	1.4	2.3	0.93	0.11 J	1	0.51 U
Acenaphthylene	NC	0.41 U	0.37 J	0.37 J	0.6	0.12 J	0.74	0.51 U
Anthracene	3.25	0.41 U	2.2	**3.5**	1.8	0.31 J	2.8	0.51 U
Benzo[a]anthracene	0.04	0.41 U	**6.6 D**	**3.3 D**	**3.5 D**	**0.99**	**12 D**	**0.061 J**
Benzo[a]pyrene	0.04	0.41 U	**3.5**	**2.8 D**	**4 DJ**	**0.52**	**12 DJ**	**0.054 J**
Benzo[b]fluoranthene	0.04	0.41 U	**5.3 D**	**2.5 D**	**3.6 DJ**	**0.82**	**11 DJ**	**0.11 J**
Benzo[g,h,i]perylene	NC	0.41 U	2.8	2.8	1.8 J	0.96	2.3 J	0.51 U
Benzo[k]fluoranthene	0.04	0.41 U	0.45 U	0.45 U	**3.8 DJ**	**0.97**	**9.1 DJ**	**0.08 J**
Benzyl Butyl Phthalate	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.15 J	0.53 U	0.51 U
bis(2-Chloroethoxy)Methane	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
bis(2-chloroethyl)ether	0.001	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
bis(2-Ethylhexyl)Phthalate	6.05	0.41 U	2.3	1.3	1.3	0.51	**12 D**	0.36 J
Carbazole	NC	0.41 U	1.6	1.2 D	0.87	0.19 J	1.2	0.51 U
Dibenz[a,h]anthracene	NC	0.41 U	0.45 U	0.45 U	0.57 UJ	0.49 U	0.53 UJ	0.51 U
Dibenzofuran	NC	0.41 U	1.2	2.5	0.83	0.078 J	0.73	0.51 U
Diethyl Phthalate	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
Dimethyl Phthalate	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
di-n-Butyl Phthalate	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
di-n-Octyl Phthalate	NC	0.41 U	0.45 U	0.45 U	0.57 UJ	0.49 U	0.53 UJ	0.11 J
Fluoranthene	30.94	0.041 J	15 D	7.9 D	8.6 D	1.9	23 D	0.19 J
Fluorene	0.24	0.41 U	**1.5**	**2.4**	**1.1**	0.17 J	**1.5**	0.51 U
Hexachlorobenzene	0.005	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U

Table 4-6A: Upstream Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	L18	L19	L20	L22	L24	L26	L28
	Sample Date	11/12/1996	11/12/1996	11/12/1996	11/14/1996	11/14/1996	11/14/1996	11/21/1996
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.83	0.92	0.1	**	**	0.96	**
Chemical Name	**Sediment Criteria**							
Hexachlorobutadiene	0.01	---	---	---	---	---	---	---
Hexachlorocyclopentadiene	0.13	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
Hexachloroethane	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
Indeno[1,2,3-cd]pyrene	0.04	0.41 U	**3**	**3.2**	**0.48 J**	**0.87**	**0.5 J**	0.51 U
Isophorone	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
Naphthalene	0.91	---	---	---	---	---	---	---
Nitrobenzene	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
n-Nitroso-di-n-Propylamine	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
n-Nitrosodiphenylamine	NC	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
Pentachlorophenol	1.21	1 U	1.1 U	1.1 U	1.4 U	1.2 U	1.3 U	1.3 U
Phenanthrene	3.64	0.41 U	**12 D**	**7.8 D**	**5.7 D**	1.3	**16 D**	0.12 J
Phenol	0.02	0.41 U	0.45 U	0.45 U	0.57 U	0.49 U	0.53 U	0.51 U
Pyrene	29.15	0.41 U	13 D	6.7 D	8.4 D	2	23 D	0.15 J

See notes on last page.

Table 4-6A: Upstream Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED17	GM98-SED18	GM98-SED19	GM98-SED20	GM98-SED21	GM98-SED22	GM98-SED23
	Sample Date	11/19/1998	11/19/1998	11/19/1998	11/20/1998	11/20/1998	11/20/1998	11/20/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
1,2,4-Trichlorobenzene	2.76	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
Chrysene	NC	5.2 J	0.21 J	2.7 J	59 J	0.8 J	0.45 U	4.1 J
1,2-Dichlorobenzene	0.36	0.53 U	0.5 U	0.41 U	22 U	0.46 U	0.45 U	0.47 U
1,3-Dichlorobenzene	0.36	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
1,4-Dichlorobenzene	0.36	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
2,2'-oxybis(1-Chloropropane)	NC	0.53 U	0.5 U	4.4 U	4.4 U	0.46 U	0.45 U	0.47 U
2,4,5-Trichlorophenol	NC	2.5 U	2.4 U	2 U	21 U	2.2 U	2.2 U	2.3 U
2,4,6-Trichlorophenol	NC	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
2,4-Dichlorophenol	NC	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
2,4-Dimethylphenol	NC	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
2,4-Dinitrophenol	NC	1.3 U	1.2 U	0.98 U	11 U	1.1 U	1.1 U	1.1 U
2,4-Dinitrotoluene	NC	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
2,6-Dinitrotoluene	NC	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
2-Chloronaphthalene	NC	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
2-Chlorophenol	NC	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
2-Methylnaphthalene	1.03	0.17 J	0.5 U	0.059 J	**5.5**	0.46 U	0.45 U	0.094 J
2-Methylphenol	NC	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
2-Nitroaniline	NC	1.3 U	1.2 U	0.98 U	11 U	1.1 U	1.1 U	1.1 U
2-Nitrophenol	NC	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
3&4-Methylphenol	NC	---	---	---	---	---	---	---
3,3'-Dichlorobenzidine	NC	5.2 UJ	0.99 U	4 UJ	8.7 UJ	0.91 UJ	0.88 U	4.7 UJ
3-Nitroaniline	NC	1.3 U	1.2 U	0.98 U	11 U	1.1 U	1.1 U	1.1 U
4,6-Dinitro-2-Methylphenol	NC	1.3 UJ	1.2 U	0.98 UJ	11 UJ	1.1 U	1.1 U	1.1 UJ
4-Bromophenyl Phenyl Ether	NC	0.53 UJ	0.5 U	0.41 UJ	4.4 UJ	0.46 U	0.45 U	0.47 UJ
4-chloro-3-Methylphenol	NC	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
4-Chloroaniline	NC	0.53 U	0.5 U	0.41 U	4.4 UJ	0.46 UJ	0.45 U	0.47 UJ

Table 4-6A: Upstream Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED17	GM98-SED18	GM98-SED19	GM98-SED20	GM98-SED21	GM98-SED22	GM98-SED23
	Sample Date	11/19/1998	11/19/1998	11/19/1998	11/20/1998	11/20/1998	11/20/1998	11/20/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
4-Chlorophenyl Phenyl Ether	NC	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
4-Methylphenol	NC	0.53 U	0.5 U	0.41 U	0.45 J	0.46 U	0.45 U	0.053 J
4-Nitroaniline	NC	1.3 U	1.2 U	0.98 U	11 U	1.1 U	1.1 U	1.1 U
4-Nitrophenol	NC	1.3 U	1.2 U	0.98 U	11 U	1.1 U	1.1 U	1.1 U
Acenaphthene	4.25	0.63	0.5 U	0.17 J	**21**	0.055 J	0.45 U	0.36 J
Acenaphthylene	NC	0.13 J	0.5 U	0.098 J	4.4 U	0.46 U	0.45 U	0.15 J
Anthracene	3.25	1.3 J	0.5 U	0.66 J	**25**	0.11 J	0.45 U	0.93 J
Benzo[a]anthracene	0.04	**4.7 J**	**0.18 J**	**2.7 J**	**60 J**	**0.57 J**	0.45 U	**3.6 J**
Benzo[a]pyrene	0.04	**4.7 J**	**0.21 J**	**2.4 J**	**50 J**	**0.67 J**	0.45 U	**3.5 J**
Benzo[b]fluoranthene	0.04	**6.6 J**	**0.29 J**	**3.2 J**	**66 J**	**1.1 J**	0.45 U	**4.8 J**
Benzo[g,h,i]perylene	NC	4 J	0.14 J	2 J	36 J	0.57 J	0.45 U	2.2 J
Benzo[k]fluoranthene	0.04	**2.4 J**	**0.099 J**	**1.2 J**	**20 J**	**0.37 J**	0.45 U	**1.5 J**
Benzyl Butyl Phthalate	NC	2.6 U	0.5 U	2.1 UJ	4.4 UJ	0.46 UJ	0.45 U	2.4 UJ
bis(2-Chloroethoxy)Methane	NC	0.53 U	0.5 U	4.4 U	4.4 U	0.46 U	0.45 U	0.47 U
bis(2-chloroethyl)ether	0.001	0.53 U	0.5 U	4.4 U	4.4 U	0.46 U	0.45 U	0.47 U
bis(2-Ethylhexyl)Phthalate	6.05	1.8 UJ	0.503 U	0.41 UJ	22 U	0.461 UJ	0.449 U	2.4 UJ
Carbazole	NC	0.86 J	0.5 U	0.19 J	20 J	0.093 J	0.45 U	0.34 J
Dibenz[a,h]anthracene	NC	1.2 J	0.5 U	0.57 J	11 J	0.16 J	0.45 U	0.76 J
Dibenzofuran	NC	0.41 J	0.5 U	0.12 J	14	0.46 U	0.45 U	0.2 J
Diethyl Phthalate	NC	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
Dimethyl Phthalate	NC	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
di-n-Butyl Phthalate	NC	0.53 UJ	0.5 U	0.41 UJ	4.4 UJ	0.46 U	0.045 J	0.47 UJ
di-n-Octyl Phthalate	NC	0.53 U	0.5 U	2.1 UJ	22 UJ	0.46 UJ	0.45 U	2.4 UJ
Fluoranthene	30.94	9.2	0.39 J	4.3	**130**	1.2	0.45 U	7.2
Fluorene	0.24	**0.67**	0.5 U	**0.33 J**	**18**	0.07 J	0.45 U	**0.49**
Hexachlorobenzene	0.005	0.53 UJ	0.5 U	0.41 UJ	4.4 UJ	0.46 U	0.45 U	0.47 UJ

Table 4-6A: Upstream Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED17	GM98-SED18	GM98-SED19	GM98-SED20	GM98-SED21	GM98-SED22	GM98-SED23
	Sample Date	11/19/1998	11/19/1998	11/19/1998	11/20/1998	11/20/1998	11/20/1998	11/20/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
Hexachlorobutadiene	0.01	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
Hexachlorocyclopentadiene	0.13	0.53 U	0.5 U	0.41 U	4.4 U	0.46 UJ	0.45 UJ	0.47 UJ
Hexachloroethane	NC	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
Indeno[1,2,3-cd]pyrene	0.04	**3.6 J**	**0.13 J**	**1.7 J**	**34 J**	**0.51**	0.45 U	**2.1 J**
Isophorone	NC	0.53 U	0.5 U	2.1 U	4.4 U	0.46 U	0.45 U	0.47 U
Naphthalene	0.91	0.25 J	0.5 U	0.068 J	**10**	0.46 U	0.45 U	0.098 J
Nitrobenzene	NC	0.53 U	0.5 U	2.1 U	4.4 U	0.46 U	0.45 U	0.47 U
n-Nitroso-di-n-Propylamine	NC	0.53 U	0.5 U	0.41 U	4.4 U	0.46 U	0.45 U	0.47 U
n-Nitrosodiphenylamine	NC	0.53 UJ	0.5 U	0.41 UJ	4.4 UJ	0.46 U	0.45 U	0.47 UJ
Pentachlorophenol	1.21	1.3 UJ	1.2 U	0.98 UJ	11 UJ	1.1 U	1.1 U	1.1 UJ
Phenanthrene	3.64	**7.3**	0.21 J	3.5	**130**	0.76	0.45 U	**4.4**
Phenol	0.02	0.53 U	0.5 U	2.1 U	22 U	0.46 U	0.45 U	0.47 U
Pyrene	29.15	14 J	0.42 J	7.1 J	**130 J**	1.6 J	0.45 U	8.4 J

See notes on last page.

Table 4-6A: Upstream Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED24	GM98-SED25	GM98-SED26	SBR S1A	SBR S2A	SBR S3A	SCR S1A
	Sample Date	11/20/1998	11/20/1998	11/20/1998	6/24/2008	6/24/2008	6/24/2008	6/24/2008
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
1,2,4-Trichlorobenzene	2.76	0.5 U	0.46 U	0.52 U	---	---	---	---
Chrysene	NC	6.3 J	1.7 J	8.1 J	8.78	14.9	10.4	0.603
1,2-Dichlorobenzene	0.36	0.5 U	0.46 U	0.52 U	---	---	---	---
1,3-Dichlorobenzene	0.36	0.5 U	0.46 U	0.52 U	---	---	---	---
1,4-Dichlorobenzene	0.36	0.5 U	0.46 U	0.52 U	---	---	---	---
2,2'-oxybis(1-Chloropropane)	NC	0.5 U	0.46 U	2.6 UJ	---	---	---	---
2,4,5-Trichlorophenol	NC	2.4 U	2.2 U	2.6 U	---	---	---	---
2,4,6-Trichlorophenol	NC	0.5 U	0.46 U	0.52 U	---	---	---	---
2,4-Dichlorophenol	NC	0.5 U	0.46 U	0.52 U	---	---	---	---
2,4-Dimethylphenol	NC	0.5 U	0.46 U	0.52 U	0.48 UJ	0.38 UJ	0.56 U	0.48 UJ
2,4-Dinitrophenol	NC	1.2 U	1.1 U	1.3 U	---	---	---	---
2,4-Dinitrotoluene	NC	0.5 U	0.46 U	0.52 U	---	---	---	---
2,6-Dinitrotoluene	NC	0.5 U	0.46 U	0.52 U	---	---	---	---
2-Chloronaphthalene	NC	0.5 U	0.46 U	0.52 U	---	---	---	---
2-Chlorophenol	NC	0.5 U	0.46 U	0.52 U	---	---	---	---
2-Methylnaphthalene	1.03	0.15 J	0.063 J	0.41 J	**1.34**	0.869	0.407	0.19 U
2-Methylphenol	NC	0.5 U	0.46 U	0.52 U	0.19 U	0.15 U	0.22 U	0.19 U
2-Nitroaniline	NC	1.2 U	1.1 U	1.3 U	---	---	---	---
2-Nitrophenol	NC	0.5 U	0.46 U	2.6 U	---	---	---	---
3&4-Methylphenol	NC	---	---	---	0.19 U	0.239	12.7	0.19 U
3,3'-Dichlorobenzidine	NC	4.9 UJ	0.91 UJ	5.2 UJ	---	---	---	---
3-Nitroaniline	NC	1.2 U	1.1 U	1.3 U	---	---	---	---
4,6-Dinitro-2-Methylphenol	NC	1.2 UJ	1.1 U	1.3 U	---	---	---	---
4-Bromophenyl Phenyl Ether	NC	0.5 UJ	0.46 U	0.52 U	---	---	---	---
4-chloro-3-Methylphenol	NC	0.5 U	0.46 U	0.52 U	---	---	---	---
4-Chloroaniline	NC	0.5 UJ	0.46 U	0.52 UJ	---	---	---	---

Table 4-6A: Upstream Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED24	GM98-SED25	GM98-SED26	SBR S1A	SBR S2A	SBR S3A	SCR S1A
	Sample Date	11/20/1998	11/20/1998	11/20/1998	6/24/2008	6/24/2008	6/24/2008	6/24/2008
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
4-Chlorophenyl Phenyl Ether	NC	0.5 U	0.46 U	0.52 U	---	---	---	---
4-Methylphenol	NC	0.15 J	0.46 U	0.52 U	---	---	---	---
4-Nitroaniline	NC	1.2 U	1.1 U	1.3 U	---	---	---	---
4-Nitrophenol	NC	1.2 U	1.1 U	1.3 U	---	---	---	---
Acenaphthene	4.25	0.5	0.31 J	1.9	2.26	2.75	1.75	0.066 J
Acenaphthylene	NC	0.23 J	0.46 U	0.068 J	0.733	0.563	0.597	0.19 U
Anthracene	3.25	1.1 J	0.52	2.7	**4.47**	**5.78**	**3.31**	0.157 J
Benzo[a]anthracene	0.04	**5.5 J**	**1.6 J**	**7.5 J**	**8.28**	**14.7**	**8.67**	**0.499**
Benzo[a]pyrene	0.04	**5.6 J**	**1.4 J**	**6.8 J**	**7.83**	**12.1**	**9.51**	**0.509**
Benzo[b]fluoranthene	0.04	**7.9 J**	**2.1 J**	**9.1 J**	**8.52**	**11.6**	**9.57**	**0.409**
Benzo[g,h,i]perylene	NC	4.9 J	1.1 J	4.8 J	4.71	5.89	5.13	0.318
Benzo[k]fluoranthene	0.04	**2.7 J**	**0.66 J**	**3.1 J**	**4.4**	**3.69**	**6.7**	**0.501**
Benzyl Butyl Phthalate	NC	2.5 UJ	0.22 J	0.52 UJ	0.19 U	0.15 U	0.22 U	0.19 U
bis(2-Chloroethoxy)Methane	NC	0.5 U	0.46 U	0.52 U	---	---	---	---
bis(2-chloroethyl)ether	0.001	0.5 U	0.46 U	0.52 U	---	---	---	---
bis(2-Ethylhexyl)Phthalate	6.05	2.3 UJ	1.8 UJ	2.6 UJ	3.96	0.355	1.4	0.19 U
Carbazole	NC	0.71 J	0.4 J	2.3 J	3.06	4.1	2.64	0.118 J
Dibenz[a,h]anthracene	NC	1.3 J	0.16 J	1.4 J	1.86	2.47	2.01	0.0908 J
Dibenzofuran	NC	0.32 J	0.19 J	1.3	2.4	2.12	1.19	0.19 U
Diethyl Phthalate	NC	0.5 U	0.46 U	0.52 U	---	---	---	---
Dimethyl Phthalate	NC	0.5 U	0.46 U	0.52 U	---	---	---	---
di-n-Butyl Phthalate	NC	0.5 UJ	0.46 U	0.52 UJ	---	---	---	---
di-n-Octyl Phthalate	NC	2.5 UJ	0.46 UJ	0.52 U	0.19 U	0.15 U	0.22 U	0.19 U
Fluoranthene	30.94	11	2.9	15	24.3	**31.3**	22.5	1.21
Fluorene	0.24	**0.6**	**0.26 J**	**1.8**	**2.88**	**3.02**	**1.5**	0.057 J
Hexachlorobenzene	0.005	0.5 UJ	0.46 U	0.52 U	---	---	---	---

Table 4-6A: Upstream Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED24	GM98-SED25	GM98-SED26	SBR S1A	SBR S2A	SBR S3A	SCR S1A
	Sample Date	11/20/1998	11/20/1998	11/20/1998	6/24/2008	6/24/2008	6/24/2008	6/24/2008
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
Hexachlorobutadiene	0.01	0.5 U	0.46 U	0.52 U	---	---	---	---
Hexachlorocyclopentadiene	0.13	0.5 UJ	0.46 UJ	0.52 UJ	---	---	---	---
Hexachloroethane	NC	0.5 U	0.46 U	0.52 U	---	---	---	---
Indeno[1,2,3-cd]pyrene	0.04	**4.3 J**	**0.074 J**	**4.5 J**	**4.71**	**5.89**	**5.22**	**0.292**
Isophorone	NC	0.5 U	0.46 U	0.52 U	---	---	---	---
Naphthalene	0.91	0.19 J	0.1 J	**0.93**	**2.2**	**1.44**	0.591	0.113 J
Nitrobenzene	NC	0.5 U	0.46 U	0.52 U	---	---	---	---
n-Nitroso-di-n-Propylamine	NC	0.5 U	0.46 U	0.52 U	---	---	---	---
n-Nitrosodiphenylamine	NC	0.5 U	0.46 U	0.52 UJ	---	---	---	---
Pentachlorophenol	1.21	1.2 UJ	1.1 U	1.3 U	---	---	---	---
Phenanthrene	3.64	**6.8**	2.8	**17**	**24.3**	**29.4**	**19.4**	0.769
Phenol	0.02	**0.071 J**	0.46 U	0.52 U	0.19 U	0.15 U	**0.62**	0.19 U
Pyrene	29.15	15 J	4.5 J	20	21.7	28.4	20.3	1.03

See notes on last page.

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Table 4-6A: Upstream Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	SCR S2A	SCR S3A	NBR S1A	NBR S2A	NBR S3A
	Sample Date	6/25/2008	6/25/2008	6/25/2008	6/25/2008	6/25/2008
	Start Depth (ft)	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**					
1,2,4-Trichlorobenzene	2.76	---	---	---	---	---
Chyrsene	NC	2.65	0.0482 J	0.0449 J	0.16 J	0.0945 J
1,2-Dichlorobenzene	0.36	---	---	---	---	---
1,3-Dichlorobenzene	0.36	---	---	---	---	---
1,4-Dichlorobenzene	0.36	---	---	---	---	---
2,2'-oxybis(1-Chloropropane)	NC	---	---	---	---	---
2,4,5-Trichlorophenol	NC	---	---	---	---	---
2,4,6-Trichlorophenol	NC	---	---	---	---	---
2,4-Dichlorophenol	NC	---	---	---	---	---
2,4-Dimethylphenol	NC	0.52 UJ	0.46 UJ	0.38 UJ	0.38 UJ	0.44 U
2,4-Dinitrophenol	NC	---	---	---	---	---
2,4-Dinitrotoluene	NC	---	---	---	---	---
2,6-Dinitrotoluene	NC	---	---	---	---	---
2-Chloronaphthalene	NC	---	---	---	---	---
2-Chlorophenol	NC	---	---	---	---	---
2-Methylnaphthalene	1.03	0.21 U	0.18 U	0.15 U	0.15 UJ	0.17 U
2-Methylphenol	NC	0.21 U	0.18 U	0.15 U	0.15 U	0.17 U
2-Nitroaniline	NC	---	---	---	---	---
2-Nitrophenol	NC	---	---	---	---	---
3&4-Methylphenol	NC	0.21 U	0.18 U	0.15 U	0.15 U	0.17 U
3,3'-Dichlorobenzidine	NC	---	---	---	---	---
3-Nitroaniline	NC	---	---	---	---	---
4,6-Dinitro-2-Methylphenol	NC	---	---	---	---	---
4-Bromophenyl Phenyl Ether	NC	---	---	---	---	---
4-chloro-3-Methylphenol	NC	---	---	---	---	---
4-Chloroaniline	NC	---	---	---	---	---

Table 4-6A: Upstream Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	SCR S2A	SCR S3A	NBR S1A	NBR S2A	NBR S3A
	Sample Date	6/25/2008	6/25/2008	6/25/2008	6/25/2008	6/25/2008
	Start Depth (ft)	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**					
4-Chlorophenyl Phenyl Ether	NC	---	---	---	---	---
4-Methylphenol	NC	---	---	---	---	---
4-Nitroaniline	NC	---	---	---	---	---
4-Nitrophenol	NC	---	---	---	---	---
Acenaphthene	4.25	0.234	0.18 U	0.15 U	0.15 UJ	0.17 U
Acenaphthylene	NC	0.0819 J	0.18 U	0.15 U	0.15 UJ	0.17 U
Anthracene	3.25	0.803	0.18 U	0.15 U	0.15 UJ	0.17 U
Benzo[a]anthracene	0.04	**2.34**	0.0376 J	0.0291 J	**0.124 J**	**0.0669 J**
Benzo[a]pyrene	0.04	**2.38**	0.18 U	0.0389 J	**0.109 J**	**0.0904 J**
Benzo[b]fluoranthene	0.04	**2.1**	0.0329 J	0.0348 J	**0.117 J**	**0.108 J**
Benzo[g,h,i]perylene	NC	1.59	0.18 U	0.031 J	0.0841 J	0.105 J
Benzo[k]fluoranthene	0.04	**2.05**	0.18 U	0.0446 J	**0.112 J**	**0.0773 J**
Benzyl Butyl Phthalate	NC	0.21 U	0.18 U	0.15 U	0.15 UJ	0.17 U
bis(2-Chloroethoxy)Methane	NC	---	---	---	---	---
bis(2-chloroethyl)ether	0.001	---	---	---	---	---
bis(2-Ethylhexyl)Phthalate	6.05	1.99	0.18 U	0.15 U	0.0974 J	0.17 U
Carbazole	NC	0.5	0.18 U	0.15 U	0.15 UJ	0.17 U
Dibenz[a,h]anthracene	NC	0.486	0.18 U	0.15 U	0.0229 J	0.17 U
Dibenzofuran	NC	0.125 J	0.18 U	0.15 U	0.15 UJ	0.17 U
Diethyl Phthalate	NC	---	---	---	---	---
Dimethyl Phthalate	NC	---	---	---	---	---
di-n-Butyl Phthalate	NC	---	---	---	---	---
di-n-Octyl Phthalate	NC	0.21 U	0.18 U	0.15 U	0.15 UJ	0.17 U
Fluoranthene	30.94	5.29	0.0623 J	0.0705 J	0.323 J	0.164 J
Fluorene	0.24	0.234	0.18 U	0.15 U	0.15 UJ	0.17 U
Hexachlorobenzene	0.005	---	---	---	---	---

Table 4-6A: Upstream Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	SCR S2A	SCR S3A	NBR S1A	NBR S2A	NBR S3A
	Sample Date	6/25/2008	6/25/2008	6/25/2008	6/25/2008	6/25/2008
	Start Depth (ft)	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**					
Hexachlorobutadiene	0.01	---	---	---	---	---
Hexachlorocyclopentadiene	0.13	---	---	---	---	---
Hexachloroethane	NC	---	---	---	---	---
Indeno[1,2,3-cd]pyrene	0.04	**1.5**	0.18 U	0.15 U	**0.0739 J**	**0.113 J**
Isophorone	NC	---	---	---	---	---
Naphthalene	0.91	0.131 J	0.18 U	0.15 U	0.15 UJ	0.17 U
Nitrobenzene	NC	---	---	---	---	---
n-Nitroso-di-n-Propylamine	NC	---	---	---	---	---
n-Nitrosodiphenylamine	NC	---	---	---	---	---
Pentachlorophenol	1.21	---	---	---	---	---
Phenanthrene	3.64	3.12	0.0486 J	0.0395 J	0.15 J	0.0722 J
Phenol	0.02	0.21 U	0.18 U	0.15 U	0.15 U	0.17 U
Pyrene	29.15	4.53	0.0569 J	0.0566 J	0.268 J	0.137 J

See notes on last page.

NOTES:
1. Units in milligrams per kilogram (mg/kg) or parts per million (ppm)
2. SVOCs - Semivolatile organic compounds
3. SVOC analysis performed using United States Environmental Protection Agency (USEPA) Method SW8270.
4. "---" indicates the compound was not analyzed for.
5. "U" indicates the compound was analyzed for but not detected.
6. "J" indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
7. "UJ" indicates the compound was not detected and the reporting detection limit is estimated.
8. Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC)
Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening of Contaminated Sediments.
9. Sediment data is screened against the most conservative sediment quality criteria (SCoc) presented in the NYSDEC
Technical Guidance for Screening of Contaminated Sediments.
10. Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC)
(30,331 mg/kg) within the Ley Creek sampling reach at depths of 0-0.5 feet (surface sediment).
11. Bold values indicate an exceedance of sediment data screening criteria.
12. "**" indicates unknown sample end depth.

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Table 4-6B: Upstream Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED18	GM98-SED20	GM98-SED21	L13	L14	L15	L16	L17
	Sample Date	11/19/1998	11/20/1998	11/20/1998	11/6/1996	11/12/1996	11/12/1996	11/12/1996	11/12/1996
	Start Depth (ft)	0.5	0.5	0.5	0	0	0	0	0
	End Depth (ft)	1	1	1	2	2	2	2	2
Chemical Name	**Sediment Criteria**								
1,2,4-Trichlorobenzene	1.24	0.49 U	0.4 U	0.48 U	---	---	---	---	---
Chrysene	NC	0.49 U	10	0.38 J	0.62	0.44 U	0.17 J	0.058 J	0.43 U
1,2-Dichlorobenzene	0.16	0.49 U	0.4 U	0.48 U	---	---	---	---	---
1,3-Dichlorobenzene	0.16	0.49 U	0.4 U	0.48 U	---	---	---	---	---
1,4-Dichlorobenzene	0.16	0.49 U	0.4 U	0.48 U	---	---	---	---	---
2,2'-oxybis(1-Chloropropane)	NC	0.49 U	8.1 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
2,4,5-Trichlorophenol	NC	2.4 U	1.9 U	2.3 U	1.1 U	1.1 U	1 U	1 U	1.1 U
2,4,6-Trichlorophenol	NC	0.49 U	0.4 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
2,4-Dichlorophenol	NC	0.49 U	0.4 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
2,4-Dimethylphenol	NC	0.49 U	0.4 U	0.48 U	0.43 UJ	0.44 U	0.4 U	0.41 U	0.43 U
2,4-Dinitrophenol	NC	1.2 U	0.97 U	1.2 U	1.1 UJ	1.1 U	1 U	1 U	1.1 U
2,4-Dinitrotoluene	NC	0.49 U	0.4 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
2,6-Dinitrotoluene	NC	0.49 U	0.4 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
2-Chloronaphthalene	NC	0.49 U	0.4 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
2-Chlorophenol	NC	0.49 U	0.4 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
2-Methylnaphthalene	0.46	0.49 U	**0.58**	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
2-Methylphenol	NC	0.49 U	0.4 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
2-Nitroaniline	NC	1.2 U	0.97 U	1.2 U	1.1 U	1.1 U	1 U	1 U	1.1 U
2-Nitrophenol	NC	0.49 U	0.4 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
3&4-Methylphenol	NC	---	---	---	---	---	---	---	---
3,3'-Dichlorobenzidine	NC	0.97 U	16 UJ	0.95 UJ	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
3-Nitroaniline	NC	1.2 U	0.97 U	1.2 U	1.1 U	1.1 U	1 U	1 U	1.1 U
4,6-Dinitro-2-Methylphenol	NC	1.2 U	0.97 UJ	1.2 U	1.1 U	1.1 U	1 U	1 U	1.1 U
4-Bromophenyl Phenyl Ether	NC	0.49 U	0.4 UJ	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
4-chloro-3-Methylphenol	NC	0.49 U	0.4 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
4-Chloroaniline	NC	0.49 U	0.4 U	0.48 UJ	0.43 U	0.44 UJ	0.4 UJ	0.41 UJ	0.43 UJ

Table 4-6B: Upstream Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED18	GM98-SED20	GM98-SED21	L13	L14	L15	L16	L17
	Sample Date	11/19/1998	11/20/1998	11/20/1998	11/6/1996	11/12/1996	11/12/1996	11/12/1996	11/12/1996
	Start Depth (ft)	0.5	0.5	0.5	0	0	0	0	0
	End Depth (ft)	1	1	1	2	2	2	2	2
Chemical Name	**Sediment Criteria**								
4-Chlorophenyl Phenyl Ether	NC	0.49 U	0.4 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
4-Methylphenol	NC	0.49 U	0.048 J	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
4-Nitroaniline	NC	1.2 U	19 U	1.2 U	1.1 U	1.1 U	1 U	1 U	1.1 U
4-Nitrophenol	NC	1.2 U	19 U	1.2 U	1.1 UJ	1.1 U	1 U	1 U	1.1 U
Acenaphthene	1.91	0.49 U	1.9	0.061 J	0.06 J	0.44 U	0.4 U	0.41 U	0.43 U
Acenaphthylene	NC	0.49 U	0.13 J	0.48 U	0.058 J	0.44 U	0.4 U	0.41 U	0.43 U
Anthracene	1.46	0.49 U	**3.7 J**	0.089 J	0.18 J	0.44 U	0.05 J	0.41 U	0.43 U
Benzo[a]anthracene	0.02	0.49 U	**9.6**	**0.34 J**	**0.54**	0.44 U	**0.15 J**	0.41 U	0.43 U
Benzo[a]pyrene	0.02	0.49 U	**7.6 J**	**0.33 J**	**0.51**	0.44 U	**0.14 J**	**0.046 J**	0.43 U
Benzo[b]fluoranthene	0.02	0.49 U	**11 J**	**0.47 J**	**0.4 J**	0.44 U	**0.13 J**	**0.069 J**	0.43 U
Benzo[g,h,i]perylene	NC	0.49 U	5.6 J	0.22 J	0.3 J	0.44 U	0.11 J	0.056 J	0.43 U
Benzo[k]fluoranthene	0.02	0.49 U	**3.7 J**	**0.19 J**	**0.51**	0.44 U	**0.13 J**	**0.052 J**	0.43 U
Benzyl Butyl Phthalate	NC	0.49 U	8.1 U	0.48 UJ	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
bis(2-Chloroethoxy)Methane	NC	0.49 U	8.1 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
bis(2-chloroethyl)ether	0.0004	0.49 U	8.1 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
bis(2-Ethylhexyl)Phthalate	2.72	0.49 U	8.1 UJ	0.481 UJ	0.13 J	0.057 J	0.4 U	0.057 J	0.43 U
Carbazole	NC	0.49 U	3.8 J	0.48 U	0.082 J	0.44 U	0.4 U	0.41 U	0.43 U
Dibenz[a,h]anthracene	NC	0.49 U	1.9 J	0.48 UJ	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
Dibenzofuran	NC	0.49 U	1.9	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
Diethyl Phthalate	NC	0.49 U	8.1 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
Dimethyl Phthalate	NC	0.49 U	0.4 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
di-n-Butyl Phthalate	NC	0.49 U	0.4 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
di-n-Octyl Phthalate	NC	0.49 U	8.1 UJ	0.48 UJ	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
Fluoranthene	13.89	0.49 U	**26**	0.81	0.97	0.079 J	0.37 J	0.096 J	0.43 U
Fluorene	0.11	0.49 U	**2.3**	0.051 J	0.085 J	0.44 U	0.4 U	0.41 U	0.43 U
Hexachlorobenzene	0.002	0.49 U	0.4 UJ	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U

Table 4-6B: Upstream Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED18	GM98-SED20	GM98-SED21	L13	L14	L15	L16	L17
	Sample Date	11/19/1998	11/20/1998	11/20/1998	11/6/1996	11/12/1996	11/12/1996	11/12/1996	11/12/1996
	Start Depth (ft)	0.5	0.5	0.5	0	0	0	0	0
	End Depth (ft)	1	1	1	2	2	2	2	2
Chemical Name	**Sediment Criteria**								
Hexachlorobutadiene	0.004	0.49 U	8.1 U	0.48 U	---	---	---	---	---
Hexachlorocyclopentadiene	0.06	0.49 U	8.1 UJ	0.48 U	0.43 UJ	0.44 U	0.4 U	0.41 U	0.43 U
Hexachloroethane	NC	0.49 U	8.1 UJ	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
Indeno[1,2,3-cd]pyrene	0.02	0.49 U	**5.5 J**	**0.3 J**	**0.32 J**	0.44 U	**0.1 J**	**0.049 J**	0.43 U
Isophorone	NC	0.49 U	8.1 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
Naphthalene	0.41	0.49 U	**1.1**	0.48 U	---	---	---	---	---
Nitrobenzene	NC	0.49 U	8.1 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
n-Nitroso-di-n-Propylamine	NC	0.49 U	8.1 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
n-Nitrosodiphenylamine	NC	0.49 U	8.1 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
Pentachlorophenol	0.54	1.2 U	0.97 UJ	1.2 U	1.1 UJ	1.1 U	1 U	1 U	1.1 U
Phenanthrene	1.63	0.49 U	**27**	0.49	0.7	0.44 U	0.22 J	0.41 U	0.43 U
Phenol	0.01	0.49 U	0.4 U	0.48 U	0.43 U	0.44 U	0.4 U	0.41 U	0.43 U
Pyrene	13.08	0.49 U	**23**	1.1 J	0.92	0.077 J	0.32 J	0.099 J	0.43 U

See notes on last page.

