



**Worldwide Facilities Group
Environmental Services
Remediation Team**

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June 27, 2007

Ms. Anne Kelly
GM/Massena Superfund Site Project
Emergency and Remedial Response Division
U.S. Environmental Protection Agency - Region II
290 Broadway, 19th Floor
New York, New York 10007-1866

Re: General Motors-Massena Superfund Site, Massena, New York
EPA Orders Index No. II CERCLA-20207 and 20215
Mohawk Uplands Remedial Action Work Plan

Dear Ms. Kelly:

Enclosed please find GM's finalized Mohawk Uplands Remedial Action Work Plan.

We anticipate beginning this project during the dry part of summer in August 2007, depending on weather conditions.

If you have any questions regarding the contents of this report, please contact me or Richard Boelter, ARCADIS BBLES at 315 764-2299.

Sincerely,

James F. Hartnett
Remedial Project Manager

Enclosures – 5
cc: Project Distribution Lists Attached

General Motors Company

Mohawk Uplands

Remedial Action Work Plan

Massena, New York

June 2007

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1. Introduction

This document has been prepared on behalf of the General Motors Company (GM) and presents the *Mohawk Uplands Remedial Action Work Plan* (Workplan) for designated upland soil areas associated with parcels number 61 and 60 of the St. Regis Mohawk Tribe (SRMT) property located in Massena, New York. This Workplan describes the approach and methodologies to be employed to safely and effectively remove low level PCB-containing soil from upland areas of the SRMT property, which is located east of the GM Powertrain facility (see Figure 1).

1.1 Site Location

The GM Powertrain facility (Figure 1) is located on Route 37 approximately 7 miles east of the village of Massena, New York, and approximately 2 miles south of the City of Cornwall, Ontario, Canada. The GM site is bordered on the north by the St. Lawrence River, on the south by the Raquette River, on the east by the SRMT property, and on the west by the Alcoa facility (formerly Reynolds Metals Company) and property owned by Conrail Corporation.

The SRMT property is located directly east of the GM site and bordered on the east by Raquette Point Road, and on the south by Route 37 and is approximately 70 acres in size. The topography of the site is characterized as relatively flat with land surface elevations between 155 and 200 feet above sea level.

1.2 Site Background and Regulatory History

The GM facility has been in operation since 1959. Polychlorinated biphenyls (PCBs) were used as a component in the hydraulic fluids, providing fire and thermal degradation protection in the high-temperature, high-pressure environment of the die-casting machines. In the late 1970s, GM changed to non-PCB mineral-based oils. In the mid-1980s, GM ceased die-casting operations at the facility, but continued operations using the lost-foam process to cast aluminum parts. In the mid-1990s, GM also began to cast iron parts using the lost-foam process. Currently, the GM Powertrain facility is producing the aluminum L-850 engine block and head motor components.

In 1984, the GM facility was placed on the National Priority List (NPL). Since that time, extensive work has been performed to analyze and characterize the site, including the adjacent off-property areas (e.g. the SMRT property). A Remedial

Investigation/Feasibility Study (RI/FS) was performed to determine the extent to which PCBs had migrated to soil, groundwater, and river sediments at and around the site, and to develop recommendations for site remediation. The RI/FS also describes how a portion of the SRMT property potentially became contaminated and is described as “A breach in the berm surrounding a sludge disposal area (in the East Disposal Area) resulted in a tongue of PCB contamination extending eastward from the old berm” (RMT, Inc. [RMT], 1986). There is no information in the RI/FS describing how the northern area became contaminated however discussions with the property owner of the cove area indicated that fill was placed in this area during a plant expansion project through a mutual agreement with the property owner’s father and GM.

The United States Environmental Protection Agency (USEPA) subsequently issued two Records of Decision (RODs) for the GM site: one in December 1990 (for Operable Unit 1 [OU-1]) and the other in March 1992 (for Operable Unit 2 [OU-2]). The Unilateral Administrative Order (UAO) for OU-1 was issued in April 1992 and the UAO for OU-2 was issued in August of 1992.

In 1993, a Comprehensive Sampling and Analysis Program (CSAP) was conducted and consisted of additional site characterization and investigation activities. The basis for development of the CSAP was to perform additional studies necessary to supplement and support existing site-specific information for use during the remedial designs.

In March 1999, the USEPA issued a ROD Amendment to the 1990 OU-1 ROD. This amendment allowed for offsite disposal, rather than onsite treatment, of: 1) PCB-containing soil and dewatered river sediments from the Raquette River area at concentrations greater than 10 milligrams per kilogram (mg/kg); 2) PCB-containing soils excavated during installation of site-wide groundwater controls; and 3) soil and sediment associated with the cleanup of the Cove and upland areas of the SRMT property.

1.3 Completed and Ongoing Site Activities on SRMT Property

1.3.1 Previous Soil/Sediment Investigations

Sediment and soil samples have been collected on the SRMT property during three previous investigations. The first investigation included Phase I and Phase II sampling performed as part of RI/FS actions. In 1985, 56 soil/sediment samples were collected from the SRMT property during Phase I of the RI/FS sampling. PCB concentrations in

these 56 samples ranged from non-detect to 48 mg/kg. In 1987, an additional 26 soil/sediment samples were collected from the SRMT property for Phase II of the RI/FS sampling. PCB concentrations in these 26 samples ranged from non-detect to 3.6 mg/kg. A summary of the RI/FS activities is provided in a document titled *Draft Remedial Investigation Report for Remedial Investigation/Feasibility Study (Vol. I & II) at GM-CFD Massena Facility, Massena, NY* (RMT, 1986, Revised 1989).

During the RI/FS sampling investigation, property parcels 60 and 61 had one and 29 sampling locations, respectively. The sample located in parcel 60 had a PCB concentration of 5.9 mg/kg, while only five of the sampling locations in parcel 61 had PCB concentrations exceeding the 1 mg/kg PCB cleanup criteria.

The second investigation was conducted in 1993 as part of the CSAP and involved the collection of 42 additional soil/sediment samples from the SRMT property. PCB concentrations in these 42 samples ranged from non-detect to 49 mg/kg. The 1993 investigation activities are summarized in the following two reports: *St. Regis Mohawk Tribal Property Soil Probe Report, CSAP Task No: 2.3.1, Report No. 7* (ERM, 1993a) and *St. Regis Mohawk Tribal Property Soil Cores, CSAP Task No: 2.3.2, Report No. 11* (ERM, 1993b).

During the CSAP sampling investigation, property parcel 60 was not sampled. Property parcel 61 had eight sampling locations. Three sampling locations in parcel 61 had PCB concentrations exceeding the 1 mg/kg PCB cleanup criteria.

During the initial SRMT site investigations, a total of 124 samples were analyzed for PCBs, and 16 samples were analyzed for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). Relative to the SRMT property, all historical analytical results from these previous investigations are summarized in Tables 1, 2, 3, and 4.

The RI/FS defined PCBs as the predominant constituent of concern at the facility and the CSAP investigations confirmed this observation. The few trace detections of VOCs and SVOCs were not considered significant and attributed to potential laboratory contamination. Thus, the objective of this remedial action outlined in this Workplan is to remove the extent of soil on the SRMT property exceeding the ROD-specified PCB cleanup criteria for soil of 1 mg/kg.

A third sampling investigation was conducted in August 2006 within parcel numbers 60 and 61. The purpose of this supplemental sampling investigation was to vertically and

horizontally delineate previously identified PCB-containing soils from the RI/FS and CSAP investigations. A total of 37 soil samples were collected and analyzed from 36 locations on the SRMT property parcels 60 and 61. Of the 36 locations, only one sample exceeded the 1 mg/kg PCB soil cleanup goal. A summary of the sampling investigation plan is provided in *Mohawk Upland Area Soil/Sediment Sampling Plan* (BBL Environmental Services [BBLES], 2006). The sampling results from this investigation are presented in Table 5. Access to the one remaining property of concern on the St. Regis Mohawk Tribal Reservation (the north parcel 50) was restricted by the property owner. The SRMT Environmental Division continues to attempt to resolve the access issue with the one remaining property owner. Final investigation and remedial activities on this remaining property will be completed when access to the property is provided to GM.

Relative to the SRMT property, the analytical results associated with all aforementioned sampling are summarized on Figures 2 and 3.

1.3.2 Previous Remedial Actions

In 2004 and 2005, GM remediated the Cove area on the SRMT property. The project began in September 2004 and was completed in August 2005. Approximately 18,070 cubic yards (cy) of sediment (*insitu*) were removed from the Cove, and approximately 18,440 cy of soil were removed from the north and southeast upland areas. All final confirmation analytical results for PCBs were below the respective cleanup levels of 0.1 mg/kg for sediments and 1 mg/kg for soils, and restoration of the Cove area was completed in July 2005. As a part of this remediation, the historical sampling locations SSMR-53, SM-1, SM-2, S-350, and S-350R were cleaned up to less than 0.1 mg/kg for sediments and less than 1 mg/kg for soils.

1.4 Remedial Project Objectives

The goals of the project are to: 1) remove PCB impacted soils on the SRMT property that have PCB concentrations greater than 1 mg/kg; and 2) restore the remediated area. At the completion of this project, one parcel on SRMT property will remain that will not have been addressed due to prohibited access.

This Workplan identifies four Removal Areas within the property limits of parcel 61 (Removal Areas 1, 2, 3, and 4) and a fifth Removal Area (Removal Area 5) that falls within both parcel 60 and 61. The areas are identified on Figure 3. Based on sampling results, all five Removal Areas have soil with PCB concentrations between 1

and 10 mg/kg in the surface soil (0- to 1-foot depth range). Accordingly, these Removal Areas will be excavated to a 1-foot depth. Removal Areas 1, 2, 3, 4, and 5 have been calculated to contain approximately 490, 120, 46, 46, and 93 cy of soil to be removed, respectively, for a total proposed excavation volume of approximately 795 cy.

The excavation quantities are subject to change based on cleanup confirmation sampling results as specified in Section 5.4. New York State licensed surveyors will establish the excavation limits in the field at the various areas prior to remedial activities.

Future remedial efforts regarding property parcel 50 including the pond sediments will be performed once property access has been granted by the current owner. Further investigation of the pond sediments, including the northern extent is required to sufficiently delineate the impacted sediments. Remedial action of the pond sediments will be performed after assessment of the investigation results.

This project has been designed and will be performed in accordance with the USEPA ROD for OU-1 dated 1990 and the associated ROD Amendment. More detailed information on the remedial work planned is provided in Section 3 of this Workplan.

1.5 Work Plan Organization

This Workplan is organized into the sections shown below:

- Section 1- Introduction: Presents an overview of the RAWP and its components, the project setting, completed RI/FS activities, operating remedial components at the Site, and the remedial action objectives.
- Section 2 - Site Preparation Activities: Presents the site preparation activities including site access, material storage areas, and material transport routes.
- Section 3 - Remedial Site Work: Presents the site controls, work zones, soil excavation, and stormwater management activities.
- Section 4 - Environmental Monitoring and Cleanup Confirmation: Presents the environmental monitoring sampling and analysis as well as cleanup confirmation sampling protocols.

- Section 5 - Site Restoration: Presents the post remedial site work activities of restoring the disturbed areas.
- Section 6 - Project Completion: Presents the equipment decontamination and other project completion tasks.
- Section 7 - References: Presents the references used to prepare this Workplan.
- Tables: Provides the tables referenced in this Workplan.
- Figures: Provides the figures referenced in this Workplan.

2. Site Preparation

Due to the potential wet nature of the ground in the identified remedial area GM is proposing to perform this work during late summer (the hot and dry time of the year) of 2007 to minimize impact to the area as a result of performing site remediation activities. Construction vehicles and equipment are expected to access the remedial areas with minor site impacts and limited restoration.

2.1 East Disposal Area

Impacted soils addressed in this Workplan from parcels 60 and 61 on the SRMT property will be placed in the East Disposal Area (EDA). Excavation area soil will be managed through the proper transfer and placement into a discernable EDA staged pile. Should confirmatory soil sample results from the select excavation areas be greater than 10 ppm PCB the associated soils staged in the EDA will be relocated into a temporary storage cell.

