Final Report

Remedial Investigation
Revere Smelting & Refining Site
Middletown, New York
(Site #3-36-053)

New York State Department of
Environmental Conservation

May 2007

10653/37012

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New York State Department of Environmental Conservation

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Vice President

May 2007

O'BRIEN & GERE
ENGINEERS, INC.

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1. Introduction

1.1. Project Background

This report was prepared by O'Brien and Gere Engineers Inc. (O'Brien and Gere) to summarize the results of the surface and subsurface investigation conducted at the Revere Smelting and Refining Corporation (RSRC) in Wallkill, New York (the Site) as outlined in the Remedial Investigation/Feasibility Study (RI/FS) Work Plan dated July 2001. This focused RI Report details the objectives, on-site activities, number and type of samples collected and analyzed as part of the RI field program as well as the nature and extent of contamination based on the RI as well as additional activities completed at the site.

The Site is located at 65 Ballard Road in Middletown, Orange County, New York. RSRC is a secondary lead smelter that recycles batteries. It also manufactures lead, lead alloys and reclaims polypropylene from a variety of materials such as battery cases.

1.2. Site Description and History

The Site, located in Wallkill, New York (Figure 1-1), encompasses approximately 55 acres. The RSRC facility was constructed in 1970 and was acquired by RSRC in 1972. The Site is located in a suburban industrial area. Approximately one third of the property is used for plant operations. The remainder of the property consists of undeveloped land containing overgrown fields, mature woodlands, wetlands, and a pond. Figure 1-2 provides an overview of the different covertypes present on the Site.

The process materials used at the RSRC facility include spent car and industrial lead-acid batteries, factory scrap, coal fines, hard rubber battery cases, pebble lime and sodium carbonate. Calcium oxide, ferric sulfate, sodium hydroxide, phosphoric and hydrochloric acids, and flocculants are used for process water treatment.

The battery recycling process includes draining of the acid, shredding of the batteries, and subsequent separation of the lead-bearing material. The lead-bearing material is then placed into the smelter where smelting fluxes such as coal, fines, coke or rubber from battery cases, pebble lime and iron are added. Depending on the requirements, the material may be run through the smelter more than once to refine the mixes. Other additives such as red phosphorus, pyrite, sulfur, sodium nitrate, sodium hydroxide, tin, antimony, arsenic, and copper may also be added to refine the product or make alloys. RSRC recycles approximately 4,000,000 to 5,000,000 batteries per year using this process.

During the late 1970's and early 1980's, large quantities of material containing lead slag, battery parts, and other wastes were disposed on the property. Waste materials were placed in two general areas on site. The majority of the material was placed on the eastern side of the property, behind the facility, to raise the grade. This side is referred to as the Eastern Fill Area. Additional material was used as fill in the front (west) of the facility. This area is referred to as the Front Lawn Area. The general locations are shown on Figure 1-3.

In addition to physical waste disposal, fugitive emissions have contributed to the deposition of metal containing material around the site. Specifically, furnace-feed materials were historically stored in an uncovered area of the property that allowed for erosion and potential transport of materials. In addition, historic use of uncontrolled ventilation units within the production facility has resulted in fugitive

emissions of airborne materials from the facility. In recent years, the construction of a containment building to store material, and the extension of the plant emission stack, have abated fugitive emissions from the Plant, however significant impacts from fugitive emissions likely occurred at the Site before these controls were in place.

The RSRC Site has been divided into four separate operable units as presented in Figure 1-3 (OUs):

OU-1 On-site soil, surface water and sediment exclusive of the operating facility
OU-2 On-site groundwater
OU-3 Off-site environmental media
OU-4 The RSRC Operating facility

This project consists of a remedial investigation to characterize OU-1 (on-site soils and sediment) and OU-2, on-site groundwater. OU-3 will be the subject of a future remedial investigation and feasibility study, if necessary, and OU-4 is regulated by a 6 NYCRR Part 373 permit and is under the jurisdiction of Department of Solid and Hazardous Materials (DSHM) and the Resource Conservation and Recovery Act (RCRA).

1.3. Regional Setting

The Site is located in the Ordovician lowlands of the Wallkill Valley in Southeastern New York. The Wallkill Valley is a low-lying area underlain by easily eroded shales and graywackes. The drainage of the Wallkill Valley is toward the northeast into the Hudson River via Sturgeon Pond.