Table 4-6B: Upstream Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	L25	L27	SCR S1B	SCR S2B	NBR S1B	NBR S2B	NBR S3B	SBR S1B
	Sample Date	11/14/1996	11/14/1996	6/24/2008	6/25/2008	6/25/2008	6/25/2008	6/25/2008	6/26/2008
	Start Depth (ft)	0	0	0.5	0.5	0.5	0.5	0.5	0.5
	End Depth (ft)	1.33	1.25	1	1	1	1	1	1
Chemical Name	**Sediment Criteria**								
1,2,4-Trichlorobenzene	1.24	---	---	---	---	---	---	---	---
Chrysene	NC	9.1 D	22 D	0.18 U	0.0844 J	0.17 U	0.0477 J	0.397	0.154 J
1,2-Dichlorobenzene	0.16	---	---	---	---	---	---	---	---
1,3-Dichlorobenzene	0.16	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	0.16	---	---	---	---	---	---	---	---
2,2'-oxybis(1-Chloropropane)	NC	0.62 U	0.51 U	---	---	---	---	---	---
2,4,5-Trichlorophenol	NC	1.5 U	1.3 U	---	---	---	---	---	---
2,4,6-Trichlorophenol	NC	0.62 U	0.51 U	---	---	---	---	---	---
2,4-Dichlorophenol	NC	0.62 U	0.51 U	---	---	---	---	---	---
2,4-Dimethylphenol	NC	0.62 U	0.51 U	0.46 UJ	0.46 UJ	0.42 UJ	0.38 U	0.5 U	0.45 U
2,4-Dinitrophenol	NC	1.5 UJ	1.3 UJ	---	---	---	---	---	---
2,4-Dinitrotoluene	NC	0.62 U	0.51 U	---	---	---	---	---	---
2,6-Dinitrotoluene	NC	0.62 U	0.51 U	---	---	---	---	---	---
2-Chloronaphthalene	NC	0.62 U	0.51 U	---	---	---	---	---	---
2-Chlorophenol	NC	0.62 U	0.51 U	---	---	---	---	---	---
2-Methylnaphthalene	0.46	0.22 J	0.44 J	0.18 U	0.18 U	0.17 U	0.15 U	0.2 U	0.18 U
2-Methylphenol	NC	0.62 U	0.51 U	0.18 U	0.18 U	0.17 U	0.15 U	0.2 U	0.18 U
2-Nitroaniline	NC	1.5 U	1.3 U	---	---	---	---	---	---
2-Nitrophenol	NC	0.62 U	0.51 U	---	---	---	---	---	---
3&4-Methylphenol	NC	---	---	0.18 U	0.18 U	0.17 U	0.15 U	0.2 U	0.18 U
3,3'-Dichlorobenzidine	NC	0.62 U	0.51 U	---	---	---	---	---	---
3-Nitroaniline	NC	1.5 U	1.3 U	---	---	---	---	---	---
4,6-Dinitro-2-Methylphenol	NC	1.5 UJ	1.3 UJ	---	---	---	---	---	---
4-Bromophenyl Phenyl Ether	NC	0.62 U	0.51 U	---	---	---	---	---	---
4-chloro-3-Methylphenol	NC	0.62 U	0.51 U	---	---	---	---	---	---
4-Chloroaniline	NC	0.62 UJ	0.51 UJ	---	---	---	---	---	---

Table 4-6B: Upstream Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	L25	L27	SCR S1B	SCR S2B	NBR S1B	NBR S2B	NBR S3B	SBR S1B
	Sample Date	11/14/1996	11/14/1996	6/24/2008	6/25/2008	6/25/2008	6/25/2008	6/25/2008	6/26/2008
	Start Depth (ft)	0	0	0.5	0.5	0.5	0.5	0.5	0.5
	End Depth (ft)	1.33	1.25	1	1	1	1	1	1
Chemical Name	**Sediment Criteria**								
4-Chlorophenyl Phenyl Ether	NC	0.62 U	0.51 U	---	---	---	---	---	---
4-Methylphenol	NC	0.12 J	0.13 J	---	---	---	---	---	---
4-Nitroaniline	NC	1.5 U	1.3 U	---	---	---	---	---	---
4-Nitrophenol	NC	1.5 U	1.3 U	---	---	---	---	---	---
Acenaphthene	1.91	0.52 J	**2.2**	0.18 U	0.18 U	0.17 U	0.15 U	0.2 U	0.18 U
Acenaphthylene	NC	0.65	1.5	0.18 U	0.18 U	0.17 U	0.15 U	0.2 U	0.18 U
Anthracene	1.46	**1.9**	**7.6 JD**	0.18 U	0.18 U	0.17 U	0.15 U	0.128 J	0.18 U
Benzo[a]anthracene	0.02	**7.7 D**	**22 D**	0.18 U	**0.0695 J**	0.17 U	**0.0407 J**	**0.362**	**0.131 J**
Benzo[a]pyrene	0.02	**7.6 D**	**20 D**	0.18 U	**0.0773 J**	0.17 U	**0.0381 J**	**0.371**	0.115 J
Benzo[b]fluoranthene	0.02	**6.1 D**	**17 D**	0.18 U	**0.0808 J**	0.17 U	**0.0587 J**	**0.396**	**0.164 J**
Benzo[g,h,i]perylene	NC	2.2	2.9	0.18 U	0.0516 J	0.17 U	0.0442 J	0.262	0.099 J
Benzo[k]fluoranthene	0.02	**7.2 D**	0.51 U	0.18 U	**0.0722 J**	0.17 U	**0.0364 J**	**0.249**	**0.0818 J**
Benzyl Butyl Phthalate	NC	0.62 U	34 D	0.18 U	0.18 U	0.17 U	0.15 U	0.2 U	0.18 U
bis(2-Chloroethoxy)Methane	NC	0.62 U	0.51 U	---	---	---	---	---	---
bis(2-chloroethyl)ether	0.0004	0.62 U	0.51 U	---	---	---	---	---	---
bis(2-Ethylhexyl)Phthalate	2.72	1.7	**3.3**	0.18 U	0.18 U	0.17 U	1.71	0.2 U	0.18 U
Carbazole	NC	0.81	0.51 U	0.18 U	0.18 U	0.17 U	0.15 U	0.2 U	0.18 U
Dibenz[a,h]anthracene	NC	0.62 U	0.51 U	0.18 U	0.18 U	0.17 U	0.15 U	0.185 J	0.18 U
Dibenzofuran	NC	0.41 J	1.2	0.18 U	0.18 U	0.17 U	0.15 U	0.2 U	0.18 U
Diethyl Phthalate	NC	0.62 U	0.51 U	---	---	---	---	---	---
Dimethyl Phthalate	NC	0.62 U	0.51 U	---	---	---	---	---	---
di-n-Butyl Phthalate	NC	0.62 U	0.51 U	---	---	---	---	---	---
di-n-Octyl Phthalate	NC	0.62 U	0.51 U	0.18 U	0.18 U	0.17 U	0.15 U	0.2 U	0.18 U
Fluoranthene	13.89	**14 D**	**45 D**	0.18 U	0.113 J	0.17 U	0.0896 J	0.771	0.307
Fluorene	0.11	**0.87**	**2.7**	0.18 U	0.18 U	0.17 U	0.15 U	0.2 U	0.18 U
Hexachlorobenzene	0.002	0.62 U	0.51 U	---	---	---	---	---	---

Table 4-6B: Upstream Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	L25	L27	SCR S1B	SCR S2B	NBR S1B	NBR S2B	NBR S3B	SBR S1B
	Sample Date	11/14/1996	11/14/1996	6/24/2008	6/25/2008	6/25/2008	6/25/2008	6/25/2008	6/26/2008
	Start Depth (ft)	0	0	0.5	0.5	0.5	0.5	0.5	0.5
	End Depth (ft)	1.33	1.25	1	1	1	1	1	1
Chemical Name	**Sediment Criteria**								
Hexachlorobutadiene	0.004	---	---	---	---	---	---	---	---
Hexachlorocyclopentadiene	0.06	0.62 U	0.51 U	---	---	---	---	---	---
Hexachloroethane	NC	0.62 U	0.51 U	---	---	---	---	---	---
Indeno[1,2,3-cd]pyrene	0.02	**0.49 J**	**0.7**	0.18 U	0.18 U	0.17 U	0.15 U	**0.325**	**0.115 J**
Isophorone	NC	0.62 U	0.51 U	---	---	---	---	---	---
Naphthalene	0.41	---	---	0.18 U	0.18 U	0.0711 J	0.15 U	0.2 U	0.18 U
Nitrobenzene	NC	0.62 U	0.51 U	---	---	---	---	---	---
n-Nitroso-di-n-Propylamine	NC	0.62 U	0.51 U	---	---	---	---	---	---
n-Nitrosodiphenylamine	NC	0.62 U	0.51 U	---	---	---	---	---	---
Pentachlorophenol	0.54	1.5 U	1.3 U	---	---	---	---	---	---
Phenanthrene	1.63	**8.4 D**	**27 E**	0.0285 J	0.0564 J	0.17 U	0.0366 J	0.288	0.151 J
Phenol	0.01	0.62 U	0.51 U	0.18 U	0.18 U	0.17 U	0.15 U	0.2 U	0.18 U
Pyrene	13.08	**14 D**	**40 D**	0.18 U	0.0965 J	0.17 U	0.0771 J	0.641	0.259

See notes on last page.

Table 4-6B: Upstream Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream
	Sample Location	SBR S2B	SBRS3B	SCRS3B
	Sample Date	6/26/2008	6/26/2008	6/26/2008
	Start Depth (ft)	0.5	0.5	0.5
	End Depth (ft)	1	1	1
Chemical Name	**Sediment Criteria**			
1,2,4-Trichlorobenzene	1.24	---	---	---
Chrysene	NC	17.1	3.99	0.16 U
1,2-Dichlorobenzene	0.16	---	---	---
1,3-Dichlorobenzene	0.16	---	---	---
1,4-Dichlorobenzene	0.16	---	---	---
2,2'-oxybis(1-Chloropropane)	NC	---	---	---
2,4,5-Trichlorophenol	NC	---	---	---
2,4,6-Trichlorophenol	NC	---	---	---
2,4-Dichlorophenol	NC	---	---	---
2,4-Dimethylphenol	NC	0.171 J	0.46 U	0.4 U
2,4-Dinitrophenol	NC	---	---	---
2,4-Dinitrotoluene	NC	---	---	---
2,6-Dinitrotoluene	NC	---	---	---
2-Chloronaphthalene	NC	---	---	---
2-Chlorophenol	NC	---	---	---
2-Methylnaphthalene	0.46	**2.13**	0.145 J	0.16 U
2-Methylphenol	NC	0.102 J	0.18 U	0.16 U
2-Nitroaniline	NC	---	---	---
2-Nitrophenol	NC	---	---	---
3&4-Methylphenol	NC	0.454	25.1	0.16 U
3,3'-Dichlorobenzidine	NC	---	---	---
3-Nitroaniline	NC	---	---	---
4,6-Dinitro-2-Methylphenol	NC	---	---	---
4-Bromophenyl Phenyl Ether	NC	---	---	---
4-chloro-3-Methylphenol	NC	---	---	---
4-Chloroaniline	NC	---	---	---

Table 4-6B: Upstream Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream
	Sample Location	SBR S2B	SBRS3B	SCRS3B
	Sample Date	6/26/2008	6/26/2008	6/26/2008
	Start Depth (ft)	0.5	0.5	0.5
	End Depth (ft)	1	1	1
Chemical Name	**Sediment Criteria**			
4-Chlorophenyl Phenyl Ether	NC	---	---	---
4-Methylphenol	NC	---	---	---
4-Nitroaniline	NC	---	---	---
4-Nitrophenol	NC	---	---	---
Acenaphthene	1.91	**4.64**	0.332	0.16 U
Acenaphthylene	NC	0.344	0.35	0.16 U
Anthracene	1.46	**7.99**	1.06	0.16 U
Benzo[a]anthracene	0.02	**16**	**3.34**	0.16 U
Benzo[a]pyrene	0.02	**13.7**	**3.73**	0.16 U
Benzo[b]fluoranthene	0.02	**13.4**	**4.12**	0.16 U
Benzo[g,h,i]perylene	NC	6.65	2.56	0.16 U
Benzo[k]fluoranthene	0.02	**7.55**	**2.29**	0.16 U
Benzyl Butyl Phthalate	NC	0.17 U	0.18 U	0.16 U
bis(2-Chloroethoxy)Methane	NC	---	---	---
bis(2-chloroethyl)ether	0.0004	---	---	---
bis(2-Ethylhexyl)Phthalate	2.72	0.373	1.02	0.16 U
Carbazole	NC	7.89	0.602	0.16 U
Dibenz[a,h]anthracene	NC	2.57	0.922	0.16 U
Dibenzofuran	NC	5.6 J	0.225 J	0.16 U
Diethyl Phthalate	NC	---	---	---
Dimethyl Phthalate	NC	---	---	---
di-n-Butyl Phthalate	NC	---	---	---
di-n-Octyl Phthalate	NC	0.17 U	0.18 U	0.16 U
Fluoranthene	13.89	**50**	8.85	0.0401 J
Fluorene	0.11	**5.57**	**0.475**	0.16 U
Hexachlorobenzene	0.002	---	---	---

Table 4-6B: Upstream Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Upstream	Upstream	Upstream
	Sample Location	SBR S2B	SBRS3B	SCRS3B
	Sample Date	6/26/2008	6/26/2008	6/26/2008
	Start Depth (ft)	0.5	0.5	0.5
	End Depth (ft)	1	1	1
Chemical Name	**Sediment Criteria**			
Hexachlorobutadiene	0.004	---	---	---
Hexachlorocyclopentadiene	0.06	---	---	---
Hexachloroethane	NC	---	---	---
Indeno[1,2,3-cd]pyrene	0.02	**8.63**	**3.12**	0.16 U
Isophorone	NC	---	---	---
Naphthalene	0.41	**3.82**	0.208	0.16 U
Nitrobenzene	NC	---	---	---
n-Nitroso-di-n-Propylamine	NC	---	---	---
n-Nitrosodiphenylamine	NC	---	---	---
Pentachlorophenol	0.54	---	---	---
Phenanthrene	1.63	**58.7**	**4.93**	0.0401 J
Phenol	0.01	0.204	0.18 U	0.16 U
Pyrene	13.08	**36.9**	7.01	0.0356 J

See notes on last page.

NOTES:
1. Units in milligrams per kilogram (mg/kg) or parts per million (ppm)
2. SVOCs - Semivolatile organic compounds
3. SVOC analysis performed using United States Environmental Protection Agency (USEPA) Method SW8270.
4. "---" indicates the compound was not analyzed for.
5. "U" indicates the compound was analyzed for but not detected.
6. "J" indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
7. "UJ" indicates the compound was not detected and the reporting detection limit is estimated.
8. "E" indicates the constituent exceeded the calibration range of the GC/MS instrument.
9. "D" indicates the compound concentration is reported at the secondary dilution factor.
10. Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC)
Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening of Contaminated Sediments.
11. Sediment data is screened against the most conservative sediment quality criteria (SCoc) presented in the NYSDEC
Technical Guidance for Screening of Contaminated Sediments.
12. Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (13,616 mg/kg)
within the Ley Creek sampling reach at depths of 0.5-1 feet (subsurface sediment).
13. Bold values indicate an exceedance of sediment data screening criteria.

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Off-Site Remedial Investigation

Table 4-6C: Ley Creek Deferred Media Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	L10B	L11B	L12C	L8	GM98-SED01	GM98-SED02	GM98-SED03
	Sample Date	11/6/1996	11/6/1996	11/6/1996	11/6/1996	11/17/1998	11/17/1998	11/17/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.83	0.67	0.58	0.83	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
1,2,4-Trichlorobenzene	2.99	---	---	---	---	0.56 U	0.55 U	2 U
Chrysene	NC	1.4	0.062 J	3.3 D	0.64	2.1 J	1.2 J	3.1
1,2-Dichlorobenzene	0.39	---	---	---	---	0.56 U	0.55 U	2 U
1,3-Dichlorobenzene	0.39	---	---	---	---	0.56 U	0.55 U	2 U
1,4-Dichlorobenzene	0.39	---	---	---	---	0.56 U	0.55 U	2 U
2,2'-oxybis(1-Chloropropane)	NC	0.46 U	0.42 UJ	1.9 UJ	0.51 U	0.56 U	0.55 U	2 U
2,4,5-Trichlorophenol	NC	1.2 U	1 U	4.8 U	1.3 U	2.7 U	2.6 U	9.6 U
2,4,6-Trichlorophenol	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
2,4-Dichlorophenol	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
2,4-Dimethylphenol	NC	0.46 UJ	0.42 UJ	1.9 UJ	0.51 UJ	0.56 U	0.55 U	2 U
2,4-Dinitrophenol	NC	1.2 UJ	1 UJ	4.8 UJ	1.3 UJ	1.3 U	1.3 U	4.8 U
2,4-Dinitrotoluene	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
2,6-Dinitrotoluene	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
2-Chloronaphthalene	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
2-Chlorophenol	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
2-Methylnaphthalene	1.12	0.066 J	0.42 U	1.9 U	0.51 U	0.061 J	0.55 U	0.38 J
2-Methylphenol	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
2-Nitroaniline	NC	1.2 U	1 U	4.8 U	1.3 U	1.3 U	1.3 U	4.8 U
2-Nitrophenol	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
3&4-Methylphenol	NC	---	---	---	---	---	---	---
3,3'-Dichlorobenzidine	NC	0.46 U	0.42 U	1.9 U	0.51 U	1.1 U	1.1 UJ	3.9 U
3-Nitroaniline	NC	1.2 U	1 U	4.8 U	1.3 U	1.3 U	1.3 U	4.8 U
4,6-Dinitro-2-Methylphenol	NC	1.2 U	1 U	4.8 U	1.3 U	1.3 U	1.3 U	4.8 U
4-Bromophenyl Phenyl Ether	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
4-chloro-3-Methylphenol	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
4-Chloroaniline	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U

Table 4-6C: Ley Creek Deferred Media Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	L10B	L11B	L12C	L8	GM98-SED01	GM98-SED02	GM98-SED03
	Sample Date	11/6/1996	11/6/1996	11/6/1996	11/6/1996	11/17/1998	11/17/1998	11/17/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.83	0.67	0.58	0.83	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
4-Chlorophenyl Phenyl Ether	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
4-Methylphenol	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
4-Nitroaniline	NC	1.2 U	1 U	4.8 U	1.3 U	1.3 U	1.3 U	4.8 U
4-Nitrophenol	NC	1.2 UJ	1 UJ	4.8 UJ	1.3 UJ	1.3 U	1.3 U	4.8 U
Acenaphthene	4.60	0.2 J	0.42 U	1.9 U	0.51 U	0.15 J	0.081 J	0.72 J
Acenaphthylene	NC	0.12 J	0.42 U	1.9 U	0.15 J	0.13 J	0.55 U	2 U
Anthracene	3.52	0.45 J	0.42 U	0.72 JD	0.14 J	0.32 J	0.19 J	0.87 J
Benzo[a]anthracene	0.04	**1.2**	**0.059 J**	**3.2 D**	**0.61**	**1.9 J**	**0.92 J**	**2.9**
Benzo[a]pyrene	0.04	**1.1**	**0.045 J**	**2.8 D**	**0.6**	**2 J**	**1 J**	**2.6 J**
Benzo[b]fluoranthene	0.04	**1.2**	0.42 U	**2.4 D**	**0.52**	**2.8 J**	**1.5 J**	**3.9 J**
Benzo[g,h,i]perylene	NC	0.7	0.42 U	1.8 JD	0.42 J	2 J	0.76 J	1.4 J
Benzo[k]fluoranthene	0.04	**0.85**	**0.055 J**	**2.6 D**	**0.62**	**0.91 J**	**0.55 J**	**1.7 J**
Benzyl Butyl Phthalate	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 UJ	2 U
bis(2-Chloroethoxy)Methane	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
bis(2-chloroethyl)ether	0.001	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
bis(2-Ethylhexyl)Phthalate	6.56	0.37 J	0.045 J	1.9 U	0.51 U	0.86 U	0.55 UJ	0.51 J
Carbazole	NC	0.25 J	0.42 U	0.77 JD	0.058 J	0.56 U	0.12 J	1 J
Dibenz[a,h]anthracene	NC	0.46 U	0.42 U	1.9 U	0.093 J	0.42 J	0.55 UJ	0.51 J
Dibenzofuran	NC	0.12 J	0.42 U	1.9 U	0.51 U	0.081 J	0.55 U	0.71 J
Diethyl Phthalate	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
Dimethyl Phthalate	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
di-n-Butyl Phthalate	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
di-n-Octyl Phthalate	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 UJ	2 UJ
Fluoranthene	33.52	2	0.14 J	6.7 D	0.89	3.9	1.9	6.4
Fluorene	0.26	0.24 J	0.42 U	1.9 U	0.067 J	0.2 J	0.091 J	**0.66 J**
Hexachlorobenzene	0.005	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U

Table 4-6C: Ley Creek Deferred Media Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	L10B	L11B	L12C	L8	GM98-SED01	GM98-SED02	GM98-SED03
	Sample Date	11/6/1996	11/6/1996	11/6/1996	11/6/1996	11/17/1998	11/17/1998	11/17/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.83	0.67	0.58	0.83	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
Hexachlorobutadiene	0.01	---	---	---	---	0.56 U	0.55 U	2 U
Hexachlorocyclopentadiene	0.14	0.46 UJ	0.42 UJ	1.9 UJ	0.51 UJ	0.56 U	0.55 U	2 U
Hexachloroethane	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
Indeno[1,2,3-cd]pyrene	0.04	**0.75**	0.42 U	**1.9 JD**	**0.4 J**	**1.7 J**	**0.65 J**	**1.4 J**
Isophorone	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
Naphthalene	0.99	---	---	---	---	0.057 J	0.55 U	**1.3 J**
Nitrobenzene	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
n-Nitroso-di-n-Propylamine	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
n-Nitrosodiphenylamine	NC	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
Pentachlorophenol	1.31	1.2 UJ	1 U	4.8 U	1.3 UJ	1.3 U	1.3 U	4.8 U
Phenanthrene	3.94	1.6	0.13 J	3 D	0.36 J	2 J	1	**5.9**
Phenol	0.02	0.46 U	0.42 U	1.9 U	0.51 U	0.56 U	0.55 U	2 U
Pyrene	31.58	2.3	0.13 J	5.8 D	1.3	5.4	2.2 J	7

See notes on last page.

Table 4-6C: Ley Creek Deferred Media Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED04	GM98-SED05	GM98-SED06	GM98-SED07	GM98-SED08	GM98-SED09	GM98-SED10
	Sample Date	11/17/1998	11/18/1998	11/18/1998	11/18/1998	11/18/1998	11/18/1998	11/18/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
1,2,4-Trichlorobenzene	2.99	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 U
Chrysene	NC	29	8.3 J	12 J	12	4.3 J	2.6 J	16 J
1,2-Dichlorobenzene	0.39	4.2 U	0.47 U	0.71 U	0.6 U	0.59 U	0.43 U	0.68 U
1,3-Dichlorobenzene	0.39	4.2 U	0.47 U	0.71 U	0.6 U	0.59 U	0.43 U	0.68 U
1,4-Dichlorobenzene	0.39	4.2 U	0.47 U	0.71 U	0.6 U	0.59 U	0.43 U	0.68 U
2,2'-oxybis(1-Chloropropane)	NC	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 U
2,4,5-Trichlorophenol	NC	20 U	0.98 U	68 U	1.9 U	2.9 U	2.1 U	3.3 UJ
2,4,6-Trichlorophenol	NC	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 UJ
2,4-Dichlorophenol	NC	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 U
2,4-Dimethylphenol	NC	4.2 U	0.47 U	14 U	0.17 J	0.59 U	0.43 U	0.076 J
2,4-Dinitrophenol	NC	10 U	0.98 U	34 U	1.4 U	1.4 U	1 U	1.6 UJ
2,4-Dinitrotoluene	NC	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 UJ
2,6-Dinitrotoluene	NC	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 UJ
2-Chloronaphthalene	NC	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 UJ
2-Chlorophenol	NC	4.2 U	0.47 U	0.71 U	12 U	0.59 U	0.43 U	0.68 U
2-Methylnaphthalene	1.12	**3.5 J**	0.81	1	**1.3**	0.27 J	0.1 J	**1.2**
2-Methylphenol	NC	4.2 U	0.47 U	14 U	0.073 J	0.59 U	0.43 U	0.68 U
2-Nitroaniline	NC	10 U	0.98 U	34 U	1.4 U	1.4 U	1 U	1.6 UJ
2-Nitrophenol	NC	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 U
3&4-Methylphenol	NC	---	---	---	---	---	---	---
3,3'-Dichlorobenzidine	NC	8.2 U	18 U	28 U	24 U	1.2 U	0.86 UJ	1.3 UJ
3-Nitroaniline	NC	10 U	0.98 U	34 U	1.4 U	1.4 U	1 U	1.6 UJ
4,6-Dinitro-2-Methylphenol	NC	10 U	0.98 UJ	34 U	1.4 UJ	1.4 UJ	1 U	1.6 UJ
4-Bromophenyl Phenyl Ether	NC	4.2 U	0.98 UJ	14 U	0.6 UJ	0.59 UJ	0.44 U	0.68 UJ
4-chloro-3-Methylphenol	NC	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 U
4-Chloroaniline	NC	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 U

Table 4-6C: Ley Creek Deferred Media Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED04	GM98-SED05	GM98-SED06	GM98-SED07	GM98-SED08	GM98-SED09	GM98-SED10
	Sample Date	11/17/1998	11/18/1998	11/18/1998	11/18/1998	11/18/1998	11/18/1998	11/18/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
4-Chlorophenyl Phenyl Ether	NC	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 UJ
4-Methylphenol	NC	4.2 U	0.47 U	0.29 J	0.26 J	0.086 J	0.43 U	0.14 J
4-Nitroaniline	NC	10 U	0.93 U	34 U	1.4 U	1.4 U	1 U	1.6 UJ
4-Nitrophenol	NC	10 U	0.93 U	34 U	1.4 U	1.4 U	1 U	1.6 UJ
Acenaphthene	4.60	**9.9**	1.5	3.1	3.1	0.42 J	0.28 J	4 J
Acenaphthylene	NC	4.2 U	0.16 J	0.16 J	0.14 J	0.25 J	0.09 J	0.22 J
Anthracene	3.52	**12**	1.9	**3.9 J**	**4.4 J**	1.1 J	0.76 J	**4.7 J**
Benzo[a]anthracene	0.04	**30**	**8 J**	**12 J**	**13**	**4.4 J**	**2.6 J**	**15 J**
Benzo[a]pyrene	0.04	**27 J**	**7.4 J**	**11 J**	**11 J**	**4.9**	**2.5 J**	**13**
Benzo[b]fluoranthene	0.04	**27**	**5.8 J**	**14 J**	**14**	**6.5**	**2.9 J**	**17**
Benzo[g,h,i]perylene	NC	20	6.4	9.2 J	8.6 J	4.9 J	2.1 J	13
Benzo[k]fluoranthene	0.04	**13**	**3.5 J**	**5.8 J**	**4.5 J**	**2.2**	**1.1 J**	**6.4 J**
Benzyl Butyl Phthalate	NC	4.2 U	0.93 U	14 U	12 U	0.59 U	0.44 UJ	0.68 UJ
bis(2-Chloroethoxy)Methane	NC	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 U
bis(2-chloroethyl)ether	0.001	4.2 U	0.47 U	0.71 U	0.6 U	0.59 U	0.43 U	0.68 U
bis(2-Ethylhexyl)Phthalate	6.56	4.2 U	9.3 U	2.9 U	1.5 U	3.8 U	0.44 U	1.9 U
Carbazole	NC	10	1.7	3.3 J	3.2 J	0.65 J	0.37 J	4 J
Dibenz[a,h]anthracene	NC	5.9	9.3 U	14 U	2.7 J	1.5 J	0.76 J	4.4
Dibenzofuran	NC	8.8	1.5	2.1	2.4	0.42 J	0.21 J	2.9 J
Diethyl Phthalate	NC	4.2 U	9.3 U	14 U	0.6 U	0.59 U	0.43 U	0.68 UJ
Dimethyl Phthalate	NC	4.2 U	9.3 U	14 U	0.6 U	0.59 U	0.43 U	0.68 UJ
di-n-Butyl Phthalate	NC	4.2 U	9.3 U	14 U	0.6 UJ	0.59 UJ	0.43 U	0.68 UJ
di-n-Octyl Phthalate	NC	4.2 U	9.3 U	14 U	12 U	5.9 U	0.43 U	0.68 U
Fluoranthene	33.52	**57**	17	22	23	4.6 J	4.2 J	30
Fluorene	0.26	**9.4**	**1.6**	**2.5**	**2.6**	**0.59 J**	0.33 J	3.4 J
Hexachlorobenzene	0.005	4.2 U	0.47 U	14 U	0.6 UJ	0.59 UJ	0.43 U	0.68 UJ

Table 4-6C: Ley Creek Deferred Media Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED04	GM98-SED05	GM98-SED06	GM98-SED07	GM98-SED08	GM98-SED09	GM98-SED10
	Sample Date	11/17/1998	11/18/1998	11/18/1998	11/18/1998	11/18/1998	11/18/1998	11/18/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
Hexachlorobutadiene	0.01	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 U
Hexachlorocyclopentadiene	0.14	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 UJ
Hexachloroethane	NC	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 U
Indeno[1,2,3-cd]pyrene	0.04	**17**	**5.6 J**	**8.6 J**	**8.2 J**	**4.3**	**2 J**	**12**
Isophorone	NC	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 U
Naphthalene	0.99	**9.3**	**1.2**	**2.7**	**2.3**	0.43 J	0.2 J	**2.8**
Nitrobenzene	NC	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 U
n-Nitroso-di-n-Propylamine	NC	4.2 U	0.47 U	14 U	0.6 U	0.59 U	0.43 U	0.68 U
n-Nitrosodiphenylamine	NC	4.2 U	9.3 U	14 U	0.6 UJ	0.59 UJ	0.44 U	0.68 UJ
Pentachlorophenol	1.31	10 U	2.2 U	34 U	1.4 UJ	1.4 UJ	1 U	1.6 UJ
Phenanthrene	3.94	**69**	**19**	**22**	**26**	**5.7**	3.1 J	**32**
Phenol	0.02	4.2 U	0.47 U	**0.079 J**	**0.099 J**	0.59 U	0.43 U	**0.086 J**
Pyrene	31.58	**68**	22	29	**32**	13	6.1 J	**36 J**

See notes on last page.