Preparations of the EDA area will consist of placement of silt fences and/or hay bails at the toe of the placement area. Material will be staged on the upper plateau at the southern end of the EDA and stockpiled. Following the drying of the area, staged material will be graded within the existing limits of the EDA as shown on Figure 4, covered with 6-inches of topsoil, and seeded.

2.2 Material Transport Route

Temporary access roads will be constructed where necessary to access the remedial areas of parcels 60 and 61. Existing access roads on the GM Powertrain facility will also be utilized to transport impacted soils to the EDA.

A temporary access road will be constructed to connect the existing plant perimeter road to the northern SRMT Removal Areas 1, 2, 3, and 4. A new swing gate will also be installed in the GM perimeter fence to provide access to the SRMT Removal Areas 1, 2, 3, and 4 (see Figure 4).

Access to Removal Area 5 will be established using an existing construction road which is accessed from the west side of Raquette Point road approximately ¼ mile north of the intersection with Route 37. As identified on Figure 4, the existing construction road will be extended to the southern limit of lot 60 to provide improved access to Removal Area 5.

The temporary access roads will consist of a geotextile fabric placed on existing grade followed by the placement of up to 12 inches of ½- to 2-inch sized stone. The stone will be delivered to the site from an offsite borrow pit that has been previously sampled and analyzed for PCBs. The stone will be placed, graded, and compacted as necessary. The temporary access roads will be developed over top or at the edge of the Removal areas with the initial remedial excavation activities beginning with Area 4 and working towards the GM Powertrain property line. During the excavation, precautions will be taken to prevent the spread of contamination by laying down poly under the swing radius of the excavator and splash shields will be used along side of the dump trucks. Laborers will be present to maintain the poly and the splash shield. Trucks will be cleaned of residual soils from outside surfaces and covered during transit. In the event material is spilled from trucks, confirmatory sampling of the road material may be necessary prior to removal as agreed upon with EPA or its on-site representative.

The temporary access roads will be removed and placed in the EDA after all of the designated areas have been excavated and cleanup confirmation samples have confirmed that the excavated areas are clean, and imported backfill has been placed and graded.

3. Remedial Site Work

As previously stated GM proposes to perform this work during late summer (the hot and dry time of the year) of 2007. Construction equipment will run on temporary access roads over normally high moisture content soils to minimize detrimental impact to the existing terrain.

3.1 Clearing and Grubbing

Designated remediation areas will be cleared and grubbed before setting up work zones. A 10-foot buffer zone will be cleared around each Removal Area. Hardwood trees greater than 6 inches in diameter will be cut, delivered, and stacked for the land owner. Tree stumps and root balls will be assumed impacted and therefore disposed of in the EDA. Other brush and small trees will be chipped and either provided to the property owner for their use or brought on to GM property and spoiled in the EDA.

3.2 Site Controls/Work Zones

Temporary work zone fencing (high visibility orange plastic) will be placed around the remedial work areas and maintained until the work is complete. New York State Certified surveyors will work with the subcontractor to flag and delineate the 5 Removal areas. In addition, silt fencing will be installed around disturbed work areas and in drainage pathways to minimize the likelihood of silt migration to other areas of the site. Other silt migration control methods may be required if wet soils are encountered.

Access to the excavation areas will be limited to those personnel who are properly trained and suited in modified level D personal protective equipment including hard hats, steel toed boots, safety glasses, Tyvek suits, over boots and gloves during remedial soil excavations, sampling, transport, off loading and grading. Prior to and following remedial soil excavations and handling, sampling personnel will also be suited in modified level D personal protective equipment per the REALM Sampling SOP.

3.3 Soil Excavation

Once initial site clearing and preparation work has been completed and the New York State certified surveyors have delineated the excavation limits within the designated areas, the soil excavation activities can begin. In the event further excavation is required due to confirmation sampling results, the As Built Removal areas will be resurveyed. Soil excavation will consist of the removal of impacted soils from the 0 to 1-foot depth range. The remedial excavation activities will begin with Area 4 and work back towards the GM Powertrain property line (Removal Area 4, 3, 2, and 1).

In the event additional vertical excavation is required greater than 3 feet, side slopes will be excavated at a 2:1 slope (H:V) for safety and to ensure the stability of the existing side slopes. The excavation bottom will be graded to a sump area. Any water that accumulates within an excavation will be collected by the VAC truck and transported to GM Powertrain facility for processing.

Precautions will be implemented during truck loading of PCB-containing soil to prevent the contamination of the exterior truck surfaces. When moving excavators in between Removal areas, excavation buckets will be dry decontaminated by wrapping the bucket in polyethylene to prevent potential spreading of PCB-containing material. Implementation of a "splash guard", consisting of lumber and poly sheeting placed

against the outside surface of the truck, will be required to prevent spilled material from contacting the transport vehicle during loading. An impermeable liner will also be placed on the access road to contain any spilled material. Trucks will be loaded on the access road so that the truck tires can remain clean. Trucks leaving the site will be checked for any soils on exterior surfaces.

Soils with PCB concentrations less than 20 ppm are considered Non-DOT Regulated PCBs. The Federal regulation 40 CFR 761.60 specifies PCB soils less than 50 ppm are considered non-hazardous. The New York State regulation that specifies that PCB soils less than 50 ppm is non-hazardous is 6NYCRR or CAA part 371. Soils excavated from Removal Area 5 will be transported to the EDA via permitted trucks on public roadways in accordance with Part 364 Waste Transporter Permit. GM's remedial construction contractor is permitted to haul all regulated solid wastes subject to Part 364 Waste Transporter Permit. As the excavation progresses or upon completion of the excavation, confirmatory sampling will be performed in accordance with Section 5.4 to determine if any further excavation is required.

3.4 Waste Placement

Trucks carrying PCB-containing material to the EDA will use the existing access roads on the east side. The excavated material will be stockpiled at the southern end of the EDA and covered daily. At completion of the work the staged material will be covered with reinforced 6 mil poly secured in place with sand bags. The stock pile will also be surrounded by silt fences and/or hay bales to prevent any sediment runoff carrying material outside of the stockpile footprint. The final disposition and grading of the material will be performed in the summer of 2007 and is addressed below in Section 5 - Site Restoration.

3.5 Stormwater Contingency Plan

Prior to performing any excavation of impacted soils during the start-up phase of the project, silt fencing will be installed around the disturbed work areas and in drainage pathways to reduce the conveyance of silt to other areas of the site. Although the volume of stormwater generated from the excavation areas is expected to be low enough to easily manage through the use of a vac truck onsite, as a contingency a frac tank will be mobilized to the site and stationed on GM property near the entrance road to the Mohawk property. If excessive stormwater volume is encountered, the frac tank will be available to store and manage the excess stormwater.

Stormwater samples will be collected once a week for analysis of PCBs using USEPA Method SW846 – 8082. Analytical results will become part of GM's Discharge Monitoring Report (DMR) to the NYSDEC's Division of Water. An accurate log of the date, time, and volume of water delivered to the plant and where they were discharged into the plant's system will be documented and reported in the monthly DMR. GM will receive prior approval from the NYSDEC Division of Water for the transfer and treatment of said waters collected for the project. Additional details concerning sampling are provided in Section 4.3.3 Construction Water Management Sampling.

4. Environmental Monitoring and Cleanup Confirmation

4.1 Background and Purpose

Environmental monitoring and cleanup confirmation sampling will be performed to ensure that the remedial work does not adversely impact human health and the environment and to ensure that the remedial actions within the limits of the project are performed consistent with the soil cleanup action levels set forth in the ROD.

During remediation activities, perimeter environmental conditions will be monitored for potential adverse environmental impacts, including stormwater collected from excavation areas and PCBs associated with airborne particulates from the excavation and transport of impacted material.

Specific environmental monitoring elements to be performed as part of the project include:

- Air monitoring for particulate dust, and PCBs at four downwind locations; and
- Sampling and analysis of construction stormwater; and
- Confirmation cleanup sampling and analyses.

4.2 Baseline Monitoring

The objective of the pre-remedial data collection is to obtain ambient air conditions prior to initiation of remedial excavation activities. As described below, the pre-remedial data collection objective will be accomplished by performing air sampling for PCBs.

To establish baseline conditions of ambient air, air monitoring for PCBs will be conducted for two days prior to remedial excavation activities. The sampling will be conducted at two downwind locations as shown on Figure 4. The high-volume baseline air monitoring locations are referred to as AIR-3 and AIR-4. Air samples will be collected at air monitoring stations AIR-3 and AIR-4 over sample intervals of approximately 24 hours (1 day). The equipment and procedures will utilize USPEA Method TO-4. Prior to air sampling, the equipment will be calibrated according to manufacturers' specifications to determine air sampling flow rates. The air monitoring location identified as AIR-3 is located on Parcel 53, while the location identified as AIR-

4 is located on Parcel 60. The sampling results will be obtained on a 24-hour turnaround time (TAT) from laboratory receipt. The baseline analytical results will be used to compare to analytical results collected during active remedial activities.

4.3 Remedial Environmental Monitoring

The environmental monitoring proposed during the remedial work activities associated with this Workplan will include air monitoring for dust, and PCBs. The following sections provide the methods and standard operating procedures for monitoring.

4.3.1 Particulate Dust Air Monitoring

Air monitoring for particulate dust will be conducted during all intrusive remedial activities for the project. Particulate dust monitoring will include monitoring with real-time dust particulate meters (mini-RAM or equivalent) at AIR-3, and AIR-4 when remedial construction activities are being conducted at any of the five Removal Areas. Particulate dust monitoring will be conducted at AIR-1 during placement of PCB-containing soils within the EDA and at AIR-2 when remedial construction activities are being conducted at Removal Areas 1, 2, 3, and 4. The time weighted average (TWA) will be recorded in the field logbook for each 2-hour work period (at a minimum) and also recorded in the instrument's memory. The tentative locations of the monitoring stations are shown on Figure 4. Air monitoring locations AIR-1 and AIR-2 are approximate and will be field located based on prevailing wind direction and will be located directly downwind of activities. If necessary, a wind sock will be installed near the access road to the SRMT property to determine wind direction. Before discontinuing the particulate dust monitoring, GM's consultants will obtain USEPA approval.

The action level for particulate dust will be sustained reading (15 minutes) or 150 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) in conformance with guidelines issued in the New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) 4031 (NYSDEC, 1989). If the action level is met or exceeded at any monitoring station, an investigation will determine the source of the action for the exceedance. If the remedial construction activities are the cause of the exceedance, the activity will be stopped immediately. Construction will be allowed to resume once particulate dust levels have dropped below the action level.

4.3.2 PCB Air Monitoring

High-volume air sampling for PCBs will be conducted during intrusive site remedial activities using the equipment and procedures described in USEPA Method TO-4. Sampling will be conducted at AIR-3 and AIR-4 (downwind locations) during the excavation phase of the work activities. The air samples will be collected from the two locations over a 24-hour period, at which time the sample pre-filter and the polyurethane foam (PUF) cartridge will be sent offsite for PCB analysis using USEPA Method TO-4. The laboratory will be required to report the PCB analytical results within 24 hours of sample receipt. Prior to air sampling, the equipment will be calibrated according to manufacturers' specifications to determine air sampling flow rates. High volume air sampling may be temporarily suspended with USEPA concurrence during periods of work suspension or inactivity.

PCB actions levels from similar remedial projects (Reynolds Metals, New Bedford Harbor, GM Massena, and Hudson River) were reviewed and evaluated for this Workplan. The two PCB action levels proposed to protect public health at monitoring stations AIR-3 and AIR-4 during the project are as follows:

- 0.07 $\mu\text{g}/\text{m}^3$ – Evaluation Level.
- 0.11 $\mu\text{g}/\text{m}^3$ – Contingency Level.