1.3.1. Regional Geology

The Regional geology consists of three geologic units: 1) reworked glacial till, 2) glacial till, 3) shales and limestone (Normanskill and Martinsburg groups). The reworked glacial till is composed of dark brown to gray silt and silty clay with fine to coarse gravel. The glacial till is composed of yellowish brown silts, clayey silts and sands, minor amounts of gravel and occasionally cobbles and boulders. Underlying the glacial till is weakly lithified Ordovician strata that dip gently towards the west. The Normanskill and Martinsburg group shales are composed of dark gray to brown shales and limestone. In general, the reworked glacial till occurs intermittently across the site in thin sections on top of the glacial till. The glacial till overlies bedrock across the site at varying thickness. A north-south running bedrock ridge was observed in the Eastern Fill Area and is discussed in section 4.2.1.

1.3.2. Regional Hydrogeology

Regional hydrogeology is dominated by the Wallkill River, which traverses the local area from northeast to southwest (ESC 1991). The Site is located approximately 6,000 ft northwest of the Wallkill River (ESC 1991). Two unnamed tributaries to the Wallkill River are located in the vicinity of the Site (ESC 1991). One stream traverses the western portion of the property while the other traverses the eastern property. Both streams join together south of the Site. Ground water in the overburden glacial till and outwash generally flows south towards the Wallkill River. Groundwater in the sedimentary bedrock, which underlies the overburden glacial till and outwash, occurs primarily in bedrock fractures and joints and presumably also flows to the south (ESC 1991).

1.4. Summary of Previous Activities

A number of investigation and remedial activities have taken place at the Site. Most of these were conducted under the facility's RCRA program and the objectives of the evaluations were not clarified for this document. The initial investigations were reportedly conducted in 1981. (ESC, Jan. 18, 1995)

Activities completed included the collection of surface and subsurface soils, installation of monitoring wells and collection of ground water samples for analysis. Ground water samples have been collected for analysis since 1991. The number and location of wells that were monitored varied.

Two RCRA Corrective Actions (CAs) were completed at the site that involved the excavation and/or off-site disposal of impacted soils. One CA involved the removal of surface soils in the Front Lawn Area. The second CA involved the excavation of soils from the Eastern Fill Area located behind the containment building. The approximate locations of the CA activities are provided on Figure 1-3.

The Front Lawn CA was reportedly conducted between October 7, 1998 and November 17, 1998. The only information provided to document the activity are field notes and two maps presenting the results of the confirmation analysis (Exhibit 1). The locations of these excavations, provided on Figure 1-3, are approximate. Confirmation samples were collected from the sidewalls and base of the excavation and analyzed for total lead. The grid spacing was approximately 50 feet by 50 feet.

Based on review of the information available, it appears that excavation was completed vertically until the lead concentration at the base of a given grid area was below 500 mg/Kg. The actual depth of the excavation at each of the grid areas was not provided but was assumed to be between 2 and 3 feet. Laterally, the excavation was completed until the confirmation samples revealed lead levels less than 500 mg/Kg except along the driveway or Ballard Road. In these areas lead concentrations in excess of 500 mg/Kg remain.

The CA in the Eastern Fill area was conducted between April 11, 1999 and August 12, 1999 but was not completed. According to a summary report prepared ENTACT dated August 31, 1999, the CA involved the excavation of approximately 46,508 tons of impacted soil followed by stabilization and off-site disposal of 34,260 tons of material. Approximately 12,125 tons of treated soil and 2,000 cubic yards of unprocessed material remained on site in piles. 1,259 tons of clean fill was used to backfill the southernmost portion of the excavation. The exact location of the excavation has not been established although a portion of the original excavation remains open and contains standing water. Figure 1-3 provides an approximate location of the excavation area. No confirmation samples were collected from the sidewalls or bottom of the excavation except where backfilling occurred. Based on a 2006 survey, it is estimated that 10,000 cu yds of material were left on top of the ground.

An IRM was completed in 2001 to cover the material that remained in piles on top of the ground following the 1999 removal CA. The cover consisted of 10 mm thick liner material held down with a net constructed of rope and tires. Analytical samples were collected of the soil piles during this 2001 IRM. The results are included in Table 1 of Appendix A. The results of this sampling did not indicate that any soil piles remaining had been successfully completely stabilized to the hazardous waste threshold for lead (Toxicity Characteristic Leaching Procedure (TCLP) < 5 mg/L).