Table 4-6C: Ley Creek Deferred Media Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED11	GM98-SED12	GM98-SED13	GM98-SED14	GM98-SED15	GM98-SED16	DSR S1A
	Sample Date	11/18/1998	11/19/1998	11/19/1998	11/19/1998	11/19/1998	11/19/1998	6/18/2008
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
1,2,4-Trichlorobenzene	2.99	0.61 U	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	---
Chrysene	NC	4.9 J	3.9 J	3.2 J	1.9 J	5.7 J	6.3 J	2.28
1,2-Dichlorobenzene	0.39	0.61 U	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	---
1,3-Dichlorobenzene	0.39	0.61 U	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	---
1,4-Dichlorobenzene	0.39	0.61 U	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	---
2,2'-oxybis(1-Chloropropane)	NC	0.61 U	2.8 U	2.6 U	0.93 U	0.52 U	0.49 U	---
2,4,5-Trichlorophenol	NC	2.9 UJ	2.7 U	2.6 U	2.2 U	2.5 U	2.3 U	---
2,4,6-Trichlorophenol	NC	0.61 UJ	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	---
2,4-Dichlorophenol	NC	0.61 U	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	---
2,4-Dimethylphenol	NC	0.61 U	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	0.44 U
2,4-Dinitrophenol	NC	1.5 UJ	1.3 U	1.3 U	1.1 U	1.3 U	1.2 U	---
2,4-Dinitrotoluene	NC	0.61 UJ	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	---
2,6-Dinitrotoluene	NC	0.61 UJ	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	---
2-Chloronaphthalene	NC	0.61 UJ	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	---
2-Chlorophenol	NC	0.61 U	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	---
2-Methylnaphthalene	1.12	0.13 J	0.13 J	0.11 J	0.12 J	0.12 J	0.18 J	0.17 U
2-Methylphenol	NC	0.61 U	0.55 U	0.52 U	0.93 U	0.52 U	0.49 U	0.17 U
2-Nitroaniline	NC	1.5 UJ	1.3 U	1.3 U	0.46 U	1.3 U	1.2 U	---
2-Nitrophenol	NC	0.61 U	0.55 U	0.52 U	0.93 U	0.52 U	0.49 U	---
3&4-Methylphenol	NC	---	---	---	---	---	---	0.17 U
3,3'-Dichlorobenzidine	NC	1.2 U	5.5 UJ	5.2 UJ	1.8 UJ	5.2 UJ	9.6 UJ	---
3-Nitroaniline	NC	1.5 UJ	1.3 U	1.3 U	0.46 U	1.3 U	1.2 U	---
4,6-Dinitro-2-Methylphenol	NC	1.5 UJ	1.3 U	1.3 U	0.46 U	1.3 U	1.2 UJ	---
4-Bromophenyl Phenyl Ether	NC	0.61 UJ	0.55 U	2.6 U	0.46 U	0.52 U	0.49 UJ	---
4-chloro-3-Methylphenol	NC	0.61 U	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	---
4-Chloroaniline	NC	0.61 U	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	---

Table 4-6C: Ley Creek Deferred Media Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED11	GM98-SED12	GM98-SED13	GM98-SED14	GM98-SED15	GM98-SED16	DSR S1A
	Sample Date	11/18/1998	11/19/1998	11/19/1998	11/19/1998	11/19/1998	11/19/1998	6/18/2008
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
4-Chlorophenyl Phenyl Ether	NC	0.61 UJ	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	---
4-Methylphenol	NC	0.61 U	0.55 U	0.52 U	0.46 U	0.52 U	0.065 J	---
4-Nitroaniline	NC	1.5 UJ	1.3 U	1.3 U	1.1 U	1.3 U	1.2 U	---
4-Nitrophenol	NC	1.5 UJ	1.3 U	1.3 U	1.1 U	1.3 U	1.2 U	---
Acenaphthene	4.60	0.42 J	0.46 J	0.27 J	0.26 J	0.42 J	0.61	0.212
Acenaphthylene	NC	0.18 J	2.8 U	0.11 J	0.054 J	0.12 J	0.19 J	0.196
Anthracene	3.52	0.98 J	0.71	0.54	0.43 J	1.1	1.3 J	0.605
Benzo[a]anthracene	0.04	**4.1 J**	**3.4 J**	**2.8 J**	**1.7 J**	**4.9 J**	**5.7 J**	**1.87**
Benzo[a]pyrene	0.04	**4.6 J**	**3.5 J**	**3 J**	**1.6 J**	**5.1 J**	**5.6 J**	**2.05**
Benzo[b]fluoranthene	0.04	**6.1 J**	**5.7 J**	**4.5 J**	**2.3 J**	**7.4 J**	**8.0 J**	**2.18**
Benzo[g,h,i]perylene	NC	4.6 J	3 J	2.7 J	1.6 J	4.5 J	4.2 J	1.39
Benzo[k]fluoranthene	0.04	**2 J**	**1.9 J**	**1.4 J**	**0.73 J**	**2.7 J**	**3.0 J**	**1.66**
Benzyl Butyl Phthalate	NC	0.61 UJ	2.8 UJ	2.6 UJ	0.46 UJ	0.61 J	0.35 J	0.17 U
bis(2-Chloroethoxy)Methane	NC	0.61 U	2.8 U	0.52 U	0.93 U	0.52 U	0.49 U	---
bis(2-chloroethyl)ether	0.001	0.61 U	2.8 U	0.52 U	0.46 U	0.52 U	0.49 U	---
bis(2-Ethylhexyl)Phthalate	6.56	4.3 U	1.3 U	2.0 U	0.46 U	2.4 U	1.7 UJ	0.738 U
Carbazole	NC	0.47 J	0.4 J	0.36 J	0.3 J	0.56	0.79 J	0.338 J
Dibenz[a,h]anthracene	NC	0.61 U	0.85 J	0.75 J	0.45 J	1.3 J	1.3 J	0.49
Dibenzofuran	NC	0.25 J	0.2 J	0.15 J	0.18 J	0.25 J	0.4 J	0.17 U
Diethyl Phthalate	NC	0.61 UJ	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	---
Dimethyl Phthalate	NC	0.61 UJ	2.8 U	0.52 U	0.46 U	0.52 U	0.49 U	---
di-n-Butyl Phthalate	NC	0.61 UJ	0.55 U	0.52 U	0.93 U	0.52 U	0.49 UJ	---
di-n-Octyl Phthalate	NC	6.1 U	2.8 UJ	2.6 UJ	0.93 UJ	2.6 UJ	4.9 UJ	0.17 U
Fluoranthene	33.52	7.8	5.2	4.1	2.9	9.4	7.5	4.28
Fluorene	0.26	0.49 J	0.41 J	0.27 J	0.27 J	0.47 J	0.62	0.243
Hexachlorobenzene	0.005	0.61 UJ	0.55 U	2.6 U	0.46 U	0.52 U	0.49 UJ	---

Table 4-6C: Ley Creek Deferred Media Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED11	GM98-SED12	GM98-SED13	GM98-SED14	GM98-SED15	GM98-SED16	DSR S1A
	Sample Date	11/18/1998	11/19/1998	11/19/1998	11/19/1998	11/19/1998	11/19/1998	6/18/2008
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**							
Hexachlorobutadiene	0.01	0.61 U	0.55 U	2.6 U	0.46 U	0.52 U	0.49 U	---
Hexachlorocyclopentadiene	0.14	0.61 UJ	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	---
Hexachloroethane	NC	0.61 U	2.8 U	0.52 U	0.46 U	0.52 U	0.49 U	---
Indeno[1,2,3-cd]pyrene	0.04	**3.9 J**	**2.5 J**	**2.4 J**	**1.3 J**	**4.0 J**	**3.9 J**	**1.34**
Isophorone	NC	0.61 U	2.8 U	0.52 U	0.93 U	0.52 U	0.49 U	---
Naphthalene	0.99	0.14 J	0.14 J	2.6 U	0.15 J	0.14 J	0.33 J	0.0847 J
Nitrobenzene	NC	0.61 U	2.8 U	0.52 U	0.93 U	0.52 U	0.49 U	---
n-Nitroso-di-n-Propylamine	NC	0.61 U	2.8 U	0.52 U	0.93 U	0.52 U	0.49 U	---
n-Nitrosodiphenylamine	NC	0.61 UJ	2.8 U	0.52 U	0.46 U	0.52 U	0.49 UJ	---
Pentachlorophenol	1.31	1.5 UJ	1.3 U	1.3 U	1.1 U	1.3 U	1.2 UJ	---
Phenanthrene	3.94	**4.9 J**	3.7	2.8	2.5	**6.1**	**7.3**	2.63
Phenol	0.02	0.61 U	0.55 U	0.52 U	0.46 U	0.52 U	0.49 U	0.17 U
Pyrene	31.58	13	11 J	8.3 J	4.9 J	14 J	18 J	4.33 J

See notes on last page.

Table 4-6C: Ley Creek Deferred Media Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	DSR S2A	DSR S3A	DSR S4A	DSR S5A	DSR S6A	SRS 1A	SRS 2A
	Sample Date	6/18/2008	6/18/2008	6/19/2008	6/19/2008	6/19/2008	6/19/2008	6/23/2008
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.54	0.5
Chemical Name	**Sediment Criteria**							
1,2,4-Trichlorobenzene	2.99	---	---	---	---	---	---	---
Chrysene	NC	2.89	1.72	3.53	3.32	2.85	3.84	3.52
1,2-Dichlorobenzene	0.39	---	---	---	---	---	---	---
1,3-Dichlorobenzene	0.39	---	---	---	---	---	---	---
1,4-Dichlorobenzene	0.39	---	---	---	---	---	---	---
2,2'-oxybis(1-Chloropropane)	NC	---	---	---	---	---	---	---
2,4,5-Trichlorophenol	NC	---	---	---	---	---	---	---
2,4,6-Trichlorophenol	NC	---	---	---	---	---	---	---
2,4-Dichlorophenol	NC	---	---	---	---	---	---	---
2,4-Dimethylphenol	NC	0.43 U	0.52 U	0.55 U	0.48 U	0.52 U	0.53 U	0.52 UJ
2,4-Dinitrophenol	NC	---	---	---	---	---	---	---
2,4-Dinitrotoluene	NC	---	---	---	---	---	---	---
2,6-Dinitrotoluene	NC	---	---	---	---	---	---	---
2-Chloronaphthalene	NC	---	---	---	---	---	---	---
2-Chlorophenol	NC	---	---	---	---	---	---	---
2-Methylnaphthalene	1.12	0.194	0.21 U	0.192 J	0.19 U	0.114 J	0.0987 J	0.21 U
2-Methylphenol	NC	0.17 U	0.21 U	0.22 U	0.19 U	0.21 U	0.21 U	0.21 U
2-Nitroaniline	NC	---	---	---	---	---	---	---
2-Nitrophenol	NC	---	---	---	---	---	---	---
3&4-Methylphenol	NC	0.198	0.21 U	0.22 U	0.19 U	0.21 U	0.21 U	0.21 U
3,3'-Dichlorobenzidine	NC	---	---	---	---	---	---	---
3-Nitroaniline	NC	---	---	---	---	---	---	---
4,6-Dinitro-2-Methylphenol	NC	---	---	---	---	---	---	---
4-Bromophenyl Phenyl Ether	NC	---	---	---	---	---	---	---
4-chloro-3-Methylphenol	NC	---	---	---	---	---	---	---
4-Chloroaniline	NC	---	---	---	---	---	---	---

Table 4-6C: Ley Creek Deferred Media Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	DSR S2A	DSR S3A	DSR S4A	DSR S5A	DSR S6A	SRS 1A	SRS 2A
	Sample Date	6/18/2008	6/18/2008	6/19/2008	6/19/2008	6/19/2008	6/19/2008	6/23/2008
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.54	0.5
Chemical Name	**Sediment Criteria**							
4-Chlorophenyl Phenyl Ether	NC	---	---	---	---	---	---	---
4-Methylphenol	NC	---	---	---	---	---	---	---
4-Nitroaniline	NC	---	---	---	---	---	---	---
4-Nitrophenol	NC	---	---	---	---	---	---	---
Acenaphthene	4.60	0.307	0.112 J	0.507	0.267	0.257	0.358	0.274
Acenaphthylene	NC	0.488	0.34	0.194 J	0.371	0.66	0.428	0.287
Anthracene	3.52	0.839	0.599	1.21	0.971	1.1	1.26	0.888
Benzo[a]anthracene	0.04	**2.44**	**1.52**	**3.12**	**2.67**	**2.17**	**3.18**	**2.96**
Benzo[a]pyrene	0.04	**2.5**	**1.64**	**3.07**	**2.64**	**2.25**	**2.99**	**3.13**
Benzo[b]fluoranthene	0.04	**2.43**	**1.69**	**3.27**	**3.37**	**2.53**	**3.56**	**3.17**
Benzo[g,h,i]perylene	NC	1.49	1.13	1.84	1.98	1.59	2.12	2.2
Benzo[k]fluoranthene	0.04	**2.04**	**1.23**	**2.64**	**2**	**1.9**	**2.45**	**2.47**
Benzyl Butyl Phthalate	NC	0.17 U	0.21 U	0.22 U	0.19 U	0.21 U	0.21 U	0.21 U
bis(2-Chloroethoxy)Methane	NC	---	---	---	---	---	---	---
bis(2-chloroethyl)ether	0.001	---	---	---	---	---	---	---
bis(2-Ethylhexyl)Phthalate	6.56	0.494 U	0.73 U	1.69 U	0.788 U	1.4	1.39	0.623
Carbazole	NC	0.41 J	0.204 J	0.766 J	0.566	0.336	0.706	0.552
Dibenz[a,h]anthracene	NC	0.537	0.391	0.612	0.709	0.538	0.768	0.698
Dibenzofuran	NC	0.221	0.0681 J	0.418	0.193	0.138 J	0.266	0.19 J
Diethyl Phthalate	NC	---	---	---	---	---	---	---
Dimethyl Phthalate	NC	---	---	---	---	---	---	---
di-n-Butyl Phthalate	NC	---	---	---	---	---	---	---
di-n-Octyl Phthalate	NC	0.17 U	0.21 U	0.22 U	0.19 U	0.21 U	0.676	0.21 U
Fluoranthene	33.52	5.6	3.02	6.75	6.32	5.57	7.23	6.59
Fluorene	0.26	**0.38**	0.125 J	**0.544**	**0.355**	**0.268**	**0.443**	**0.311**
Hexachlorobenzene	0.00	---	---	---	---	---	---	---

Table 4-6C: Ley Creek Deferred Media Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	DSR S2A	DSR S3A	DSR S4A	DSR S5A	DSR S6A	SRS 1A	SRS 2A
	Sample Date	6/18/2008	6/18/2008	6/19/2008	6/19/2008	6/19/2008	6/19/2008	6/23/2008
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.54	0.5
Chemical Name	**Sediment Criteria**							
Hexachlorobutadiene	0.01	---	---	---	---	---	---	---
Hexachlorocyclopentadiene	0.14	---	---	---	---	---	---	---
Hexachloroethane	NC	---	---	---	---	---	---	---
Indeno[1,2,3-cd]pyrene	0.04	**1.44**	**1.03**	**1.83**	**1.85**	**1.46**	**1.92**	**2.04**
Isophorone	NC	---	---	---	---	---	---	---
Naphthalene	0.99	0.254	0.0722 J	0.368	0.13 J	0.128 J	0.139 J	0.156 J
Nitrobenzene	NC	---	---	---	---	---	---	---
n-Nitroso-di-n-Propylamine	NC	---	---	---	---	---	---	---
n-Nitrosodiphenylamine	NC	---	---	---	---	---	---	---
Pentachlorophenol	1.31	---	---	---	---	---	---	---
Phenanthrene	3.94	3.23	1.52	**5.05**	3.93	2.33	**5.04**	3.76
Phenol	0.02	0.17 U	0.21 U	0.22 U	0.19 U	0.21 U	0.21 U	0.21 U
Pyrene	31.58	5.74 J	3.33 J	6.8 J	4.95	4.38	5.98	5.81

See notes on last page.

Table 4-6C: Ley Creek Deferred Media Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	SRS 3A	SRS 4A	SRS 5A	SRS 6A	S-2	S-3	SED-20
	Sample Date	6/23/2008	6/23/2008	6/23/2008	6/24/2008	11/9/1992	11/9/1992	8/26/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.67	0.67	0.5
Chemical Name	**Sediment Criteria**							
1,2,4-Trichlorobenzene	2.99	---	---	---	---	ND	ND	ND
Chrysene	NC	4.1 J	3.43	4.82 J	12.3	1	ND	4.9
1,2-Dichlorobenzene	0.39	---	---	---	---	ND	ND	ND
1,3-Dichlorobenzene	0.39	---	---	---	---	ND	ND	ND
1,4-Dichlorobenzene	0.39	---	---	---	---	ND	ND	ND
2,2'-oxybis(1-Chloropropane)	NC	---	---	---	---	ND	ND	ND
2,4,5-Trichlorophenol	NC	---	---	---	---	ND	ND	ND
2,4,6-Trichlorophenol	NC	---	---	---	---	ND	ND	ND
2,4-Dichlorophenol	NC	---	---	---	---	ND	ND	ND
2,4-Dimethylphenol	NC	0.54 UJ	0.49 UJ	0.4 UJ	2.2 U	ND	ND	ND
2,4-Dinitrophenol	NC	---	---	---	---	ND	ND	ND
2,4-Dinitrotoluene	NC	---	---	---	---	ND	ND	ND
2,6-Dinitrotoluene	NC	---	---	---	---	ND	ND	ND
2-Chloronaphthalene	NC	---	---	---	---	ND	ND	ND
2-Chlorophenol	NC	---	---	---	---	ND	ND	ND
2-Methylnaphthalene	1.12	0.112 J	0.19 U	0.333 J	0.995	ND	ND	ND
2-Methylphenol	NC	0.21 U	0.19 U	0.16 U	0.89 U	ND	ND	ND
2-Nitroaniline	NC	---	---	---	---	ND	ND	ND
2-Nitrophenol	NC	---	---	---	---	ND	ND	ND
3&4-Methylphenol	NC	0.21 U	0.19 U	0.16 U	0.89 U	ND	ND	ND
3,3'-Dichlorobenzidine	NC	---	---	---	---	ND	ND	ND
3-Nitroaniline	NC	---	---	---	---	ND	ND	ND
4,6-Dinitro-2-Methylphenol	NC	---	---	---	---	ND	ND	ND
4-Bromophenyl Phenyl Ether	NC	---	---	---	---	ND	ND	ND
4-chloro-3-Methylphenol	NC	---	---	---	---	ND	ND	ND
4-Chloroaniline	NC	---	---	---	---	ND	ND	ND

Table 4-6C: Ley Creek Deferred Media Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	SRS 3A	SRS 4A	SRS 5A	SRS 6A	S-2	S-3	SED-20
	Sample Date	6/23/2008	6/23/2008	6/23/2008	6/24/2008	11/9/1992	11/9/1992	8/26/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.67	0.67	0.5
Chemical Name	**Sediment Criteria**							
4-Chlorophenyl Phenyl Ether	NC	---	---	---	---	ND	ND	ND
4-Methylphenol	NC	---	---	---	---	ND	ND	ND
4-Nitroaniline	NC	---	---	---	---	ND	ND	ND
4-Nitrophenol	NC	---	---	---	---	ND	ND	ND
Acenaphthene	4.60	0.703 J	0.292	0.915 J	2.86	ND	ND	ND
Acenaphthylene	NC	0.209 J	0.338	0.34 J	0.272 J	ND	ND	0.650 J
Anthracene	3.52	1.75	1.07	1.8 J	**4.75**	ND	ND	0.800 J
Benzo[a]anthracene	0.04	**3.72 J**	**2.92**	**4.54 J**	**12.1**	ND	ND	**3.30 J**
Benzo[a]pyrene	0.04	**3.62**	**2.98**	**4.52 J**	**11**	ND	ND	**3.95**
Benzo[b]fluoranthene	0.04	**3.48 J**	**3.06**	**4.05 J**	**10.4**	ND	ND	**6**
Benzo[g,h,i]perylene	NC	2.38 J	2.03	2.77 J	5.44	ND	ND	1.10 J
Benzo[k]fluoranthene	0.04	**2.96**	**2.16**	**3.39 J**	**8.44**	ND	ND	**1.55 J**
Benzyl Butyl Phthalate	NC	0.21 U	0.19 U	0.16 UJ	0.89 U	ND	ND	ND
bis(2-Chloroethoxy)Methane	NC	---	---	---	---	ND	ND	ND
bis(2-chloroethyl)ether	0.001	---	---	---	---	ND	ND	ND
bis(2-Ethylhexyl)Phthalate	6.56	0.458 J	0.585	0.329 J	0.89 U	ND	ND	4.25
Carbazole	NC	1.06 J	0.504	1.14 J	4.29	ND	ND	0.35 J
Dibenz[a,h]anthracene	NC	0.755 J	0.598	0.944 J	2.05	ND	ND	0.4 J
Dibenzofuran	NC	0.446 J	0.179 J	0.729 J	2.88 J	ND	ND	ND
Diethyl Phthalate	NC	---	---	---	---	ND	ND	ND
Dimethyl Phthalate	NC	---	---	---	---	ND	ND	ND
di-n-Butyl Phthalate	NC	---	---	---	---	15	ND	ND
di-n-Octyl Phthalate	NC	0.21 U	0.19 U	0.16 UJ	0.89 U	ND	ND	ND
Fluoranthene	33.52	8.64 J	6.51	9.7 J	31.9	2	ND	8.1
Fluorene	0.26	**0.75 J**	**0.343**	**0.945 J**	**2.79**	ND	ND	ND
Hexachlorobenzene	0.005	---	---	---	---	ND	ND	ND

Table 4-6C: Ley Creek Deferred Media Surface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	SRS 3A	SRS 4A	SRS 5A	SRS 6A	S-2	S-3	SED-20
	Sample Date	6/23/2008	6/23/2008	6/23/2008	6/24/2008	11/9/1992	11/9/1992	8/26/1998
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.67	0.67	0.5
Chemical Name	**Sediment Criteria**							
Hexachlorobutadiene	0.01	---	---	---	---	ND	ND	ND
Hexachlorocyclopentadiene	0.14	---	---	---	---	ND	ND	ND
Hexachloroethane	NC	---	---	---	---	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.04	**2.27 J**	**1.92**	**2.7 J**	**7.71**	ND	ND	**1.6 J**
Isophorone	NC	---	---	---	---	ND	ND	ND
Naphthalene	0.99	0.292 J	0.123 J	0.813 J	**2.67**	ND	ND	ND
Nitrobenzene	NC	---	---	---	---	ND	ND	ND
n-Nitroso-di-n-Propylamine	NC	---	---	---	---	ND	ND	ND
n-Nitrosodiphenylamine	NC	---	---	---	---	ND	ND	ND
Pentachlorophenol	1.31	---	---	---	---	ND	ND	ND
Phenanthrene	3.94	**6.74 J**	3.88	**7.36 J**	**29.5**	1	ND	2.95 J
Phenol	0.02	0.21 U	0.19 U	0.16 U	0.89 U	ND	ND	ND
Pyrene	31.58	7.46 J	5.62	7.62 J	23.2	2	ND	7.7

See notes on last page.

NOTES:
1. Units in milligrams per kilogram (mg/kg) or parts per million (ppm)
2. SVOCs - Semivolatile organic compounds
3. SVOC analysis performed using United States Environmental Protection Agency (USEPA) Method SW8270.
4. "---" indicates the compound was not analyzed for.
5. "ND" indicates the compound was not detected.
6. "U" indicates the compound was analyzed for but not detected.
7. "J" indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
8. "UJ" indicates the compound was not detected and the reporting detection limit is estimated.
9. Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC)
Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening of Contaminated Sediments.
10. Sediment data is screened against the most conservative sediment quality criteria (SCoc) presented in the NYSDEC
Technical Guidance for Screening of Contaminated Sediments.
11. Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (32,864 mg/kg)
within the Ley Creek sampling reach at depths of 0-0.5 feet (surface sediment).
12. Bold values indicate an exceedance of sediment data screening criteria.

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Table 4-6D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED01	GM98-SED07	GM98-SED11	DSR S1B	DSR S2B	DSR S3B
	Sample Date	11/17/1998	11/18/1998	11/18/1998	6/18/2008	6/18/2008	6/18/2008
	Start Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5
	End Depth (ft)	1	1	1	1	1	1
Chemical Name	**Sediment Criteria**						
1,2,4-Trichlorobenzene	2.12	0.56 U	5.2 U	0.57 U	---	---	---
Chrysene	NC	1.7 J	3.8 J	3.3 J	3.09	4.39	0.471
1,2-Dichlorobenzene	0.28	0.56 U	5.2 U	0.57 U	---	---	---
1,3-Dichlorobenzene	0.28	0.56 U	5.2 U	0.57 U	---	---	---
1,4-Dichlorobenzene	0.28	0.56 U	5.2 U	0.57 U	---	---	---
2,2'-oxybis(1-Chloropropane)	NC	0.56 U	5.2 U	0.57 U	---	---	---
2,4,5-Trichlorophenol	NC	2.7 U	25 U	2.6 U	---	---	---
2,4,6-Trichlorophenol	NC	0.56 U	5.2 U	0.57 U	---	---	---
2,4-Dichlorophenol	NC	0.56 U	5.2 U	0.57 U	---	---	---
2,4-Dimethylphenol	NC	0.56 U	5.2 U	0.57 U	0.53 U	0.56 U	0.44 U
2,4-Dinitrophenol	NC	1.3 U	13 U	1.4 U	---	---	---
2,4-Dinitrotoluene	NC	0.56 U	5.2 U	0.57 U	---	---	---
2,6-Dinitrotoluene	NC	0.56 U	5.2 U	0.57 U	---	---	---
2-Chloronaphthalene	NC	0.56 U	5.2 U	0.57 U	---	---	---
2-Chlorophenol	NC	0.56 U	5.2 U	0.57 U	---	---	---
2-Methylnaphthalene	0.79	0.083 J	0.18 J	0.099 J	0.214	0.485	0.18 U
2-Methylphenol	NC	0.56 U	5.2 U	0.57 U	0.21 U	0.23 U	0.18 U
2-Nitroaniline	NC	1.3 U	13 U	1.4 U	---	---	---
2-Nitrophenol	NC	0.56 U	5.2 U	0.57 U	---	---	---
3&4-Methylphenol	NC	---	---	---	0.21 U	0.463	0.18 U
3,3'-Dichlorobenzidine	NC	1.1 U	10 U	1.1 UJ	---	---	---
3-Nitroaniline	NC	1.3 U	13 U	1.4 U	---	---	---
4,6-Dinitro-2-Methylphenol	NC	1.3 U	13 U	1.4 UJ	---	---	---
4-Bromophenyl Phenyl Ether	NC	0.56 U	5.2 U	0.57 UJ	---	---	---
4-chloro-3-Methylphenol	NC	0.56 U	5.2 U	0.57 U	---	---	---
4-Chloroaniline	NC	0.56 U	5.2 U	0.57 U	---	---	---
4-Chlorophenyl Phenyl Ether	NC	0.56 U	5.2 U	0.57 UJ	---	---	---
4-Methylphenol	NC	0.56 U	0.054 J	0.57 U	---	---	---

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Table 4-6D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED01	GM98-SED07	GM98-SED11	DSR S1B	DSR S2B	DSR S3B
	Sample Date	11/17/1998	11/18/1998	11/18/1998	6/18/2008	6/18/2008	6/18/2008
	Start Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5
	End Depth (ft)	1	1	1	1	1	1
Chemical Name	**Sediment Criteria**						
4-Nitroaniline	NC	1.3 U	13 U	1.4 UJ	---	---	---
4-Nitrophenol	NC	1.3 U	13 U	1.4 U	---	---	---
Acenaphthene	3.26	0.1 J	0.62	0.24 J	0.449	0.288	0.0359 J
Acenaphthylene	NC	0.13 J	0.14 J	0.12 J	0.428	1.04	0.114 J
Anthracene	2.49	0.26 J	0.93 J	0.56 J	1.02	1.52	0.173 J
Benzo[a]anthracene	0.03	**1.4 J**	**3.5 J**	**2.5 J**	**2.64**	**3.28**	**0.427**
Benzo[a]pyrene	0.03	**1.6 J**	**3.5 J**	**2.9 J**	**2.67**	**3.42**	**0.484**
Benzo[b]fluoranthene	0.03	**2 J**	**4.5 J**	**3.8 J**	**2.52**	**3.55**	**0.507**
Benzo[g,h,i]perylene	NC	1.7 J	2.9 J	3.2 J	1.65	2.14	0.353
Benzo[k]fluoranthene	0.03	**0.78 J**	**1.4 J**	**1.3 J**	**2.2**	**2.92**	**0.371**
Benzyl Butyl Phthalate	NC	0.56 U	5.2 U	0.57 UJ	0.21 U	0.23 U	0.18 U
bis(2-Chloroethoxy)Methane	NC	0.56 U	5.2 U	0.57 U	---	---	---
bis(2-chloroethyl)ether	0.001	0.56 U	5.2 U	0.57 U	---	---	---
bis(2-Ethylhexyl)Phthalate	4.65	1.4 U	1.3 U	2.7 J	1.75 U	0.422 U	1.05 U
Carbazole	NC	0.17 J	0.64 J	0.23 J	0.41 J	0.297 J	0.0625 J
Dibenz[a,h]anthracene	NC	0.56 U	5.2 U	0.83 J	0.567	0.75	0.123 J
Dibenzofuran	NC	0.078 J	0.3 J	0.13 J	0.326	0.302	0.0306 J
Diethyl Phthalate	NC	0.56 U	5.2 U	0.57 UJ	---	---	---
Dimethyl Phthalate	NC	0.56 U	5.2 U	0.57 U	---	---	---
di-n-Butyl Phthalate	NC	0.56 U	5.2 U	0.57 UJ	---	---	---
di-n-Octyl Phthalate	NC	0.56 U	5.2 U	5.7 U	0.21 U	0.23 U	0.18 U
Fluoranthene	23.77	1.9	6.7	4.2 J	5.33	7.25	0.724
Fluorene	0.19	0.13 J	**0.46 J**	**0.31 J**	**0.448**	**0.764**	0.0412 J
Hexachlorobenzene	0.003	0.56 U	5.2 U	0.57 UJ	---	---	---
Hexachlorobutadiene	0.01	0.56 U	5.2 U	0.57 U	---	---	---
Hexachlorocyclopentadiene	0.10	0.56 U	5.2 U	0.57 UJ	---	---	---

Table 4-6D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED01	GM98-SED07	GM98-SED11	DSR S1B	DSR S2B	DSR S3B
	Sample Date	11/17/1998	11/18/1998	11/18/1998	6/18/2008	6/18/2008	6/18/2008
	Start Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5
	End Depth (ft)	1	1	1	1	1	1
Chemical Name	**Sediment Criteria**						
Hexachloroethane	NC	0.56 U	5.2 U	0.57 U	---	---	---
Indeno[1,2,3-cd]pyrene	0.03	**1.5 J**	**2.85 J**	**2.8 J**	**1.53**	**2.08**	**0.324**
Isophorone	NC	0.56 U	5.2 U	0.57 U	---	---	---
Naphthalene	0.70	0.08 J	0.28 J	0.083 J	0.283	0.42	0.0427 J
Nitrobenzene	NC	0.56 U	5.2 U	0.57 U	---	---	---
n-Nitroso-di-n-Propylamine	NC	0.56 U	5.2 U	0.57 U	---	---	---
n-Nitrosodiphenylamine	NC	0.56 U	5.2 U	0.57 UJ	---	---	---
Pentachlorophenol	0.93	1.3 U	13 U	1.4 UJ	---	---	---
Phenanthrene	2.80	1.4	**4.9 J**	**2.9 J**	**2.97**	**3.43**	0.444
Phenol	0.01	0.56 U	5.2 U	0.57 U	0.21 U	0.23 U	0.18 U
Pyrene	22.40	4.4	9.4	6.6 J	6.54 J	8.48 J	0.978 J

See notes on last page.

Table 4-6D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	DSR S4B	DSR S5B	DSR S6B	SRS 1B	SRS 3B	SRS 4B	SRS 5B
	Sample Date	6/19/2008	6/19/2008	6/19/2008	6/19/2008	6/23/2008	6/23/2008	6/23/2008
	Start Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	End Depth (ft)	1	1	1	1	1	1	1
Chemical Name	**Sediment Criteria**							
1,2,4-Trichlorobenzene	2.12	---	---	---	---	---	---	---
Chrysene	NC	20.1	1.14 J	0.678	15.2	0.244	2.5	0.75
1,2-Dichlorobenzene	0.28	---	---	---	---	---	---	---
1,3-Dichlorobenzene	0.28	---	---	---	---	---	---	---
1,4-Dichlorobenzene	0.28	---	---	---	---	---	---	---
2,2'-oxybis(1-Chloropropane)	NC	---	---	---	---	---	---	---
2,4,5-Trichlorophenol	NC	---	---	---	---	---	---	---
2,4,6-Trichlorophenol	NC	---	---	---	---	---	---	---
2,4-Dichlorophenol	NC	---	---	---	---	---	---	---
2,4-Dimethylphenol	NC	0.52 U	0.43 UJ	0.46 U	0.48 U	0.47 UJ	0.47 UJ	0.43 UJ
2,4-Dinitrophenol	NC	---	---	---	---	---	---	---
2,4-Dinitrotoluene	NC	---	---	---	---	---	---	---
2,6-Dinitrotoluene	NC	---	---	---	---	---	---	---
2-Chloronaphthalene	NC	---	---	---	---	---	---	---
2-Chlorophenol	NC	---	---	---	---	---	---	---
2-Methylnaphthalene	0.79	0.623	0.17 UJ	0.18 U	0.465	0.19 U	0.19 U	0.17 U
2-Methylphenol	NC	0.21 U	0.17 UJ	0.18 U	0.19 U	0.19 U	0.19 U	0.17 U
2-Nitroaniline	NC	---	---	---	---	---	---	---
2-Nitrophenol	NC	---	---	---	---	---	---	---
3&4-Methylphenol	NC	0.21 U	0.17 UJ	0.18 U	0.19 U	0.19 U	0.19 U	0.17 U
3,3'-Dichlorobenzidine	NC	---	---	---	---	---	---	---
3-Nitroaniline	NC	---	---	---	---	---	---	---
4,6-Dinitro-2-Methylphenol	NC	---	---	---	---	---	---	---
4-Bromophenyl Phenyl Ether	NC	---	---	---	---	---	---	---
4-chloro-3-Methylphenol	NC	---	---	---	---	---	---	---
4-Chloroaniline	NC	---	---	---	---	---	---	---
4-Chlorophenyl Phenyl Ether	NC	---	---	---	---	---	---	---
4-Methylphenol	NC	---	---	---	---	---	---	---

Table 4-6D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	DSR S4B	DSR S5B	DSR S6B	SRS 1B	SRS 3B	SRS 4B	SRS 5B
	Sample Date	6/19/2008	6/19/2008	6/19/2008	6/19/2008	6/23/2008	6/23/2008	6/23/2008
	Start Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	End Depth (ft)	1	1	1	1	1	1	1
Chemical Name	**Sediment Criteria**							
4-Nitroaniline	NC	---	---	---	---	---	---	---
4-Nitrophenol	NC	---	---	---	---	---	---	---
Acenaphthene	3.26	2.17	0.0463 J	0.071 J	2.29	0.19 U	0.26	0.0613 J
Acenaphthylene	NC	0.647	0.0956 J	0.237	0.613	0.0508 J	0.232	0.118 J
Anthracene	2.49	**5.87**	0.29 J	0.319	**7.55**	0.19 U	0.723	0.24
Benzo[a]anthracene	0.03	**19.2**	**0.931 J**	**0.503**	**15.6**	**0.165 J**	**2.1**	**0.634**
Benzo[a]pyrene	0.03	**16**	**1.04 J**	**0.486**	**12.5**	**0.189 J**	**2.11**	**0.639**
Benzo[b]fluoranthene	0.03	**15.3**	**1.08 J**	**0.531**	**12.3**	**0.131 J**	**2.03**	**0.48**
Benzo[g,h,i]perylene	NC	8.05	0.731 J	0.388	6.94	0.125 J	1.39	0.422
Benzo[k]fluoranthene	0.03	**14.7**	**0.802 J**	**0.232**	**10.5**	**0.178 J**	**1.71**	**0.483**
Benzyl Butyl Phthalate	NC	0.21 U	0.17 UJ	0.18 U	0.19 U	0.19 U	0.19 U	0.17 U
bis(2-Chloroethoxy)Methane	NC	---	---	---	---	---	---	---
bis(2-chloroethyl)ether	0.001	---	---	---	---	---	---	---
bis(2-Ethylhexyl)Phthalate	4.65	0.693 U	0.476 J	0.574 U	1.04	0.19 U	0.355	0.0996 J
Carbazole	NC	4.63	0.124 J	0.0883 J	4.55	0.19 U	0.44	0.063 J
Dibenz[a,h]anthracene	NC	0.85	0.205 J	0.138 J	2.71	0.0383 J	0.418	0.116 J
Dibenzofuran	NC	1.87	0.033 J	0.0321 J	1.72	0.19 U	0.157 J	0.17 U
Diethyl Phthalate	NC	---	---	---	---	---	---	---
Dimethyl Phthalate	NC	---	---	---	---	---	---	---
di-n-Butyl Phthalate	NC	---	---	---	---	---	---	---
di-n-Octyl Phthalate	NC	0.21 U	0.17 UJ	0.18 U	0.19 U	0.19 U	0.19 U	0.17 U
Fluoranthene	23.77	**41.2**	2.25 J	1.34	**32.8**	0.417	4.98	1.49
Fluorene	0.19	**2.69**	0.0685 J	0.0726 J	**3.29**	0.19 U	**0.29**	0.0752 J
Hexachlorobenzene	0.003	---	---	---	---	---	---	---
Hexachlorobutadiene	0.01	---	---	---	---	---	---	---
Hexachlorocyclopentadiene	0.10	---	---	---	---	---	---	---

Table 4-6D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	DSR S4B	DSR S5B	DSR S6B	SRS 1B	SRS 3B	SRS 4B	SRS 5B
	Sample Date	6/19/2008	6/19/2008	6/19/2008	6/19/2008	6/23/2008	6/23/2008	6/23/2008
	Start Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	End Depth (ft)	1	1	1	1	1	1	1
Chemical Name	**Sediment Criteria**							
Hexachloroethane	NC	---	---	---	---	---	---	---
Indeno[1,2,3-cd]pyrene	0.03	**7.76**	**0.643 J**	**0.337**	**6.89**	**0.109 J**	**1.29**	**0.376**
Isophorone	NC	---	---	---	---	---	---	---
Naphthalene	0.70	**1.1 J**	0.17 UJ	0.0397 J	**0.777 J**	0.19 U	0.116 J	0.17 U
Nitrobenzene	NC	---	---	---	---	---	---	---
n-Nitroso-di-n-Propylamine	NC	---	---	---	---	---	---	---
n-Nitrosodiphenylamine	NC	---	---	---	---	---	---	---
Pentachlorophenol	0.93	---	---	---	---	---	---	---
Phenanthrene	2.80	**39.6**	0.917 J	0.517	**33**	0.264	**3.27**	0.757
Phenol	0.01	0.21 U	**4.83 J**	0.18 U	0.19 U	0.19 U	0.19 U	0.17 U
Pyrene	22.40	**36**	1.93 J	1.23	**27.1**	0.42	4.33	1.33

See notes on last page.