Upon receipt of sample analytical results, GM will notify the USEPA onsite representative and construction contractor supervisor. If the PCB Evaluation Level is exceeded (0.07 $\mu\text{g}/\text{m}^3$), GM and USEPA will determine if any contingency action is necessary. If the PCB Contingency Level is exceeded (0.11 $\mu\text{g}/\text{m}^3$) GM will notify the contractor and institute contingencies immediately.

Contingencies plans for exceedances will include one or more of the following:

- Covering PCB-containing stockpile(s) with polyethylene sheeting;
- Covering of excavation with polyethylene sheeting;
- Limiting and/or reducing the open excavation area(s); and
- Limiting, reducing, and/or slowing down the construction work period during the day.

The AIR-1 location will be located downwind of the EDA where PCB-containing soils will be placed. Air monitoring station AIR-2 will be located immediately downwind of remedial excavation at areas 1, 2, 3, and 4. Air monitoring at AIR-1 and AIR-2 will consist of real-time monitoring for particulate dust as described in Section 5.3.1 and collection of air samples for PCBs using National Institute for Occupational Health and Safety (NIOSH) 5503 (NIOSH, 1994). The laboratory will be required to report the NIOSH 5503 PCB analytical results within 24 hours of sample receipt. The NIOSH TWA action level for these locations is 1 ug/m^3 ($1 \text{ }\mu\text{g/m}^3$) for an 8-hour day/40-hour work week.

4.3.3 Construction Water Management Sampling

Any water accumulated in remedial area excavation areas will be collected by a VAC truck. The water collected by the VAC truck will then be transferred to GM's south equalization basin for eventual treatment in GM's waste water treatment system. When water is collected, GM will collect one water sample per week and analyze the water for PCBs using USEPA Method SW846 – 8082. Analytical results will become part of GM's Discharge Monitoring Report (DMR) to the NYSDEC's Division of Water. GM will receive approval from the NYSDEC Division of Water for the transfer and treatment of said waters collected for the project.

4.4 Cleanup Confirmation Sampling

This section summarizes the cleanup verification and confirmation sampling to be performed, including sampling objectives, approaches, and procedures. The excavated area will be subject to confirmation soil sampling using USEPA Method SW-846 8082. Verification sampling and analysis will be performed until a depth is reached at which PCBs are no longer present above the ROD-specified cleanup criteria of 1 mg/kg for soils. The verification samples will be collected within the excavation limits of each Removal Area as shown on Figure 5. Personal protective equipment to be used during PCB soil sampling shall be modified Level D protection. Standard modified Level D protection consists of Tyvek suits, protective gloves, booties with steel-toe boots, and hard hats.

The verification sampling frequency will be performed following the NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation. Post-excavation confirmatory sampling will consist of a minimum of one sidewall sample for every 30 linear feet of sidewall and one bottom sample from the excavation bottom for every 900 square feet of bottom area. A total of 34 VS and 24 VB sample locations have been

selected based on these criteria. Bottom sample locations are shown with a “VB” designation while the side wall samples are shown with a “VS” designation. A 1 mg/kg total PCBs cleanup level is specified within all soil excavation areas. Figure 5 shows the five Removal Areas where this cleanup level applies and all proposed cleanup confirmation sampling locations.

At each sample location, samples will be collected from two intervals (0- to 0.5- foot and 0.5- to 1-foot) for both side-wall and bottom samples using a stainless steel hand auger or stainless steel split spoon sampler. Alternative equipment may be used for collecting the samples if refusal is encountered (e.g. drill core bit). Table 6 presents the analytical methods and protocols for the analyses. The lower sample interval (0.5- to 1-foot) will be considered a contingency sample that will be analyzed only if analytical result from the interval above is greater than the respective cleanup level of 1 mg/kg PCBs.

All associated analytical results will be used to confirm that the cleanup criteria have been achieved and/or to determine the need for additional soil removal. Areas not meeting the confirmation sampling criteria of < 1.0 mg/kg PCBs will be excavated during the current remedial activity.

4.5 Quality Assurance Quality Control

Quality assurance and quality control (QA/QC) will follow protocols specified in the *Quality Assurance Project Plan* (QAPP) (BBLES, 1993), approved by USEPA in 1993. Samples will be logged into a field notebook, noting interval, date, and time sampled. QA/QC samples will be collected at a frequency of 1 per 20 samples collected, and will include blind duplicate, matrix and matrix spike duplicate, and rinse blank samples. Following sample retrieval, each sample will be placed in a properly labeled laboratory-supplied sample jar and placed on ice in coolers. All non-disposable/non-dedicated sampling equipment will be decontaminated between sample locations. Decontamination procedures are outlined in the site QAPP (BBLES, 1993).

Collected samples will be sent to the laboratory using standard chain of custody procedures. The chain of custody will stipulate which samples to initially analyze and which samples are contingency samples. GM will employ a New York State Department of Health/Environmental Laboratory Accreditation Program (NYS DOH/ELAP) certified laboratory for the analysis of all samples.

The samples will be analyzed for PCB Aroclors using USEPA SW-846 Method 8082. Laboratory detection limits will be specified to be at or below 0.1 mg/kg for total PCBs and 0.05 mg/kg for individual PCB Aroclors.

The laboratory TAT for all PCB analyses will be 24 hours from laboratory sample receipt. After receipt of the raw analytical data, all data will be validated following CRA's "Standard Operating Procedure Analytical Laboratory and Data Management Program" General Motors REALM/ENCORE (March, 2005).

5. Site Restoration

5.1 SRMT Property

Because of the presence of potential high moisture content soils with low bearing capacity in the proposed access route, restoration work within the excavation areas will be performed as soon as possible following receipt of acceptable confirmation samples. Site restoration on the SRMT property will consist of common backfill, final grade, and mulch. Road base and backfill material will be obtained from local borrow pits of a known clean source. Mulching on top of the common fill following final grade work will protect the disturbed areas from erosion while allowing the wild grasses and plant life in the area to become well established. Final grade of the excavated areas will be determined by matching existing topography at the perimeter of each of the excavations. The restoration activities will occur as the same sequence as the excavation activities, beginning with Area 4 and working back towards the GM Powertrain property line (Removal Areas 4, 3, 2, and 1).

Once all of the excavation and restoration work is complete remaining access roads will be removed and supporting subgrades likewise restored.

Silt fence, hay bales, and other additional silt control measures will be implemented at the SRMT property until vegetation is established in the restored areas.

5.2 East Disposal Area

Excavated material will be temporarily staged at the southern end of the EDA and covered in poly on a daily basis. After all of the impacted soils have been transferred to EDA, the staged soil will be graded within the identified area shown on figure 4. The material will be graded within the EDA limits in concert with existing drainage patterns. Following completion of final grading the area will be amended with topsoil, and seeded and mulched.

6. Project Completion

All heavy equipment coming in contact with the PCB-containing soil will be decontaminated at the completion of the project or before the equipment is demobilized offsite. The excavator tracks will not be in direct contact with the excavation material, only the excavator bucket. Final decontamination of equipment will be achieved by pressure washing the impacted surfaces of the equipment at the onsite decontamination area. The asphalt containment area drains water to a sump, which is pumped up to a storage tank. This water is then pumped to the Storm Water Collection and Treatment Lagoon where it is treated in GM's wastewater treatment system.

A *Completion Report* documenting all site activities and final validated analytical results associated with this work will be submitted after the work is complete.

7. References

This Workplan is supplemented by the following documents, which have been previously prepared by GM and its consultants and submitted to NYSDEC within the regulatory framework of the Site, or have been issued by regulators regarding the Site:

BBL. 2003. *Quality Procedure 3.04 - Requirements for Field Sampling Plans*.

BBLES. 2006. *Environmental Mohawk Upland Area Soil Sampling Plan*.

BBLES. 2004. *Environmental Monitoring and Clean-up Confirmation Work Plan*

CRA. 2005. Standard Operating Procedure Analytical Laboratory and Data Management Program – General Motors REALM/ENCORE (March).

ERM. 1993a. Task Summary Report No. 7, *St. Regis Mohawk Tribal Property Soil Probe Report* (December).

ERM. 1993b. Task Summary Report No. 11, *St. Regis Mohawk Tribal Property Soil Cores* (December).

HESI and BBLES. 1993. *Comprehensive Sampling and Analysis Plan, Volume I – Sampling and Analysis Plan* (June).

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NIOSH. 1994. *NIOSH Manual of Analytical Methods (NMAM)*, Fourth Edition.

NIOSH Method 5503. Accessed at: <http://www.cdc.gov/niosh/nmam/pdfs/5503.pdf>

RMT. 1989. *Draft Feasibility Study for the Remedial Investigation/Feasibility Study at GM-CFD Massena Facility*, Massena, NY (April).

RMT. 1986. Draft Remedial Investigation Report for Remedial Investigation/Feasibility Study (Vol. I & II) at GM-CFD Massena Facility, Massena, NY (May).

USEPA. 1999. ROD Amendment for Operable Unit 1 (OU-1) of the General Motors (GM) Powertrain Superfund Site.

USEPA. 1990a. *Record of Decision (ROD) for Operable Unit 1 (OU-1) of the General Motors (GM) Powertrain Superfund Site* (December).

USEPA. 1990b. *Unilateral Administrative Order (UAO) for Operable Unit 1 (OU-1) of the General Motors (GM) Powertrain Superfund Site* (December).

Tables

**Table 1
Historical Soil PCB Analytical Results**

**Remedial Action Work Plan for Mohawk Upland Area
Massena, NY**

#	Sample Location ID	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs (mg/kg)
1	SSMR-1	< 0.08	< 0.08	< 0.08	< 0.08	5.9	< 0.16	< 0.16	5.9
2	SSMR-2	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
3	SSMR-3	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
4	SSMR-4	< 0.08	< 0.08	< 0.08	< 0.08	0.11	< 0.16	< 0.16	0.11
5	SSMR-5	< 0.08	< 0.08	< 0.08	< 0.08	0.27	< 0.16	< 0.16	0.27
6	SSMR-6	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
7	SSMR-7	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
8	SSMR-8	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
9	SSMR-9	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
10	SSMR-10	< 0.08	< 0.08	< 0.08	< 0.08	0.21	< 0.16	< 0.16	0.21
11	SSMR-11	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
12	SSMR-12	< 0.08	< 0.08	< 0.08	< 0.08	0.22	< 0.16	< 0.16	0.22
13	SSMR-13	< 0.08	< 0.08	< 0.08	< 0.08	0.25	< 0.16	< 0.16	0.25
14	SSMR-14	< 0.08	< 0.08	< 0.08	< 0.08	0.30	< 0.16	< 0.16	0.30
15	SSMR-15	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
16	SSMR-16	< 0.08	< 0.08	< 0.08	< 0.08	1.3	< 0.16	< 0.16	1.3
17	SSMR-17	< 0.08	< 0.08	< 0.08	< 0.08	1.3	< 0.16	< 0.16	1.3
18	SSMR-18	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
19	SSMR-19	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
20	SSMR-20	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
21	SSMR-21	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
22	SSMR-23	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
23	SSMR-24	< 0.08	< 0.08	< 0.08	< 0.08	0.23	< 0.16	< 0.16	0.23
24	SSMR-25	< 0.08	< 0.08	< 0.08	< 0.08	6.8	< 0.16	< 0.16	6.8
25	SSMR-26	< 0.08	< 0.08	< 0.08	< 0.08	0.21	< 0.16	< 0.16	0.21
26	SSMR-27	< 0.08	< 0.08	< 0.08	< 0.08	9.0	< 0.16	< 0.16	9.0
27	SSMR-28	< 0.08	< 0.08	< 0.08	< 0.08	0.17	< 0.16	< 0.16	0.17
28	SSMR-29	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
29	SSMR-30	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
30	SSMR-31	< 0.08	< 0.08	< 0.08	< 0.08	0.11	< 0.16	< 0.16	0.11
31	SSMR-33	< 0.08	< 0.08	< 0.08	< 0.08	2.8	< 0.16	< 0.16	2.8
32	SSMR-34	< 0.08	< 0.08	< 0.08	< 0.08	0.30	< 0.16	< 0.16	0.30
33	SSMR-35	< 0.08	< 0.08	< 0.08	< 0.08	0.21	< 0.16	< 0.16	0.21
34	SSMR-36	< 0.08	< 0.08	< 0.08	< 0.08	0.55	< 0.16	< 0.16	0.55
35	SSMR-37	< 0.08	< 0.08	< 0.08	< 0.08	0.61	< 0.16	< 0.16	0.61
36	SSMR-38	< 0.08	< 0.08	< 0.08	< 0.08	0.16	< 0.16	< 0.16	0.16
37	SSMR-39	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
38	SSMR-40	< 0.08	< 0.08	< 0.08	< 0.08	0.08	< 0.16	< 0.16	0.08
39	SSMR-41	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
40	SSMR-42	< 0.08	< 0.08	< 0.08	< 0.08	0.11	< 0.16	< 0.16	0.11
41	SSMR-43	< 0.08	< 0.08	< 0.08	< 0.08	0.67	< 0.16	< 0.16	0.67
42	SSMR-44	< 0.08	< 0.08	< 0.08	< 0.08	0.47	< 0.16	< 0.16	0.47