A barrier slurry wall was also partially installed around the site in the 1990's. The slurry wall was completed in phases and is constructed of soil-bentonite, cement-bentonite, or HDPE sheeting. The location of the slurry wall is illustrated on Figure 1-3.

1.5. Additional Evaluations

A Data Gap Analysis was conducted in 2000 to evaluate the spatial distribution and applicability of data generated during previous investigations for use in evaluation of remedial options. Details pertaining to the efforts completed and the findings of the evaluation are provided in the document entitled Data Gap Analysis for Soils, March 2001 by O'Brien & Gere Engineers, Inc. The findings indicated that additional soil and ground water data were needed to evaluate the nature and extent of contamination. More specific

information pertaining to the findings of the Data Gap Analysis is presented in the Data Gap Analysis Report dated April 2001.

Steps I and II of a Fish and Wildlife Impact Analysis (FWIA) were completed by O'Brien & Gere between 2001 to evaluate potential impacts to flora and fauna on and adjacent to the Site. The FWIA was conducted according to the document entitled *Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites* (NYSDEC 1994; Guidance). Step I - *Site Description* and Step II - *Contaminant-Specific Impact Assessment* of the NYSDEC Guidance were completed. The purpose of Step I of an FWIA was to characterize the physical and biological characteristics of the site. Step II was performed to evaluate the potential impact of site-related constituents on fish and wildlife resources. The FWIA is included as Appendix B.

An IRM is planned for the 2007 construction season. The IRM will remove the above-grade soil piles, repair the open excavation leftover from the 1999 Corrective Action area, and excavate approximately 37,000 cu yds of highly contaminated fill material from the Eastern Fill Area. A pre-design investigation was conducted in 2005 to provide additional data needed to support the IRM as well as provide additional information regarding distribution of lead in surface soils. Activities included completion of soil borings in the Eastern Fill Area and collection of soils for infield screening using an x-ray fluorescence meter and laboratory analysis, installation of piezometers to evaluate water levels within the fill material, and collection of surface soil and shallow soil samples for analysis. The results of this pre-design investigation are provided in the Remedial Design Investigations Report (RDIR) for the Interim Remedial Measure dated July 2006. A copy of which is included as Appendix A of this report.

1.6. Remedial Investigation Objectives

The objectives of the RI were to collect sufficient environmental data to address the data gaps for the on-site surface and subsurface soils on the property as defined by the data gap analysis and evaluate ground water quality emanating from the fill material. In addition, ground water analyses generated as part of the ongoing RCRA monitoring program were used to further evaluate ground water quality at the site. As discussed in Section 1-2, this RI will address OU-1 and OU-2.

1.7. Report Organization

This RI/FS report contains five sections.

Section 1 presents project introduction and background including site history, geologic history, prior investigations and current project objectives.

Section 2 presents the methodologies for the RI field investigation activities.

Section 3 presents hydrogeologic conditions including site geology and ground water and surface water flow in the site area.

Section 4 presents the nature and extent of lead in OU-1 and OU-2.

Section 5 presents the conclusions.

2. RI Field Investigation Activities

The following section summarizes the RI activities completed. The RI activities were completed in accordance with the RI/FS Work Plan dated July 2001. Activities generally included completion of test pits, drilling soil borings, collection of surface and subsurface soil and fill samples for analysis, collection of sediment samples for analysis, installation of monitoring wells, and collection of ground water samples from selected wells for analysis.

As outlined in Section 1-5, the RI at this Site was designed to fill data gaps in historical data (outlined in the April 2001 Data Gap Analysis). Additional data were also collected as part of the fish & wildlife impact analysis (activities outlined in Appendix B) and the IRM remedial investigation (activities outlined in Appendix A). Relevant supplemental sampling activities to the RI are summarized in this section where applicable.

Locations of samples collected and wells installed during the RI are shown on Figure 2-1. This figure also includes sample and well locations from the historic investigations, FWIA and Remedial Design Investigation (RDI).