Table 4-6D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	SRS 2B	SRS 6B	S-2	S-3	SED-20D
	Sample Date	6/26/2008	6/26/2008	11/9/1992	11/9/1992	8/26/1998
	Start Depth (ft)	0.5	0.5	0.67	0.67	0.5
	End Depth (ft)	1	1	1.33	1.33	1
Chemical Name	**Sediment Criteria**					
1,2,4-Trichlorobenzene	2.12	---	---	ND	ND	ND
Chrysene	NC	0.851	0.0958 J	ND	2	3.15 J
1,2-Dichlorobenzene	0.28	---	---	ND	ND	ND
1,3-Dichlorobenzene	0.28	---	---	ND	ND	ND
1,4-Dichlorobenzene	0.28	---	---	ND	ND	ND
2,2'-oxybis(1-Chloropropane)	NC	---	---	ND	ND	ND
2,4,5-Trichlorophenol	NC	---	---	ND	ND	ND
2,4,6-Trichlorophenol	NC	---	---	ND	ND	ND
2,4-Dichlorophenol	NC	---	---	ND	ND	ND
2,4-Dimethylphenol	NC	0.41 U	0.39 U	ND	ND	ND
2,4-Dinitrophenol	NC	---	---	ND	ND	ND
2,4-Dinitrotoluene	NC	---	---	ND	ND	ND
2,6-Dinitrotoluene	NC	---	---	ND	ND	ND
2-Chloronaphthalene	NC	---	---	ND	ND	ND
2-Chlorophenol	NC	---	---	ND	ND	ND
2-Methylnaphthalene	0.79	0.17 U	0.16 U	ND	ND	ND
2-Methylphenol	NC	0.17 U	0.16 U	ND	ND	ND
2-Nitroaniline	NC	---	---	ND	ND	ND
2-Nitrophenol	NC	---	---	ND	ND	ND
3&4-Methylphenol	NC	0.17 U	0.16 U	ND	ND	ND
3,3'-Dichlorobenzidine	NC	---	---	ND	ND	ND
3-Nitroaniline	NC	---	---	ND	ND	ND
4,6-Dinitro-2-Methylphenol	NC	---	---	ND	ND	ND
4-Bromophenyl Phenyl Ether	NC	---	---	ND	ND	ND
4-chloro-3-Methylphenol	NC	---	---	ND	ND	ND
4-Chloroaniline	NC	---	---	ND	ND	ND
4-Chlorophenyl Phenyl Ether	NC	---	---	ND	ND	ND
4-Methylphenol	NC	---	---	ND	ND	ND

Table 4-6D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	SRS 2B	SRS 6B	S-2	S-3	SED-20D
	Sample Date	6/26/2008	6/26/2008	11/9/1992	11/9/1992	8/26/1998
	Start Depth (ft)	0.5	0.5	0.67	0.67	0.5
	End Depth (ft)	1	1	1.33	1.33	1
Chemical Name	**Sediment Criteria**					
4-Nitroaniline	NC	---	---	ND	ND	ND
4-Nitrophenol	NC	---	---	ND	ND	ND
Acenaphthene	3.26	0.118 J	0.16 U	ND	ND	0.250 J
Acenaphthylene	NC	0.0895 J	0.16 U	ND	ND	0.300 J
Anthracene	2.49	0.243	0.16 U	ND	ND	0.550 J
Benzo[a]anthracene	0.03	**0.729**	**0.0874 J**	ND	**1**	**2.4 J**
Benzo[a]pyrene	0.03	**0.855**	**0.0788 J**	ND	**1**	**2.6 J**
Benzo[b]fluoranthene	0.03	**0.914**	**0.0932 J**	ND	**1**	**3.2 J**
Benzo[g,h,i]perylene	NC	0.578	0.0738 J	ND	ND	0.750 J
Benzo[k]fluoranthene	0.03	**0.513**	**0.0736 J**	ND	ND	**1.2 J**
Benzyl Butyl Phthalate	NC	0.17 U	0.16 U	ND	ND	ND
bis(2-Chloroethoxy)Methane	NC	---	---	ND	ND	ND
bis(2-chloroethyl)ether	0.001	---	---	ND	ND	
bis(2-Ethylhexyl)Phthalate	4.65	0.582	0.16 U	ND	ND	2.55 J
Carbazole	NC	0.118 J	0.16 U	ND	ND	ND
Dibenz[a,h]anthracene	NC	0.219	0.16 U	ND	ND	2.3 J
Dibenzofuran	NC	0.0628 J	0.16 U	ND	ND	ND
Diethyl Phthalate	NC	---	---	ND	ND	ND
Dimethyl Phthalate	NC	---	---	ND	ND	ND
di-n-Butyl Phthalate	NC	---	---	ND	ND	ND
di-n-Octyl Phthalate	NC	0.17 U	0.16 U	ND	ND	ND
Fluoranthene	23.77	1.73	0.174	1	4	6.05 J
Fluorene	0.19	0.0976 J	0.16 U	ND	ND	**0.300 J**
Hexachlorobenzene	0.003	---	---	ND	ND	ND
Hexachlorobutadiene	0.01	---	---	ND	ND	ND
Hexachlorocyclopentadiene	0.10	---	---	ND	ND	ND

Table 4-6D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Semivolatile Organic Compounds

	Sample Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	SRS 2B	SRS 6B	S-2	S-3	SED-20D
	Sample Date	6/26/2008	6/26/2008	11/9/1992	11/9/1992	8/26/1998
	Start Depth (ft)	0.5	0.5	0.67	0.67	0.5
	End Depth (ft)	1	1	1.33	1.33	1
Chemical Name	**Sediment Criteria**					
Hexachloroethane	NC	---	---	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.03	**0.723**	**0.0858 J**	ND	ND	**1.2 J**
Isophorone	NC	---	---	ND	ND	ND
Naphthalene	0.70	0.0784 J	0.16 U	ND	ND	ND
Nitrobenzene	NC	---	---	ND	ND	ND
n-Nitroso-di-n-Propylamine	NC	---	---	ND	ND	ND
n-Nitrosodiphenylamine	NC	---	---	ND	ND	ND
Pentachlorophenol	0.93	---	---	ND	ND	ND
Phenanthrene	2.80	0.932	0.0729 J	ND	2	1.2 J
Phenol	0.01	0.17 U	0.16 U	ND	ND	ND
Pyrene	22.40	1.54	0.157 J	1	4	5.35 J

See notes on last page.

NOTES:
1. Units in milligrams per kilogram (mg/kg) or parts per million (ppm)
2. SVOCs - Semivolatile organic compounds
3. SVOC analysis performed using United States Environmental Protection Agency (USEPA) Method SW8270.
4. "---" indicates the compound was not analyzed for.
5. "ND" indicates not detected.
6. "U" indicates the compound was analyzed for but not detected.
7. "J" indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
8. "UJ" indicates the compound was not detected and the reporting detection limit is estimated.
9. "D" indicates the compound is reported at the secondary dilution factor.
10. Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC)
Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening of Contaminated Sediments.
11. Sediment data is screened against the most conservative sediment quality criteria (SCoc) presented in the NYSDEC
Technical Guidance for Screening of Contaminated Sediments.
12. Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (23,307 mg/kg)
within the Ley Creek sampling reach at depths of 0.5-3.5 feet (subsurface sediment).
13. Bold values indicate an exceedance of sediment data screening criteria.

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Table 4-7A: Upstream Surface Sediment Data Summary - Polychlorinated Biphenyls

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	1000 N Bank	1000 Center	1000 S Bank	500 N Bank	500 Center	500 S Bank
	Sample Date	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985
	Start Depth (ft)	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**						
Aroclor-1016	0.000011						
Aroclor-1221	0.000011						
Aroclor-1232	0.000011						
Aroclor-1242	0.000011						
Aroclor-1248	0.000011	0.1 U	-	-	0.83	-	0.15
Aroclor-1254	0.000011						
Aroclor-1260	0.000011	0.42	0.02 U	0.016	-	0.065	-

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	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	L13	L14	L15	L16	L17	L18	L19	L20
	Sample Date	11/6/1996	11/12/1996	11/12/1996	11/12/1996	11/12/1996	11/12/1996	11/12/1996	11/12/1996
	Start Depth (ft)	0	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.75	0.92	0.92	1	0.83	0.92	1
Chemical Name	**Sediment Criteria**								
Aroclor-1016	0.000011	0.042 U	0.044 U	0.04 U	0.04 UJ	0.043 U	0.04 U	0.045 UX	0.044 UX
Aroclor-1221	0.000011	0.086 U	0.089 U	0.081 U	0.082 UJ	0.087 U	0.082 U	0.091 U	0.09 U
Aroclor-1232	0.000011	0.042 U	0.044 U	0.04 U	0.04 UJ	0.043 U	0.04 U	0.045 U	0.044 U
Aroclor-1242	0.000011	0.042 U	0.044 U	0.04 U	0.04 UJ	0.043 U	0.04 U	**0.072 J**	**0.071**
Aroclor-1248	0.000011	0.042 U	0.044 U	0.04 U	0.04 UJ	0.043 U	0.04 U	0.045 U	0.044 U
Aroclor-1254	0.000011	**0.02 J**	0.044 U	0.04 U	0.04 UJ	0.043 U	0.04 U	**0.23**	**0.22**
Aroclor-1260	0.000011	**0.019 J**	0.044 U	0.04 U	0.04 UJ	0.043 U	**0.016 J**	**0.1**	**0.12**

See notes on last page.

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Table 4-7A: Upstream Surface Sediment Data Summary - Polychlorinated Biphenyls

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	L22	L24	L26	L28	GM98-SED17	GM98-SED18	GM98-SED19	GM98-SED20
	Sample Date	11/14/1996	11/14/1996	11/14/1996	11/21/1996	11/19/1998	11/19/1998	11/19/1998	11/20/1998
	Start Depth (ft)	0	0	0	0	0	0	0	0
	End Depth (ft)	**	**	0.96	**	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**								
Aroclor-1016	0.000011	**0.056 X**	**0.049 X**	**0.052 X**	0.05 U	0.13 U	0.025 U	0.041 U	0.11 U
Aroclor-1221	0.000011	0.11 U	0.099 U	0.1 U	0.1 U	0.13 U	0.025 U	0.041 U	0.11 U
Aroclor-1232	0.000011	0.056 U	0.049 U	0.052 U	0.05 U	0.13 U	0.025 U	0.041 U	0.11 U
Aroclor-1242	0.000011	**1.9 D**	**0.097**	**0.066**	0.05 U	0.13 U	0.025 U	0.041 U	0.11 U
Aroclor-1248	0.000011	0.056 U	0.049 U	0.052 U	0.05 U	**0.2**	0.025 U	0.041 U	**0.16**
Aroclor-1254	0.000011	**2 D**	**0.18**	**0.096**	**0.013 J**	0.13 U	0.025 U	**0.14**	0.11 U
Aroclor-1260	0.000011	**0.86 J**	**0.037 J**	**0.041 J**	**0.012 J**	**0.34**	0.025 U	0.041 U	**0.27**

See notes on last page.

Table 4-7A: Upstream Surface Sediment Data Summary - Polychlorinated Biphenyls

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED21	GM98-SED22	GM98-SED23	GM98-SED24	GM98-SED25	GM98-SED26	GM98-SED25	GM98-SED26
	Sample Date	11/20/1998	11/20/1998	11/20/1998	11/20/1998	11/20/1998	11/20/1998	11/20/1998	11/20/1998
	Start Depth (ft)	0	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**								
Aroclor-1016	0.000024	0.023 U	0.022 U	0.024 U	0.025 U	0.23 U	0.26 U	0.23 U	0.26 U
Aroclor-1221	0.000024	0.023 U	0.022 U	0.024 U	0.025 U	0.23 U	0.26 U	0.23 U	0.26 U
Aroclor-1232	0.000024	0.023 U	0.022 U	0.024 U	0.025 U	0.23 U	0.26 U	0.23 U	0.26 U
Aroclor-1242	0.000024	0.023 U	0.022 U	0.024 U	0.025 U	0.23 U	0.26 U	0.23 U	0.26 U
Aroclor-1248	0.000024	0.023 U	0.022 U	**0.061**	**0.098**	0.23 U	0.26 U	0.23 U	0.26 U
Aroclor-1254	0.000024	0.023 U	0.022 U	0.024 U	0.025 U	0.23 U	0.26 U	0.23 U	0.26 U
Aroclor-1260	0.000024	**0.045**	**0.093**	**0.025**	**0.063**	**0.65**	**1.3**	**0.65**	**1.3**

See notes on last page.

Table 4-7A: Upstream Surface Sediment Data Summary - Polychlorinated Biphenyls

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	SBR S1A	SBR S2A	SBR S3A	SCR S1A	SCR S2A	SCR S3A
	Sample Date	6/24/2008	6/24/2008	6/24/2008	6/24/2008	6/25/2008	6/25/2008
	Start Depth (ft)	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**						
Aroclor-1016	0.000024	0.045 UJ	0.044 U	0.056 UJ	0.048 U	0.051 U	0.044 U
Aroclor-1221	0.000024	0.045 UJ	0.044 U	0.056 UJ	0.048 U	0.051 U	0.044 U
Aroclor-1232	0.000024	0.045 UJ	0.044 U	0.056 UJ	0.048 U	0.051 U	0.044 U
Aroclor-1242	0.000024	0.045 UJ	0.044 U	0.056 UJ	0.048 U	0.051 U	0.044 U
Aroclor-1248	0.000024	0.045 UJ	**0.103**	**0.0968 J**	0.048 U	0.051 U	0.044 U
Aroclor-1254	0.000024	**0.0665 J**	**0.071**	0.056 UJ	0.048 U	0.051 U	0.044 U
Aroclor-1260	0.000024	0.045 UJ	0.044 U	0.056 UJ	**0.178**	**0.86**	0.044 U

See notes on last page.

Table 4-7A: Upstream Surface Sediment Data Summary - Polychlorinated Biphenyls

	Sampling Reach	Upstream	Upstream	Upstream
	Sample Location	NBR S1A	NBR S2A	NBR S3A
	Sample Date	6/25/2008	6/25/2008	6/25/2008
	Start Depth (ft)	0	0	0
	End Depth (ft)	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**			
Aroclor-1016	0.000024	0.043 U	0.042 U	0.043 U
Aroclor-1221	0.000024	0.043 U	0.042 U	0.043 U
Aroclor-1232	0.000024	0.043 U	0.042 U	0.043 U
Aroclor-1242	0.000024	0.043 U	0.042 U	0.043 U
Aroclor-1248	0.000024	0.043 U	0.042 U	0.043 U
Aroclor-1254	0.000024	0.043 U	0.042 U	0.043 U
Aroclor-1260	0.000024	0.043 U	0.042 U	0.043 U

See notes on last page.

NOTES:
1. Units in milligrams per kilogram (mg/kg) or parts per million (ppm)
2. PCBs - Polychlorinated Biphenyls
3. PCB analysis performed using United States Environmental Protection Agency (USEPA) Method SW8082.
4. "U" indicates the compound was analyzed for but not detected.
5. "J" indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
6. "UJ" indicates the compound was not detected and the reporting detection limit is estimated.
7. "UX" indicates the compound was not detected and other specific flags may be required to properly define the results.
8. "X" indicates other specific flags may be required to properly define the results.
9. Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC)
Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening of Contaminated Sediments.
10. Sediment data is screened against the most conservative sediment quality criteria (SCoc) presented in the NYSDEC
Technical Guidance for Screening of Contaminated Sediments.
11. Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (30,331 mg/kg)
within the Upstream sampling reach at depths of 0-0.5 feet (surface sediment).
12. Bold values indicate an exceedance of sediment data screening criteria.
13. "**" indicated unknown sample end depth.

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Table 4-7B: Upstream Subsurface Sediment Data Summary - Polychlorinated Biphenyls

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	1000 N Bank	1000 N Bank	1000 Center	1000 Center	1000 S Bank	1000 S Bank	500 N Bank	500 Center
	Sample Date	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985
	Start Depth (ft)	0.5	1	0.5	1	0.5	1	0.5	0.5
	End Depth (ft)	1	1.5	1	1.5	1	1.5	1	1
Chemical Name	**Sediment Criteria**								
Aroclor-1016	0.000011								
Aroclor-1221	0.000011								
Aroclor-1232	0.000011								
Aroclor-1242	0.000011								
Aroclor-1248	0.000011	-	0.01 U	0.04 U	0.02 U	-	0.02 U	0.05 U	-
Aroclor-1254	0.000011								
Aroclor-1260	0.000011	.01 U	-	-	-	0.02 U	-	0.10	0.45

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	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED18	GM98-SED20	GM98-SED21	SCR S1B	SCR S2B	NBR S1B	NBR S2B	NBR S3B
	Sample Date	11/19/1998	11/20/1998	11/20/1998	6/24/2008	6/25/2008	6/25/2008	6/25/2008	6/25/2008
	Start Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	End Depth (ft)	1	1	1	1	1	1	1	1
Chemical Name	**Sediment Criteria**								
Aroclor-1016	0.000011	0.025 U	0.02 U	0.024 U	0.044 UJ	0.043 U	0.046 U	0.038 UJ	0.05 U
Aroclor-1221	0.000011	0.025 U	0.02 U	0.024 U	0.044 UJ	0.043 U	0.046 U	0.038 UJ	0.05 U
Aroclor-1232	0.000011	0.025 U	0.02 U	0.024 U	0.044 UJ	0.043 U	0.046 U	0.038 UJ	0.05 U
Aroclor-1242	0.000011	0.025 U	0.02 U	0.024 U	0.044 UJ	0.043 U	0.046 U	0.038 UJ	0.05 U
Aroclor-1248	0.000011	0.025 U	**0.066**	**0.031**	0.044 UJ	0.043 U	0.046 U	0.038 UJ	0.05 U
Aroclor-1254	0.000011	0.025 U	0.02 U	0.024 U	0.044 UJ	0.043 U	0.046 U	0.038 UJ	0.05 U
Aroclor-1260	0.000011	0.025 U	**0.067**	**0.079**	0.044 UJ	0.043 U	0.046 U	0.038 UJ	0.05 U

See notes on last page.

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Table 4-7B: Upstream Subsurface Sediment Data Summary - Polychlorinated Biphenyls

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	SBR S1B	SBR S2B	SBRS3B	SCRS3B	L25	L27
	Sample Date	6/26/2008	6/26/2008	6/26/2008	6/26/2008	11/14/1996	11/14/1996
	Start Depth (ft)	0.5	0.5	0.5	0.5	0	0
	End Depth (ft)	1	1	1	1	1.33	1.25
Chemical Name	**Sediment Criteria**						
Aroclor-1016	0.000011	0.044 U	0.045 U	0.053 U	0.042 U	**0.061 X**	0.05 UJ
Aroclor-1221	0.000011	0.044 U	0.045 U	0.053 U	0.042 U	0.12 U	0.1 UJ
Aroclor-1232	0.000011	0.044 U	0.045 U	0.053 U	0.042 U	0.061 U	0.05 UJ
Aroclor-1242	0.000011	0.044 U	0.045 U	0.053 U	0.042 U	**0.098**	0.05 UJ
Aroclor-1248	0.000011	0.044 U	**0.0744**	**0.109**	0.042 U	0.061 U	0.05 UJ
Aroclor-1254	0.000011	0.044 U	0.045 U	0.053 U	0.042 U	**0.18**	**0.1 J**
Aroclor-1260	0.000011	0.044 U	0.045 U	0.053 U	0.042 U	**0.083**	**0.038 J**

See notes on last page.

NOTES:
1. Units in milligrams per kilogram (mg/kg) or parts per million (ppm)
2. PCBs - Polychlorinated Biphenyls
3. PCB analysis performed using United States Environmental Protection Agency (USEPA) Method SW8082.
4. "U" indicates the compound was analyzed for but not detected.
5. "J" indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
6. "UJ" indicates the compound was not detected and the reporting detection limit is estimated.
7. "X" indicates other specific flags may be required to properly define the results.
8. "D" indicates the compound at the secondary dilution factor.
9. Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC)
Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening of Contaminated Sediments.
10. Sediment data is screened against the most conservative sediment quality criteria (SCoc) presented in the NYSDEC
Technical Guidance for Screening of Contaminated Sediments.
11. Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (13,616 mg/kg)
within the Upstream sampling reach at depths of 0.5-1 feet (subsurface sediment).
12. Bold values indicate an exceedance of sediment data screening criteria.

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Table 4-7C: Ley Creek Deferred Media Surface Sediment Data Summary - Polychlorinated Biphenyls

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	0 N Bank	0 Center	0 S Bank	500 N Bank	500 Center	500 S Bank	750 S Bank	1000 N Bank
	Sample Date	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985
	Start Depth (ft)	0	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**								
Aroclor-1016	0.000026								
Aroclor-1221	0.000026								
Aroclor-1232	0.000026								
Aroclor-1242	0.000026								
Aroclor-1248	0.000026	0.45	0.049	1.4	5.7	0.01 U	4.2	0.47	0.01 U
Aroclor-1254	0.000026								
Aroclor-1260	0.000026	0.10	0.037	-	0.46 U	-	0.38	0.063	-

See notes on last page.

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	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	1000 Center	1000 S Bank	1500 N Bank	1500 Center	1500 S Bank	2000 N Bank	2000 Center	2000 S Bank
	Sample Date	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985
	Start Depth (ft)	0	0	0	0	0	0	0	0
	End Depth (ft)	0.46	0.5	0.5	0.5	0.67	0.5	0.58	0.46
Chemical Name	**Sediment Criteria**								
Aroclor-1016	0.000026								
Aroclor-1221	0.000026								
Aroclor-1232	0.000026								
Aroclor-1242	0.000026								
Aroclor-1248	0.000026	0.046	0.01 U	0.02 U	0.051	0.039	10	0.68	1.5
Aroclor-1254	0.000026								
Aroclor-1260	0.000026	0.015	-	-	-	-	0.75	0.16	-

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	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	2500 N Bank	2500 Center	2500 S Bank	3000 N Bank	3000 Center	3000 S Bank	GM98-SED01	GM98-SED02
	Sample Date	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	11/17/1998	11/17/1998
	Start Depth (ft)	0	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.42	0.67	0.5	0.42	0.33	0.5	0.5
Chemical Name	**Sediment Criteria**								
Aroclor-1016	0.000026							2.8 U	0.27 U
Aroclor-1221	0.000026							2.8 U	0.27 U
Aroclor-1232	0.000026							2.8 U	0.27 U
Aroclor-1242	0.000026							2.8 U	0.27 U
Aroclor-1248	0.000026	8.1	-	6.8	5.9	0.062	1.1	**14**	**0.72**
Aroclor-1254	0.000026		1.7					2.8 U	0.27 U
Aroclor-1260	0.000026	-	-	-	-	-	0.2 U	2.8 U	0.27 U

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	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED03	GM98-SED04	GM98-SED05	GM98-SED06	GM98-SED07	GM98-SED08	GM98-SED09	GM98-SED10
	Sample Date	11/17/1998	11/17/1998	11/18/1998	11/18/1998	11/18/1998	11/18/1998	11/18/1998	11/18/1998
	Start Depth (ft)	0	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**								
Aroclor-1016	0.000026	0.04 U	0.1 U	0.23 U	0.36 U	0.3 U	5.9 U	0.11 U	0.17 U
Aroclor-1221	0.000026	0.04 U	0.1 U	0.23 U	0.36 U	0.3 U	5.9 U	0.11 U	0.17 U
Aroclor-1232	0.000026	0.04 U	0.1 U	0.23 U	0.36 U	0.3 U	5.9 U	0.11 U	0.17 U
Aroclor-1242	0.000026	0.04 U	0.1 U	0.23 U	0.36 U	0.3 U	5.9 U	0.11 U	0.17 U
Aroclor-1248	0.000026	**0.15**	**0.61**	**1.5**	**1.3**	**1.8**	**25**	**0.43**	**0.79**
Aroclor-1254	0.000026	0.04 U	0.1 U	0.23 U	0.36 U	0.3 U	5.9 U	0.11 U	0.17 U
Aroclor-1260	0.000026	0.041	0.1 U	0.23 U	**0.36**	**0.35**	5.9 U	**0.15**	**0.51**

See notes on last page.

Table 4-7C: Ley Creek Deferred Media Surface Sediment Data Summary - Polychlorinated Biphenyls

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED11	GM98-SED12	GM98-SED13	GM98-SED14	GM98-SED15	GM98-SED16	DSR S1A	DSR S2A
	Sample Date	11/18/1998	11/19/1998	11/19/1998	11/19/1998	11/19/1998	11/19/1998	6/18/2008	6/18/2008
	Start Depth (ft)	0	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**								
Aroclor-1016	0.000026	0.31 U	0.28 U	1.3 U	0.23 U	0.052 U	0.24 U	0.044 U	0.043 U
Aroclor-1221	0.000026	0.31 U	0.28 U	1.3 U	0.23 U	0.052 U	0.24 U	0.044 U	0.043 U
Aroclor-1232	0.000026	0.31 U	0.28 U	1.3 U	0.23 U	0.052 U	0.24 U	0.044 U	0.043 U
Aroclor-1242	0.000026	0.31 U	0.28 U	1.3 U	0.23 U	0.052 U	0.24 U	**1.91**	0.043 U
Aroclor-1248	0.000026	**1.8**	**1**	**5.6**	**0.89**	**0.32**	**0.75**	0.044 U	**0.377 J**
Aroclor-1254	0.000026	0.31 U	0.28 U	1.3 U	0.23 U	0.052 U	0.24 U	0.044 U	**0.281 J**
Aroclor-1260	0.000026	**0.33**	**0.32**	1.3 U	**0.45**	**0.24**	**0.31**	**0.174**	**0.311 J**

See notes on last page.

Table 4-7C: Ley Creek Deferred Media Surface Sediment Data Summary - Polychlorinated Biphenyls

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	DSR S3A	DSR S4A	DSR S5A	DSR S6A	SRS 1A	SRS 2A	SRS 3A	SRS 4A
	Sample Date	6/18/2008	6/19/2008	6/19/2008	6/19/2008	6/19/2008	6/23/2008	6/23/2008	6/23/2008
	Start Depth (ft)	0	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.54	0.5	0.5	0.5
Chemical Name	**Sediment Criteria**								
Aroclor-1016	0.000026	0.052 U	0.056 UJ	0.048 U	0.052 U	0.052 UJ	0.049 U	0.057 U	0.048 U
Aroclor-1221	0.000026	0.052 U	0.056 UJ	0.048 U	0.052 U	0.052 UJ	0.049 U	0.057 U	0.048 U
Aroclor-1232	0.000026	0.052 U	0.056 UJ	0.048 U	0.052 U	0.052 UJ	0.049 U	0.057 U	0.048 U
Aroclor-1242	0.000026	0.052 U	0.056 UJ	0.048 U	0.052 U	0.052 UJ	**0.276**	**0.277**	**0.194**
Aroclor-1248	0.000026	**1.87**	**2.71 J**	**0.671 J**	**22.5 J**	**0.765 J**	0.049 U	0.057 U	0.048 U
Aroclor-1254	0.000026	**0.588**	**0.806 J**	**0.335 J**	**6.62 J**	**0.345 J**	**0.143**	**0.143**	**0.142**
Aroclor-1260	0.000026	**0.186**	**0.312 J**	**1.54 J**	**1.47 J**	**0.205 J**	**0.113**	**0.103**	**0.12**

See notes on last page.

Table 4-7C: Ley Creek Deferred Media Surface Sediment Data Summary - Polychlorinated Biphenyls

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	SRS 5A	SRS 6A	S-2	S-3	SED-20	L10A	L10B
	Sample Date	6/23/2008	6/24/2008	11/9/1992	11/9/1992	8/26/1998	11/6/1996	11/6/1996
	Start Depth (ft)	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.67	0.67	0.5	0.92	0.83
Chemical Name	**Sediment Criteria**							
Aroclor-1016	0.000026	0.04 U	0.053 U	ND	ND	ND	0.025 U	**0.046 X**
Aroclor-1221	0.000026	0.04 U	0.053 U	ND	ND	ND	0.025 U	0.093 U
Aroclor-1232	0.000026	0.04 U	0.053 U	ND	ND	ND	0.025 U	0.046 U
Aroclor-1242	0.000026	0.04 U	0.053 U	**10**	**6**	ND	0.025 U	**0.72**
Aroclor-1248	0.000026	**0.204**	**0.597 J**	ND	ND	**49 PDJ**	**0.22**	0.046 U
Aroclor-1254	0.000026	**0.117**	0.053 U	ND	ND	ND	0.025 U	**0.56 J**
Aroclor-1260	0.000026	**0.0942**	**0.324 J**	ND	ND	**2.3 J**	**0.069**	**0.28**

See notes on last page.

Table 4-7C: Ley Creek Deferred Media Surface Sediment Data Summary - Polychlorinated Biphenyls

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	L11B	L12C	L8	L9A	L9B
	Sample Date	11/6/1996	11/6/1996	11/6/1996	11/6/1996	11/6/1996
	Start Depth (ft)	0	0	0	0	0
	End Depth (ft)	0.67	0.58	0.83	0.50	0.25
Chemical Name	**Sediment Criteria**					
Aroclor-1016	0.000026	**0.041 X**	**0.038 X**	**0.051 X**	**0.05 X**	0.023 U
Aroclor-1221	0.000026	0.084 U	0.078 U	0.1 U	0.1 U	0.023 U
Aroclor-1232	0.000026	0.041 U	0.038 U	0.051 U	0.05 U	0.023 U
Aroclor-1242	0.000026	**0.021 J**	**0.52**	**0.019 J**	**0.63**	0.023 U
Aroclor-1248	0.000026	0.041 U	0.038 U	0.051 U	0.05 U	**0.6**
Aroclor-1254	0.000026	0.041 U	**0.59 J**	**0.019 J**	**0.47 J**	0.023 U
Aroclor-1260	0.000026	0.041 U	**0.095**	**0.035 J**	**0.13**	**0.14**

See notes on last page.

NOTES:
1. Units in milligrams per kilogram (mg/kg) or parts per million (ppm)
2. PCBs - Polychlorinated Biphenyls
3. PCB analysis performed using United States Environmental Protection Agency (USEPA) Method SW8082.
4. "U" indicates the compound was analyzed for but not detected.
5. "J" indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
6. "UJ" indicates the compound was not detected and the reporting detection limit is estimated.
7. "P" indicates there was greater than a 25% difference between the two GC column results for an Aroclor. The lower level is reported.
8. "D" indicates compound identified in analysis at secondary dilution factor.
9. "X" indicates other specific flags may be required to properly define the results.
10. Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC)
Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening of Contaminated Sediments.
11. Sediment data is screened against the most conservative sediment quality criteria (SCoc) presented in the NYSDEC
Technical Guidance for Screening of Contaminated Sediments.
12. Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (32,864 mg/kg)
within the Ley Creek sampling reach at depths of 0-0.5 feet (surface sediment).
13. Bold values indicate an exceedance of sediment data screening criteria.
14. "ND" indicates the compound was not detected.

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Table 4-7D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Polychlorinated Biphenyls

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	0 N Bank	0 Center	0 S Bank	500 N Bank	500 N Bank	500 Center	500 S Bank	500 S Bank
	Sample Date	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985
	Start Depth (ft)	0.5	0.5	0.5	0.5	1	0.5	0.5	1
	End Depth (ft)	1	1	1	1	1.5	1	1	1.5
Chemical Name	**Sediment Criteria**								
Aroclor-1016	0.000019								
Aroclor-1221	0.000019								
Aroclor-1232	0.000019								
Aroclor-1242	0.000019								
Aroclor-1248	0.000019	0.01 U	0.01 U	0.02 U	34.000000	0.02 U	0.01 U	-	0.01 U
Aroclor-1254	0.000019								
Aroclor-1260	0.000019	-	-	-	-	-	-	0.01	-

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	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	750 S Bank	750 S Bank	1000 N Bank	1000 Center	1000 S Bank	1500 N Bank	1500 Center	1500 S Bank
	Sample Date	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985
	Start Depth (ft)	0.5	1	0.5	0.46	0.5	0.5	0.5	0.67
	End Depth (ft)	1	1.5	1	0.92	1	1	1	1.33
Chemical Name	**Sediment Criteria**								
Aroclor-1016	0.000019								
Aroclor-1221	0.000019								
Aroclor-1232	0.000019								
Aroclor-1242	0.000019								
Aroclor-1248	0.000019	0.550000	0.05 U	0.025 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U
Aroclor-1254	0.000019								
Aroclor-1260	0.000019	-	-	-	-	-	-	-	-

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	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	2000 N Bank	2000 N Bank	2000 Center	2000 S Bank	2000 S Bank	2500 N Bank	2500 Center	3000 N Bank
	Sample Date	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985	6/11/1985
	Start Depth (ft)	0.5	1	0.58	0.46	0.92	0.5	0.42	0.5
	End Depth (ft)	1	1.5	1.13	0.92	1.42	1	0.83	1
Chemical Name	**Sediment Criteria**								
Aroclor-1016	0.000019								
Aroclor-1221	0.000019								
Aroclor-1232	0.000019								
Aroclor-1242	0.000019								
Aroclor-1248	0.000019	0.047	0.01 U	0.03 U	0.03 U	0.1 U	7.2	0.03 U	1.3
Aroclor-1254	0.000019								
Aroclor-1260	0.000019	0.01 U	-	-	-	-	-	-	-

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	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	3000 S Bank	GM98-SED01	GM98-SED07	GM98-SED11	DSR S1B	DSR S2B	DSR S3B	DSR S4B
	Sample Date	6/11/1985	11/17/1998	11/18/1998	11/18/1998	6/18/2008	6/18/2008	6/18/2008	6/19/2008
	Start Depth (ft)	0.33	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	End Depth (ft)	0.71	1	1	1	1	1	1	1
Chemical Name	**Sediment Criteria**								
Aroclor-1016	0.000019		2.8 U	1.3 U	0.57 U	0.053 U	0.056 U	0.044 U	0.052 U
Aroclor-1221	0.000019		2.8 U	1.3 U	0.57 U	0.053 U	0.056 U	0.044 U	0.052 U
Aroclor-1232	0.000019		2.8 U	1.3 U	0.57 U	0.053 U	0.056 U	0.044 U	0.052 U
Aroclor-1242	0.000019		2.8 U	1.3 U	0.57 U	**204**	0.056 U	0.044 U	**9.19 J**
Aroclor-1248	0.000019	1.1	**17**	**7.9**	**4.4**	0.053 U	**0.185**	**7.13**	0.052 U
Aroclor-1254	0.000019		2.8 U	1.3 U	0.57 U	0.053 U	**0.156**	0.044 U	**1.67 J**
Aroclor-1260	0.000019	0.08 U	2.8 U	1.3 U	0.57 U	**3.22**	**0.212**	**0.31**	**0.548 J**

See notes on last page.

Table 4-7D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Polychlorinated Biphenyls

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	DSR S5B	DSR S6B	SRS 1B	SRS 3B	SRS 4B	SRS 5B	SRS 2B	SRS 6B
	Sample Date	6/19/2008	6/19/2008	6/19/2008	6/23/2008	6/23/2008	6/23/2008	6/26/2008	6/26/2008
	Start Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	End Depth (ft)	1	1	1	1	1	1	1	1
Chemical Name	**Sediment Criteria**								
Aroclor-1016	0.000019	0.045 UJ	0.046 U	0.048 U	0.048 U	0.052 U	0.045 U	0.046 U	0.043 U
Aroclor-1221	0.000019	0.045 UJ	0.046 U	0.048 U	0.048 U	0.052 U	0.045 U	0.046 U	0.043 U
Aroclor-1232	0.000019	0.045 UJ	0.046 U	0.048 U	0.048 U	0.052 U	0.045 U	0.046 U	0.043 U
Aroclor-1242	0.000019	0.045 UJ	0.046 U	0.048 U	0.048 U	**0.127**	0.045 U	**1.99**	0.043 U
Aroclor-1248	0.000019	**0.152 J**	**7.14**	0.048 U	**1.59**	0.052 U	**0.0911**	0.046 U	0.043 U
Aroclor-1254	0.000019	**0.0859 J**	**2.13**	**0.605**	0.048 U	**0.135**	**0.0618**	0.046 U	0.043 U
Aroclor-1260	0.000019	**0.0568 J**	**0.43**	**0.222**	**0.0885**	**0.18**	**0.0595**	0.046 U	0.043 U

See notes on last page.