Table 1
Historical Soil PCB Analytical Results

Remedial Action Work Plan for Mohawk Upland Area
Massena, NY

#	Sample Location ID	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs (mg/kg)
43	SSMR-45	< 0.08	< 0.08	< 0.08	< 0.08	0.33	< 0.16	< 0.16	0.33
44	SSMR-46	< 0.08	< 0.08	< 0.08	< 0.08	0.62	< 0.16	< 0.16	0.62
45	SSMR-47	< 0.08	< 0.08	< 0.08	< 0.08	0.81	< 0.16	< 0.16	0.81
46	SSMR-48	< 0.08	< 0.08	< 0.08	< 0.08	1.0	< 0.16	< 0.16	1.0
47	SSMR-49	< 0.08	< 0.08	< 0.08	< 0.08	1.3	< 0.16	< 0.16	1.3
48	SSMR-50	< 0.08	< 0.08	< 0.08	< 0.08	1.1	< 0.16	< 0.16	1.1
49	SSMR-51	< .110	< .110	< .110	< .110	0.840	< .220	< .220	0.840
50	SSMR-52	< .100	< .100	< .100	< .100	0.290	< .210	< .210	0.290
51	SSMR-53	< .120	< .120	< .120	< .120	0.360	< .240	< .240	0.360
52	SSMR-54	< .097	< .097	< .097	< .097	0.800	< .190	< .190	0.800
53	SSMR-55	< .120	< .120	< .120	< .120	0.590	< .240	< .240	0.590
54	SSMR-56	< .082	< .082	< .082	< .082	0.140	< .160	< .160	0.140
55	SSMR-57	< .120	< .120	< .120	< .120	0.120	< .250	< .250	0.120
56	SSMR-58	< .170	< .170	< .170	< .170	0.280	< .330	< .330	0.280
57	SSMR-62	< .130	< .130	< .130	< .130	< .130	< .260	< .260	U
58	SSMR-63	< .120	< .120	< .120	< .120	< .120	< .230	< .230	U
59	SSMR-64	< .120	< .120	< .120	< .120	< .120	< .230	< .230	U
60	SSMR-65	< .140	< .140	< .140	< .140	3.300	< .290	< .290	3.300
61	SSMR-66	< .110	< .110	< .110	< .110	< .110	< .210	< .210	U
62	SSMR-67	< .130	< .130	< .130	< .130	< .130	< .260	< .260	U
63	SSMR-68	< .170	< .170	< .170	< .170	< .170	< .340	< .340	U
64	SSMR-69	< .120	< .120	< .120	< .120	< .120	< .230	< .230	U
65	SSMR-70	< .120	< .120	< .120	< .120	0.120	< .240	< .240	U
66	SSMR-71	< .110	< .110	< .110	< .110	< .110	< .220	< .220	U
67	SSMR-72	< .210	< .210	< .210	< .210	< .210	3.600	< .410	3.600
68	SSMR-73	< .097	< .097	< .097	< .097	< .097	< .190	< .190	U
69	SSMR-74	< .120	< .120	< .120	< .120	< .120	< .230	< .230	U
70	SSMR-75	< .091	< .091	< .091	< .091	< .091	< .180	< .180	U
71	S-331 (0-1)	< 0.05	< 0.10	< 0.05	< 0.06	< 0.12	< 0.05	< 0.06	U
72	S-331 (1-2)	< 0.05	< 0.09	< 0.05	< 0.05	< 0.11	< 0.05	< 0.06	U
73	S-332 (0-1)	< 0.47	< 0.95	< 0.47	< 0.57	1.7	< 0.47	< 0.58	1.7
74	S-332 (1-2)	< 0.04	< 0.09	< 0.04	< 0.05	< 0.11	< 0.04	< 0.06	U
75	S-333 (0-1)	< 0.41	< 0.82	< 0.41	< 0.48	3.9	< 0.41	< 0.48	3.9
76	S-333 (1-2)	< 0.05	< 0.10	< 0.05	< 0.06	0.00	< 0.05	< 0.06	U
77	S-334 (0-1)	< 0.05	< 0.10	< 0.05	< 0.06	0.15	< 0.05	< 0.06	0.15
78	S-334 (1-2)	< 0.04	< 0.09	< 0.04	< 0.05	0.00	< 0.04	< 0.05	U
79	S-335 (0-1)	< 0.05	< 0.10	< 0.05	< 0.06	0.00	< 0.05	< 0.06	U
80	S-335 (1-2)	< 0.04	< 0.09	< 0.04	< 0.05	0.00	< 0.04	< 0.05	U
81	S-337 (0-1)	< 0.05	< 0.11	< 0.05	< 0.07	0.18	< 0.05	< 0.07	0.18
82	S-337 (1-2)	< 0.04	< 0.08	< 0.04	< 0.05	< 0.11	< 0.04	< 0.05	U
83	S-338 (0-1)	< 0.06	< 0.12	< 0.06	< 0.07	0.16	< 0.06	< 0.07	0.16
84	S-338 (1-2)	< 0.04	< 0.09	< 0.04	< 0.05	< 0.11	< 0.04	< 0.06	U

**Table 1
Historical Soil PCB Analytical Results**

**Remedial Action Work Plan for Mohawk Upland Area
Massena, NY**

#	Sample Location ID	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs (mg/kg)
85	S-342 (0-1)	< 0.27	< 0.54	< 0.27	< 0.32	3.03	< 0.27	< 0.33	3.03
86	S-342 (1-2)	< 0.04	< 0.09	< 0.04	< 0.05	0.13	< 0.04	< 0.06	0.13
87	S-343 (0-1)	< 0.55	< 1.10	< 0.55	< 0.66	4.5	< 0.55	< 0.68	4.5
88	S-343 (1-2)	< 0.05	< 0.10	< 0.05	< 0.06	< 0.13	< 0.05	< 0.06	U
89	S-344 (0-1)	< 0.27	< 0.54	< 0.27	< 0.32	1.74	< 0.27	< 0.33	1.74
90	S-344 (1-2)	< 0.04	< 0.08	< 0.04	< 0.05	< 0.11	< 0.04	< 0.05	U
91	S-345 (0-1)	< 0.05	< 0.10	< 0.05	< 0.06	< 0.12	< 0.05	< 0.06	U
92	S-345 (1-2)	< 0.04	< 0.09	< 0.04	< 0.05	0.39	< 0.04	< 0.05	0.39
93	S-346 (0-1)	< 0.04	< 0.08	< 0.04	< 0.05	< 0.10	< 0.04	< 0.05	U
94	S-346 (1-2)	< 0.04	< 0.08	< 0.04	< 0.05	< 0.10	< 0.04	< 0.05	U
95	S-347 (0-1)	< 0.04	< 0.09	< 0.04	< 0.05	< 0.11	< 0.04	< 0.05	U
96	S-347 (1-2)	< 0.04	< 0.08	< 0.04	< 0.05	< 0.10	< 0.04	< 0.05	U
97	S-348 (0-1)	< 0.05	< 0.11	< 0.05	< 0.06	< 0.13	< 0.05	< 0.07	U
98	S-348 (1-2)	< 0.04	< 0.08	< 0.04	0.44	< 0.10	< 0.04	< 0.05	0.44
99	S-349 (0-1)	< 0.04	< 0.09	< 0.04	< 0.05	< 0.11	< 0.04	< 0.05	U
100	S-349 (1-2)	< 0.04	< 0.08	< 0.04	< 0.05	< 0.10	< 0.04	< 0.05	U
101	S-350 (0-1)	< 7.40	< 15.0	< 7.40	< 9.0	49	< 7.40	< 9.20	49
102	S-350A (1-2)	< 7.40	< 15.0	< 7.40	< 9.0	48	< 7.40	< 9.20	48
103	S-352 (0-1)	< 0.05	< 0.10	< 0.05	< 0.06	< 0.13	< 0.05	< 0.06	U
104	S-352 (1-2)	< 0.04	< 0.08	< 0.04	< 0.05	< 0.10	< 0.04	< 0.05	U
105	S-353 (0-1)	< 0.20	< 0.41	< 0.20	< 0.24	1.11	< 0.20	< 0.25	1.11
106	S-353 (1-2)	< 0.19	< 0.38	< 0.19	< 0.22	1.35	< 0.19	< 0.24	1.35
107	SM-3	< 0.08	< 0.08	< 0.08	< 0.08	5.1	< 0.16	< 0.16	5.1
108	SM-4	< 1.2	< 1.2	< 1.2	< 1.2	22	< 2.4	< 2.4	22
109	SM-5	< 0.08	< 0.08	< 0.08	< 0.08	0.39	< 0.16	< 0.16	0.39
110	SM-6	< 0.08	< 0.08	< 0.08	< 0.08	1.3	< 0.16	< 0.16	1.3
111	SM-8	< .170	< .170	< .170	< .170	0.830	< .340	< .340	0.830

**Table 2
Historical Sediment PCB Analytical Results**

**Remedial Action Work Plan for Mohawk Upland Area
Massena, NY**

#	Sample Location ID	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs (mg/kg)
1	SM-1	< 1.2	< 1.2	< 1.2	< 1.2	48	< 2.4	< 2.4	48
2	SM-2	< 0.08	< 0.08	< 0.08	< 0.08	3.5	< 0.16	< 0.16	3.5
3	SM-7	< 0.120	< 0.120	< 0.120	< 0.120	< 0.120	< 0.240	< 0.240	U
4	SM-10	< .140	< .140	< .140	< .140	< .140	< .270	< .270	U
5	SSMR-22	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.16	< 0.16	U
6	SSMR-32	< 0.08	< 0.08	< 0.08	< 0.08	4.3	< 0.16	< 0.16	4.3
7	SSMR-60	< .130	< .130	< .130	< .130	< .130	< .260	< .260	U
8	S-336 (0-0.8)	< 0.04	< 0.09	< 0.04	< 0.05	< 0.11	< 0.04	< 0.05	U
9	S-336R (0.8-1.6)	< 0.04	< 0.09	< 0.04	< 0.05	< 0.05	< 0.04	< 0.05	U
10	S-341R (0-0.7)	< 0.19	< 0.38	< 0.19	< 0.10	1.26	< 0.19	< 0.24	1.26
11	S-341 (0.7-1.3)	< 0.04	< 0.08	< 0.04	< 0.05	< 0.11	< 0.04	< 0.05	U
12	S-351 (0-1)	< 0.13	< 0.27	< 0.13	< 0.16	0.48	< 0.13	< 0.17	0.48
13	S-351 (1-2)	< 0.05	< 0.10	< 0.05	< 0.06	< 0.12	< 0.05	< 0.06	U