2.1. Test Pits

Fill (processed waste) areas were previously identified in the data gap analysis report using cut and fill analysis from topographic maps of the site. A total of fifteen test pits were excavated within and on the margins of the Eastern Fill Area to assist in establishing the vertical and horizontal extent of fill. Additionally, one test pit was excavated on the south side of the facility to confirm if the fill in this area was process waste. X-ray fluorescence (XRF) soil screening was conducted as an initial screening tool to identify areas of potentially elevated lead concentrations. Figure 2-1 depicts the location of excavated test pits (TP-01 through TP-16).

2.1.1 Test Pit Investigation

Test pits were excavated between October 15 and 18, 2001 by Parratt-Wolff, Inc. of East Syracuse, New York using a rubber-tired backhoe. Test pits varied in length from 12 to 44 ft with a 3 ft width and a maximum depth of 12 ft. To minimize the potential for mixing the processed waste with the native materials, the test pits were excavated beginning from a point outside the identified fill and proceeding toward the fill area. Test pit materials were visually described and the information was placed on logs which are included in Appendix C. Materials removed from the test pit were placed on polyethylene sheeting. Upon completion, the materials from the test pit were placed back in the excavation.

Visually clean soils, such as surface soils, were segregated from impacted materials. The visually clean soils were used to cover the impacted soils/source materials when placed back in the excavation. Test pits were backfilled as soon as possible after completion. For gravel roadways and parking areas, the backfill was tamped down in lifts as it was replaced. Following backfilling of the excavation, the test pits were staked to facilitate subsequent location by surveying.

Ten soil samples were collected and analyzed for total lead from selected test pits and used for verification and correlation of field XRF soil screening. Samples were generally collected along the northern and eastern edge of the Eastern Fill Area. Additional samples were collected from TP-11 and TP-12. Samples were not collected from test pits TP-01, TP-04, TP-10, TP-13, TP-15, and TP-16. Test pit logs are provided in Appendix C.

2.1.2 Test Pit X-Ray Fluorescence Soil Screening

XRF soil screening was conducted as an initial screening tool to identify areas of potentially elevated lead concentrations in test pits. XRF soil screening data was used to help identify the limits of fill and to select potential soil boring locations. Quality Environmental Solutions & Technologies, Inc. conducted the XRF field screening with a Niton Model XL-309 Spectrum Analyzer. The XRF screening provided sample results with a detection limit of at least 250 mg/kg.

Soils were screened with the XRF analyzer in the following two manners: *in situ* screening and *ex situ* screening. Numerous *in situ* screening samples were measured from each test pit to determine the horizontal and vertical extent of waste. The XRF screening data are attached in Appendix D. At ten locations, soil samples were collected from the same location and depth as those samples that were collected for laboratory analysis. These samples were screened with the XRF in a designated sample analysis station located outside of the fill areas.

2.2. Surface Soil Sample Collection

Forty-five surface soil samples identified in the RI/FS Work Plan were collected between October 19 through 26, 2001. These surface soil sample locations are presented in Figure 2-1. In general, surface soil samples were collected from the 0 to 0.2 ft interval using decontaminated stainless steel equipment. Sampling locations in vegetated areas required the removal of vegetation prior to sample collection. Samples were collected by digging into the soil with a pre-cleaned stainless steel trowel and by using a pre-cleaned stainless steel hand auger. The soil was homogenized by mixing the sample in a decontaminated stainless steel mixing bowl with a decontaminated stainless steel trowel. Samples selected for laboratory analysis were placed in the appropriate containers provided by the laboratory. Although they were included in the RI Work Plan, surface soil samples were not collected from the Eastern Fill Area at this time due to the movement of materials from prior and current investigations.

Based on the objectives of the RI, consideration for the collection of soil samples were as follow:

- Six background samples were collected (SS-BG-OBG-41 through SS-BG-OBG-46) on the margin of the RSRC property to establish a background concentration for lead.

Samples were collected in the following areas where no data was available: three samples were collected between the employee parking lot and Front Lawn Excavation (SS-OBG-8 through SS-OBG-10); six samples collected were collected in the north portion of the property (SS-OBG-22 through SS-OBG-27); SS-OBG-35 was collected between the Eastern Fill Area and the pond; and SS-OBG-33 and 34 were collected northeast of the pond.