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Table 4-7D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Polychlorinated Biphenyls

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	S-1	S-2	S-3	S-4	S-2 (13)	S-3 (13)	SED-20D
	Sample Date	7/30/2009	7/30/2009	7/30/2009	7/30/2009	11/9/1992	11/9/1992	8/26/1998
	Start Depth (ft)	1	1	1	1	0.67	0.67	0.5
	End Depth (ft)	3	3	3	3	1.33	1.33	1
Chemical Name	**Sediment Criteria**							
Aroclor-1016	0.000019	0.0038 U	0.19 UD	0.0037 U	0.91 UD	ND	ND	ND
Aroclor-1221	0.000019	0.0038 U	0.19 UD	0.0037 U	0.91 UD	ND	ND	ND
Aroclor-1232	0.000019	0.0038 U	0.19 UD	0.0037 U	0.91 UD	ND	ND	ND
Aroclor-1242	0.000019	0.0042 U	0.21 UD	0.0041 U	1 UD	**3**	**100**	ND
Aroclor-1248	0.000019	**0.058**	**4.1 D**	**0.061**	**130 D**	ND	ND	**48 PJ**
Aroclor-1254	0.000019	0.0041 U	0.2 UD	0.004 U	0.98 UD	ND	ND	ND
Aroclor-1260	0.000019	0.0041 U	0.2 UD	0.004 U	0.98 UD	ND	ND	**1.7 J**

See notes on last page.

NOTES:
1. Units in milligrams per kilogram (mg/kg) or parts per million (ppm)
2. PCBs - Polychlorinated Biphenyls
3. PCB analysis performed using United States Environmental Protection Agency (USEPA) Method SW8082.
4. "U" indicates the compound was analyzed for but not detected.
5. "J" indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
6. "UJ" indicates the compound was not detected and the reporting detection limit is estimated.
7. "X" indicates other specific flags may be required to properly define the results.
8. "P" indicates there was greater than a 25% difference between the two GC column results. The lower value is reported.
9. Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC)
Division of Fish, Wildlife and Marine Resources, Technical Guidance for Screening of Contaminated Sediments.
10. Sediment data is screened against the most conservative sediment quality criteria (SCoc) presented in the NYSDEC
Technical Guidance for Screening of Contaminated Sediments.
11. Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (23,307 mg/kg)
within the Ley Creek sampling reach at depths of 0.5-3.5 feet (subsurface sediment).
12. Bold values indicate an exceedance of sediment data screening criteria.
13. These 1992 samples were located at the Route 11 bridge and are not associated with the 2009 S-2 and S-3 samples, which were located at the LeMoyne Ave bridge.

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Table 4-8A: Upstream Surface Sediment Data Summary - Site-Related Metals

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	L13	L14	L15	L16	L17	L18	L19	L20
	Sample Date	11/6/1996	11/12/1996	11/12/1996	11/12/1996	11/12/1996	11/12/1996	11/12/1996	11/12/1996
	Start Depth (ft)	0	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.75	0.92	0.92	1	0.83	0.92	1
Chemical Name	**LEL**								
Arsenic	6.0	1.1 B	**13.5 *J**	2.9 *J	**10.4 *J**	**19.1 *J**	**14.6 *J**	5.4 *J	4.6 *J
Chromium	26.0	6.6	7.9 NJ	7.6 NJ	6.5 NJ	21.7 NJ	14.2 NJ	23.5 NJ	17.9 NJ
Copper	16.0	9.2 NJ	14.4 *	12.3 *	9.7 *	**25.6 ***	**20.6 ***	**57.5 ***	**88.6 ***
Lead	31.0	7.6	6.5 J2	**57.7 J2**	6.8 J2	15.8 J2	5.2 J2	**40.3 J2**	**42.2 J2**
Nickel	16.0	5.9 B	8.2 J3	6.8 J3	6.2 J3	**33.8 J2**	**17.3 J2**	**22.6 J2**	15 J2
Zinc	120.0	---	40.9 EJ	54.4 EJ	48.3 EJ	77.4 EJ	39.2 EJ	---	**151 EJ**

See notes on last page.

Table 4-8A: Upstream Surface Sediment Data Summary - Site-Related Metals

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	L22	L24	L26	GM98-SED17	GM98-SED18	GM98-SED19	GM98-SED20	GM98-SED21
	Sample Date	11/14/1996	11/14/1996	11/14/1996	11/19/1998	11/19/1998	11/19/1998	11/20/1998	11/20/1998
	Start Depth (ft)	0	0	0	0	0	0	0	0
	End Depth (ft)	**	**	0.96	0.5	0.5	0.5	0.5	0.5
Chemical Name	**LEL**								
Arsenic	6.0	**10.3 ***	**6.8 ***	3.8 *	4.3	2	3	5.9	4.7
Chromium	26.0	**42.2**	13.1	**27.2**	23 J	13.5 J	7.6 J	17.1 J	6.9 J
Copper	16.0	**423 NJ**	**118 NJ**	**42 NJ**	**42.6**	10.6	14.7	**22.1**	**26.1**
Lead	31.0	**429 *J**	**1170 *J**	**77.3 *J**	**54.3**	8.9	10.6	21.7	9.1
Nickel	16.0	**38.6**	**19.9**	**18.2**	10.8	11.2	4.5 J	11.5	0.125 U
Zinc	120.0	**781 EJ**	**155 EJ**	**811 EJ**	109	44.9	50.9	91.4	47.2

See notes on last page.

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Table 4-8A: Upstream Surface Sediment Data Summary - Site-Related Metals

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	GM98-SED22	GM98-SED23	GM98-SED24	GM98-SED25	GM98-SED26	NBR S1A	NBR S2A	NBR S3A
	Sample Date	11/20/1998	11/20/1998	11/20/1998	11/20/1998	11/20/1998	6/25/2008	6/25/2008	6/25/2008
	Start Depth (ft)	0	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**LEL**								
Arsenic	6.0	**13.7**	3.7	3.4	**9.6**	**13**	**8.2**	3.9	4.8
Chromium	26.0	20 J	14.1 J	21.2 J	**26.1 J**	**45.6 J**	21.9	4.3	6.1
Copper	16.0	**24.2**	**29.3**	**55.9**	**28.3**	**79.7**	**20.3**	7.9	**28.1**
Lead	31.0	9.7	**42.9**	**57.4**	**34.3**	**105**	10	3.7	21.8
Nickel	16.0	15.6	11.4	13.2	**19.1**	**24**	**23.1**	5 U	6.3
Zinc	120.0	60.6	97.4	**158**	98.1	**257**	47.5	24	36.6

See notes on last page.

Table 4-8A: Upstream Surface Sediment Data Summary - Site-Related Metals

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	SCR S1A	SCR S2A	SCR S3A	SBR S1A	SBR S2A	SBR S3A
	Sample Date	6/24/2008	6/25/2008	6/25/2008	6/24/2008	6/24/2008	6/24/2008
	Start Depth (ft)	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**LEL**						
Arsenic	6.0	**18.8**	**6.2**	**7.7**	4.8	**18.3**	**6.4**
Chromium	26.0	**22.6**	**26.7**	23.8	16.5	18.6	24.2
Copper	16.0	**28.7**	**31.7**	**27.8**	**69.2**	**54.3**	**58.8 J**
Lead	31.0	15.6	28.7	23.3	**49.2**	**41.6**	**56.1**
Nickel	16.0	**26.7**	**19.7**	**27.5**	**16.7**	**17.5**	**19**
Zinc	120.0	74.6	**134**	57.2	**161**	**179**	**187**

See notes on last page.

NOTES:
1. Units in milligrams per kilogram (mg/kg) or parts per million (ppm).
2. Metals analysis performed using United States Environmental Protection Agency (USEPA) Method SW6010.
3. "---" indicates compound not analyzed for.
4. "U" indicates the compound was analyzed for but not detected.
5. "J" indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
6. "UJ" indicates the compound was not detected and the reporting detection limit is estimated.
7. "NJ" indicates a tentatively identified compound with an estimated concentration.
8. "E" indicates exceedance of calibration range of GC/MS instrument.
9. "*" indicates an exceedance of the maximum contaminant level.
10. "B" indicates analyte was found in the associated blank.
11. Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC) Department of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments (January 1999), Lowest Effect Level (LEL) sediment criteria for metals.
12. Bold values indicate an exceedance of sediment screening criteria.
13. "**" indicates unknown sample end depth.

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Table 4-8B: Upstream Subsurface Sediment Data Summary - Site-Related Metals

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	L25	L27	L28	GM98-SED18	GM98-SED20	GM98-SED21	NBR S1B	NBR S2B
	Sample Date	11/14/1996	11/14/1996	11/21/1996	11/19/1998	11/20/1998	11/20/1998	6/25/2008	6/25/2008
	Start Depth (ft)	0	0	0	0.5	0.5	0.5	0.5	0.5
	End Depth (ft)	1.33	1.25	**	1	1	1	1	1
Chemical Name	**LEL**								
Arsenic	6.0	6 *	3.6 *	4.9 *J	2.3	**11.3**	8.3	**8.8**	4
Chromium	26.0	**41.6**	20.5	**38.9 NJ**	8.3 J	12.1 J	8.3 J	**27.5**	4.3
Copper	16.0	**197 NJ**	**52.4 NJ**	**28.8 ***	6.7	**34.1**	13.7	**23.3**	7.5
Lead	31.0	**153 *J**	**134 *J**	11.1 J2	2.5	17.8	10.7	9.2	3.4
Nickel	16.0	**37.3**	14.8	**35 J2**	7.8	13	0.13 U	**24.9**	5.6
Zinc	120.0	**383 EJ**	**206 EJ**	78.7 EJ	35.4	53.3	40.4	53.7	22.7

See notes on last page.

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Table 4-8B: Upstream Subsurface Sediment Data Summary - Site-Related Metals

	Sampling Reach	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream	Upstream
	Sample Location	NBR S3B	SCR S1B	SCR S2B	SBR S1B	SBR S2B	SBRS3B	SCRS3B
	Sample Date	6/25/2008	6/24/2008	6/25/2008	6/26/2008	6/26/2008	6/26/2008	6/26/2008
	Start Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	End Depth (ft)	1	1	1	1	1	1	1
Chemical Name	**LEL**							
Arsenic	6.0	5.1	**9.2**	**7.9**	**11**	**11.5**	**6.9**	**6.2**
Chromium	26.0	6.4	22.3	22.1	20.9	**29.2**	24.6	20.2
Copper	16.0	14.9	**25.9**	**24.6**	**27.2**	**72.9**	**64.2**	**26.6**
Lead	31.0	5.5	12.5	12	10.8	**78.2**	**63.2**	10.4
Nickel	16.0	7.1	**29.4**	**30.1**	**27.1**	**17.4**	**21.3**	**26.6**
Zinc	120.0	39.9	56.4	58.3	56.8	114	**427**	55.4

See notes on last page.

NOTES:
1. Units in milligrams per kilogram (mg/kg) or parts per million (ppm).
2. Metals analysis performed using United States Environmental Protection Agency (USEPA) Method SW6010.
3. "---" indicates compound not analyzed for.
4. "U" indicates the compound was analyzed for but not detected.
5. "J" indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
6. "UJ" indicates the compound was not detected and the reporting detection limit is estimated.
7. "NJ" indicates a tentatively identified compound with an estimated concentration.
8. "E" indicates exceedance of calibration range of GC/MS instrument.
9. "J2" indicates a tentatively identified compound with an estimated concentration; exceedance of calibration range of GM/MS instrument.
10. "J3" indicates a tentatively identified compound; exceedance of calibration range; analyte found in the associated blank.
11. "*" indicates an exceedance of the maximum contaminant level.
12. "B" indicates analyte was found in the associated blank.
13. Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC) Department of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments (January 1999), Lowest Effect Level (LEL) sediment criteria for metals.
14. Bold values indicate an exceedance of sediment screening criteria.

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Table 4-8C: Ley Creek Deferred Media Surface Sediment Data Summary - Site-Related Metals

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	L8	L9A	L9B	L9C	L10A	L10B	L11B	L12C
	Sample Date	11/6/1996	11/6/1996	11/6/1996	11/6/1996	11/6/1996	11/6/1996	11/6/1996	11/6/1996
	Start Depth (ft)	0	0	0	0	0	0	0	0
	End Depth (ft)	0.83	0.5	0.25	0.58	0.92	0.83	0.67	0.58
Chemical Name	**LEL**								
Arsenic	6.0	5.2	3.3	3.9	3.8	**14.1**	**7.6**	4.9	2.4
Chromium	26.0	16.7	**30**	12.5	19.6	11.1	20.8	16.5	10.9
Copper	16.0	**28.3 NJ**	**50.3 NJ**	**18 NJ**	**34.6 NJ**	**20.9 NJ**	**37.4 NJ**	**22.8 NJ**	14.6 NJ
Lead	31.0	29.1	**67.1**	16.7	27.7	25.2	**59**	6.9	7
Nickel	16.0	13.6	**18**	13.1	15.1	9.2 B	13.6	**17.8**	11.2
Zinc	120.0	---	---	---	---	---	---	---	---

See notes on last page.

Table 4-8C: Ley Creek Deferred Media Surface Sediment Data Summary - Site-Related Metals

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED01	GM98-SED02	GM98-SED03	GM98-SED04	GM98-SED05	GM98-SED06	GM98-SED07	GM98-SED08
	Sample Date	11/17/1998	11/17/1998	11/17/1998	11/17/1998	11/18/1998	11/18/1998	11/18/1998	11/18/1998
	Start Depth (ft)	0	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**LEL**								
Arsenic	6.0	4.4	4.9	**6.7**	3.4	4.2	**6.2**	5.7	**7**
Chromium	26.0	**76.6**	23.9	11.4	12.5	22.9	**30.4**	**26.6**	**108**
Copper	16.0	**69.7**	**31.1**	**29.3**	14.6	**35.1**	**54.9**	**46.3**	**109**
Lead	31.0	**78.4 J**	24.1	**36.6**	12.4	**40.3**	**66.4**	**55.7**	**172**
Nickel	16.0	**31.8**	**15.1**	7.9	7.2	12.3	15.4	14.3	**44**
Zinc	120.0	119	87.5	59.6	69.6	**133**	**223**	**174**	**247**

See notes on last page.

Table 4-8C: Ley Creek Deferred Media Surface Sediment Data Summary - Site-Related Metals

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED09	GM98-SED10	GM98-SED11	GM98-SED12	GM98-SED13	GM98-SED14	GM98-SED15	GM98-SED16
	Sample Date	11/18/1998	11/18/1998	11/18/1998	11/19/1998	11/19/1998	11/19/1998	11/19/1998	11/19/1998
	Start Depth (ft)	0	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Chemical Name	**LEL**								
Arsenic	6.0	2.2	5.2	5.7	4.2	4.5	5.2	3.5	2.8
Chromium	26.0	17.5	25	**36.1**	20.7	**31.5**	18.9	20.2	19.7
Copper	16.0	14.7	**50.1**	**71.5**	**47.6**	**62.1**	**29.8**	**48.9**	**35.4**
Lead	31.0	17	**61**	**104**	**42.5**	**67.5**	26.9	**42.9**	**47.1**
Nickel	16.0	6.5 J	11.9	**19.1**	11.1	15.8	**19.1**	12.2	8.4
Zinc	120.0	67.1	**390**	**228**	**146**	**163**	85.8	**147**	**122**

See notes on last page.

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Table 4-8C: Ley Creek Deferred Media Surface Sediment Data Summary - Site-Related Metals

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	DSR S1A	DSR S2A	DSR S3A	DSR S4A	DSR S5A	DSR S6A	SRS 1A	SRS 2A
	Sample Date	6/18/2008	6/18/2008	6/18/2008	6/19/2008	6/19/2008	6/19/2008	6/19/2008	6/23/2008
	Start Depth (ft)	0	0	0	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.54	0.5
Chemical Name	**LEL**								
Arsenic	6.0	3.4	5.9	**7.4**	**6.6**	4.1	**7.8**	5.1	4.2
Chromium	26.0	23.2	**27.8**	**35.6**	**29.4**	19	**64**	25	21.6
Copper	16.0	**31.9**	**40.6**	**44.5**	**48.6**	**37.8**	**83.3**	**43.1**	**43.9**
Lead	31.0	**37.1**	**48.1**	**52**	**61.2**	**37.5**	**122**	**59.7**	**43.9**
Nickel	16.0	12.3	15.1	**23.2**	**18.6**	13.6	**34.6**	**18.2**	**16.1**
Zinc	120.0	97.9	101	**158**	**179**	**139**	**177**	**142**	**150**

See notes on last page.

Table 4-8C: Ley Creek Deferred Media Surface Sediment Data Summary - Site-Related Metals

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	SRS 3A	SRS 4A	SRS 5A	SRS 6A	SED-20
	Sample Date	6/23/2008	6/23/2008	6/23/2008	6/24/2008	8/26/1998
	Start Depth (ft)	0	0	0	0	0
	End Depth (ft)	0.5	0.5	0.5	0.5	0.5
Chemical Name	**LEL**					
Arsenic	6.0	3.6 U	4	3.1	4.9	**7.0**
Chromium	26.0	11.3	20.3	11.6	**52.2 J**	**84 N*J**
Copper	16.0	**30.8 J**	**43.3**	**26.7**	**23.9**	**80 N*J**
Lead	31.0	21.6	**38.7**	17.4	18.2	ND
Nickel	16.0	8.1	**18.2**	9.9	12 J	**47 N*J**
Zinc	120.0	72.3 J	**148**	61.2	86.2 J	106 ENJ

See notes on last page.

NOTES:
1. Units in milligrams per kilogram (mg/kg) or parts per million (ppm).
2. Metals analysis performed using United States Environmental Protection Agency (USEPA) Method SW6010.
3. "---" indicates compound not analyzed for.
4. "U" indicates the compound was analyzed for but not detected.
5. "J" indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
6. "UJ" indicates the compound was not detected and the reporting detection limit is estimated.
7. "NJ" indicates a tentatively identified compound with an estimated concentration.
8. "E" indicates exceedance of calibration range of GC/MS instrument.
9. "*" indicates an exceedance of the maximum contaminant level.
10. "B" indicates analyte was found in the associated blank.
11. Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC) Department of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments (January 1999), Lowest Effect Level (LEL) sediment criteria for metals.
12. Bold values indicate an exceedance of sediment screening criteria.

NOTES FOR 8/26/1998 DATA:
1. "N" indicates a spike recovery was not within the control limits.
2. "*" indicates duplicate analyses were not within the control limits.
3. "J" indicates an estimated value.
4. "E" indicates compound concentration is an estimated value or not reported due to the presence of interference.
5. "ND" indicates not detected.

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Table 4-8D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Site-Related Metals

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	GM98-SED01	GM98-SED07	GM98-SED11	DSR S1B	DSR S2B	DSR S3B	DSR S4B	DSR S5B
	Sample Date	11/17/1998	11/18/1998	11/18/1998	6/18/2008	6/18/2008	6/18/2008	6/19/2008	6/19/2008
	Start Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	End Depth (ft)	1	1	1	1	1	1	1	1
Chemical Name	**LEL**								
Arsenic	6.0	**6.4**	4.9	6	**7**	**7.8**	**7**	**6.2**	4
Chromium	26.0	**153**	**75.1**	**56.6**	**429**	**47.5**	**33.2**	**32.5**	15.3
Copper	16.0	**128**	**60.7**	**70.4**	**183**	**58.6**	**26.3**	**44.9**	**21**
Lead	31.0	**60.5 J**	**72.4**	**126**	**150**	**74.2**	**32.9**	**52.6**	25.3
Nickel	16.0	**57.9**	**28.6**	**21.7**	**121**	**30**	**23.3**	**17.5**	13.8
Zinc	120.0	**146**	**143**	**200**	**273**	114	83.2	**135**	61.8

See notes on last page.

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Table 4-8D: Ley Creek Deferred Media Subsurface Sediment Data Summary - Site-Related Metals

	Sampling Reach	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek	Ley Creek
	Sample Location	DSR S6B	SRS 1B	SRS 2B	SRS 3B	SRS 4B	SRS 5B	SRS 6B	SED-20D
	Sample Date	6/19/2008	6/19/2008	6/26/2008	6/23/2008	6/23/2008	6/23/2008	6/26/2008	8/26/1998
	Start Depth (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	End Depth (ft)	1	1	1	1	1	1	1	1
Chemical Name	**LEL**								
Arsenic	6.0	**6.9**	4.2	4.8	4.8	4.6	3.6	5.6	**15.1**
Chromium	26.0	**31.3**	18.8	19.6	**26.4**	**26.4**	11	16.4	**169 N*J**
Copper	16.0	**40**	**29.6**	**27.6**	**26.4**	**41**	13.9	**21.5**	**145 N*J**
Lead	31.0	**49**	**56**	29.5	13.6	**33.4**	13.7	8	ND
Nickel	16.0	**23**	11.3	14.4	**21.7**	**25.6**	10.4	**20.6**	**80.5 N*J**
Zinc	120.0	70.3	106	71.8	51.5	117	51	51.2	**142 ENJ**

See notes on last page.

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NOTES:
1. Units in milligrams per kilogram (mg/kg) or parts per million (ppm).
2. Metals analysis performed using United States Environmental Protection Agency (USEPA) Method SW6010.
3. "---" indicates compound not analyzed for.
4. "U" indicates the compound was analyzed for but not detected.
5. "J" indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
6. "UJ" indicates the compound was not detected and the reporting detection limit is estimated.
7. "NJ" indicates a tentatively identified compound with an estimated concentration.
8. "E" indicates exceedance of calibration range of GC/MS instrument.
9. "*" indicates an exceedance of the maximum contaminant level.
10. "B" indicates analyte was found in the associated blank.
11. Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC) Department of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments (January 1999), Lowest Effect Level (LEL) sediment criteria for metals.
12. Bold values indicate an exceedance of sediment screening criteria.

NOTES FOR 8/26/1998 DATA:
1. "N" indicates a spike recovery was not within the control limits.
2. "*" indicates duplicate analyses were not within the control limits.
3. "J" indicates an estimated value.
4. "E" indicates compound concentration is an estimated value or not reported due to the presence of interference.
5. "ND" indicates not detected.

REVISED FIGURE 4-9

N

LEGEND

FORMER IFG FACILITY PROPERTY BOUNDARY

SEDIMENT SAMPLE

LOCATION ID — RESULTS IN mg/kg

GM98-SED25 11/20/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000024	0.23 U
0 - 0.5	Aroclor - 1248	0.000024	0.23 U
0 - 0.5	Aroclor - 1254	0.000024	0.23 U
0 - 0.5	Aroclor - 1260	0.000024	**0.65**

BOLD RESULTS REPRESENT AN EXCEEDANCE

NOTE:

- Sediment data is screened against the most conservative sediment quality criteria (SCoc) presented in the NYSDEC Technical Guidance for Screening of Contaminated Sediments.
- Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (30,331 mg/kg) within the Upstream sampling reach at depths of 0-0.5 feet (surface sediment).
- Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (13,616 mg/kg) within the Upstream sampling reach at depths of 0.5-1 feet (subsurface sediment).
- Total PCBs are considered a risk driver in the BERA.

"U" - indicates the compound was analyzed for but not detected.
"J" - Indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
"UJ" - Indicates the compound was not detected and the reporting detection limit is estimated.
"D" - Indicates the compound at the secondary dilution factor.
"**" - Indicates unknown sample end depth.

RACER TRUST
FORMER IFG FACILITY
AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE REMEDIAL INVESTIGATION

UPSTREAM REACHES SEDIMENT SAMPLE RESULTS PCBs

0 275 550 1,100
Feet

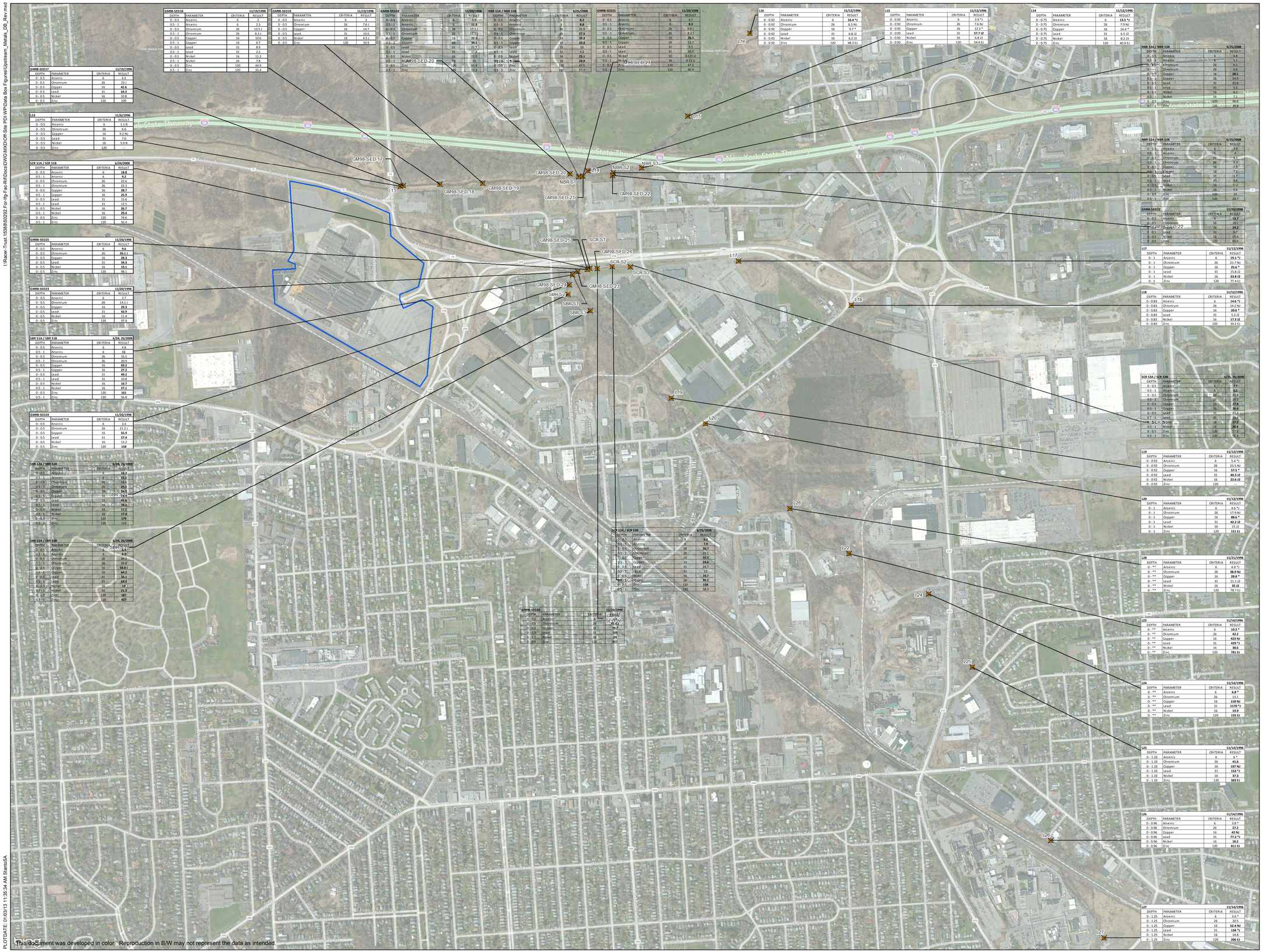
MAY 2013
15388.50292

O'BRIEN & GERE

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I:\Racer Trust\15388\50292 For Hg Fac-Rif\Docs\DWG\MXD\Off-Site PDI WP\Data Box Figures\Upstream_PCBs_DQ_Rev.mxd

REVISED FIGURE 4-10



GM98-SED18 11/19/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	2
0.5 - 1	Arsenic	6	2.3
0 - 0.5	Chromium	26	13.5 J
0.5 - 1	Chromium	26	8.3 J
0 - 0.5	Copper	16	10.6
0.5 - 1	Copper	16	6.7
0 - 0.5	Lead	31	8.9
0.5 - 1	Lead	31	2.5
0 - 0.5	Nickel	16	13.2
0.5 - 1	Nickel	16	7.8
0 - 0.5	Zinc	120	44.9
0.5 - 1	Zinc	120	35.4

GM98-SED19 11/19/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	3
0 - 0.5	Chromium	26	7.6 J
0 - 0.5	Copper	16	14.7
0 - 0.5	Lead	31	10.6
0 - 0.5	Nickel	16	4.5 J
0 - 0.5	Zinc	120	50.9

GM98-SED20 11/20/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	5.9
0.5 - 1	Arsenic	6	**11.3**
0 - 0.5	Chromium	26	17.1 J
0.5 - 1	Chromium	26	17.3 J
0 - 0.5	Copper	16	**22.5**
0.5 - 1	Copper	16	**34.1**
0 - 0.5	Lead	31	21.7
0.5 - 1	Lead	31	17.6
0 - 0.5	Nickel	16	11.5
0.5 - 1	Nickel	16	13
0 - 0.5	Zinc	120	91.4
0.5 - 1	Zinc	120	53.3

NBR S1A / NBR S1B 6/25/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	**8.2**
0.5 - 1	Arsenic	6	**9.8**
0 - 0.5	Chromium	26	21.9
0.5 - 1	Chromium	26	**27.5**
0 - 0.5	Copper	16	**29.3**
0.5 - 1	Copper	16	**23.3**
0 - 0.5	Lead	31	10
0.5 - 1	Lead	31	9.2
0 - 0.5	Nickel	16	**23.1**
0.5 - 1	Nickel	16	**24.9**
0 - 0.5	Zinc	120	47.5
0.5 - 1	Zinc	120	53.7

GM98-SED21 11/20/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	4.7
0.5 - 1	Arsenic	6	**6.3**
0 - 0.5	Chromium	26	9.9 J
0.5 - 1	Chromium	26	8.3 J
0 - 0.5	Copper	16	**26.1**
0.5 - 1	Copper	16	13.7
0 - 0.5	Lead	31	9.1
0.5 - 1	Lead	31	10.7
0 - 0.5	Nickel	16	0.525 U
0.5 - 1	Nickel	16	0.33 U
0 - 0.5	Zinc	120	47.2
0.5 - 1	Zinc	120	40.4

L16 11/12/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.92	Arsenic	6	**10.4 *J**
0 - 0.92	Chromium	26	6.5 NJ
0 - 0.92	Copper	16	9.7 *
0 - 0.92	Lead	31	6.8 J2
0 - 0.92	Nickel	16	6.2 J3
0 - 0.92	Zinc	120	48.1 EJ

L15 11/12/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.92	Arsenic	6	2.9 *J
0 - 0.92	Chromium	26	5.6 NJ
0 - 0.92	Copper	16	12.3 *
0 - 0.92	Lead	31	**57.7 J2**
0 - 0.92	Nickel	16	6.8 J3
0 - 0.92	Zinc	120	54.4 EJ

L14 11/12/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.75	Arsenic	6	**13.5 *J**
0 - 0.75	Chromium	26	7.9 NJ
0 - 0.75	Copper	16	14.4 *
0 - 0.75	Lead	31	6.5 J2
0 - 0.75	Nickel	16	8.2 J3
0 - 0.75	Zinc	120	40.9 EJ

NBR S3A / NBR S3B 6/25/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	4.8
0.5 - 1	Arsenic	6	5.1
0 - 0.5	Chromium	26	6.1
0.5 - 1	Chromium	26	6.4
0 - 0.5	Copper	16	**28.1**
0.5 - 1	Copper	16	14.9
0 - 0.5	Lead	31	21.8
0.5 - 1	Lead	31	5.5
0 - 0.5	Nickel	16	6.3
0.5 - 1	Nickel	16	7.1
0 - 0.5	Zinc	120	98.6
0.5 - 1	Zinc	120	89.9

NBR S2A / NBR S2B 6/25/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	3.9
0.5 - 1	Arsenic	6	4
0 - 0.5	Chromium	26	4.3
0.5 - 1	Chromium	26	4.9
0 - 0.5	Copper	16	7.9
0.5 - 1	Copper	16	7.5
0 - 0.5	Lead	31	3.7
0.5 - 1	Lead	31	3.4
0 - 0.5	Nickel	16	5.1
0.5 - 1	Nickel	16	5.6
0 - 0.5	Zinc	120	24
0.5 - 1	Zinc	120	22.7

GM98-SED22 11/20/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	**13.7**
0 - 0.5	Chromium	26	20.1
0 - 0.5	Copper	16	**24.2**
0 - 0.5	Lead	31	9.7
0 - 0.5	Nickel	16	15.6
0 - 0.5	Zinc	120	60.6

L17 11/12/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 1	Arsenic	6	**19.5 *J**
0 - 1	Chromium	26	21.7 NJ
0 - 1	Copper	16	**25.6 ***
0 - 1	Lead	31	15.8 J2
0 - 1	Nickel	16	**33.8 J2**
0 - 1	Zinc	120	77.4 EJ

L18 11/12/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.83	Arsenic	6	**14.6 *J**
0 - 0.83	Chromium	26	14.2 NJ
0 - 0.83	Copper	16	**20.6 ***
0 - 0.83	Lead	31	5.2 J2
0 - 0.83	Nickel	16	**17.3 J2**
0 - 0.83	Zinc	120	39.2 EJ

SCR S3A / SCR S3B 6/25, 26/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	**9.7**
0.5 - 1	Arsenic	6	**8.2**
0 - 0.5	Chromium	26	23.8
0.5 - 1	Chromium	26	20.7
0 - 0.5	Copper	16	**27.8**
0.5 - 1	Copper	16	**26.6**
0 - 0.5	Lead	31	7.4 J
0.5 - 1	Lead	31	10.1
0 - 0.5	Nickel	16	**27.5**
0.5 - 1	Nickel	16	**26.6**
0 - 0.5	Zinc	120	57.2
0.5 - 1	Zinc	120	55.4

L19 11/12/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.92	Arsenic	6	5.4 *J
0 - 0.92	Chromium	26	23.5 NJ
0 - 0.92	Copper	16	**37.5 ***
0 - 0.92	Lead	31	**40.3 J2**
0 - 0.92	Nickel	16	**22.6 J2**
0 - 0.92	Zinc	120	---

L20 11/12/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 1	Arsenic	6	4.6 *J
0 - 1	Chromium	26	17.9 NJ
0 - 1	Copper	16	**80.6 ***
0 - 1	Lead	31	**42.2 J2**
0 - 1	Nickel	16	15 J2
0 - 1	Zinc	120	**151 EJ**

L28 11/21/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - **	Arsenic	6	4.9 *J
0 - **	Chromium	26	**38.9 NJ**
0 - **	Copper	16	**28.8 ***
0 - **	Lead	31	11 J2
0 - **	Nickel	16	**35 J2**
0 - **	Zinc	120	78.7 EJ

L22 11/14/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - **	Arsenic	6	**10.3 ***
0 - **	Chromium	26	**42.2**
0 - **	Copper	16	**423 NJ**
0 - **	Lead	31	**429 *J**
0 - **	Nickel	16	**38.6**
0 - **	Zinc	120	**781 EJ**