**Table 3
Historical VOC Analytical Results**

**Remedial Action Work Plan for Mohawk Upland Area
Massena, NY**

Parameter	Units	SSMR-1	SSMR-7	SSMR-20	SSMR-25	SSMR-34	SSMR-35	SSMR-37	SSMR-42	SSMR-47	SSMR-48	SSMR-51	SSMR-56	SSMR-63	SSMR-69	SM-1	SM-8
Benzene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Bromoform	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Carbon Tetrachloride	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Chlorobenzene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Chlorodibromoethane	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	ND	-
Chloroethane	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
2-Chloroethyl Vinyl Ether	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	ND	-
Chloroform	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	3 J	ND	BDL
Dichlorobromomethane	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
1,1-Dichloroethane	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
1,2-Dichloroethane	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
1,1-Dichloroethylene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
1,2-Dichloropropane	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
cis-1,3-Dichloropropylene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Ethyl Benzene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Methyl Bromide	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	ND	-
Methyl Chloride	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Methylene Chloride	ug/kg dry wt.	17.5	56.0	6.7	24.5	80.6	14.3	BMDL	51.1	11.4	78.3	6 BJ	4 BJ	26 B	24 B	7.64	14 B
1,1,2,2-Tetrachloroethane	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Tetrachloroethylene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	3 J	ND	BDL
Toluene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
1,2-Trans-Dichloroethylene	ug/kg dry wt.	ND	ND	ND	ND	ND	BMDL	ND	ND	ND	ND	-	-	-	-	ND	-
1,1,1-Trichloroethane	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
1,1,2-Trichloroethane	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Trichloroethylene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Vinyl Chloride	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
trans-1,3-Dichloropropylene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Acetone	ug/kg dry wt.	11.7	ND	45.2	33.6	39.6	30.2	33.8	59.6	ND	339.0	BDL	BDL	34 B	37 B	ND	BDL
Carbon Disulfide	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Methyl Ethyl Ketone (2-Butanone)	ug/kg dry wt.	92.9	ND	ND	69.1	ND	51.9	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Vinyl Acetate	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
2-Hexanone	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Methyl-iso-butyl Ketone	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	ND	-
Styrene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Meta Xylene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Ortho & Para Xylenes	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL

**Table 4
Historical SVOC Analytical Results**

**Remedial Action Work Plan for Mohawk Upland Area
Massena, NY**

Parameter	Units	SSMR-1	SSMR-7	SSMR-20	SSMR-25	SSMR-34	SSMR-35	SSMR-37	SSMR-42	SSMR-47	SSMR-48	SSMR-51	SSMR-56	SSMR-63	SSMR-69	SM-1	SM-8
2-Chlorophenol	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
2,4-Dichlorophenol	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
2,4-Dimethylphenol	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
4,6-Dinitro-o-cresol	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
2,4-Dinitrophenol	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
2-Nitrophenol	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
4-Nitrophenol	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
p-Chloro-a-cresol	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Pentachlorophenol	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	160 J	BDL	ND	BDL
Phenol	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
2,4,6-Trichlorophenol	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
2-Methylphenol	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
4-Methylphenol	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Benzoic Acid	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	BMDL	ND	BDL	BDL	1600 J	BDL	ND	140
2,4,5-Trichlorophenol	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Acenaphthene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Acenaphthylene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Anthracene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Benzdine	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	ND	-
Benzo(a)anthracene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	BMDL	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Benzo(a)pyrene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	BMDL	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Benzo(b)fluoranthene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	BMDL	ND	ND	ND	74 J	BDL	BDL	BDL	ND	BDL
bis(2-Chloroethoxy) methane	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
bis(2-Chloroethyl) ether	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
bis(2-Chloroisopropyl) ether	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
bis(2-ethylhexyl) phthalate	ug/kg dry wt.	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	7900	BDL	86 J	BDL	BMDL	BDL
4-Bromophenyl Phenyl ether	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Butyl Benzyl Phthalate	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
2-Chloronaphthalene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
4-Chlorophenyl Phenyl ether	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Chrysene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	BMDL	ND	ND	ND	60	BDL	160 J	BDL	ND	BDL
Dibenzo(a,h)anthracene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
1,2-Dichlorobenzene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
1,3-Dichlorobenzene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
1,4-Dichlorobenzene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
3,3'-Dichlorobenzidine	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Diethylphthalate	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL

**Table 4
Historical SVOC Analytical Results**

**Remedial Action Work Plan for Mohawk Upland Area
Massena, NY**

Parameter	Units	SSMR-1	SSMR-7	SSMR-20	SSMR-25	SSMR-34	SSMR-35	SSMR-37	SSMR-42	SSMR-47	SSMR-48	SSMR-51	SSMR-56	SSMR-63	SSMR-69	SM-1	SM-8
Dimethyl Phthalate	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Di-n-butylphthalate	ug/kg dry wt.	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BDL	BDL	BDL	BDL	BMDL	BDL
2,4-Dinitrotoluene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
2,6-Dinitrotoluene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Di-n-octyl Phthalate	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Fluoranthene	ug/kg dry wt.	ND	ND	BMDL	ND	ND	ND	BMDL	ND	ND	ND	BDL	BDL	79 J	BDL	ND	BDL
Fluorene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Hexachlorobenzene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	58 J	BDL	BDL	ND	BDL
Hexachlorobutadiene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Hexachlorocyclopentadiene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Hexachloroethane	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Indeno(1,2,3-cd)pyrene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Isophorone	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Naphthalene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Nitrobenzene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
N-Nitrosodimethylamine	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	ND	-
N-Nitrosodi-n-propylamine	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
N-Nitrosodiphenylamine	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Phenanthrene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Pyrene	ug/kg dry wt.	ND	ND	BMDL	ND	ND	ND	BMDL	ND	ND	ND	BDL	BDL	72 J	BDL	ND	BDL
1,2,4-Trichlorobenzene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Aniline	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	ND	-
Benzyl Alcohol	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	140 J	BDL	ND	BDL
4-Chloroaniline	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
2-Methylnaphthalene	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
2-Nitroaniline	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
3-Nitroaniline	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL
Dibenzofuran	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	ND	-
4-Nitroaniline	ug/kg dry wt.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	ND	BDL

Table 5
Mohawk Upland Area - 2006 Soil Sampling Plan Analytical Results

Remedial Action Work Plan for Mohawk Upland Area
Massena, NY

#	SAMPLE ID	COC ID	Date Collected	Time Collected	Detection Limit (mg/kg)	Aroclor 1016 (mg/kg)	Aroclor 1221 (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Total PCBs (mg/kg)
1	GRID2-B4(0-1)	073106TH-001	7/31/2006	11:35	0.042	U	U	U	U	U	U	U	U
2	GRID2-B4(1-2)	073106TH-002	7/31/2006	11:40	NA	NA	NA	NA	NA	NA	NA	NA	NA
3	GRID2-E11(0-1)	073106TH-003	7/31/2006	12:00	0.044	U	U	U	U	U	0.140	U	0.140
4	GRID2-E11(1-2)	073106TH-004	7/31/2006	12:05	NA	NA	NA	NA	NA	NA	NA	NA	NA
5	GRID2-E10(0-1)	073106TH-005	7/31/2006	12:35	0.042	U	U	U	U	U	0.026 J	U	0.026 J
6	GRID2-E10(1-2)	073106TH-006	7/31/2006	12:40	NA	NA	NA	NA	NA	NA	NA	NA	NA
7	GRID2-D7(0-1)	073106TH-007	7/31/2006	12:45	0.042	U	U	U	U	U	0.035 J	U	0.035 J
8	GRID2-D7(1-2)	073106TH-008	7/31/2006	12:50	NA	NA	NA	NA	NA	NA	NA	NA	NA
9	GRID2-F7(0-1)	073106TH-009	7/31/2006	13:10	0.044	U	U	U	U	U	U	U	U
10	GRID2-F7(1-2)	073106TH-010	7/31/2006	13:15	NA	NA	NA	NA	NA	NA	NA	NA	NA
11	GRID2-E9(0-1)	073106TH-011	7/31/2006	13:35	0.040	U	U	U	U	U	U	U	U
12	GRID2-E9(1-2)	073106TH-012	7/31/2006	13:40	NA	NA	NA	NA	NA	NA	NA	NA	NA
13	GRID2-G6(0-1)	073106TH-013	7/31/2006	13:45	0.044	U	U	U	U	U	U	U	U
14	GRID2-G6(1-2)	073106TH-014	7/31/2006	13:50	NA	NA	NA	NA	NA	NA	NA	NA	NA
15	GRID2-E4(0-1)	073106TH-015	7/31/2006	15:15	0.041	U	U	U	U	U	U	U	U
16	GRID2-E4(1-2)	073106TH-016	7/31/2006	15:20	NA	NA	NA	NA	NA	NA	NA	NA	NA
17	GRID2-E5(0-1)	073106TH-018	7/31/2006	15:30	0.043	U	U	U	U	U	U	U	U
18	GRID2-E5(1-2)	073106TH-020	7/31/2006	15:35	NA	NA	NA	NA	NA	NA	NA	NA	NA
19	GRID2-E6(0-1)	073106TH-021	7/31/2006	16:15	0.046	U	U	U	U	U	U	U	U
20	GRID2-E6(1-2)	073106TH-022	7/31/2006	16:20	NA	NA	NA	NA	NA	NA	NA	NA	NA
21	GRID2-D3(0-1)	073106TH-023	7/31/2006	16:25	0.043	U	U	U	U	U	0.014 J	U	0.014 J
22	GRID2-D3(1-2)	073106TH-024	7/31/2006	16:30	NA	NA	NA	NA	NA	NA	NA	NA	NA
23	GRID2-B3(0-1)	080106TH-001	8/1/2006	9:15	0.048	U	U	U	U	U	0.063	U	0.063
24	GRID2-B3(1-2)	080106TH-002	8/1/2006	9:20	NA	NA	NA	NA	NA	NA	NA	NA	NA
25	GRID2-C5(0-1)	080106TH-003	8/1/2006	9:30	0.057	U	U	U	U	U	U	U	U
26	GRID2-C5(1-2)	080106TH-004	8/1/2006	9:35	NA	NA	NA	NA	NA	NA	NA	NA	NA
27	SSMR-17(1-2)	080106TH-005	8/1/2006	10:15	0.041	U	U	U	U	U	U	U	U
28	SSMR-17(2-3)	080106TH-006	8/1/2006	10:20	NA	NA	NA	NA	NA	NA	NA	NA	NA
29	SSMR-17SE(0-1)	080106TH-007	8/1/2006	10:40	0.048	U	U	U	U	U	U	U	U
30	SSMR-17SE(1-2)	080106TH-008	8/1/2006	10:45	NA	NA	NA	NA	NA	NA	NA	NA	NA
31	SSMR-17SE(2-3)	080106TH-009	8/1/2006	10:50	NA	NA	NA	NA	NA	NA	NA	NA	NA
32	SSMR-17SW(0-1)	080106TH-012	8/1/2006	11:55	0.058	U	U	U	U	U	U	U	U
33	SSMR-17SW(1-2)	080106TH-013	8/1/2006	12:00	NA	NA	NA	NA	NA	NA	NA	NA	NA
34	SSMR-17SW(2-3)	080106TH-014	8/1/2006	12:05	NA	NA	NA	NA	NA	NA	NA	NA	NA
35	SSMR-17NW(0-1)	080106TH-015	8/1/2006	13:40	0.045	U	U	U	U	U	U	U	U
36	SSMR-17NW(1-2)	080106TH-016	8/1/2006	13:45	NA	NA	NA	NA	NA	NA	NA	NA	NA
37	SSMR-17NW(2-3)	080106TH-017	8/1/2006	13:50	NA	NA	NA	NA	NA	NA	NA	NA	NA
38	SSMR-16(1-2)	080106TH-018	8/1/2006	14:00	0.044	U	U	U	U	U	U	U	U
39	SSMR-16(2-3)	080106TH-019	8/1/2006	14:05	NA	NA	NA	NA	NA	NA	NA	NA	NA
40	SSMR-17NE(0-1)	080106TH-021	8/1/2006	11:35	0.062	U	U	U	U	U	U	U	U