- Five samples were collected (SS-OBG-1 through SS-OBG-5) north of the Front Lawn Excavation where concentrations of lead were historically found to be elevated. Six samples (SS-OBG-17 through SS-OBG-21 and SS-OBG-38) were collected south and west of the facility.

- Additional samples were collected from 0 to 0.2 ft and 0 to 1 to 2 ft samples were collected in areas where previous 0 to 0.5-ft samples contained elevated concentrations of lead to define the impacted area. Ten samples (SS-OBG-28 through SS-OBG-32) were collected north of the Eastern Fill Area. Twelve samples (SS-OBG-11 though SS-OBG-16) were collected south and east of the Front Lawn excavation and twelve samples (SS-OBG-6, SS-OBG-7, SS-OBG-36, SS-OBG-37, SS-OBG-39, and SS-OBG-40) were collected along Ballard Road, west of Front Lawn excavations.

Surface soil samples were submitted for total lead analysis. In addition, the following samples were submitted for TCL/TAL analysis minus volatile organic compounds. These samples constituted the 10% TCL/TAL analysis as outlined in the RI/FS work plan.

- SS-OBG-2
- SS-OBG-21
- SS-OBG-31
- SS-OBG-32
- SS-OBG-36

A total of 20 additional surface soil samples were collected as part of the Fish & Wildlife Impact Analysis. The locations were selected to represent specific habitat areas identified during the site reconnaissance locations of these samples are included on Figure 2-1. The samples were analyzed for total organic carbon pH and CLP metals. More detailed information regarding collection procedures is provided in the FWIA included as Appendix B.

To further assess the distribution of lead in surface soils, a total of 68 surface soil samples were collected from 17 locations as part of the pre-design investigation for the removal IRM. At each location samples were collected from the 0 to 2-inch, 2-inch to 4-inch, 4-inch to 6-inch and 6-inch to 12-inch intervals. Triplicate samples were also collected at three locations to assess the variation in results observed during the RI. The samples were analyzed for total lead using a Niton Model XL-309 Spectrum Analyzer (XRF) and 51 samples were analyzed at a laboratory for total lead or total metals. Additional detail pertaining to the collection and analysis of these samples is provided in the RDIR (Appendix A). Results of the analyses are discussed in Section 4.

Table 2-1 presents a list of surface soil samples that were submitted for laboratory analysis for the RI, FWIA, and the RDIR. Historical data are also presented on this table.

2.3. Subsurface Soil Sample Collection

Twenty-six soil borings were completed between October 22 and November 11, 2001. The soil boring locations are presented on Figure 2-1. Soil borings were advanced with either a truck-mounted rig or a track-mounted rig, depending on topography. Drilling was performed using a hollow stem auger drilling technique and soil samples were collected in 2 ft intervals according to American Society for Testing and Materials (ASTM) Method D-1586-84.

Boring logs included a description of subsurface materials encountered in each of the borings, as well as descriptions of soil sample texture, composition, color, consistency, moisture content and recovery. Soil boring logs are included in Appendix E.

Up to two soil samples per boring were selected from each boring for laboratory analysis. The samples were prepared for analysis by placing a sufficient amount of soil from the selected 2-ft sample interval into a stainless steel mixing bowl and homogenizing the sample by mixing with a clean stainless steel trowel. The homogenized sample was then placed in the appropriate containers provided by the laboratory.

The following soil samples were submitted for total lead analysis:

- Three soil borings (SB-OBG-3, 4, 5) were completed north of the plant area to define horizontal and vertical extent of fill material exceeding clean up goals.

- Five soil borings (SB-OBG-6, through 10) were completed north and east of the Eastern Fill Area to confirm the "clean soils" as defined by the test pits. Boring SB-OBG-9 was completed by hand auger.
- Two soil borings (SB-OBG-11 and 12) were completed within the Eastern Fill Area to establish the maximum depth of contamination.
- Four soil borings (SB-OBG-21 through 24) were completed within the fill area south of the plant to define the horizontal and vertical extent of fill material exceeding clean-up goals.
- Six soil borings (SB-OBG-15 through 20) were completed in the North and South Lawn excavation areas, along Ballard Road.
- Two soil borings (SB-OBG-13 and 14) were completed within the driveway of the RSRC facility to determine if material from the Lawn Excavation was placed in this area.
- Two 1 ft soil samples (SB-OBG-1 and 2) were collected by hand auger within the northeast portion of the RSRC property to verify previous concentrations of 3500 mg/kg of lead at 0 to 1.5 ft below grade.
- Two 1 ft soil borings (EX-1 and EX-2) were collected by hand auger within the excavation area to establish the vertical extent of impact at the base of the excavation.