L24 11/14/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - **	Arsenic	6	**6.8 ***
0 - **	Chromium	26	33.1
0 - **	Copper	16	**518 NJ**
0 - **	Lead	31	**1170 *J**
0 - **	Nickel	16	**59.9**
0 - **	Zinc	120	**155 EJ**

L25 11/14/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 1.33	Arsenic	6	6 *
0 - 1.33	Chromium	26	**41.6**
0 - 1.33	Copper	16	**197 NJ**
0 - 1.33	Lead	31	**153 *J**
0 - 1.33	Nickel	16	**37.3**
0 - 1.33	Zinc	120	**383 EJ**

L26 11/14/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.96	Arsenic	6	3.8 *
0 - 0.96	Chromium	26	**27.2**
0 - 0.96	Copper	16	**42 NJ**
0 - 0.96	Lead	31	**77.3 *J**
0 - 0.96	Nickel	16	**18.2**
0 - 0.96	Zinc	120	**811 EJ**

L27 11/14/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 1.25	Arsenic	6	3.6 *
0 - 1.25	Chromium	26	20.5
0 - 1.25	Copper	16	**52.4 NJ**
0 - 1.25	Lead	31	**134 *J**
0 - 1.25	Nickel	16	14.6
0 - 1.25	Zinc	120	**206 EJ**

SCR S2A / SCR S2B 6/25/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	**8.2**
0.5 - 1	Arsenic	6	**7.9**
0 - 0.5	Chromium	26	**26.7**
0.5 - 1	Chromium	26	23.1
0 - 0.5	Copper	16	**31.7**
0.5 - 1	Copper	16	**24.6**
0 - 0.5	Lead	31	24.7
0.5 - 1	Lead	31	12
0 - 0.5	Nickel	16	**19.7**
0.5 - 1	Nickel	16	**20.1**
0 - 0.5	Zinc	120	**134**
0.5 - 1	Zinc	120	58.3

GM98-SED26 11/20/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	**8.6**
0 - 0.5	Chromium	26	**26.6**
0 - 0.5	Copper	16	**29.7**
0 - 0.5	Lead	31	14.5
0 - 0.5	Nickel	16	**24**
0 - 0.5	Zinc	120	**262**

GM98-SED23 11/20/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	3.7
0 - 0.5	Chromium	26	14.1 J
0 - 0.5	Copper	16	**29.3**
0 - 0.5	Lead	31	**42.9**
0 - 0.5	Nickel	16	**11.6**
0 - 0.5	Zinc	120	97.4

GM98-SED24 11/20/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	3.4
0 - 0.5	Chromium	26	21.2 J
0 - 0.5	Copper	16	**55.9**
0 - 0.5	Lead	31	**57.4**
0 - 0.5	Nickel	16	13.2
0 - 0.5	Zinc	120	**158**

GM98-SED25 11/20/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	**9.6**
0 - 0.5	Chromium	26	**26.1 J**
0 - 0.5	Copper	16	**28.3**
0 - 0.5	Lead	31	**34.3**
0 - 0.5	Nickel	16	**19.1**
0 - 0.5	Zinc	120	98.1

L13 11/6/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	1.1 B
0 - 0.5	Chromium	26	6.6
0 - 0.5	Copper	16	9.2 NJ
0 - 0.5	Lead	31	7.6
0 - 0.5	Nickel	16	5.9 B
0 - 0.5	Zinc	120	---

SCR S1A / SCR S1B 6/24/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	**18.8**
0.5 - 1	Arsenic	6	**9.2**
0 - 0.5	Chromium	26	22.6
0.5 - 1	Chromium	26	22.3
0 - 0.5	Copper	16	**28.7**
0.5 - 1	Copper	16	**25.9**
0 - 0.5	Lead	31	15.6
0.5 - 1	Lead	31	12.5
0 - 0.5	Nickel	16	**26.7**
0.5 - 1	Nickel	16	**29.4**
0 - 0.5	Zinc	120	**74.6**
0.5 - 1	Zinc	120	56.4

SBR S1A / SBR S1B 6/24, 26/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	**14.3**
0.5 - 1	Arsenic	6	**11.5**
0 - 0.5	Chromium	26	18.5
0.5 - 1	Chromium	26	**29.2**
0 - 0.5	Copper	16	**56.9**
0.5 - 1	Copper	16	**77.5**
0 - 0.5	Lead	31	**41.6**
0.5 - 1	Lead	31	**78.2**
0 - 0.5	Nickel	16	**17.5**
0.5 - 1	Nickel	16	**17.4**
0 - 0.5	Zinc	120	**179**
0.5 - 1	Zinc	120	114

SBR S2A / SBR S2B 6/24, 26/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	**14.3**
0.5 - 1	Arsenic	6	**13.5**
0 - 0.5	Chromium	26	18.5
0.5 - 1	Chromium	26	**29.2**
0 - 0.5	Copper	16	**54.9**
0.5 - 1	Copper	16	**77.5**
0 - 0.5	Lead	31	**41.6**
0.5 - 1	Lead	31	**78.2**
0 - 0.5	Nickel	16	**17.5**
0.5 - 1	Nickel	16	**17.4**
0 - 0.5	Zinc	120	**179**
0.5 - 1	Zinc	120	**427**

SBR S3A / SBR S3B 6/24, 26/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	**14.3**
0.5 - 1	Arsenic	6	**6.9**
0 - 0.5	Chromium	26	29.1
0.5 - 1	Chromium	26	20.8
0 - 0.5	Copper	16	**58.8 J**
0.5 - 1	Copper	16	**64.2**
0 - 0.5	Lead	31	**56.1**
0.5 - 1	Lead	31	**69.3**
0 - 0.5	Nickel	16	**19**
0.5 - 1	Nickel	16	**21.3**
0 - 0.5	Zinc	120	**187**
0.5 - 1	Zinc	120	**427**

LEGEND

- SEDIMENT SAMPLE
- FORMER IFG FACILITY PROPERTY BOUNDARY

LOCATION ID — RESULTS IN mg/kg

L15 11/12/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.92	Arsenic	6	2.9 *J
0 - 0.92	Chromium	26	7.6 NJ
0 - 0.92	Copper	16	12.3 *
0 - 0.92	Lead	31	**57.7 J2**
0 - 0.92	Nickel	16	6.8 J3
0 - 0.92	Zinc	120	54.4 EJ

BOLD RESULTS REPRESENT AN EXCEEDANCE

NOTE:

- -- Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC) Department of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments (January 1999), Lowest Effect Level (LEL) sediment criteria for metals.

"UJ" - Indicates the compound was analyzed for but not detected.
"J" - Indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
"NJ" - Indicates a tentatively identified compound with an estimated concentration.
"E" - Indicates exceedance of calibration range of GC/MS instrument.
"*" - Indicates an exceedance of the maximum contaminant level.
"**" - Indicates unknown sample end depth.

RACER TRUST
FORMER IFG FACILITY
AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE REMEDIAL INVESTIGATION

UPSTREAM REACHES SEDIMENT SAMPLE RESULTS SITE-RELATED METALS

0 275 550 1,100
Feet

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REVISED FIGURE 4-11


GM98-SED18
GM98-SED19
GM98-SED17
GM98-SED20
GM98-SED21
GM98-SED22
GM98-SED25
GM98-SED26
GM98-SED23
GM98-SED24
SBR-S1
SBR-S2
SBR-S3
SCR-S1
SCR-S2
SCR-S3
NBR-S1
NBR-S2
NBR-S3
L13
L14
L15
L16
L17
L18
L19
L20
L22
L24
L25
L26
L27
L28
U15
U16
New York State Thruway
Onondaga Creek
Onondaga Lake
Seneca River
Erie Canal
Brookland Golf Course
Meadowbrook Drive
Grand Blvd
Midland Ave
Lakeshore Rd
Lakeside Rd
Lakeview Rd
Lakeland Rd
Lakeland Ct
Lakeland Pl
Lakeland Terrace
Lakeland Trail
Lakeland Cir
Lakeland Dr
Lakeland Ln
Lakeland Ave
Lakeland Blvd
Lakeland Court
Lakeland Drive
Lakeland Lane
Lakeland Road
Lakeland Street
Lakeland Terrace
Lakeland Trail
Lakeland Circle

REVISED FIGURE 4-12

N

LEGEND

- SEDIMENT SAMPLE
- FORMER IFG FACILITY PROPERTY BOUNDARY

LOCATION ID — RESULTS IN mg/kg

GM98-SED16 — 11/19/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.24 U
0 - 0.5	Aroclor - 1248	0.000026	**0.75**
0 - 0.5	Aroclor - 1254	0.000026	0.24 U
0 - 0.5	Aroclor - 1260	0.000026	**0.31**

BOLD RESULTS REPRESENT AN EXCEEDANCE

NOTE:

- Sediment data is screened against the most conservative sediment quality criteria (SCoc) presented in the NYSDEC Technical Guidance for Screening of Contaminated Sediments.
- Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (32,864 mg/kg) within the Ley Creek sampling reach at depths of 0-0.5 feet (surface sediment).
- Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (23,307 mg/kg) within the Ley Creek sampling reach at depths of 0.5-1 feet (subsurface sediment).
- Total PCBs are considered a risk driver in the BERA.

"U" - Indicates the compound was analyzed for but not detected.
"J" - Indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
"UJ" - Indicates the compound was not detected and the reporting detection limit is estimated.
"P" - Indicates there was greater than a 25% difference between the two GC column results for an Aroclor. The lower level is reported.
"D" - Indicates compound identified in analysis at secondary dilution factor.

RACER TRUST
FORMER IFG FACILITY
AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE REMEDIAL INVESTIGATION

LEY CREEK SITE REACH SEDIMENT SAMPLE RESULTS PCBs

0 150 300 600
Feet

MAY 2013
15388.50292

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SED-20 / SED-200 — 8/26/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	ND
0.5 - 1	Aroclor - 1242	0.000019	ND
0 - 0.5	Aroclor - 1248	0.000026	**49 PDJ**
0.5 - 1	Aroclor - 1248	0.000019	**48 PJ**
0 - 0.5	Aroclor - 1254	0.000026	ND
0.5 - 1	Aroclor - 1254	0.000019	ND
0 - 0.5	Aroclor - 1260	0.000026	**2.3 J**
0.5 - 1	Aroclor - 1260	0.000019	**1.7 J**

GM98-SED05 — 11/18/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.23 U
0 - 0.5	Aroclor - 1248	0.000026	**3.5**
0 - 0.5	Aroclor - 1254	0.000026	0.23 U
0 - 0.5	Aroclor - 1260	0.000026	0.23 U

DSR 51A / DSR 51B — 6/18/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.052 U
0.5 - 1	Aroclor - 1242	0.000019	0.044 U
0 - 0.5	Aroclor - 1248	0.000026	**1.87**
0.5 - 1	Aroclor - 1248	0.000019	**7.13**
0 - 0.5	Aroclor - 1254	0.000026	**0.588**
0.5 - 1	Aroclor - 1254	0.000019	0.044 U
0 - 0.5	Aroclor - 1260	0.000026	**0.186**
0.5 - 1	Aroclor - 1260	0.000019	**0.31**

GM98-SED04 — 11/17/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.1 U
0 - 0.5	Aroclor - 1248	0.000026	**0.61**
0 - 0.5	Aroclor - 1254	0.000026	0.1 U
0 - 0.5	Aroclor - 1260	0.000026	0.1 U

GM98-SED02 — 11/17/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.27 U
0 - 0.5	Aroclor - 1248	0.000026	**0.72**
0 - 0.5	Aroclor - 1254	0.000026	0.27 U
0 - 0.5	Aroclor - 1260	0.000026	0.27 U

DSR 51A / DSR 51B — 6/18/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	**1.91**
0.5 - 1	Aroclor - 1242	0.000019	**204**
0 - 0.5	Aroclor - 1248	0.000026	0.044 U
0.5 - 1	Aroclor - 1248	0.000019	0.053 U
0 - 0.5	Aroclor - 1254	0.000026	0.044 U
0.5 - 1	Aroclor - 1254	0.000019	0.053 U
0 - 0.5	Aroclor - 1260	0.000026	**0.174**
0.5 - 1	Aroclor - 1260	0.000019	**3.22**

GM98-SED07 — 11/18/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.3 U
0.5 - 1	Aroclor - 1242	0.000019	1.3 U
0 - 0.5	Aroclor - 1248	0.000026	**1.8**
0.5 - 1	Aroclor - 1248	0.000019	**7.9**
0 - 0.5	Aroclor - 1254	0.000026	0.3 U
0.5 - 1	Aroclor - 1254	0.000019	1.3 U
0 - 0.5	Aroclor - 1260	0.000026	**0.35**
0.5 - 1	Aroclor - 1260	0.000019	1.3 U

GM98-SED06 — 11/18/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.36 U
0 - 0.5	Aroclor - 1248	0.000026	**1.3**
0 - 0.5	Aroclor - 1254	0.000026	0.36 U
0 - 0.5	Aroclor - 1260	0.000026	**0.36**

DSR 50A / DSR 50B — 6/19/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.052 U
0.5 - 1	Aroclor - 1242	0.000019	0.046 U
0 - 0.5	Aroclor - 1248	0.000026	**22.5 J**
0.5 - 1	Aroclor - 1248	0.000019	**7.14**
0 - 0.5	Aroclor - 1254	0.000026	**6.62 J**
0.5 - 1	Aroclor - 1254	0.000019	**0.0859 J**
0 - 0.5	Aroclor - 1260	0.000026	**1.54 J**
0.5 - 1	Aroclor - 1260	0.000019	**0.0568 J**

GM98-SED09 — 11/18/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.11 U
0 - 0.5	Aroclor - 1248	0.000026	**0.43**
0 - 0.5	Aroclor - 1254	0.000026	0.11 U
0 - 0.5	Aroclor - 1260	0.000026	**0.15**

DSR 50A / DSR 50B — 6/19/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.052 U
0.5 - 1	Aroclor - 1242	0.000019	0.045 U
0 - 0.5	Aroclor - 1248	0.000026	**0.671 J**
0.5 - 1	Aroclor - 1248	0.000019	**0.152 J**
0 - 0.5	Aroclor - 1254	0.000026	**0.335 J**
0.5 - 1	Aroclor - 1254	0.000019	**0.0859 J**
0 - 0.5	Aroclor - 1260	0.000026	**1.54 J**
0.5 - 1	Aroclor - 1260	0.000019	**0.0568 J**

DSR 50A / DSR 50B — 6/19/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.096 U
0.5 - 1	Aroclor - 1242	0.000019	**9.19 J**
0 - 0.5	Aroclor - 1248	0.000026	**2.71 J**
0.5 - 1	Aroclor - 1248	0.000019	0.052 U
0 - 0.5	Aroclor - 1254	0.000026	**0.806 J**
0.5 - 1	Aroclor - 1254	0.000019	**1.67 J**
0 - 0.5	Aroclor - 1260	0.000026	**0.312 J**
0.5 - 1	Aroclor - 1260	0.000019	**0.548 J**

DSR 50A / DSR 50B — 6/19/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.048 U
0.5 - 1	Aroclor - 1242	0.000019	0.041 U
0 - 0.5	Aroclor - 1248	0.000026	**0.071 J**
0.5 - 1	Aroclor - 1248	0.000019	**0.335 J**
0 - 0.5	Aroclor - 1254	0.000026	**0.642 J**
0.5 - 1	Aroclor - 1254	0.000019	**2.13**
0 - 0.5	Aroclor - 1260	0.000026	**1.47 J**
0.5 - 1	Aroclor - 1260	0.000019	**0.43**

GM98-SED08 — 11/18/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	5.9 U
0 - 0.5	Aroclor - 1248	0.000026	**25**
0 - 0.5	Aroclor - 1254	0.000026	5.9 U
0 - 0.5	Aroclor - 1260	0.000026	5.9 U

L08 — 11/6/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.25	Aroclor - 1242	0.000019	0.023 U
0 - 0.25	Aroclor - 1248	0.000019	**0.6**
0 - 0.25	Aroclor - 1254	0.000019	0.023 U
0 - 0.25	Aroclor - 1260	0.000019	**0.14**

L08A — 11/6/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000019	**0.63**
0 - 0.5	Aroclor - 1248	0.000019	0.05 U
0 - 0.5	Aroclor - 1254	0.000019	**0.47 J**
0 - 0.5	Aroclor - 1260	0.000019	**0.13**

L08 — 11/6/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.83	Aroclor - 1242	0.000019	**0.019 J**
0 - 0.83	Aroclor - 1248	0.000019	0.051 U
0 - 0.83	Aroclor - 1254	0.000019	**0.019 J**
0 - 0.83	Aroclor - 1260	0.000019	**0.035 J**

L10B — 11/6/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.83	Aroclor - 1242	0.000019	**0.72**
0 - 0.83	Aroclor - 1248	0.000019	0.046 U
0 - 0.83	Aroclor - 1254	0.000019	**0.56 J**
0 - 0.83	Aroclor - 1260	0.000019	**0.28**

SR5 1A / SR5 1B — 6/19/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.052 U
0.5 - 1	Aroclor - 1242	0.000019	0.048 U
0 - 0.5	Aroclor - 1248	0.000026	**0.765 J**
0.5 - 1	Aroclor - 1248	0.000019	0.048 U
0 - 0.5	Aroclor - 1254	0.000026	**0.345 J**
0.5 - 1	Aroclor - 1254	0.000019	**0.605**
0 - 0.5	Aroclor - 1260	0.000026	**0.205 J**
0.5 - 1	Aroclor - 1260	0.000019	**0.222**

GM98-SED10 — 11/18/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.17 U
0 - 0.5	Aroclor - 1248	0.000026	**0.79**
0 - 0.5	Aroclor - 1254	0.000026	0.17 U
0 - 0.5	Aroclor - 1260	0.000026	**0.51**

L10A — 11/6/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.92	Aroclor - 1242	0.000019	0.025 U
0 - 0.92	Aroclor - 1248	0.000019	**0.22**
0 - 0.92	Aroclor - 1254	0.000019	0.025 U
0 - 0.92	Aroclor - 1260	0.000019	**0.069**

GM98-SED14 — 11/19/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	**0.89**
0 - 0.5	Aroclor - 1248	0.000026	0.23 U
0 - 0.5	Aroclor - 1254	0.000026	**0.45**
0 - 0.5	Aroclor - 1260	0.000026	**0.45**

GM98-SED13 — 11/19/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	1.3 U
0 - 0.5	Aroclor - 1248	0.000026	**5.6**
0 - 0.5	Aroclor - 1254	0.000026	1.3 U
0 - 0.5	Aroclor - 1260	0.000026	1.3 U

SR5 2A / SR5 2B — 6/23, 26/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	**0.276**
0.5 - 1	Aroclor - 1242	0.000019	**1.99**
0 - 0.5	Aroclor - 1248	0.000026	0.048 U
0.5 - 1	Aroclor - 1248	0.000019	0.046 U
0 - 0.5	Aroclor - 1254	0.000026	**0.143**
0.5 - 1	Aroclor - 1254	0.000019	0.046 U
0 - 0.5	Aroclor - 1260	0.000026	**0.113**
0.5 - 1	Aroclor - 1260	0.000019	0.046 U

SR5 4A / SR5 4B — 6/23/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	**0.194**
0.5 - 1	Aroclor - 1242	0.000019	**0.127**
0 - 0.5	Aroclor - 1248	0.000026	0.048 U
0.5 - 1	Aroclor - 1248	0.000019	0.052 U
0 - 0.5	Aroclor - 1254	0.000026	**0.142**
0.5 - 1	Aroclor - 1254	0.000019	**0.135**
0 - 0.5	Aroclor - 1260	0.000026	**0.12**
0.5 - 1	Aroclor - 1260	0.000019	**0.18**

L12C — 11/6/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.58	Aroclor - 1242	0.000019	**0.52**
0 - 0.58	Aroclor - 1248	0.000019	0.038 U
0 - 0.58	Aroclor - 1254	0.000019	**0.59 J**
0 - 0.58	Aroclor - 1260	0.000019	**0.095**

SR5 6A / SR5 6B — 6/24, 26/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.053 U
0.5 - 1	Aroclor - 1242	0.000019	0.043 U
0 - 0.5	Aroclor - 1248	0.000026	**0.597 J**
0.5 - 1	Aroclor - 1248	0.000019	0.043 U
0 - 0.5	Aroclor - 1254	0.000026	0.053 U
0.5 - 1	Aroclor - 1254	0.000019	0.043 U
0 - 0.5	Aroclor - 1260	0.000026	**0.324 J**
0.5 - 1	Aroclor - 1260	0.000019	0.043 U

GM98-SED15 — 11/19/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.052 U
0 - 0.5	Aroclor - 1248	0.000026	**0.32**
0 - 0.5	Aroclor - 1254	0.000026	0.052 U
0 - 0.5	Aroclor - 1260	0.000026	**0.24**

L11B — 11/6/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.67	Aroclor - 1242	0.000019	**0.021 J**
0 - 0.67	Aroclor - 1248	0.000019	0.041 U
0 - 0.67	Aroclor - 1254	0.000019	0.041 U
0 - 0.67	Aroclor - 1260	0.000019	0.041 U

SR5 5A / SR5 5B — 6/23/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.04 U
0.5 - 1	Aroclor - 1242	0.000019	**0.0911**
0 - 0.5	Aroclor - 1248	0.000026	**0.117**
0.5 - 1	Aroclor - 1248	0.000019	**0.0618**
0 - 0.5	Aroclor - 1254	0.000026	**0.0942**
0.5 - 1	Aroclor - 1254	0.000019	**0.0595**

1500 S Bank — 6/11/1985

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.67	Aroclor - 1242	0.000026	--
0.67 - 1.33	Aroclor - 1242	0.000019	--
0 - 0.67	Aroclor - 1248	0.000026	**0.039**
0.67 - 1.33	Aroclor - 1248	0.000019	0.05 U
0 - 0.67	Aroclor - 1254	0.000026	--
0.67 - 1.33	Aroclor - 1254	0.000019	--
0 - 0.67	Aroclor - 1260	0.000026	--
0.67 - 1.33	Aroclor - 1260	0.000019	--

1500 Center — 6/11/1985

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	--
0.5 - 1	Aroclor - 1242	0.000019	--
0 - 0.5	Aroclor - 1248	0.000026	**0.051**
0.5 - 1	Aroclor - 1248	0.000019	0.05 U
0 - 0.5	Aroclor - 1254	0.000026	--
0.5 - 1	Aroclor - 1254	0.000019	--
0 - 0.5	Aroclor - 1260	0.000026	--
0.5 - 1	Aroclor - 1260	0.000019	--

1500 N Bank — 6/11/1985

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	--
0.5 - 1	Aroclor - 1242	0.000019	--
0 - 0.5	Aroclor - 1248	0.000026	0.02 U
0.5 - 1	Aroclor - 1248	0.000019	0.01 U
0 - 0.5	Aroclor - 1254	0.000026	--
0.5 - 1	Aroclor - 1254	0.000019	--
0 - 0.5	Aroclor - 1260	0.000026	--
0.5 - 1	Aroclor - 1260	0.000019	--

2000 S Bank — 6/11/1985

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.46	Aroclor - 1242	0.000026	--
0.46 - 0.92	Aroclor - 1242	0.000019	--
0.92 - 1.42	Aroclor - 1242	0.000019	--
0 - 0.46	Aroclor - 1248	0.000026	**1.5**
0.46 - 0.92	Aroclor - 1248	0.000019	0.09 U
0.92 - 1.42	Aroclor - 1248	0.000019	0.1 U
0 - 0.46	Aroclor - 1254	0.000026	--
0.46 - 0.92	Aroclor - 1254	0.000019	--
0.92 - 1.42	Aroclor - 1254	0.000019	--
0 - 0.46	Aroclor - 1260	0.000026	--
0.46 - 0.92	Aroclor - 1260	0.000019	--
0.92 - 1.42	Aroclor - 1260	0.000019	--

2000 Center — 6/11/1985

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.58	Aroclor - 1242	0.000026	--
0.58 - 1.13	Aroclor - 1242	0.000019	--
0 - 0.58	Aroclor - 1248	0.000026	**0.68**
0.58 - 1.13	Aroclor - 1248	0.000019	0.03 U
0 - 0.58	Aroclor - 1254	0.000026	--
0.58 - 1.13	Aroclor - 1254	0.000019	--
0 - 0.58	Aroclor - 1260	0.000026	**0.16**
0.58 - 1.13	Aroclor - 1260	0.000019	--

2000 N Bank — 6/11/1985

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	--
0.5 - 1	Aroclor - 1242	0.000019	--
1 - 1.5	Aroclor - 1242	0.000019	--
0 - 0.5	Aroclor - 1248	0.000026	**10**
0.5 - 1	Aroclor - 1248	0.000019	**0.047**
1 - 1.5	Aroclor - 1248	0.000019	0.01 U
0 - 0.5	Aroclor - 1254	0.000026	--
0.5 - 1	Aroclor - 1254	0.000019	--
1 - 1.5	Aroclor - 1254	0.000019	--
0 - 0.5	Aroclor - 1260	0.000026	**0.75**
0.5 - 1	Aroclor - 1260	0.000019	0.01 U
1 - 1.5	Aroclor - 1260	0.000019	--

1000 S Bank — 6/11/1985

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	--
0.5 - 1	Aroclor - 1242	0.000019	--
0 - 0.5	Aroclor - 1248	0.000026	0.01 U
0.5 - 1	Aroclor - 1248	0.000019	0.01 U
0 - 0.5	Aroclor - 1254	0.000026	--
0.5 - 1	Aroclor - 1254	0.000019	--
0 - 0.5	Aroclor - 1260	0.000026	--
0.5 - 1	Aroclor - 1260	0.000019	--

1000 Center — 6/11/1985

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.46	Aroclor - 1242	0.000026	--
0.46 - 0.92	Aroclor - 1242	0.000019	--
0 - 0.46	Aroclor - 1248	0.000026	**0.046**
0.46 - 0.92	Aroclor - 1248	0.000019	0.01 U
0 - 0.46	Aroclor - 1254	0.000026	--
0.46 - 0.92	Aroclor - 1254	0.000019	--
0 - 0.46	Aroclor - 1260	0.000026	**0.015**
0.46 - 0.92	Aroclor - 1260	0.000019	--

1000 N Bank — 6/11/1985

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	--
0.5 - 1	Aroclor - 1242	0.000019	--
0 - 0.5	Aroclor - 1248	0.000026	0.01 U
0.5 - 1	Aroclor - 1248	0.000019	0.01 U
0 - 0.5	Aroclor - 1254	0.000026	--
0.5 - 1	Aroclor - 1254	0.000019	--
0 - 0.5	Aroclor - 1260	0.000026	--
0.5 - 1	Aroclor - 1260	0.000019	--

500 S Bank — 6/11/1985

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	--
0.5 - 1	Aroclor - 1242	0.000019	--
1 - 1.5	Aroclor - 1242	0.000019	--
0 - 0.5	Aroclor - 1248	0.000026	**4.2**
0.5 - 1	Aroclor - 1248	0.000019	--
1 - 1.5	Aroclor - 1248	0.000019	0.1 U
0 - 0.5	Aroclor - 1254	0.000026	--
0.5 - 1	Aroclor - 1254	0.000019	--
1 - 1.5	Aroclor - 1254	0.000019	--
0 - 0.5	Aroclor - 1260	0.000026	**0.38**
0.5 - 1	Aroclor - 1260	0.000019	**0.01**
1 - 1.5	Aroclor - 1260	0.000019	--

500 Center — 6/11/1985

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	--
0.5 - 3	Aroclor - 1242	0.000019	--
0 - 0.5	Aroclor - 1248	0.000026	0.01 U
0.5 - 1	Aroclor - 1248	0.000019	0.1 U
0 - 0.5	Aroclor - 1254	0.000026	--
0.5 - 1	Aroclor - 1254	0.000019	--
0 - 0.5	Aroclor - 1260	0.000026	--
0.5 - 1	Aroclor - 1260	0.000019	--

500 N Bank — 6/11/1985

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	--
0.5 - 1	Aroclor - 1242	0.000019	--
1 - 1.5	Aroclor - 1242	0.000019	--
0 - 0.5	Aroclor - 1248	0.000026	**5.7**
0.5 - 1	Aroclor - 1248	0.000019	**34**
1 - 1.5	Aroclor - 1248	0.000019	0.2 U
0 - 0.5	Aroclor - 1254	0.000026	--
0.5 - 1	Aroclor - 1254	0.000019	--
1 - 1.5	Aroclor - 1254	0.000019	--
0 - 0.5	Aroclor - 1260	0.000026	0.46 U
0.5 - 1	Aroclor - 1260	0.000019	--
1 - 1.5	Aroclor - 1260	0.000019	--

750 S Bank — 6/13/1985

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	--
0.5 - 1	Aroclor - 1242	0.000019	--
1 - 1.5	Aroclor - 1242	0.000019	--
0 - 0.5	Aroclor - 1248	0.000026	**0.47**
0.5 - 1	Aroclor - 1248	0.000019	**0.55**
1 - 1.5	Aroclor - 1248	0.000019	0.05 U
0 - 0.5	Aroclor - 1254	0.000026	--
0.5 - 1	Aroclor - 1254	0.000019	--
1 - 1.5	Aroclor - 1254	0.000019	--
0 - 0.5	Aroclor - 1260	0.000026	**0.063**
0.5 - 1	Aroclor - 1260	0.000019	--
1 - 1.5	Aroclor - 1260	0.000019	--

0 S Bank — 6/11/1985

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	--
0.5 - 1	Aroclor - 1242	0.000019	--
0 - 0.5	Aroclor - 1248	0.000026	**1.4**
0.5 - 1	Aroclor - 1248	0.000019	0.02 U
0 - 0.5	Aroclor - 1254	0.000026	--
0.5 - 1	Aroclor - 1254	0.000019	--
0 - 0.5	Aroclor - 1260	0.000026	--
0.5 - 1	Aroclor - 1260	0.000019	--

0 Center — 6/11/1985

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	--
0.5 - 1	Aroclor - 1242	0.000019	--
0 - 0.5	Aroclor - 1248	0.000026	0.049
0.5 - 1	Aroclor - 1248	0.000019	0.01 U
0 - 0.5	Aroclor - 1254	0.000026	--
0.5 - 1	Aroclor - 1254	0.000019	--
0 - 0.5	Aroclor - 1260	0.000026	0.037
0.5 - 1	Aroclor - 1260	0.000019	--

0 N Bank — 6/11/1985

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	--
0.5 - 1	Aroclor - 1242	0.000019	--
0 - 0.5	Aroclor - 1248	0.000026	0.45
0.5 - 1	Aroclor - 1248	0.000019	0.01 U
0 - 0.5	Aroclor - 1254	0.000026	--
0.5 - 1	Aroclor - 1254	0.000019	--
0 - 0.5	Aroclor - 1260	0.000026	0.10
0.5 - 1	Aroclor - 1260	0.000019	--

S-3 * — 11/9/1992

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.67	Aroclor - 1242	0.000026	**6**
0.67 - 1.33	Aroclor - 1242	0.000026	**100**
0 - 0.67	Aroclor - 1248	0.000026	ND
0.67 - 1.33	Aroclor - 1248	0.000026	ND
0 - 0.67	Aroclor - 1254	0.000026	ND
0.67 - 1.33	Aroclor - 1254	0.000026	ND
0 - 0.67	Aroclor - 1260	0.000026	ND
0.67 - 1.33	Aroclor - 1260	0.000019	ND

DSR 52A / DSR 52B — 6/18/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.043 U
0.5 - 1	Aroclor - 1242	0.000019	0.056 U
0 - 0.5	Aroclor - 1248	0.000026	**0.377 J**
0.5 - 1	Aroclor - 1248	0.000019	**0.185**
0 - 0.5	Aroclor - 1254	0.000026	**0.281 J**
0.5 - 1	Aroclor - 1254	0.000019	**0.156**
0 - 0.5	Aroclor - 1260	0.000026	**0.311 J**
0.5 - 1	Aroclor - 1260	0.000019	**0.212**

1-2 * — 11/9/1992

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.67	Aroclor - 1242	0.000026	**10**
0.67 - 1.33	Aroclor - 1242	0.000019	**3**
0 - 0.67	Aroclor - 1248	0.000026	ND
0.67 - 1.33	Aroclor - 1248	0.000019	ND
0 - 0.67	Aroclor - 1254	0.000026	ND
0.67 - 1.33	Aroclor - 1254	0.000019	ND
0 - 0.67	Aroclor - 1260	0.000026	ND
0.67 - 1.33	Aroclor - 1260	0.000019	ND

GM98-SED03 — 11/17/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Aroclor - 1242	0.000026	0.04 U
0 - 0.5	Aroclor - 1248	0.000026	**0.15**
0 - 0.5	Aroclor - 1254	0.000026	0.04 U
0 - 0

REVISED FIGURE 4-13

LEGEND

- SEDIMENT SAMPLE
- FORMER IFG FACILITY PROPERTY BOUNDARY

LOCATION ID — RESULTS IN mg/kg

GM98-SED15			11/19/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	3.5
0 - 0.5	Chromium	26	20.2
0 - 0.5	Copper	16	**48.9**
0 - 0.5	Lead	31	**42.9**
0 - 0.5	Nickel	16	12.2
0 - 0.5	Zinc	120	**147**

BOLD RESULTS REPRESENT AN EXCEEDANCE

NOTE:

Sediment data screening criteria: New York State Department of Environmental Conservation (NYSDEC) Department of Fish, Wildlife and Marine Resources, Technical Guidance for Screening Contaminated Sediments (January 1999), Lowest Effect Level (LEL) sediment criteria for metals.

"J" - Indicates the compound was detected but below the reporting limit. The reported concentration is estimated.

"NJ" - Indicates a tentatively identified compound with an estimated concentration.