Notes

NA = Not Analyzed, Contingency Sample; U = Non Detect

Table 5
Mohawk Upland Area - 2006 Soil Sampling Plan Analytical Results

Remedial Action Work Plan for Mohawk Upland Area
Massena, NY

#	SAMPLE ID	COC ID	Date Collected	Time Collected	Detection Limit (mg/kg)	Aroclor 1016 (mg/kg)	Aroclor 1221 (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Total PCBs (mg/kg)
41	SSMR-17NE(1-2)	080106TH-022	8/1/2006	11:40	NA	NA	NA	NA	NA	NA	NA	NA	NA
42	SSMR-17NE(2-3)	080106TH-023	8/1/2006	11:45	NA	NA	NA	NA	NA	NA	NA	NA	NA
43	SSMR-16SE(0-1)	080106TH-024	8/1/2006	15:10	0.053	U	U	U	U	U	U	U	U
44	SSMR-16SE(1-2)	080106TH-025	8/1/2006	15:15	NA	NA	NA	NA	NA	NA	NA	NA	NA
45	SSMR-16SE(2-3)	080106TH-026	8/1/2006	15:20	NA	NA	NA	NA	NA	NA	NA	NA	NA
46	SSMR-16SW(0-1)	080106TH-027	8/1/2006	15:30	0.051	U	U	U	U	U	U	U	U
47	SSMR-16SW(1-2)	080106TH-028	8/1/2006	15:35	NA	NA	NA	NA	NA	NA	NA	NA	NA
48	SSMR-16SW(2-3)	080106TH-029	8/1/2006	15:40	NA	NA	NA	NA	NA	NA	NA	NA	NA
49	SSMR-16NW(0-1)	080206TH-001	8/2/2006	8:45	0.057	U	U	U	U	U	U	U	U
50	SSMR-16NW(1-2)	080206TH-002	8/2/2006	8:50	NA	NA	NA	NA	NA	NA	NA	NA	NA
51	SSMR-16NW(2-3)	080206TH-003	8/2/2006	8:55	NA	NA	NA	NA	NA	NA	NA	NA	NA
52	SSMR-16NE(0-1)	080206TH-004	8/2/2006	9:05	0.049	U	U	U	U	U	U	U	U
53	SSMR-16NE(1-2)	080206TH-005	8/2/2006	9:10	NA	NA	NA	NA	NA	NA	NA	NA	NA
54	SSMR-16NE(2-3)	080206TH-006	8/2/2006	9:15	NA	NA	NA	NA	NA	NA	NA	NA	NA
55	SSMR-27(1-2)	080206TH-007	8/2/2006	9:35	0.042	U	U	U	U	U	U	U	U
56	SSMR-27(2-3)	080206TH-008	8/2/2006	9:40	NA	NA	NA	NA	NA	NA	NA	NA	NA
57	SSMR-25(1-2)	080206TH-009	8/2/2006	0:00	0.046	U	U	U	U	U	U	U	U
58	SSMR-25(2-3)	080206TH-010	8/2/2006	9:55	NA	NA	NA	NA	NA	NA	NA	NA	NA
59	SSMR-72(1-2)	080206TH-011	8/2/2006	10:10	0.043	U	U	U	U	U	U	U	U
60	SSMR-72(2-3)	080206TH-012	8/2/2006	10:15	NA	NA	NA	NA	NA	NA	NA	NA	NA
61	GRID2-C6(0-1)	080206TH-013	8/2/2006	10:35	0.045	U	U	U	U	U	U	U	U
62	GRID2-C6(1-2)	080206TH-014	8/2/2006	10:40	NA	NA	NA	NA	NA	NA	NA	NA	NA
63	GRID2-C3(0-1)	080206TH-015	8/2/2006	10:45	0.051	U	U	U	U	U	0.023	U	0.23
64	GRID2-C3(1-2)	080206TH-016	8/2/2006	10:50	NA	NA	NA	NA	NA	NA	NA	NA	NA
65	SSMR-1SW(0-1)	080206TH-019	8/2/2006	12:15	0.039	U	U	U	U	U	0.036 J	U	0.036 J
66	SSMR-1SW(1-2)	080206TH-020	8/2/2006	12:20	NA	NA	NA	NA	NA	NA	NA	NA	NA
67	SSMR-1SW(2-3)	080206TH-021	8/2/2006	12:25	NA	NA	NA	NA	NA	NA	NA	NA	NA
68	SSMR-1NW(0-1)	080206TH-022	8/2/2006	12:30	0.47	U	U	U	U	U	1.8	U	1.8
69	SSMR-1NW(1-2)	080206TH-023	8/2/2006	12:35	0.040	U	U	U	U	0.051	U	0.015 J	0.066 J
70	SSMR-1NW(2-3)	080206TH-024	8/2/2006	12:40	NA	NA	NA	NA	NA	NA	NA	NA	NA
71	SSMR-1SE(0-1)	080206TH-025	8/2/2006	12:55	0.053	U	U	U	U	U	U	0.017 J	0.017 J
72	SSMR-1SE(1-2)	080206TH-026	8/2/2006	13:00	NA	NA	NA	NA	NA	NA	NA	NA	NA
73	SSMR-1SE(2-3)	080206TH-027	8/2/2006	13:05	NA	NA	NA	NA	NA	NA	NA	NA	NA
74	SSMR-1(1-2)	080206TH-028	8/2/2006	13:15	0.041	U	U	U	U	U	U	U	U
75	SSMR-1(2-3)	080206TH-029	8/2/2006	13:20	NA	NA	NA	NA	NA	NA	NA	NA	NA
76	SSMR-1NE(0-1)	080206TH-030	8/2/2006	13:30	0.042	U	U	U	U	U	0.032 J	U	0.032 J
77	SSMR-1NE(1-2)	080206TH-031	8/2/2006	13:35	NA	NA	NA	NA	NA	NA	NA	NA	NA
78	SSMR-1NE(2-3)	080206TH-032	8/2/2006	13:40	NA	NA	NA	NA	NA	NA	NA	NA	NA
79	SSMR-1NW A(0-1)	082306RP-001	8/23/2006	9:24	0.041	U	U	U	0.021 J	U	U	0.019 J	0.040 J
80	SSMR-1NW A(1-2)	082306RP-002	8/23/2006	9:30	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes

NA = Not Analyzed, Contingency Sample; U = Non Detect

Table 5
Mohawk Upland Area - 2006 Soil Sampling Plan Analytical Results

Remedial Action Work Plan for Mohawk Upland Area
Massena, NY

#	SAMPLE ID	COC ID	Date Collected	Time Collected	Detection Limit (mg/kg)	Aroclor 1016 (mg/kg)	Aroclor 1221 (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Total PCBs (mg/kg)
81	SSMR-1NW A(2-3)	082306RP-003	8/23/2006	9:34	NA	NA	NA	NA	NA	NA	NA	NA	NA
82	SSMR-1NW B(0-1)	082306RP-004	8/23/2006	9:52	0.039	U	U	U	U	U	U	U	U
83	SSMR-1NW B(1-2)	082306RP-005	8/23/2006	9:56	NA	NA	NA	NA	NA	NA	NA	NA	NA
84	SSMR-1NW B(2-3)	082306RP-006	8/23/2006	10:01	NA	NA	NA	NA	NA	NA	NA	NA	NA
85	SSMR-1NW C(0-1)	082306RP-007	8/23/2006	10:12	0.040	U	U	U	U	U	0.076	U	0.076
86	SSMR-1NW C(1-2)	082306RP-008	8/23/2006	10:16	NA	NA	NA	NA	NA	NA	NA	NA	NA
87	SSMR-1NW C(2-3)	082306RP-009	8/23/2006	10:24	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes

NA = Not Analyzed, Contingency Sample; U = Non Detect

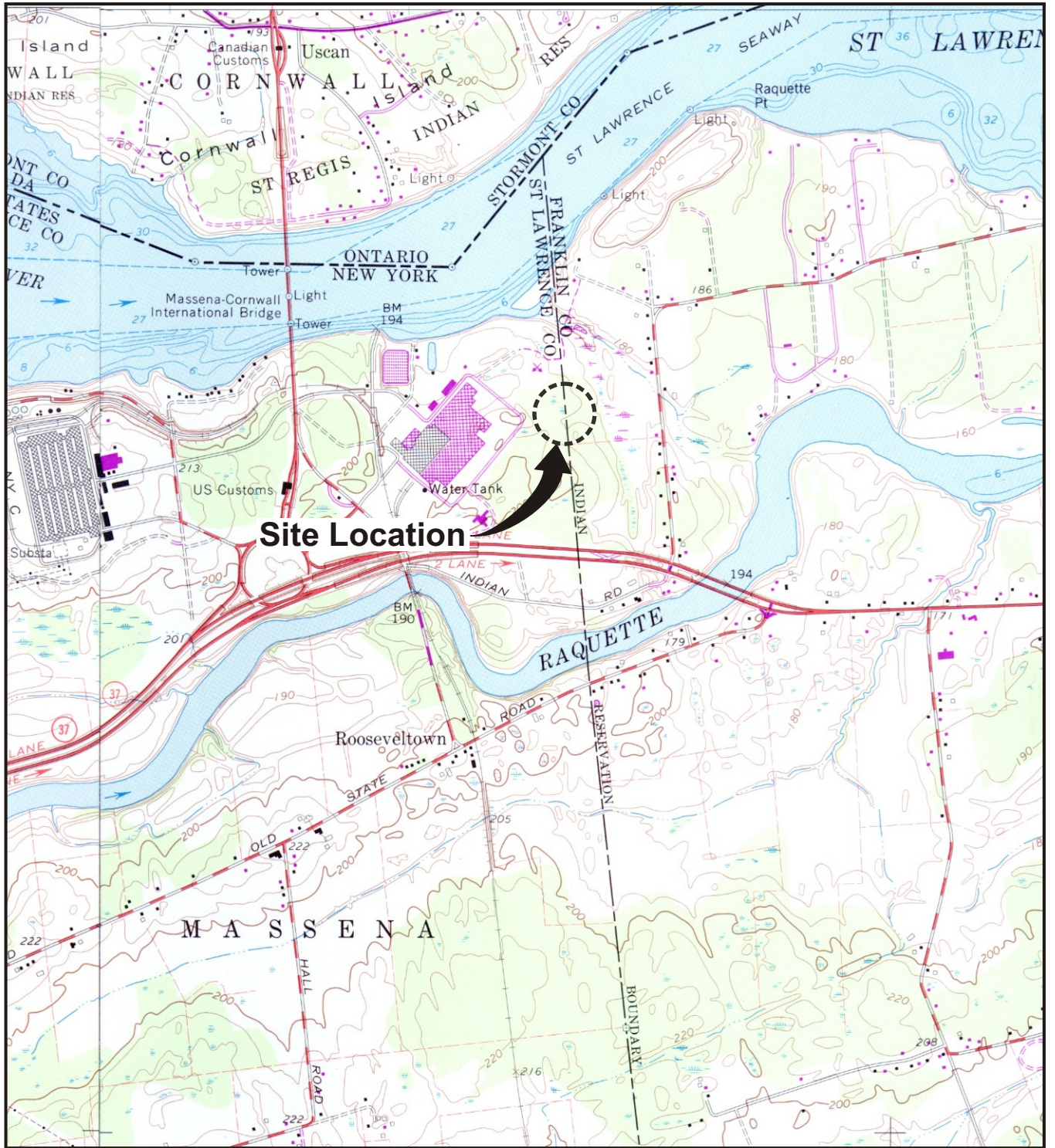
Table 6
Analytical Methods Protocols for Environmental Samples
Remedial Action Work Plan for Mohawk Upland Area
Massena, NY

Parameter	Media	Method	Method Reference	Method Detection Limit	Perservation	Container
PCBs	Air	USEPA TO-4	Note 1	0.07 ug/m ³	Cool to 4° C	Sample sealed in ziplock bag
PCBs	Air	NIOSH 5503	Note 1	1.0 ug/m ³	Cool to 4° C	Sample sealed in ziplock bag
PCBs	Soil	SW846 - 8082	Note 1	0.05 mg/kg	Cool to 4° C	500-ml glass jar with Teflon-lined lid
PCBs	Water	SW846 - 8082	Note 2	0.065 mg/kg	Cool to 4° C	1-liter amber glass bottle

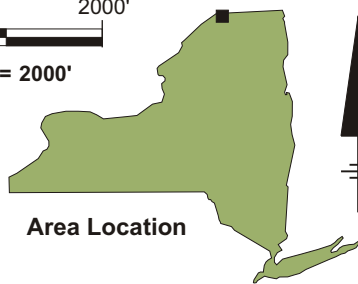
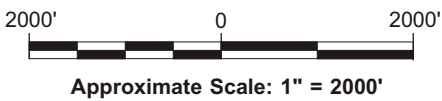
Notes:

1. Samples will be submitted for rush analysis (24-hour TAT).
2. Samples will be submitted for 48-hour TAT analysis.

Figures



REFERENCE: BASE MAP USGS 7.5 MIN. QUAD., HOGANSBURG, N.Y.-ONT.-QUE., 1964, PHOTOREVISED 1987.