Additional borings were completed in the Eastern Fill area in 2005 as part of the RDI for the removal IRM. These borings are numbered SB-OBG-25 through SB-OBG-38 and the locations are presented on Figure 2-1. The purpose of these borings was to further assess the vertical extent of fill or other material containing lead. Soil samples were collected continuously and screened for lead at approximately 1 ft intervals using the XRF. Composite samples from 2 ft intervals were submitted for laboratory analysis. More detailed information pertaining to the screening and sampling activities are provided in the RDIR (Appendix A). The analytical data collected from these borings are included with the other soil data as discussed in Section 4.

Table 2-2 presents the list of the soil boring samples that were submitted for analysis during historical investigations as well as the RI and the RDI for the IRM. This table includes the sample location (boring number), depth below grade, and type of analysis completed. As indicated, eight of the soil samples collected from the borings were analyzed for TCL/TAL analysis minus volatile organic compounds. These samples constituted the 10% TCL/TAL analysis as outlined in the RI/FS work plan.

2.4. Well & Piezometer Installation

Table 2-3 summarizes construction information for past and current monitoring wells and piezometers installed at and around the Site. Historical investigations included installation of 21 overburden and four bedrock monitoring wells at the site. Fourteen piezometers were installed historically as part of barrier slurry wall construction and evaluation. In addition, three monitoring wells were installed in June of 2001 as part of the facility RCRA program to augment the monitoring well network within the main plant facility. The locations of these wells are shown on Figure 2-1. Existing copies of the drilling and well logs are provided in Appendix F. As indicated on the figure and table, fifteen wells have been abandoned, with the majority surrounding the Eastern Fill Area.

While the existing monitoring well network allows for the evaluation of ground water quality migrating from the operating area and from the RSRC property to the south, the network does allow for the evaluation of ground water impacts from the Eastern Fill Area because wells within the Eastern Fill Area were destroyed prior to or during the 1999 Corrective Action.

During the RI, four new wells (MW-23 through MW-26) were installed within the overburden material and one well (MW-26D) was installed within the bedrock. The overburden wells were installed at a depth to monitor the shallow ground water and constructed with an appropriate length of well screen. The overburden wells were completed between 12 and 15 ft below grade. The shallow bedrock well was installed at 27 ft below grade with 5 ft of well screen was set 10 ft below bedrock surface. Construction details for these wells are given below.

During the RDI, five piezometers were installed within the Eastern Fill Area to assess the overburden water table level in preparation for an IRM in this area. The piezometers (SB-OBG-26, SB-OBG-27, SB-OBG-28A, SB-OBG-32, SB-OBG-34) are shown on Figure 2-1. Construction information is provided on Table 2-3 and discussed in greater detail in the RDIR in Appendix A.

2.4.1. Overburden Well Drilling Procedures

Similar to the soil borings, borings for the wells were advanced through the overburden using a hollow stem auger drilling method. Soil samples were collected continuously in 2 ft intervals according to American Society for Testing and Materials (ASTM) Method D-1586-84. Split-barrel samples were obtained continuously to the top of bedrock in one boring at each location according to ASTM Method D-1586 in advance of the hollow-stem augers. The on-site geologist prepared test-boring logs, describing the subsurface materials encountered in each of these borings. Descriptions of soil sample texture, composition, color, consistency, moisture content and recovery were also recorded. The logs are included in Appendix F.

To assess potential influence of fill or soils on the ground water quality of each of the overburden wells, a soil sample was collected from the screened interval for analysis. Samples were analyzed for TAL metals.

2.4.2. Shallow Bedrock Unit Drilling Procedures

For the shallow bedrock well installation (MW-26D), the soil boring was advanced to the overburden-bedrock interface utilizing 6-inch ID hollow-stem augers. Samples of the overburden were collected continuously and logs were prepared using the methods described above for the overburden drilling. The borehole was further advanced a minimum of 1 ft into the top of the bedrock unit using the augers into the top of the weathered zone or by utilizing rotary drilling techniques. The top of bedrock was determined by split-barrel sampler refusal and/or prolonged grinding of the augers.