RACER TRUST
FORMER IFG FACILITY
AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

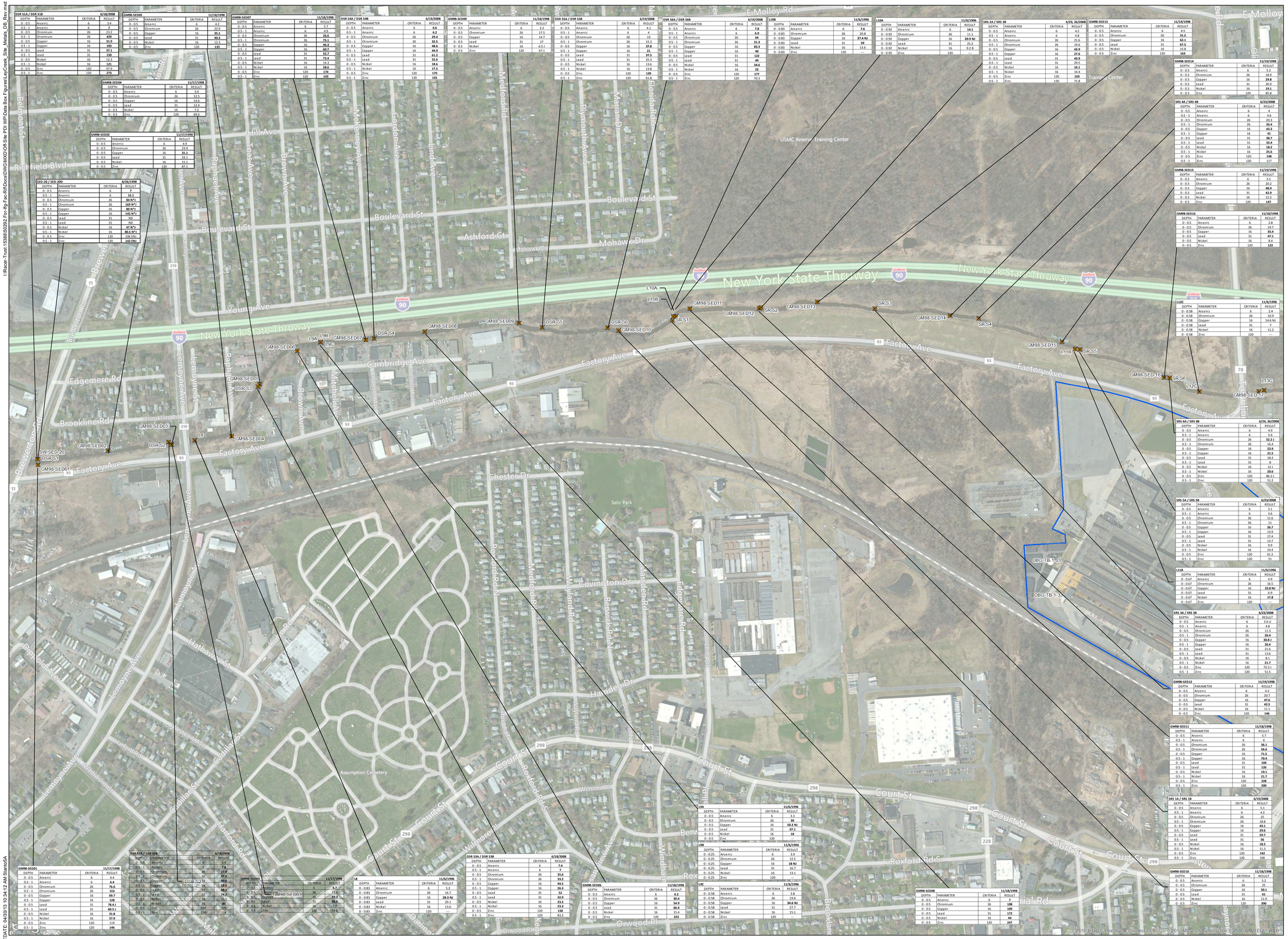
OFF-SITE REMEDIAL INVESTIGATION

LEY CREEK SITE REACH SEDIMENT SAMPLE RESULTS SITE-RELATED METALS

0 150 300 600
Feet

MAY 2013
15388.50292

O'BRIEN & GERE



DSR 51A / DSR 51B			6/18/2008
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	3.4
0.5 - 1	Arsenic	6	**7**
0 - 0.5	Chromium	26	23.2
0.5 - 1	Chromium	26	**429**
0 - 0.5	Copper	16	**31.5**
0.5 - 1	Copper	16	**183**
0 - 0.5	Lead	31	**37.1**
0.5 - 1	Lead	31	**150**
0 - 0.5	Nickel	16	12.3
0.5 - 1	Nickel	16	**121**
0 - 0.5	Zinc	120	97.9
0.5 - 1	Zinc	120	**273**

GM98-SED05			11/18/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	4.2
0 - 0.5	Chromium	26	22.9
0 - 0.5	Copper	16	**35.1**
0 - 0.5	Lead	31	**40.3**
0 - 0.5	Nickel	16	12.1
0 - 0.5	Zinc	120	**133**

GM98-SED07			11/18/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	5.2
0.5 - 1	Arsenic	6	4.9
0 - 0.5	Chromium	26	**25.6**
0.5 - 1	Chromium	26	**75.1**
0 - 0.5	Copper	16	**46.3**
0.5 - 1	Copper	16	**60.7**
0 - 0.5	Lead	31	**55.7**
0.5 - 1	Lead	31	**72.6**
0 - 0.5	Nickel	16	14.3
0.5 - 1	Nickel	16	**20.6**
0 - 0.5	Zinc	120	**174**
0.5 - 1	Zinc	120	**143**

DSR 54A / DSR 54B			6/19/2008
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	**6.6**
0.5 - 1	Arsenic	6	**8.2**
0 - 0.5	Chromium	26	**29.4**
0.5 - 1	Chromium	26	**32.5**
0 - 0.5	Copper	16	**48.6**
0.5 - 1	Copper	16	**44.9**
0 - 0.5	Lead	31	**61.2**
0.5 - 1	Lead	31	**52.6**
0 - 0.5	Nickel	16	**18.6**
0.5 - 1	Nickel	16	**17.5**
0 - 0.5	Zinc	120	**179**
0.5 - 1	Zinc	120	**135**

GM98-SED09			11/18/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	2.2
0 - 0.5	Chromium	26	17.5
0 - 0.5	Copper	16	14.7
0 - 0.5	Lead	31	17
0 - 0.5	Nickel	16	6.5 J
0 - 0.5	Zinc	120	67.1

DSR 55A / DSR 55B			6/19/2008
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	4.1
0.5 - 1	Arsenic	6	4
0 - 0.5	Chromium	26	19
0.5 - 1	Chromium	26	15.3
0 - 0.5	Copper	16	**37.8**
0.5 - 1	Copper	16	**21**
0 - 0.5	Lead	31	**37.5**
0.5 - 1	Lead	31	25.3
0 - 0.5	Nickel	16	13.6
0.5 - 1	Nickel	16	13.8
0 - 0.5	Zinc	120	**139**
0.5 - 1	Zinc	120	61.8

DSR 56A / DSR 56B			6/19/2008
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	**7.8**
0.5 - 1	Arsenic	6	**6.9**
0 - 0.5	Chromium	26	**64**
0.5 - 1	Chromium	26	**31.3**
0 - 0.5	Copper	16	**83.3**
0.5 - 1	Copper	16	**40**
0 - 0.5	Lead	31	**122**
0.5 - 1	Lead	31	**49**
0 - 0.5	Nickel	16	**34.6**
0.5 - 1	Nickel	16	**23**
0 - 0.5	Zinc	120	**177**
0.5 - 1	Zinc	120	70.3

L10C			11/6/1996
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.83	Arsenic	6	**7.6**
0 - 0.83	Chromium	26	20.8
0 - 0.83	Copper	16	**37.4 NJ**
0 - 0.83	Lead	31	**99**
0 - 0.83	Nickel	16	13.6
0 - 0.83	Zinc	120	---

L10A			11/6/1996
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.92	Arsenic	6	**14.1**
0 - 0.92	Chromium	26	11.1
0 - 0.92	Copper	16	**20.9 NJ**
0 - 0.92	Lead	31	25.2
0 - 0.92	Nickel	16	9.2 B
0 - 0.92	Zinc	120	---

SRS 2A / SRS 2B			6/23, 26/2008
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	4.2
0.5 - 1	Arsenic	6	4.8
0 - 0.5	Chromium	26	23.6
0.5 - 1	Chromium	26	19.6
0 - 0.5	Copper	16	**43.9**
0.5 - 1	Copper	16	**27.6**
0 - 0.5	Lead	31	**43.9**
0.5 - 1	Lead	31	29.5
0 - 0.5	Nickel	16	**16.1**
0.5 - 1	Nickel	16	14.4
0 - 0.5	Zinc	120	**150**
0.5 - 1	Zinc	120	71.8

GM98-SED13			11/19/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	4.5
0 - 0.5	Chromium	26	**31.5**
0 - 0.5	Copper	16	**63.1**
0 - 0.5	Lead	31	**67.5**
0 - 0.5	Nickel	16	13.8
0 - 0.5	Zinc	120	**163**

GM98-SED14			11/19/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	5.2
0 - 0.5	Chromium	26	18.9
0 - 0.5	Copper	16	**29.8**
0 - 0.5	Lead	31	26.9
0 - 0.5	Nickel	16	**19.1**
0 - 0.5	Zinc	120	85.8

SRS 4A / SRS 4B			6/23/2008
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	4
0.5 - 1	Arsenic	6	4.6
0 - 0.5	Chromium	26	20.3
0.5 - 1	Chromium	26	**29.4**
0 - 0.5	Copper	16	**43.5**
0.5 - 1	Copper	16	**41**
0 - 0.5	Lead	31	**38.7**
0.5 - 1	Lead	31	**33.4**
0 - 0.5	Nickel	16	**19.2**
0.5 - 1	Nickel	16	**25.6**
0 - 0.5	Zinc	120	**140**
0.5 - 1	Zinc	120	117

GM98-SED15			11/19/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	3.5
0 - 0.5	Chromium	26	20.2
0 - 0.5	Copper	16	**48.9**
0 - 0.5	Lead	31	**42.9**
0 - 0.5	Nickel	16	12.2
0 - 0.5	Zinc	120	**147**

GM98-SED16			11/18/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	2.6
0 - 0.5	Chromium	26	19.7
0 - 0.5	Copper	16	**35.4**
0 - 0.5	Lead	31	**47.1**
0 - 0.5	Nickel	16	8.4
0 - 0.5	Zinc	120	**122**

L12C			11/6/1996
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.58	Arsenic	6	2.4
0 - 0.58	Chromium	26	10.9
0 - 0.58	Copper	16	14.6 NJ
0 - 0.58	Lead	31	7
0 - 0.58	Nickel	16	11.2
0 - 0.58	Zinc	120	---

SRS 6A / SRS 6B			6/24, 26/2008
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	4.9
0.5 - 1	Arsenic	6	5.6
0 - 0.5	Chromium	26	**52.2 J**
0.5 - 1	Chromium	26	16.4
0 - 0.5	Copper	16	**23.9**
0.5 - 1	Copper	16	**21.5**
0 - 0.5	Lead	31	18.2
0.5 - 1	Lead	31	8
0 - 0.5	Nickel	16	12 J
0.5 - 1	Nickel	16	**20.6**
0 - 0.5	Zinc	120	96.2 J
0.5 - 1	Zinc	120	51.2

SRS 5A / SRS 5B			6/23/2008
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	3.1
0.5 - 1	Arsenic	6	3.6
0 - 0.5	Chromium	26	11.6
0.5 - 1	Chromium	26	11
0 - 0.5	Copper	16	**26.7**
0.5 - 1	Copper	16	13.9
0 - 0.5	Lead	31	17.4
0.5 - 1	Lead	31	13.7
0 - 0.5	Nickel	16	9.9
0.5 - 1	Nickel	16	10.4
0 - 0.5	Zinc	120	61.2
0.5 - 1	Zinc	120	51

L11B			11/6/1996
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.67	Arsenic	6	4.9
0 - 0.67	Chromium	26	16.5
0 - 0.67	Copper	16	**22.8 NJ**
0 - 0.67	Lead	31	6.9
0 - 0.67	Nickel	16	**17.8**
0 - 0.67	Zinc	120	---

SRS 3A / SRS 3B			6/23/2008
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	3.6 U
0.5 - 1	Arsenic	6	4.8
0 - 0.5	Chromium	26	11.3
0.5 - 1	Chromium	26	**26.4**
0 - 0.5	Copper	16	**30.9 J**
0.5 - 1	Copper	16	**26.4**
0 - 0.5	Lead	31	21.6
0.5 - 1	Lead	31	13.6
0 - 0.5	Nickel	16	8.1
0.5 - 1	Nickel	16	**21.7**
0 - 0.5	Zinc	120	72.3 J
0.5 - 1	Zinc	120	51.5

GM98-SED12			11/19/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	4.2
0 - 0.5	Chromium	26	20.7
0 - 0.5	Copper	16	**47.6**
0 - 0.5	Lead	31	**42.5**
0 - 0.5	Nickel	16	11.1
0 - 0.5	Zinc	120	**146**

GM98-SED11			11/18/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	5.7
0.5 - 1	Arsenic	6	6
0 - 0.5	Chromium	26	**36.1**
0.5 - 1	Chromium	26	**56.6**
0 - 0.5	Copper	16	**73.5**
0.5 - 1	Copper	16	**70.4**
0 - 0.5	Lead	31	**106**
0.5 - 1	Lead	31	**126**
0 - 0.5	Nickel	16	**19.1**
0.5 - 1	Nickel	16	**21.7**
0 - 0.5	Zinc	120	**228**
0.5 - 1	Zinc	120	**200**

SRS 1A / SRS 1B			6/19/2008
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	5.1
0.5 - 1	Arsenic	6	4.2
0 - 0.5	Chromium	26	25
0.5 - 1	Chromium	26	18.8
0 - 0.5	Copper	16	**43.1**
0.5 - 1	Copper	16	**29.6**
0 - 0.5	Lead	31	**59.7**
0.5 - 1	Lead	31	**56**
0 - 0.5	Nickel	16	**18.2**
0.5 - 1	Nickel	16	11.3
0 - 0.5	Zinc	120	**142**
0.5 - 1	Zinc	120	106

GM98-SED10			11/18/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	5.2
0 - 0.5	Chromium	26	25
0 - 0.5	Copper	16	**50.1**
0 - 0.5	Lead	31	**61**
0 - 0.5	Nickel	16	11.9
0 - 0.5	Zinc	120	**190**

GM98-SED01			11/17/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	4.4
0.5 - 1	Arsenic	6	**6.4**
0 - 0.5	Chromium	26	**76.6**
0.5 - 1	Chromium	26	**153**
0 - 0.5	Copper	16	**69.7**
0.5 - 1	Copper	16	**128**
0 - 0.5	Lead	31	**78.4 J**
0.5 - 1	Lead	31	**60.5 J**
0 - 0.5	Nickel	16	**31.8**
0.5 - 1	Nickel	16	**57.9**
0 - 0.5	Zinc	120	119
0.5 - 1	Zinc	120	**146**

GM98-SED04			11/17/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	3.4
0 - 0.5	Chromium	26	12.5
0 - 0.5	Copper	16	**14.6**
0 - 0.5	Lead	31	12.4
0 - 0.5	Nickel	16	7.2
0 - 0.5	Zinc	120	69.6

GM98-SED02			11/17/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	4.9
0 - 0.5	Chromium	26	23.9
0 - 0.5	Copper	16	**31.5**
0 - 0.5	Lead	31	24.5
0 - 0.5	Nickel	16	15.1
0 - 0.5	Zinc	120	87.5

SED-20 / SED-200			8/26/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	---
0.5 - 1	Arsenic	6	**15.1**
0 - 0.5	Chromium	26	**84 N*J**
0.5 - 1	Chromium	26	**169 N*J**
0 - 0.5	Copper	16	**80 N*J**
0.5 - 1	Copper	16	**145 N*J**
0 - 0.5	Lead	31	ND
0.5 - 1	Lead	31	ND
0 - 0.5	Nickel	16	**47 N*J**
0.5 - 1	Nickel	16	**80.5 N*J**
0 - 0.5	Zinc	120	**142 EN)**
0.5 - 1	Zinc	120	**142 EN)**

DSR 52A / DSR 52B			6/18/2008
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	5.8
0.5 - 1	Arsenic	6	**7.8**
0 - 0.5	Chromium	26	**27.8**
0.5 - 1	Chromium	26	**47.5**
0 - 0.5	Copper	16	**45.6**
0.5 - 1	Copper	16	**68.6**
0 - 0.5	Lead	31	**48.1**
0.5 - 1	Lead	31	**74.3**
0 - 0.5	Nickel	16	15.1
0.5 - 1	Nickel	16	**30**
0 - 0.5	Zinc	120	105
0.5 - 1	Zinc	120	114

GM98-SED03			11/17/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	6.7
0.5 - 1	Arsenic	6	---
0 - 0.5	Chromium	26	17.6
0 - 0.5	Copper	16	**29.3**
0 - 0.5	Lead	31	**36.6**
0 - 0.5	Nickel	16	7.9
0 - 0.5	Zinc	120	70.6

L8			11/6/1996
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.83	Arsenic	6	5.2
0 - 0.83	Chromium	26	16.7
0 - 0.83	Copper	16	**28.3 NJ**
0 - 0.83	Lead	31	29.1
0 - 0.83	Nickel	16	13.6
0 - 0.83	Zinc	120	---

DSR 53A / DSR 53B			6/18/2008
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	**7.4**
0.5 - 1	Arsenic	6	**7**
0 - 0.5	Chromium	26	**35.6**
0.5 - 1	Chromium	26	**33.2**
0 - 0.5	Copper	16	**44.5**
0.5 - 1	Copper	16	**26.3**
0 - 0.5	Lead	31	**52**
0.5 - 1	Lead	31	**32.9**
0 - 0.5	Nickel	16	**23.2**
0.5 - 1	Nickel	16	**23.3**
0 - 0.5	Zinc	120	**158**
0.5 - 1	Zinc	120	83.2

L9A			11/6/1996
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	3.3
0 - 0.5	Chromium	26	**30**
0 - 0.5	Copper	16	**50.3 NJ**
0 - 0.5	Lead	31	**87.1**
0 - 0.5	Nickel	16	**18**
0 - 0.5	Zinc	120	---

L9B			11/6/1996
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.25	Arsenic	6	3.9
0 - 0.25	Chromium	26	12.5
0 - 0.25	Copper	16	**18 NJ**
0 - 0.25	Lead	31	16.7
0 - 0.25	Nickel	16	13.1
0 - 0.25	Zinc	120	---

L9C			11/6/1996
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.58	Arsenic	6	3.8
0 - 0.58	Chromium	26	19.6
0 - 0.58	Copper	16	**34.6 NJ**
0 - 0.58	Lead	31	27.7
0 - 0.58	Nickel	16	15.1
0 - 0.58	Zinc	120	---

GM98-SED06			11/18/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	**6.2**
0 - 0.5	Chromium	26	**30.4**
0 - 0.5	Copper	16	**54.9**
0 - 0.5	Lead	31	**66.4**
0 - 0.5	Nickel	16	15.4
0 - 0.5	Zinc	120	**223**

GM98-SED08			11/18/1998
DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	Arsenic	6	---
0 - 0.5	Chromium	26	**108**
0 - 0.5	Copper	16	**109**
0 - 0.5	Lead	31	**172**
0 - 0.5	Nickel	16	**44**
0 - 0.5	Zinc	120	**247**

PLOTDATE: 04/30/13 10:34:12 AM StantonSA

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REVISED FIGURE 4-14

N

LEGEND

- SEDIMENT SAMPLE
- FORMER IFG FACILITY PROPERTY BOUNDARY

LOCATION ID — RESULTS IN mg/kg

GM98-SED10 — 11/18/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	**1.2**
0 - 0.5	Acenaphthene	4.6	4 J
0 - 0.5	Anthracene	3.52	**4.7 J**
0 - 0.5	Benzo[a]anthracene	0.04	**15 J**
0 - 0.5	Benzo[a]pyrene	0.04	**13**
0 - 0.5	Benzo[b]fluoranthene	0.04	**17**
0 - 0.5	Benzo[k]fluoranthene	0.04	**6.4 J**
0 - 0.5	Fluoranthene	33.52	30
0 - 0.5	Fluorene	0.26	**3.4 J**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**12**
0 - 0.5	Naphthalene	0.99	**2.8**
0 - 0.5	Phenanthrene	3.94	**32**
0 - 0.5	Phenol	0.02	**0.086 J**
0 - 0.5	Pyrene	31.58	**36 J**

BOLD RESULTS REPRESENT AN EXCEEDANCE

NOTE:

- Sediment data is screened against the most conservative sediment quality criteria (SCoc) presented in the NYSDEC Technical Guidance for Screening of Contaminated Sediments.
- Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (30,331 mg/kg) within the Upstream sampling reach at depths of 0-0.5 feet (surface sediment).
- Sediment Criteria (SC) calculation based on selected NYSDEC sediment quality criteria (SCoc) and the average total organic carbon (TOC) (13,616 mg/kg) within the Upstream sampling reach at depths of 0.5-1 feet (subsurface sediment).

*U - Indicates the compound was analyzed for but not detected.
*J - Indicates the compound was detected but below the reporting limit. The reported concentration is estimated.
*UJ - Indicates the compound was not detected and the reporting detection limit is estimated.
*D - Indicates the compound at the secondary dilution factor.
*E - Indicates the constituent exceeded the calibration range of the GC/MS instrument.
*ND - Indicates the compound was not detected.

RACER TRUST
FORMER IFG FACILITY
AND DEFERRED MEDIA SITE
SYRACUSE, NEW YORK

OFF-SITE REMEDIAL INVESTIGATION

LEY CREEK SITE REACH SEDIMENT SAMPLE RESULTS VOCs AND SVOCs

0 150 300 600
Feet

MAY 2013
15388.50292

O'BRIEN & GERE

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DSR 51A / DSR 51B — 6/18/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.57 U
0.5 - 1	2-Methylnaphthalene	0.79	0.204
0 - 0.5	Acenaphthene	4.6	0.212
0.5 - 1	Acenaphthene	3.26	0.449
0 - 0.5	Anthracene	3.52	0.606
0.5 - 1	Anthracene	2.49	1.02
0 - 0.5	Benzo[a]anthracene	0.04	**1.87**
0.5 - 1	Benzo[a]anthracene	0.03	**2.04**
0 - 0.5	Benzo[a]pyrene	0.04	**2.05**
0.5 - 1	Benzo[a]pyrene	0.03	**2.67**
0 - 0.5	Benzo[b]fluoranthene	0.04	**2.38**
0.5 - 1	Benzo[b]fluoranthene	0.03	**2.52**
0 - 0.5	Benzo[k]fluoranthene	0.04	**1.66**
0.5 - 1	Benzo[k]fluoranthene	0.03	**2.2**
0 - 0.5	Fluoranthene	33.52	5.31
0.5 - 1	Fluoranthene	23.77	5.31
0 - 0.5	Fluorene	0.26	0.243
0.5 - 1	Fluorene	0.19	**0.448**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**1.26**
0.5 - 1	Indeno[1,2,3-cd]pyrene	0.03	**1.53**
0 - 0.5	Naphthalene	0.99	0.0847 J
0.5 - 1	Naphthalene	0.7	0.289
0 - 0.5	Phenanthrene	3.94	2.63
0.5 - 1	Phenanthrene	2.8	**2.97**
0 - 0.5	Phenol	0.02	0.17 U
0.5 - 1	Phenol	0.01	0.21 U
0 - 0.5	Pyrene	31.58	4.33 J
0.5 - 1	Pyrene	22.4	6.54 J

GM98-SED01 — 11/3/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.55 U
0 - 0.5	Acenaphthene	4.6	0.081 J
0 - 0.5	Anthracene	3.52	0.19 J
0 - 0.5	Benzo[a]anthracene	0.04	**0.82 J**
0 - 0.5	Benzo[a]pyrene	0.04	**1.1 J**
0 - 0.5	Benzo[b]fluoranthene	0.04	**1.3 J**
0 - 0.5	Benzo[k]fluoranthene	0.04	**0.65 J**
0 - 0.5	Fluoranthene	33.52	1.9
0 - 0.5	Fluorene	0.26	0.091 J
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**0.65 J**
0 - 0.5	Naphthalene	0.99	0.55 U
0 - 0.5	Phenanthrene	3.94	2 J
0 - 0.5	Phenol	0.02	0.55 U
0 - 0.5	Pyrene	31.58	2.2 J

GM98-SED02 — 11/17/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.55 U
0 - 0.5	Acenaphthene	4.6	9.9
0 - 0.5	Anthracene	3.52	0.19 J
0 - 0.5	Benzo[a]anthracene	0.04	**0.92 J**
0 - 0.5	Benzo[a]pyrene	0.04	**1 J**
0 - 0.5	Benzo[b]fluoranthene	0.04	**1.3 J**
0 - 0.5	Benzo[k]fluoranthene	0.04	**0.55 J**
0 - 0.5	Fluoranthene	33.52	1.9
0 - 0.5	Fluorene	0.26	0.091 J
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**1.26**
0 - 0.5	Naphthalene	0.99	0.55 U
0 - 0.5	Phenanthrene	3.94	2.2 J
0 - 0.5	Phenol	0.02	0.55 U
0 - 0.5	Pyrene	31.58	2.2 J

GM98-SED03 — 11/17/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.81
0 - 0.5	Acenaphthene	4.6	1.5
0 - 0.5	Anthracene	3.52	1.9
0 - 0.5	Benzo[a]anthracene	0.04	**8 J**
0 - 0.5	Benzo[a]pyrene	0.04	**7.4 J**
0 - 0.5	Benzo[b]fluoranthene	0.04	**5.8 J**
0 - 0.5	Benzo[k]fluoranthene	0.04	**3.5 J**
0 - 0.5	Fluoranthene	33.52	17
0 - 0.5	Fluorene	0.26	**1.6**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**5.6 J**
0 - 0.5	Naphthalene	0.99	**1.2**
0 - 0.5	Phenanthrene	3.94	**19**
0 - 0.5	Phenol	0.02	0.47 U
0 - 0.5	Pyrene	31.58	22

GM98-SED04 — 11/17/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	**3.5 J**
0 - 0.5	Acenaphthene	4.6	**9.2**
0 - 0.5	Anthracene	3.52	**12**
0 - 0.5	Benzo[a]anthracene	0.04	**30**
0 - 0.5	Benzo[a]pyrene	0.04	**27 J**
0 - 0.5	Benzo[b]fluoranthene	0.04	**27**
0 - 0.5	Benzo[k]fluoranthene	0.04	**13**
0 - 0.5	Fluoranthene	33.52	**57**
0 - 0.5	Fluorene	0.26	**9.4**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**17**
0 - 0.5	Naphthalene	0.99	**9.3**
0 - 0.5	Phenanthrene	3.94	**69**
0 - 0.5	Phenol	0.02	4.2 U
0 - 0.5	Pyrene	31.58	**68**

GM98-SED05 — 11/17/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.21 U
0 - 0.5	Acenaphthene	4.6	0.52 U
0 - 0.5	Anthracene	3.52	0.82 J
0 - 0.5	Benzo[a]anthracene	0.04	**1.52**
0 - 0.5	Benzo[a]pyrene	0.04	**2.6 J**
0 - 0.5	Benzo[b]fluoranthene	0.04	**3.9 J**
0 - 0.5	Benzo[k]fluoranthene	0.04	**1.2 J**
0 - 0.5	Fluoranthene	33.52	6.4
0 - 0.5	Fluorene	0.26	0.66 J
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**1.4 J**
0 - 0.5	Naphthalene	0.99	**1.3 J**
0 - 0.5	Phenanthrene	3.94	5.9
0 - 0.5	Phenol	0.02	0.21 U
0 - 0.5	Pyrene	31.58	5.4

GM98-SED06 — 11/18/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.2 J
0 - 0.5	Acenaphthene	4.6	0.28 J
0 - 0.5	Anthracene	3.52	0.76 J
0 - 0.5	Benzo[a]anthracene	0.04	**2.6 J**
0 - 0.5	Benzo[a]pyrene	0.04	**2.5 J**
0 - 0.5	Benzo[b]fluoranthene	0.04	**2.9 J**
0 - 0.5	Benzo[k]fluoranthene	0.04	**1.1 J**
0 - 0.5	Fluoranthene	33.52	4.2 J
0 - 0.5	Fluorene	0.26	**0.33 J**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**2 J**
0 - 0.5	Naphthalene	0.99	0.2 J
0 - 0.5	Phenanthrene	3.94	3.1 J
0 - 0.5	Phenol	0.02	0.17 U
0 - 0.5	Pyrene	31.58	6.1 J

DSR 54A / DSR 54B — 6/19/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.192 J
0.5 - 1	2-Methylnaphthalene	0.79	0.623
0 - 0.5	Acenaphthene	4.6	0.507
0.5 - 1	Acenaphthene	3.26	2.17
0 - 0.5	Anthracene	3.52	1.21
0.5 - 1	Anthracene	2.49	**5.87**
0 - 0.5	Benzo[a]anthracene	0.04	**3.12**
0.5 - 1	Benzo[a]anthracene	0.03	**19.2**
0 - 0.5	Benzo[a]pyrene	0.04	**3.07**
0.5 - 1	Benzo[a]pyrene	0.03	**16**
0 - 0.5	Benzo[b]fluoranthene	0.04	**3.27**
0.5 - 1	Benzo[b]fluoranthene	0.03	**15.3**
0 - 0.5	Benzo[k]fluoranthene	0.04	**2.64**
0.5 - 1	Benzo[k]fluoranthene	0.03	**14.7**
0 - 0.5	Fluoranthene	33.52	7
0.5 - 1	Fluoranthene	23.77	**41.2**
0 - 0.5	Fluorene	0.26	**0.544**
0.5 - 1	Fluorene	0.19	**2.69**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**13.3**
0.5 - 1	Indeno[1,2,3-cd]pyrene	0.03	**7.76**
0 - 0.5	Naphthalene	0.99	0.368
0.5 - 1	Naphthalene	0.7	**1.1 J**
0 - 0.5	Phenanthrene	3.94	**5.05**
0.5 - 1	Phenanthrene	2.8	**39.6**
0 - 0.5	Phenol	0.02	0.22 U
0.5 - 1	Phenol	0.01	0.21 U
0 - 0.5	Pyrene	31.58	6.8 J
0.5 - 1	Pyrene	22.4	**36**

GM98-SED07 — 11/18/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	**1.3**
0.5 - 1	2-Methylnaphthalene	0.79	0.18 J
0 - 0.5	Acenaphthene	4.6	**3.1**
0 - 0.5	Anthracene	3.52	0.62
0.5 - 1	Anthracene	2.49	**4.4 J**
0 - 0.5	Benzo[a]anthracene	0.04	**13**
0 - 0.5	Benzo[a]pyrene	0.04	**11 J**
0 - 0.5	Benzo[b]fluoranthene	0.04	**11 J**
0 - 0.5	Benzo[k]fluoranthene	0.04	**5.1 J**
0 - 0.5	Fluoranthene	33.52	**17**
0 - 0.5	Fluorene	0.26	**1.6**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**5.6 J**
0 - 0.5	Naphthalene	0.99	**1.2**
0 - 0.5	Phenanthrene	3.94	**23 J**
0 - 0.5	Phenol	0.02	0.47 U
0 - 0.5	Pyrene	31.58	22

GM98-SED08 — 11/18/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.27 J
0 - 0.5	Acenaphthene	4.6	0.42 J
0 - 0.5	Anthracene	3.52	1.1 J
0 - 0.5	Benzo[a]anthracene	0.04	**4.4 J**
0 - 0.5	Benzo[a]pyrene	0.04	**4.9**
0 - 0.5	Benzo[b]fluoranthene	0.04	**6.5**
0 - 0.5	Benzo[k]fluoranthene	0.04	**2.2**
0 - 0.5	Fluoranthene	33.52	4.6 J
0 - 0.5	Fluorene	0.26	**0.59 J**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**4.3**
0 - 0.5	Naphthalene	0.99	0.43 J
0 - 0.5	Phenanthrene	3.94	**5.7**
0 - 0.5	Phenol	0.02	0.59 U
0 - 0.5	Pyrene	31.58	13

GM98-SED09 — 11/18/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.19 U
0 - 0.5	Acenaphthene	4.6	0.267
0 - 0.5	Anthracene	3.52	**2.55**
0 - 0.5	Benzo[a]anthracene	0.04	**2.67**
0 - 0.5	Benzo[a]pyrene	0.04	**2.64**
0 - 0.5	Benzo[b]fluoranthene	0.04	**3.37**
0 - 0.5	Benzo[k]fluoranthene	0.04	**1.06 J**
0 - 0.5	Fluoranthene	33.52	6.32
0 - 0.5	Fluorene	0.26	**0.355**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**1.85**
0 - 0.5	Naphthalene	0.99	0.133 J
0 - 0.5	Phenanthrene	3.94	3.93
0 - 0.5	Phenol	0.02	0.19 U
0 - 0.5	Pyrene	31.58	4.95
0.5 - 1	Pyrene	22.4	1.93 J

DSR 55A / DSR 55B — 6/19/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.19 U
0.5 - 1	2-Methylnaphthalene	0.79	0.17 U
0 - 0.5	Acenaphthene	4.6	0.267
0.5 - 1	Acenaphthene	3.26	0.0463 J
0 - 0.5	Anthracene	3.52	0.976
0.5 - 1	Anthracene	2.49	0.29 J
0 - 0.5	Benzo[a]anthracene	0.04	**2.67**
0.5 - 1	Benzo[a]anthracene	0.03	**0.931 J**
0 - 0.5	Benzo[a]pyrene	0.04	**2.64**
0.5 - 1	Benzo[a]pyrene	0.03	**1.06 J**
0 - 0.5	Benzo[b]fluoranthene	0.04	**3.37**
0.5 - 1	Benzo[b]fluoranthene	0.03	**1.06 J**
0 - 0.5	Benzo[k]fluoranthene	0.04	**2**
0.5 - 1	Benzo[k]fluoranthene	0.03	**0.802 J**
0 - 0.5	Fluoranthene	33.52	6.32
0.5 - 1	Fluoranthene	23.77	2.25 J
0 - 0.5	Fluorene	0.26	**0.443**
0.5 - 1	Fluorene	0.19	**3.29**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**1.85**
0.5 - 1	Indeno[1,2,3-cd]pyrene	0.03	**0.643 J**
0 - 0.5	Naphthalene	0.99	0.133 J
0.5 - 1	Naphthalene	0.7	**0.777 J**
0 - 0.5	Phenanthrene	3.94	**5.04**
0.5 - 1	Phenanthrene	2.8	**33**
0 - 0.5	Phenol	0.02	0.21 U
0.5 - 1	Phenol	0.01	**4.83 J**
0 - 0.5	Pyrene	31.58	**30**
0.5 - 1	Pyrene	22.4	**27.1**

SRS 1A / SRS 1B — 6/19/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.0987 J
0.5 - 1	2-Methylnaphthalene	0.79	0.465
0 - 0.5	Acenaphthene	4.6	0.358
0.5 - 1	Acenaphthene	3.26	2.29
0 - 0.5	Anthracene	3.52	1.26
0.5 - 1	Anthracene	2.49	**7.55**
0 - 0.5	Benzo[a]anthracene	0.04	**3.18**
0.5 - 1	Benzo[a]anthracene	0.03	**15.6**
0 - 0.5	Benzo[a]pyrene	0.04	**2.99**
0.5 - 1	Benzo[a]pyrene	0.03	**12.5**
0 - 0.5	Benzo[b]fluoranthene	0.04	**3.56**
0.5 - 1	Benzo[b]fluoranthene	0.03	**12.3**
0 - 0.5	Benzo[k]fluoranthene	0.04	**2.45**
0.5 - 1	Benzo[k]fluoranthene	0.03	**10.5**
0 - 0.5	Fluoranthene	33.52	7.23
0.5 - 1	Fluoranthene	23.77	**32.8**
0 - 0.5	Fluorene	0.26	**0.443**
0.5 - 1	Fluorene	0.19	**3.29**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**1.92**
0.5 - 1	Indeno[1,2,3-cd]pyrene	0.03	**6.89**
0 - 0.5	Naphthalene	0.99	0.139 J
0.5 - 1	Naphthalene	0.7	**0.777 J**
0 - 0.5	Phenanthrene	3.94	**5.04**
0.5 - 1	Phenanthrene	2.8	**33**
0 - 0.5	Phenol	0.02	0.21 U
0.5 - 1	Phenol	0.01	0.19 U
0 - 0.5	Pyrene	31.58	5.98
0.5 - 1	Pyrene	22.4	**27.1**