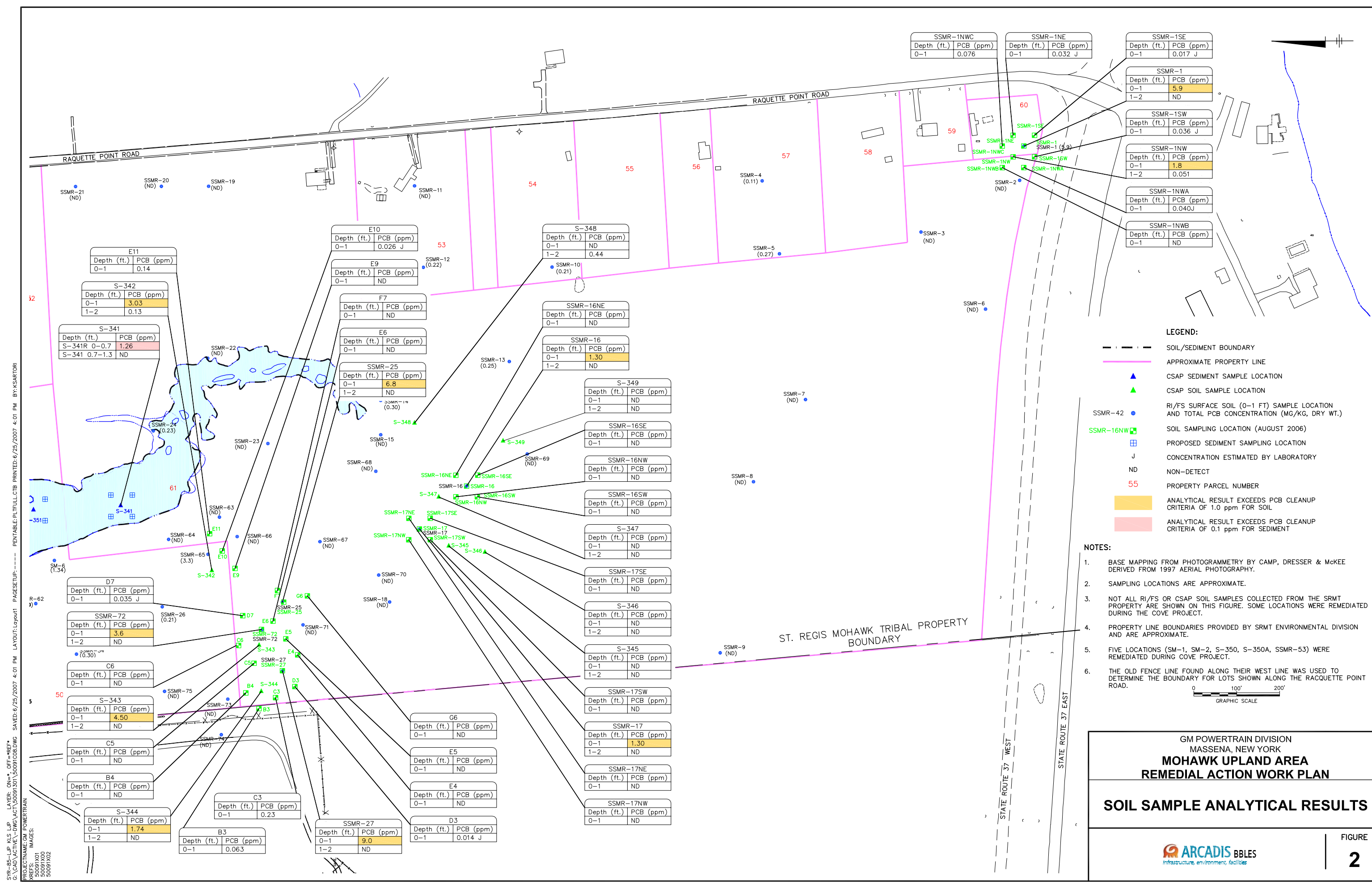


GM POWERTRAIN DIVISION
MASSENA, NEW YORK
MOHAWK UPLAND AREA
REMEDIAL ACTION WORK PLAN

SITE LOCATION MAP

 **ARCADIS** BBLES
Infrastructure, environment, facilities

FIGURE
1



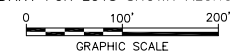
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 PROJECT NAME: GM POWERTRAIN
 50091X01
 50091X00
 50091X02

LEGEND:

- SOIL/SEDIMENT BOUNDARY
- APPROXIMATE PROPERTY LINE
- ▲ CSAP SEDIMENT SAMPLE LOCATION
- ▲ CSAP SOIL SAMPLE LOCATION
- SSMR-42 (0.23) RI/FS SURFACE SOIL (0-1 FT) SAMPLE LOCATION AND TOTAL PCB CONCENTRATION (MG/KG, DRY WT.)
- SSMR-16NW SOIL SAMPLING LOCATION (AUGUST 2006)
- ⊠ PROPOSED SEDIMENT SAMPLING LOCATION
- J CONCENTRATION ESTIMATED BY LABORATORY
- ND NON-DETECT
- 55 PROPERTY PARCEL NUMBER
- ANALYTICAL RESULT EXCEEDS PCB CLEANUP CRITERIA OF 1.0 ppm FOR SOIL
- ANALYTICAL RESULT EXCEEDS PCB CLEANUP CRITERIA OF 0.1 ppm FOR SEDIMENT

NOTES:

1. BASE MAPPING FROM PHOTOGRAMMETRY BY CAMP, DRESSER & MCKEE DERIVED FROM 1997 AERIAL PHOTOGRAPHY.
2. SAMPLING LOCATIONS ARE APPROXIMATE.
3. NOT ALL RI/FS OR CSAP SOIL SAMPLES COLLECTED FROM THE SRMT PROPERTY ARE SHOWN ON THIS FIGURE. SOME LOCATIONS WERE REMEDIATED DURING THE COVE PROJECT.
4. PROPERTY LINE BOUNDARIES PROVIDED BY SRMT ENVIRONMENTAL DIVISION AND ARE APPROXIMATE.
5. FIVE LOCATIONS (SM-1, SM-2, S-350, S-350A, SSMR-53) WERE REMEDIATED DURING COVE PROJECT.
6. THE OLD FENCE LINE FOUND ALONG THEIR WEST LINE WAS USED TO DETERMINE THE BOUNDARY FOR LOTS SHOWN ALONG THE RACQUETTE POINT ROAD.



GM POWERTRAIN DIVISION
 MASSENA, NEW YORK

**MOHAWK UPLAND AREA
 REMEDIATION ACTION WORK PLAN**

SOIL SAMPLE ANALYTICAL RESULTS

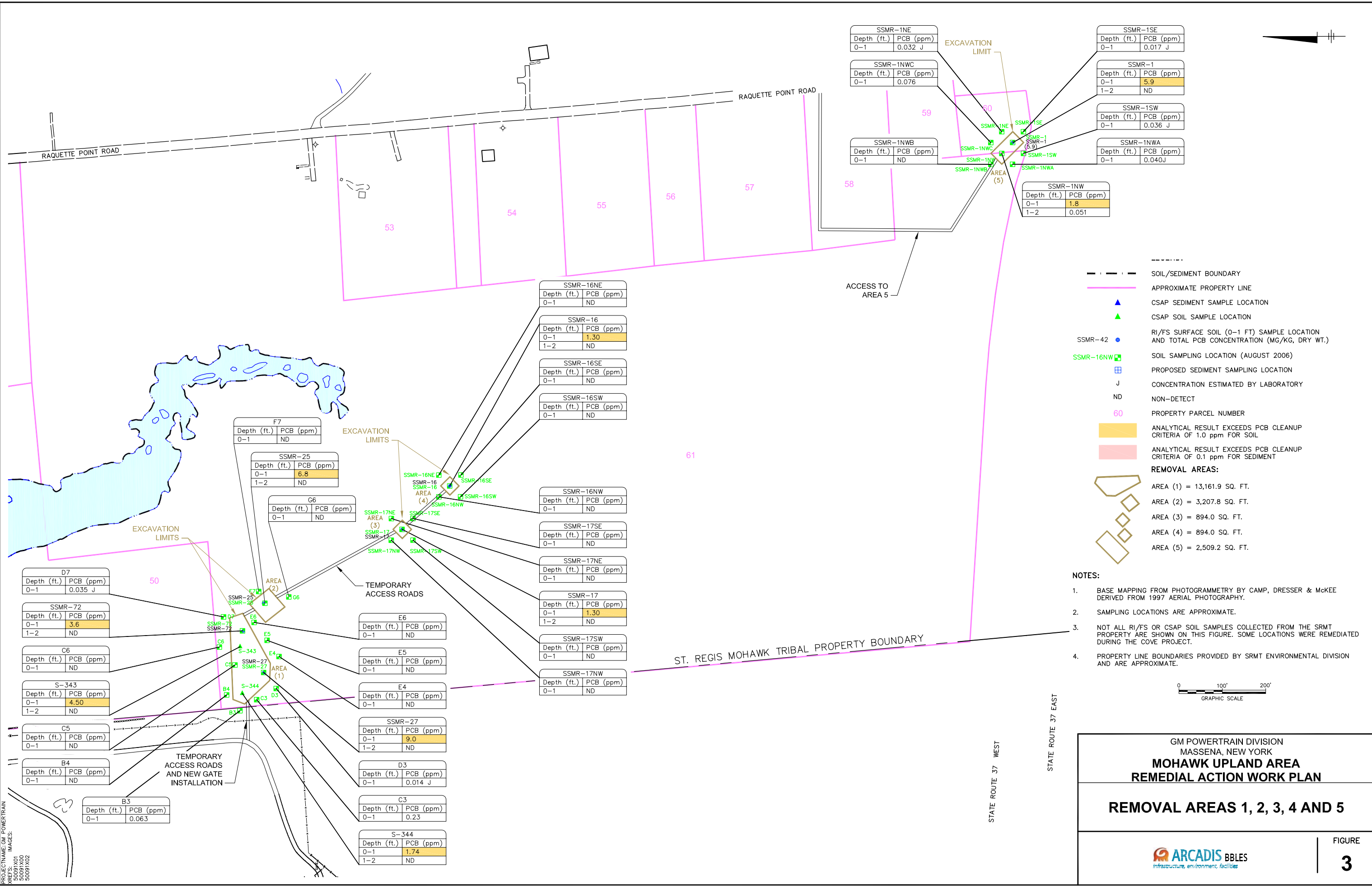
ARCADIS BBLES
Infrastructure, environment, facilities

FIGURE
2

ST. REGIS MOHAWK TRIBAL PROPERTY BOUNDARY

STATE ROUTE 37 WEST
 STATE ROUTE 37 EAST

SYR-05-UP-UP-KFS LAYER: ON-*, OFF-*, REF-*,
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 PLOT: 50091X00
 PAGES: 50091X00
 IMAGES: 50091X02