The overburden was cased-off using a minimum 5-inch diameter steel casing grouted into a rock socket prior to rock drilling and coring. The casing was lowered into the borehole and tapped into place with a mallet to seat the casing. A cement-bentonite grout was tremied into the annulus between the casing and the borehole. As the grout was pumped into the annulus, the tremie pipe was kept within the grout as it was placed so that a continuous seal was achieved. The cement grout was allowed to set overnight before further bedrock drilling was initiated. Any remaining grout inside the casing was drilled out using a 4-inch roller bit. The borings for the shallow bedrock well was then drilled to final depth using a 4-inch OD (HX) diamond core bit. The log of this well is provided in Appendix F.

2.4.3 Well Installation

Monitoring wells were constructed of 2-inch ID, flush joint, Schedule 40 PVC riser pipe connected to 0.010-inch slot PVC well screen. The base of each well was equipped with threaded bottom plugs, and the top of each well was equipped with a vented, non-threaded cap. In addition, a designated measuring point was notched in to the top of the PVC riser pipe to provide a permanent reference point for subsequent total depth and depth to water measurements.

After setting the well, sand was introduced gradually inside the augers or borehole to fill the annular space between the screen and the borehole adjacent to the screen. The sand pack extended from the bottom of the boring to approximately 1 ft above the top of the screen. The sand pack consisted of clean, graded, silica sand with grain size distribution matched to the slot size of the screen.

A bentonite pellet seal was placed above the sand pack to form a seal at least 2 ft thick. A thick cement-bentonite grout extended from the top of the bentonite pellet seal to the ground surface. The grout material consisted of Type I Portland cement mixed with granular bentonite. The grout mixture was prepared in accordance with ASTM D 5092-90, such that approximately 3 to 5 pounds of bentonite was mixed with 6 to 7 gallons of water per 94-pound sack of cement. The grout was introduced via a tremie pipe lowered to just above the top of the bentonite pellet seal. As the grout was pumped into the borehole, the tremie pipe was removed in sections so that the grout was pumped into the borehole at a level below the top of the grout seal as it was emplaced.

Protective casings were constructed of one of the following:

- Steel casing equipped with a locking cap placed over the monitoring well. The protective casing extended at least two ft below ground surface and was cemented in place.
- For bedrock wells with permanent steel casings, a lockable cap was placed on the top of the casing.

Well completion logs are provided in Appendix F.

2.4.4. Well Development

Following the completion of the monitoring well installation program, each monitoring well was developed prior to ground water sampling. The monitoring wells were developed as soon as possible, but not less than 24 hours after installation. The wells were developed using an inertial pump (i.e., WaTerra® pump) with using pre-cleaned, dedicated polyethylene tubing, check valves, and surge blocks.

The goals for development were to obtain ground water in which the pH, temperature, and specific conductivity stabilized and exhibited a turbidity of less than or equal to 50 Nephelometric Turbidity Units (NTUs). However, turbidity remained high during development requiring ten well volumes to be removed from each well with the exception of MW-23S and 23D. These wells were poor producers of water and only seven and five volumes could be removed, respectively, before the wells were completely dry. Sufficient recovery time was allowed, but further volumes could not be removed.

Well development water was containerized on site and managed in accordance with Section 2.12. Monitoring well development logs are attached in Appendix G.

2.5 Ground Water Sampling

Following well development, ground water samples were collected from the new monitoring wells (MW-23S, MW-23D, MW-24, MW-25, and MW-26) and existing well MW-13 and analyzed for TCL/TAL parameters, alkalinity, and total sulfate. Field instruments during sample collection were also used to measure conductivity, turbidity, and pH. Ground water samples were collected using low flow sampling techniques to minimize the potential for turbid samples. Prior to initiating the sample activity, water levels were measured at each of the wells to allow an evaluation of ground water flow characteristics.

Care was taken to disturb only the upper portion of the well water column to avoid re-suspending settled solids in the wells. Water level measurements were taken during purging to document that the drawdown

in the well was less than 0.2 ft/min at a flow rate of 0.5 liters/min. Samples were collected once the field parameters stabilized. Monitoring well purge and sampling logs are attached in Appendix H.