GM98-SED11 — 11/18/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.13 J
0.5 - 1	2-Methylnaphthalene	0.79	0.099 J
0 - 0.5	Acenaphthene	4.6	0.063 J
0.5 - 1	Acenaphthene	3.26	0.24 J
0 - 0.5	Anthracene	3.52	0.98 J
0.5 - 1	Anthracene	2.49	0.56 J
0 - 0.5	Benzo[a]anthracene	0.04	**4.1 J**
0.5 - 1	Benzo[a]anthracene	0.03	**2.5 J**
0 - 0.5	Benzo[a]pyrene	0.04	**4.6 J**
0.5 - 1	Benzo[a]pyrene	0.03	**2.9 J**
0 - 0.5	Benzo[b]fluoranthene	0.04	**6.1 J**
0.5 - 1	Benzo[b]fluoranthene	0.03	**3.8 J**
0 - 0.5	Benzo[k]fluoranthene	0.04	**2 J**
0.5 - 1	Benzo[k]fluoranthene	0.03	**1.3 J**
0 - 0.5	Fluoranthene	33.52	7.8
0.5 - 1	Fluoranthene	23.77	4.2 J
0 - 0.5	Fluorene	0.26	**0.49 J**
0.5 - 1	Fluorene	0.19	**0.31 J**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**3.9 J**
0.5 - 1	Indeno[1,2,3-cd]pyrene	0.03	**2.8 J**
0 - 0.5	Naphthalene	0.99	0.14 J
0.5 - 1	Naphthalene	0.7	0.063 J
0 - 0.5	Phenanthrene	3.94	**6.9 J**
0.5 - 1	Phenanthrene	2.8	**2.9 J**
0 - 0.5	Phenol	0.02	0.61 U
0.5 - 1	Phenol	0.01	0.57 U
0 - 0.5	Pyrene	31.58	13
0.5 - 1	Pyrene	22.4	6.6 J

SRS 2A / SRS 2B — 6/23/2008

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.21 U
0.5 - 1	2-Methylnaphthalene	0.79	0.17 U
0 - 0.5	Acenaphthene	4.6	0.274
0.5 - 1	Acenaphthene	3.26	0.118 J
0 - 0.5	Anthracene	3.52	0.888
0.5 - 1	Anthracene	2.49	0.243
0 - 0.5	Benzo[a]anthracene	0.04	**2.96**
0.5 - 1	Benzo[a]anthracene	0.03	**0.729**
0 - 0.5	Benzo[a]pyrene	0.04	**3.13**
0.5 - 1	Benzo[a]pyrene	0.03	**0.855**
0 - 0.5	Benzo[b]fluoranthene	0.04	**3.17**
0.5 - 1	Benzo[b]fluoranthene	0.03	**0.914**
0 - 0.5	Benzo[k]fluoranthene	0.04	**2.47**
0.5 - 1	Benzo[k]fluoranthene	0.03	**0.513**
0 - 0.5	Fluoranthene	33.52	6.59
0.5 - 1	Fluoranthene	23.77	1.73
0 - 0.5	Fluorene	0.26	**0.311**
0.5 - 1	Fluorene	0.19	0.0976 J
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**2.04**
0.5 - 1	Indeno[1,2,3-cd]pyrene	0.03	**0.723**
0 - 0.5	Naphthalene	0.99	0.156 J
0.5 - 1	Naphthalene	0.7	0.0784 J
0 - 0.5	Phenanthrene	3.94	3.76
0.5 - 1	Phenanthrene	2.8	0.932
0 - 0.5	Phenol	0.02	0.21 U
0.5 - 1	Phenol	0.01	0.17 U
0 - 0.5	Pyrene	31.58	5.81
0.5 - 1	Pyrene	22.4	1.54

GM98-SED12 — 11/19/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.13 J
0 - 0.5	Acenaphthene	4.6	0.46 J
0 - 0.5	Anthracene	3.52	0.71
0 - 0.5	Benzo[a]anthracene	0.04	**3.4 J**
0 - 0.5	Benzo[a]pyrene	0.04	**3.5 J**
0 - 0.5	Benzo[b]fluoranthene	0.04	**5.7 J**
0 - 0.5	Benzo[k]fluoranthene	0.04	**1.9 J**
0 - 0.5	Fluoranthene	33.52	5.2
0 - 0.5	Fluorene	0.26	**0.41 J**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**2.5 J**
0 - 0.5	Naphthalene	0.99	0.14 J
0 - 0.5	Phenanthrene	3.94	3.7
0 - 0.5	Phenol	0.02	0.55 U
0 - 0.5	Pyrene	31.58	11 J

GM98-SED13 — 11/19/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.11 J
0 - 0.5	Acenaphthene	4.6	0.27 J
0 - 0.5	Anthracene	3.52	0.54
0 - 0.5	Benzo[a]anthracene	0.04	**2.8 J**
0 - 0.5	Benzo[a]pyrene	0.04	**3 J**
0 - 0.5	Benzo[b]fluoranthene	0.04	**4.5 J**
0 - 0.5	Benzo[k]fluoranthene	0.04	**1.4 J**
0 - 0.5	Fluoranthene	33.52	4.1
0 - 0.5	Fluorene	0.26	**0.27 J**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**2.4 J**
0 - 0.5	Naphthalene	0.99	0.14 J
0 - 0.5	Phenanthrene	3.94	2.8
0 - 0.5	Phenol	0.02	0.52 U
0 - 0.5	Pyrene	31.58	8.3 J

GM98-SED14 — 11/19/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.12 J
0 - 0.5	Acenaphthene	4.6	0.42 J
0 - 0.5	Anthracene	3.52	1.1
0 - 0.5	Benzo[a]anthracene	0.04	**4.9 J**
0 - 0.5	Benzo[a]pyrene	0.04	**5.1 J**
0 - 0.5	Benzo[b]fluoranthene	0.04	**7.4 J**
0 - 0.5	Benzo[k]fluoranthene	0.04	**2.7 J**
0 - 0.5	Fluoranthene	33.52	9.4
0 - 0.5	Fluorene	0.26	**0.47 J**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**4 J**
0 - 0.5	Naphthalene	0.99	0.14 J
0 - 0.5	Phenanthrene	3.94	**6.1**
0 - 0.5	Phenol	0.02	0.52 U
0 - 0.5	Pyrene	31.58	14 J

GM98-SED15 — 11/19/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.12 J
0 - 0.5	Acenaphthene	4.6	0.42 J
0 - 0.5	Anthracene	3.52	1.1
0 - 0.5	Benzo[a]anthracene	0.04	**5.1 J**
0 - 0.5	Benzo[a]pyrene	0.04	**5.3 J**
0 - 0.5	Benzo[b]fluoranthene	0.04	**7.4 J**
0 - 0.5	Benzo[k]fluoranthene	0.04	**2.7 J**
0 - 0.5	Fluoranthene	33.52	9.4
0 - 0.5	Fluorene	0.26	**0.47 J**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**4 J**
0 - 0.5	Naphthalene	0.99	0.14 J
0 - 0.5	Phenanthrene	3.94	**6.1**
0 - 0.5	Phenol	0.02	0.52 U
0 - 0.5	Pyrene	31.58	14 J

GM98-SED16 — 11/19/1998

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.5	2-Methylnaphthalene	1.12	0.18 J
0 - 0.5	Acenaphthene	4.6	0.61
0 - 0.5	Anthracene	3.52	1.3 J
0 - 0.5	Benzo[a]anthracene	0.04	**5.7 J**
0 - 0.5	Benzo[a]pyrene	0.04	**5.6 J**
0 - 0.5	Benzo[b]fluoranthene	0.04	**8 J**
0 - 0.5	Benzo[k]fluoranthene	0.04	**3 J**
0 - 0.5	Fluoranthene	33.52	7.5
0 - 0.5	Fluorene	0.26	**0.62**
0 - 0.5	Indeno[1,2,3-cd]pyrene	0.04	**3.9 J**
0 - 0.5	Naphthalene	0.99	0.33 J
0 - 0.5	Phenanthrene	3.94	**7.8**
0 - 0.5	Phenol	0.02	0.49 U
0 - 0.5	Pyrene	31.58	**18 J**

L10B — 11/6/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.83	2-Methylnaphthalene	0.79	0.066 J
0 - 0.83	Acenaphthene	3.26	0.2 J
0 - 0.83	Anthracene	2.49	0.45 J
0 - 0.83	Benzo[a]anthracene	0.03	**1.2**
0 - 0.83	Benzo[a]pyrene	0.03	**1.1**
0 - 0.83	Benzo[b]fluoranthene	0.03	**1.2**
0 - 0.83	Benzo[k]fluoranthene	0.03	**0.85**
0 - 0.83	Fluoranthene	23.77	1.2
0 - 0.83	Fluorene	0.19	**0.24 J**
0 - 0.83	Indeno(1,2,3-cd)pyrene	0.03	**0.75**
0 - 0.83	Naphthalene	0.7	0.1 J
0 - 0.83	Phenanthrene	2.8	1.6
0 - 0.83	Phenol	0.01	0.1 J
0 - 0.83	Pyrene	22.4	2.3

L10C — 11/6/1996

DEPTH	PARAMETER	CRITERIA	RESULT
0 - 0.58	2-Methylnaphthalene	0.79	1.9 U
0 - 0.58	Acenaphthene	3.26	1.9 U
0 - 0.58	Anthracene	2.49	0.72 JD
0 - 0.58	Benzo[a]anthracene	0.03	**3.2 D**
0 - 0.58	Benzo[a]pyrene	0.03	**2.8 D**
0 - 0.

Site-Specific Risk-Based Preliminary Remedial Goals

APPENDIX B – SITE-SPECIFIC RISK-BASED PRELIMINARY REMEDIAL GOALS

1. INTRODUCTION

This appendix presents the information that was used in the identification of preliminary remedial goals (PRGs) for the Feasibility Study (FS). For the purpose of identification of PRGs in the Off-site FS, standards, criteria and guidance values (SCGs), background and upstream concentrations were considered. In addition, at the direction of the review agencies, risk-based concentrations were computed and are included in this submission. Finally, the cleanup criterion of 1 ppm PCBs for sediment and 1 ppm for wetland soil used for a nearby site was also considered in this compilation of information used in the identification of PRGs.

2. CALCULATION OF RISK-BASED CONCENTRATIONS REFLECTIVE OF ACCEPTABLE RISK

The assumptions included in the Human Health Risk Assessment (HHRA) (O'Brien & Gere 2013a) and Baseline Ecological Risk Assessment (BERA) (O'Brien & Gere 2013b) were used to calculate some of the PRGs evaluated in this FS. These calculations focused on the specific constituents, receptors, and pathways that yielded unacceptable risk/hazard in these assessments.

HHRA-BASED PRGS FOR EXPOSURES TO SEDIMENTS

The HHRA for Off-site media indicated that cancer risks were within acceptable limits for the receptors evaluated. Non-cancer hazard for the dredge worker was also within acceptable regulatory limits. Non-cancer hazards for the other receptors evaluated exceeded the acceptable threshold. Unacceptable reasonable maximum exposure (RME) hazard index was 4.0 for the child fish consumer. This Off-Site hazard was driven by:

- Highly chlorinated polychlorinated biphenyls (PCBs) in fish tissue;
- Less chlorinated PCBs and highly chlorinated PCBs in exposure unit 1 (EU-1: Ley Creek Exposure Area and Ley Creek Floodplain Exposure Area) surface sediment (0-1 ft bgs);

Calculated risk-based concentrations for the protection of human health focused on non-cancer hazard related to sediment exposure. Cancer risks were not considered as these risks were within acceptable limits, and risks related to fish ingestion were not considered because Ley Creek (between Townline Road and Route 11) is characterized as an urban drainage way, having little access for human receptors. In addition, based on sampling events, fish present in Ley Creek (between Townline Road and Route 11) mostly consist of non-game species (dace, minnow, sunfish, darter) less than 6 inches in length.

Without consideration of the fish ingestion pathway, the most sensitive receptor in Ley Creek is the Older Child Fisherperson (RME Hazard Quotient (HQ) of 20 for exposure to surface sediment). The primary risk drivers for this scenario were less chlorinated PCBs and highly chlorinated PCBs.

The methodology used for calculation of PRGs used the same exposure assumptions and toxicity values as those presented in the HHRA Report for incidental ingestion and dermal contact with surface sediment (0-1 ft bgs). The hazard equation used in the HHRA was rearranged to solve for an exposure point concentration that yields a HQ of one (*i.e.*, the potential PRG). Based on this methodology, the calculations produced a PRG of 11.1 mg/kg for less chlorinated PCBs and a PRG of 3.17 mg/kg for highly chlorinated PCBs.

BERA-BASED PRGS FOR EXPOSURE TO SEDIMENT AND SOIL

Calculated PRGs for the protection of ecological receptors focused on higher trophic-level receptors (*e.g.*, heron, robin, mink, shrew). The approved food chain models for these receptors were used to develop PRGs for three media/exposure area combinations: 1) Ley Creek surface sediment (0 to 6 inches bgs); 2) Ley Creek Floodplain Area surface soil (0 to 1 ft bgs); and 3) National Grid Wetland Area surface soil (0 to 1 ft bgs). The two terrestrial exposure areas (Ley Creek Floodplain Area and National Grid Wetland Area) are discussed together because the calculated PRGs for each constituent/receptor combination are the same for these areas. This similarity results because the constituent concentrations in the dietary items (plants and terrestrial invertebrates) are modeled (*i.e.*, there are no Site-specific biotransfer values for these terrestrial areas). The following sections discuss the methodology used to calculate ecologically-based PRGs for surface sediment and surface soil.

***Ley Creek PRGs for exposure to sediment*:** The BERA food chain calculations for the belted kingfisher, great blue heron, and mink modeled risk from exposure to constituents in Ley Creek surface sediment, surface water, and prey (collected fish/crayfish tissue samples). The BERA concluded that the primary risk driver for these receptors in Ley Creek was total PCBs. The great blue heron was not included in the PRG calculations as the PCB HQ for the great blue heron exposed to Ley Creek sediment was less than one.

The PRG calculations for the protection of above-listed semi-aquatic receptors used the same exposure assumptions and toxicity values as the BERA. However, these calculations employed Site-specific biota-sediment accumulation factors (BSAFs) for fish and crayfish tissue whereas the BERA calculations used measured tissue to calculate risk. Site-specific BSAFs were used in these calculations rather than measured tissue concentrations so the risk equation could be rearranged to provide a total PCB concentration for sediment that would yield acceptable (*i.e.*, HQ less than 1) biota concentrations and account for incidental ingestion of sediment.

The Site-specific BSAFs were developed for fish tissue by dividing the 95% upper confidence limit (UCL) contaminant concentration in Site reach tissue by the 95% UCL contaminant concentration in sediments of Ley Creek. Site-specific BSAFs for crayfish tissue were developed by dividing the 95% UCL contaminant concentration in Site reach by the maximum crayfish tissue concentration. The maximum crayfish tissue was used in place of the 95% UCL due to an inadequate number of detected PCBs in crayfish tissue. The food chain model was then rearranged to use the Site-specific BSAFs to estimate tissue concentrations and calculate the no adverse effects level (NOAEL)-based PRGs that yielded a HQ of one. These calculations yielded the following total PCB concentrations and resultant PRGs for Ley Creek surface sediment: 2.2 mg/kg for the mink and 8.0 mg/kg for the belted kingfisher.

Ley Creek Floodplain Area and National Grid Wetland Area PRGs for exposure to soil: The short-tailed shrew and American robin food chain calculations in the BERA modeled exposure to constituents in surface soil, Ley Creek surface water, and modeled soil invertebrate/plant tissue. The BERA concluded that potential risk to the shrew and American robin within both of these terrestrial exposure areas was driven primarily by total PCBs and Site-related metals (arsenic, chromium, copper, lead, nickel, and zinc). The BERA also identified the following COPECs as having LOAEL-based HQs >1: (a) bis(2-ethylhexyl) phthalate for American robin at the National Grid Wetland Area, and (b) thallium and vanadium for the short-tailed shrew at the Ley Creek Floodplain Area. These constituents were not included in the calculation of PRGs as they are not considered to be Site-related constituents. The assumptions of the BERA were used to calculate PRGs for these risk drivers. Note that, with the exception of bis(2-ethylhexyl) phthalate, thallium and vanadium, the PRGs were not calculated for the receptor/constituent combinations that yielded HQ less than 1.

The PRG calculations for the shrew and the American robin used the same exposure assumptions, soil-to-biota uptake factors, and toxicity values as the BERA and adjusted the exposure point concentration until the HQ was equal to 1. These NOAEL-based calculations yielded the following PRGs for the shrew: total PCBs - 0.2 mg/kg; arsenic - 1.65 mg/kg; chromium - 13.65 mg/kg; copper - 57.4 mg/kg; lead - 21.5 mg/kg; nickel - 232.5 mg/kg; and zinc - 78.3 mg/kg. The NOAEL-based calculations for the American robin yielded the following PRGs: PCBs - 0.31 mg/kg; arsenic - not calculated (HQ<1); chromium - 0.75 mg/kg; copper - 207 mg/kg; lead - 9.9 mg/kg; nickel - 299 mg/kg; and zinc - 6.5 mg/kg.

In addition to the calculated concentrations, the USEPA Regional Screening Level of lead in industrial soil is also referenced as a risk-based level for consideration as a PRG (USEPA 2012)

Calculated concentrations reflective of acceptable risk for consideration in the identification of PRGs for soil and sediment are summarized in Tables B-1 and B-2, respectively.

3. STANDARDS, CRITERIA AND GUIDANCE VALUES

SCGs identified for off-site soil and sediment consisted of both promulgated standards and non-promulgated criteria, as listed below:

Promulgated soil cleanup objectives:

- 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs) for Unrestricted Use
- 6 NYCRR Part 375 SCOs for Residential Use
- 6 NYCRR Part 375 SCOs for Commercial Use
- 6 NYCRR Part 375 SCOs for Industrial Use
- 6 NYCRR Part 375 SCOs for Protection of Ecological Resources

Non-promulgated sediment criteria:

- New York State Department of Environmental Conservation (NYSDEC) Sediment Criteria for Benthic Aquatic Life Chronic and Acute Toxicity
- NYSDEC Sediment Criteria for Wildlife Bioaccumulation
- NYSDEC Sediment Criteria for Human Health Bioaccumulation
- NYSDEC Sediment Criteria for Metals

Consistent with the risk discussions presented above, SCGs corresponding to risk drivers (*i.e.*, PCBs and site-related metals for soil and PCBs for sediment) were considered in the development of PRGs. The SCGs that were considered during the development of PRGs for soil and sediment are summarized in Tables B-1 and B-2, respectively.

4. BACKGROUND CONCENTRATIONS

Background soil concentrations published by the NYSDEC and New York State Department of Health (NYSDOH) (NYSDEC and NYSDOH 2006) were considered during the development of PRGs for Off-site soils (Table B-1).

As described in the Off-site Remedial Investigation (O'Brien & Gere 2013c), sediment was sampled from the upstream reaches of Ley Creek - an area unaffected by Site-related activities. Average constituent concentrations from the upstream reaches were considered during the development of PRGs for Off-site sediment (Table B-2).

5. PREVIOUSLY USED CLEANUP GOALS AT A NEARBY NEW YORK STATE HAZARDOUS WASTE SITE

As documented in the Record of Decision (ROD) for the Crouse-Hinds Landfills State Superfund Project (Site No. 734004), located along the southern shore of Ley Creek downstream of the Former IFG Facility off-site study reach of Ley Creek, the cleanup goal of 1 mg/kg PCBs in creek sediment is recognized as a previously selected sediment cleanup goal at New York State Hazardous Waste sites (NYSDEC 2011). Also documented in this ROD, the sediment cleanup criterion used for PCBs in wetland soils was 1 mg/kg. The cleanup goal of 1 mg/kg for PCBs has been used in the past for hazardous waste sites by USEPA Region 2, including those in New York State and is derived using a risk-based calculation (Mustico 2013). These values are reflected in Tables B-1 and B-2.

6. REFERENCES

Mustico, Richard. 2013. Email to Clare Leary (O'Brien & Gere) from Richard Mustico (NYSDEC) regarding USEPA Policy of sediment remediation goal of 1 mg/kg PCBs. May 3, 2013.

NYSDEC. 2011. Record of Decision, Crouse-Hinds Landfills, State Superfund Project, Syracuse, Onondaga County, Site No. 734004. March 2011.

NYSDEC and NYSDOH. 2006. New York State Brownfield Cleanup Program Development of Soil Cleanup Objectives, Technical Support Document. September 2006.

O'Brien & Gere. 2013a. Former IFG Facility and Deferred Media Site Off-Site Human Health Risk Assessment.

O'Brien & Gere. 2013b. Former IFG Facility and Deferred Media Site Off-Site Baseline Ecological Risk Assessment.

O'Brien & Gere. 2013c. Former IFG Facility and Deferred Media Site Off-Site Remedial Investigation.

USEPA. 2012. Regional Screening Level (RSL) Summary Table. November 2012.

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TABLE B-1: SUMMARY OF INFORMATION CONSIDERED DURING IDENTIFICATION OF SOIL PRGS

CONSTITUENT	RISK CONCERN/OTHER	SCG, BACKGROUND OR RISK-BASED CONCENTRATION* (mg/kg)	DERIVATION NOTES
PCBs	Industrial Land Use	25	NYCRR Part 375 Soil Cleanup Objectives for Industrial Land Use (NYSDEC 2006)
	Commercial Land Use	1	NYCRR Part 375 Soil Cleanup Objectives for Commercial Land Use (NYSDEC 2006)
	Residential Land Use	1	NYCRR Part 375 Soil Cleanup Objectives for Residential Land Use (NYSDEC 2006)
	Unrestricted Land Use	0.1	NYCRR Part 375 Soil Cleanup Objectives for Unrestricted Land Use (NYSDEC 2006)
	Protection of Ecological Resources	1	NYCRR Part 375 Soil Cleanup Objectives for Protection of Ecological resources (NYSDEC 2006)
	Wildlife Bioaccumulation	0.2	Calculated based on Site-specific food chain model presented in the BERA for protection of shew for HQ less than 1 in National Grid Wetland (Appendix A)
		0.31	Calculated based on Site-specific food chain model presented in the BERA for protection of robin for HQ less than 1 in National Grid Wetland (Appendix A)
		0.2	Calculated based on Site-specific food chain model presented in the BERA for protection of shew for HQ less than 1 in Ley Creek Floodplain (Appendix A)
		0.31	Calculated based on Site-specific food chain model presented in the BERA for protection of robin for HQ less than 1 in Ley Creek Floodplain (Appendix A)
	Used Previously as Cleanup Goal	1	Previously selected cleanup goal for wetland soil (NYSDEC 2011)
Arsenic	Industrial Land Use	16	NYCRR Part 375 Soil Cleanup Objectives for Industrial Land Use (NYSDEC 2006)
	Commercial Land Use	16	NYCRR Part 375 Soil Cleanup Objectives for Commercial Land Use (NYSDEC 2006)
	Residential Land Use	16	NYCRR Part 375 Soil Cleanup Objectives for Residential Land Use (NYSDEC 2006)
	Unrestricted Land Use	13	NYCRR Part 375 Soil Cleanup Objectives for Unrestricted Land Use (NYSDEC 2006)
	Rural Soil Background	13	NYSDEC and NYSDOH Development of Soil Cleanup Objectives - Technical Support Document (NYSDEC and NYSDOH 2006)
	Protection of Ecological Resources	13	NYCRR Part 375 Soil Cleanup Objectives for Protection of Ecological Resources (NYSDEC 2006)
	Wildlife Bioaccumulation	1.65	Calculated based on Site-specific food chain model presented in the BERA for protection of shew for HQ less than 1 in National Grid Wetland (Appendix A)
		1.65	Calculated based on Site-specific food chain model presented in the BERA for protection of shew for HQ less than 1 in Ley Creek Floodplain (Appendix A)
		---	Value not calculated as the arsenic HQ for the American robin exposed to National Grid Wetland soil was less than one in the BERA
		---	Value not calculated as the arsenic HQ for the American robin exposed to Ley Creek Flood Plain soil was less than one in the BERA

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TABLE B-1: SUMMARY OF INFORMATION CONSIDERED DURING IDENTIFICATION OF SOIL PRGS

CONSTITUENT	RISK CONCERN/OTHER	SCG, BACKGROUND OR RISK-BASED CONCENTRATION* (mg/kg)	DERIVATION NOTES
Chromium	Industrial Land Use	6800	NYCRR Part 375 Soil Cleanup Objectives for Industrial Land Use (NYSDEC 2006)
	Commercial Land Use	1500	NYCRR Part 375 Soil Cleanup Objectives for Commercial Land Use (NYSDEC 2006)
	Residential Land Use	36	NYCRR Part 375 Soil Cleanup Objectives for Residential Land Use (NYSDEC 2006)
	Unrestricted Land Use	30	NYCRR Part 375 Soil Cleanup Objectives for Unrestricted Land Use (NYSDEC 2006)
	Rural Soil Background	19.1	NYSDEC and NYSDOH Development of Soil Cleanup Objectives - Technical Support Document (NYSDEC and NYSDOH 2006)
	Protection of Ecological Resources	41	NYCRR Part 375 Soil Cleanup Objectives for Protection of Ecological Resources (NYSDEC 2006)
	Wildlife Direct Contact and Bioaccumulation	13.65	Calculated based on Site-specific food chain model presented in the BERA for protection of shew for HQ less than 1 in National Grid Wetland (Appendix A)
		0.75	Calculated based on Site-specific food chain model presented in the BERA for protection of robin for HQ less than 1 in National Grid Wetland (Appendix A)
		13.65	Calculated based on Site-specific food chain model presented in the BERA for protection of shew for HQ less than 1 in Ley Creek Floodplain (Appendix A)
		0.75	Calculated based on Site-specific food chain model presented in the BERA for protection of robin for HQ less than 1 in Ley Creek Floodplain (Appendix A)
Copper	Industrial Land Use	10000	NYCRR Part 375 Soil Cleanup Objectives for Industrial Land Use (NYSDEC 2006)
	Commercial Land Use	270	NYCRR Part 375 Soil Cleanup Objectives for Commercial Land Use (NYSDEC 2006)
	Residential Land Use	270	NYCRR Part 375 Soil Cleanup Objectives for Residential Land Use (NYSDEC 2006)
	Unrestricted Land Use	50	NYCRR Part 375 Soil Cleanup Objectives for Unrestricted Land Use (NYSDEC 2006)
	Rural Soil Background	33	NYSDEC and NYSDOH Development of Soil Cleanup Objectives - Technical Support Document (NYSDEC and NYSDOH 2006)
	Protection of Ecological Resources	50	NYCRR Part 375 Soil Cleanup Objectives for Protection of Ecological Resources (NYSDEC 2006)
	Wildlife Bioaccumulation	57.4	Calculated based on Site-specific food chain model presented in the BERA for protection of shew for HQ less than 1 in National Grid Wetland (Appendix A)
		207	Calculated based on Site-specific food chain model presented in the BERA for protection of robin for HQ less than 1 in National Grid Wetland (Appendix A)
		57.4	Calculated based on Site-specific food chain model presented in the BERA for protection of shew for HQ less than 1 in Ley Creek Floodplain (Appendix A)
		---	Value not calculated as the copper HQ for the American robin exposed to Ley Creek Flood Plain soil was less than one in the BERA

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TABLE B-1: SUMMARY OF INFORMATION CONSIDERED DURING IDENTIFICATION OF SOIL PRGS

CONSTITUENT	RISK CONCERN/OTHER	SCG, BACKGROUND OR RISK-BASED CONCENTRATION* (mg/kg)	DERIVATION NOTES
Lead	Industrial Land Use	3900	NYCRR Part 375 Soil Cleanup Objectives for Industrial Land Use (NYSDEC 2006)
	Industrial Land Use	800	USEPA Regional Screening Level (RSL) Summary Table (USEPA 2012)
	Commercial Land Use	1000	NYCRR Part 375 Soil Cleanup Objectives for Commercial Land Use (NYSDEC 2006)
	Residential Land Use	400	NYCRR Part 375 Soil Cleanup Objectives for Residential Land Use (NYSDEC 2006)
	Unrestricted Land Use	63	NYCRR Part 375 Soil Cleanup Objectives for Unrestricted Land Use (NYSDEC 2006)
	Rural Soil Background	63	NYSDEC and NYSDOH Development of Soil Cleanup Objectives - Technical Support Document (NYSDEC and NYSDOH 2006)
	Protection of Ecological Resources	63	NYCRR Part 375 Soil Cleanup Objectives for Protection of Ecological Resources (NYSDEC 2006)
	Wildlife Bioaccumulation	21.5	Calculated based on Site-specific food chain model presented in the BERA for protection of shew for HQ less than 1 in National Grid Wetland (Appendix A)
		9.9	Calculated based on Site-specific food chain model presented in the BERA for protection of robin for HQ less than 1 in National Grid Wetland (Appendix A)
		21.5	Calculated based on Site-specific food chain model presented in the BERA for protection of shew for HQ less than 1 in Ley Creek Floodplain (Appendix A)
		9.9	Calculated based on Site-specific food chain model presented in the BERA for protection of robin for HQ less than 1 in Ley Creek Floodplain (Appendix A)
Nickel	Industrial Land Use	10000	NYCRR Part 375 Soil Cleanup Objectives for Industrial Land Use (NYSDEC 2006)
	Commercial Land Use	310	NYCRR Part 375 Soil Cleanup Objectives for Commercial Land Use (NYSDEC 2006)
	Residential Land Use	140	NYCRR Part 375 Soil Cleanup Objectives for Residential Land Use (NYSDEC 2006)
	Unrestricted Land Use	30	NYCRR Part 375 Soil Cleanup Objectives for Unrestricted Land Use (NYSDEC 2006)
	Rural Soil Background	25	NYSDEC and NYSDOH Development of Soil Cleanup Objectives - Technical Support Document (NYSDEC and NYSDOH 2006)
	Protection of Ecological Resources	30	NYCRR Part 375 Soil Cleanup Objectives for Protection of Ecological Resources (NYSDEC 2006)
	Wildlife Bioaccumulation	232.5	Calculated based on Site-specific food chain model presented in the BERA for protection of shew for HQ less than 1 in National Grid Wetland (Appendix A)
		299	Calculated based on Site-specific food chain model presented in the BERA for protection of robin for HQ less than 1 in National Grid Wetland (Appendix A)
		---	Value not calculated as the nickel HQ for the shrew exposed to Ley Creek Floodplain soil was less than one in the BERA
		---	Value not calculated as the nickel HQ for the American robin exposed to Ley Creek Flood Plain soil was less than one in the BERA

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TABLE B-1: SUMMARY OF INFORMATION CONSIDERED DURING IDENTIFICATION OF SOIL PRGS

CONSTITUENT	RISK CONCERN/OTHER	SCG, BACKGROUND OR RISK-BASED CONCENTRATION* (mg/kg)	DERIVATION NOTES
Zinc	Industrial Land Use	10000	NYCRR Part 375 Soil Cleanup Objectives for Industrial Land Use (NYSDEC 2006)
	Commercial Land Use	10000	NYCRR Part 375 Soil Cleanup Objectives for Commercial Land Use (NYSDEC 2006)
	Residential Land Use	2200	NYCRR Part 375 Soil Cleanup Objectives for Residential Land Use (NYSDEC 2006)
	Unrestricted Land Use	109	NYCRR Part 375 Soil Cleanup Objectives for Unrestricted Land Use (NYSDEC 2006)
	Rural Soil Background	109	NYSDEC and NYSDOH Development of Soil Cleanup Objectives - Technical Support Document (NYSDEC and NYSDOH 2006)
	Protection of Ecological Resources	109	NYCRR Part 375 Soil Cleanup Objectives for Protection of Ecological Resources (NYSDEC 2006)
	Wildlife Bioaccumulation	78.3	Calculated based on Site-specific food chain model presented in the BERA for protection of shew for HQ less than 1 in National Grid Wetland (Appendix A)
		6.5	Calculated based on Site-specific food chain model presented in the BERA for protection of robin for HQ less than 1 in National Grid Wetland (Appendix A)
		78.3	Calculated based on Site-specific food chain model presented in the BERA for protection of shew for HQ less than 1 in Ley Creek Floodplain (Appendix A)
		6.5	Calculated based on Site-specific food chain model presented in the BERA for protection of robin for HQ less than 1 in Ley Creek Floodplain (Appendix A)

Notes:
SCGs - Standards, Criteria and Guidance
Chromium PRGs refer to Trivalent Chromium.

NYSDEC. 2011. Record of Decision, Crouse-Hinds Landfills, State Superfund Project, Syracuse, Onondaga County, Site No. 734004. March 2011.

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TABLE B-2: SUMMARY OF INFORMATION USED DURING IDENTIFICATION OF SEDIMENT PRGS

CONSTITUENT	RISK CONCERN/OTHER	PRELIMINARY REMEDIATION GOAL (mg/kg)	DERIVATION NOTES
PCBs	Sediment toxicity to benthic aquatic life	90.83	NYS Sediment Criteria for Benthic Aquatic Life Acute Toxicity (NYSDEC 1999); TOC 3.29% (Ave % TOC in 0 to 0.5 ft interval)
		64.34	NYS Sediment Criteria for Benthic Aquatic Life Acute Toxicity (NYSDEC 1999); TOC 2.33 % (ave % TOC in 0.5 to 3.5 ft interval)
		0.63	NYS Sediment Criteria for Benthic Aquatic Life Chronic Toxicity (NYSDEC 1999); TOC 3.29% (Ave % TOC in 0 to 0.5 ft interval)
		0.45	NYS Sediment Criteria for Benthic Aquatic Life Chronic Toxicity (NYSDEC 1999); TOC 2.33 % (ave % TOC in 0.5 to 3.5 ft interval)
	Sediment bioaccumulation*	0.046	NYS Sediment Criteria for Wildlife Bioaccumulation (NYSDEC 1999); TOC 3.29% (Ave % TOC in 0 to 0.5 ft interval)
		0.032	NYS Sediment Criteria for Wildlife Bioaccumulation (NYSDEC 1999); TOC 2.33 % (ave % TOC in 0.5 to 3.5 ft interval)
		2.2	Calculated based on the BERA and a Site-specific BSAF for protection of mink (Appendix A)
		8	Calculated based on the BERA and a Site-specific BSAF for protection of belted kingfisher (Appendix A)
		---	Value not calculated as the PCB HQ for the great blue heron exposed to Ley Creek sediment was less than one in the BERA
	Human Direct Exposure*	11.1	Calculated based on the approved HHRA; value reflects combined incidental ingestion and dermal contact with sediment (Appendix A); Less Chlorinated PCBs
		3.17	Calculated based on the approved HHRA; value reflects combined incidental ingestion and dermal contact with sediment (Appendix A); Highly Chlorinated PCBs
	Human Bioaccumulation	0.000026	NYS Sediment Criteria for Human Health Bioaccumulation (NYSDEC 1999); TOC 3.29% (Ave % TOC in 0 to 0.5 ft interval)
		0.000019	NYS Sediment Criteria for Human Health Bioaccumulation (NYSDEC 1999); TOC 2.33 % (ave % TOC in 0.5 to 3.5 ft interval)
	Background Condition	0.28	Average Upstream Surface Sediment Concentration
	Used Previously as Cleanup Goal	1	Previously Selected Cleanup Goal for NYS Hazardous Waste Sites (NYSDEC 2011)

Notes:
*Unacceptable risk (HQ > 1) to aquatic pathway receptors are only observed for PCBs in the BERA and HHRA
Average for Upstream Surface Sediment used for consistency (BERA risk calculations use surface sediment; 0-0.5 ft)
NYSDEC. 2011. Record of Decision, Crouse-Hinds Landfills, State Superfund Project, Syracuse, Onondaga County, Site No. 734004. March 2011