GM POWERTRAIN DIVISION
 MASSENA, NEW YORK
**MOHAWK UPLAND AREA
 REMEDIAL ACTION WORK PLAN**

REMOVAL AREAS 1, 2, 3, 4 AND 5

FIGURE
3

SSMR-1NE	
Depth (ft.)	PCB (ppm)
0-1	0.032 J

SSMR-1NWC	
Depth (ft.)	PCB (ppm)
0-1	0.076

SSMR-1NE	
Depth (ft.)	PCB (ppm)
0-1	0.017 J

SSMR-1	
Depth (ft.)	PCB (ppm)
0-1	5.9
1-2	ND

SSMR-1SW	
Depth (ft.)	PCB (ppm)
0-1	0.036 J

SSMR-1NWA	
Depth (ft.)	PCB (ppm)
0-1	0.040J

SSMR-1NW	
Depth (ft.)	PCB (ppm)
0-1	1.8
1-2	0.051

SSMR-16NE	
Depth (ft.)	PCB (ppm)
0-1	ND

SSMR-16	
Depth (ft.)	PCB (ppm)
0-1	1.30
1-2	ND

SSMR-16SE	
Depth (ft.)	PCB (ppm)
0-1	ND

SSMR-16SW	
Depth (ft.)	PCB (ppm)
0-1	ND

F7	
Depth (ft.)	PCB (ppm)
0-1	ND

SSMR-25	
Depth (ft.)	PCB (ppm)
0-1	6.8
1-2	ND

G6	
Depth (ft.)	PCB (ppm)
0-1	ND

D7	
Depth (ft.)	PCB (ppm)
0-1	0.035 J

SSMR-72	
Depth (ft.)	PCB (ppm)
0-1	3.6
1-2	ND

C6	
Depth (ft.)	PCB (ppm)
0-1	ND

S-343	
Depth (ft.)	PCB (ppm)
0-1	4.50
1-2	ND

C5	
Depth (ft.)	PCB (ppm)
0-1	ND

B4	
Depth (ft.)	PCB (ppm)
0-1	ND

B3	
Depth (ft.)	PCB (ppm)
0-1	0.063

E6	
Depth (ft.)	PCB (ppm)
0-1	ND

E5	
Depth (ft.)	PCB (ppm)
0-1	ND

E4	
Depth (ft.)	PCB (ppm)
0-1	ND

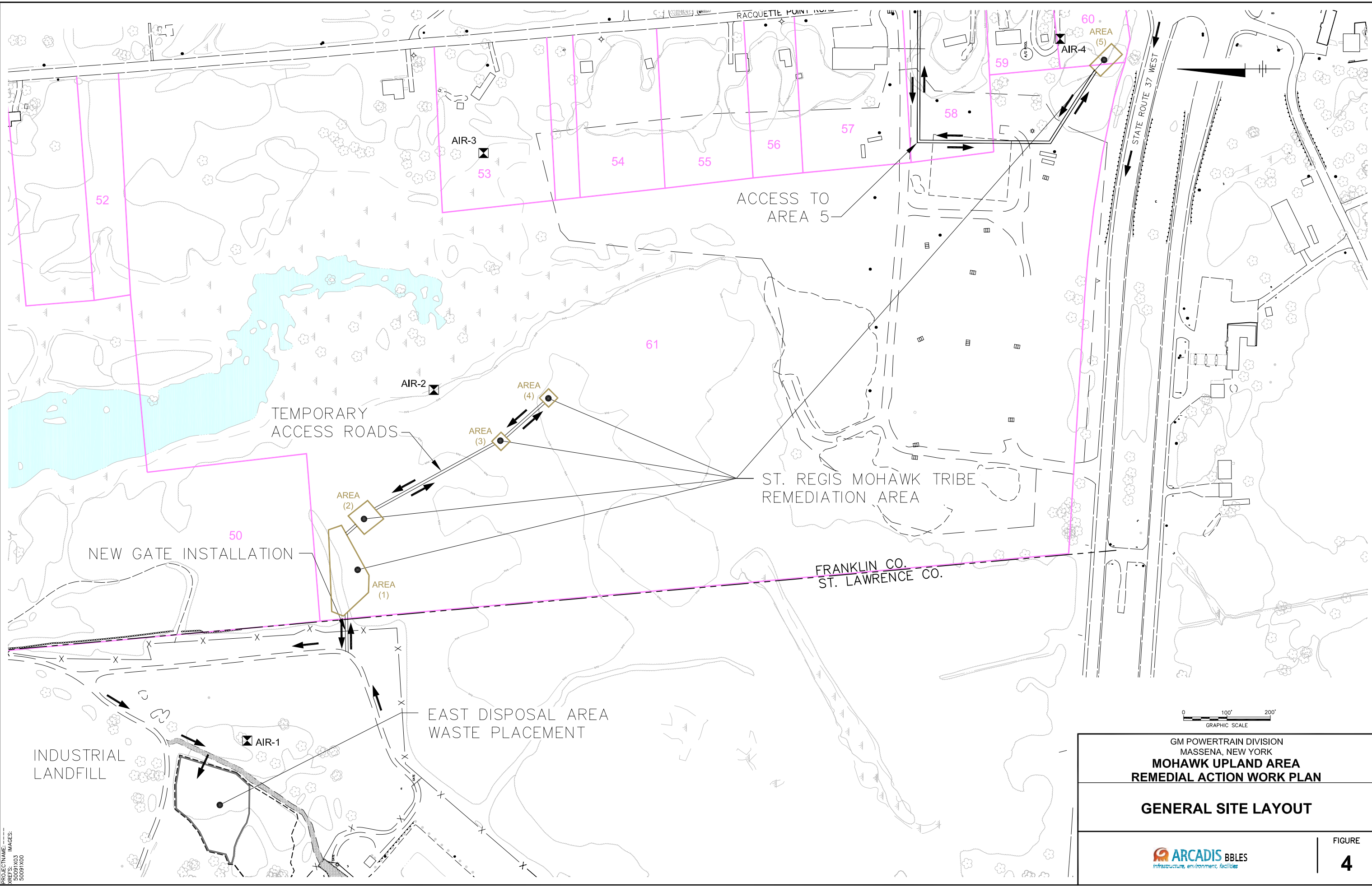
SSMR-27	
Depth (ft.)	PCB (ppm)
0-1	9.0
1-2	ND


D3	
Depth (ft.)	PCB (ppm)
0-1	0.014 J

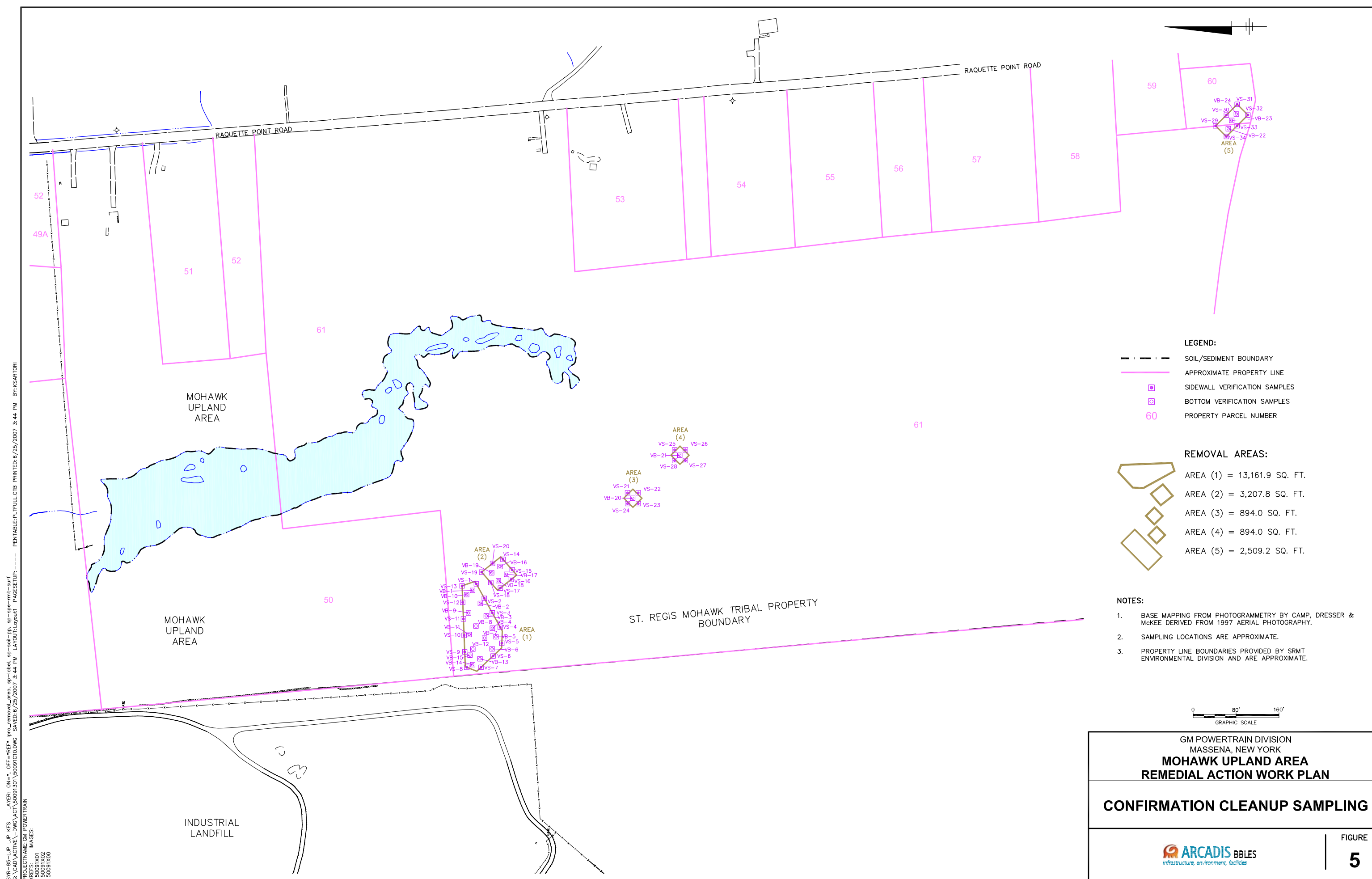
C3	
Depth (ft.)	PCB (ppm)
0-1	0.23

S-344	
Depth (ft.)	PCB (ppm)
0-1	1.74
1-2	ND

SYR-85-KMD-LIP-KFS LAYER: ON=*, OFF=REF*, [COVE*]
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PROJECT NAME: 50091X03
PREFS: 50091X00
IMAGES:



GM POWERTRAIN DIVISION MASSENA, NEW YORK MOHAWK UPLAND AREA REMEDIATION ACTION WORK PLAN	
GENERAL SITE LAYOUT	
 Infrastructure, environment, facilities	FIGURE 4



S:\B-85-LUP_LUP_KFS_LAYER: ON=*, OF=*, REF=*, IFC=*, REMOVAL_AREA, SP=Label, SP=soil-pp, SP=sp=rm1-surf
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 PROJECT NAME: GM POWERTRAIN
 PREFERENCES: 50091X01 50091X02 50091X00

LEGEND:

- SOIL/SEDIMENT BOUNDARY
- APPROXIMATE PROPERTY LINE
- SIDEWALL VERIFICATION SAMPLES
- BOTTOM VERIFICATION SAMPLES
- 60** PROPERTY PARCEL NUMBER

REMOVAL AREAS:

- AREA (1) = 13,161.9 SQ. FT.
- AREA (2) = 3,207.8 SQ. FT.
- AREA (3) = 894.0 SQ. FT.
- AREA (4) = 894.0 SQ. FT.
- AREA (5) = 2,509.2 SQ. FT.

NOTES:

1. BASE MAPPING FROM PHOTOGRAMMETRY BY CAMP, DRESSER & MCKEE DERIVED FROM 1997 AERIAL PHOTOGRAPHY.
2. SAMPLING LOCATIONS ARE APPROXIMATE.
3. PROPERTY LINE BOUNDARIES PROVIDED BY SRMT ENVIRONMENTAL DIVISION AND ARE APPROXIMATE.



GM POWERTRAIN DIVISION
 MASSENA, NEW YORK
**MOHAWK UPLAND AREA
 REMEDIAL ACTION WORK PLAN**

CONFIRMATION CLEANUP SAMPLING

FIGURE
5