In addition to the ground water samples collected during the RI, ground water samples have been collected routinely since 1991 from a number of on-site wells as part of the RCRA program. Samples are collected on a quarterly basis and analyzed for lead, antimony, cadmium, chromium, arsenic, alkalinity, pH, and sulfate. Summary tables of the data collected between 1998 to present were prepared by NYSDEC and are provided in Exhibit 2. Although the monitoring program began in 1991, data from 1998 to present were summarized for the purposes of this RI due to significant changes in the monitoring well network subject to sampling prior to 1998. As shown in Exhibit 2, the five RI wells (MW-23S, MW-23D, MW-24, MW-25, MW-26) installed during the RI were sampled during the Spring 2006 quarterly monitoring event.

2.6. Open Excavation Sampling

The excavation on the eastern side of the plant building remains open and is currently filled with water, presumably from surface water runoff and ground water infiltration. The bottom of the water-filled excavation was not sampled during completion of the excavation program. Therefore, to evaluate the presence of lead at the base of the excavation, soil samples (EX-1 and EX-2) were collected from two locations in the excavation pit. Two sample intervals (0 to 0.5 ft and 0.5 to 1.0 ft) were collected at each location for analysis. Sample locations are shown on Figure 2-1. These samples were analyzed for total lead.

Four additional samples were collected from the open excavation as part of the RDI. These locations (SED-OBG-1 through SED-OBG-4) are shown are shown on Figure 2-1 and are described in more detail in the RDIR. The locations are considered to be approximate, as they were not surveyed. The samples were analyzed for TCLP lead. A summary of water-filled excavation soil data is provided as Table 4-8.

2.7. Sediment Sampling

As illustrated on Figure 2-1, a small stream runs from north to south along the western side of the facility. The stream crosses under the railroad tracks bordering the south side of the facility and traverses southward into OU-3. A second stream originates from the pond located to the north of the railroad tracks on the eastern side of the RSRC property. This stream also crosses under the railroad tracks into OU-3 and joins the other stream. Historic samples of the sediment from the streams and pond indicate the sediment in the pond and streams are impacted. Three additional sediment samples were collected from the streams and two additional samples were collected from the pond as part of the RI to assess current conditions. Details are discussed below. Additional sediment samples were collected as part of the FWIA (Appendix B) and collection of these samples is also summarized below.

Sediment samples were also collected during some of the historic investigations. Information pertaining to the collection of these samples is noted where information is known.

2.7.1. RI Sediment Samples

Pond sediment samples were collected from a flat-bottom boat using a 3-in. diameter, polycarbonate tubing. Refusal due to the compaction of the sediment was encountered at the bottom of the pond in several places leading to equipment failure. Due to the density of the sediments, the most effective sampling approach was wading into the site water bodies and collecting the sediment samples with a closed-barrel hand soil auger. Sediment samples were collected from two locations within the pond (SED-P1 and SED-P2) from a depth of 0 to 0.5 and 0.5 to 1.0 ft below the pond bottom. The sediment samples

were submitted for total lead analysis. Additionally, a blind duplicate, and MS/MSD were collected at the SED-P2 0 to 0.5 ft interval for TCL/TAL analysis

Three stream sediment samples (SED-S1, SED-S2, and SED-S3) were collected from the streams and drainage channels on the west and south side of the facility from 0 to 0.5 and 1.0 to 2.0 ft intervals. The sediment samples were submitted for total lead analysis. Additionally, a sample was collected at the SED-S1 0 to 0.5 ft interval for TCL/TAL analysis.

Sediment sample logs are presented in Appendix I.

2.7.2 FWIA Sediment Samples

A total of 18 additional sediment samples were collected in August 2003 as part of the FWIA. Six sediment samples were collected from the pond on the east side of the property and 12 samples were collected from the stream that runs along the front of the property between Ballard Road and the facility. The samples were collected at a depth of between 0 and 0.5 ft. Pond samples were collected using a rowboat and a Ponar dredge. Stream samples were collected by had using a decontaminated shovel. The majority of the samples were analyzed for CLP metals. Two samples were also analyzed for CLP metals, total organic carbon and pH. A more detailed discussion of the sampling activities can be found in the FWIA included as Appendix B.

2.7.3 Historic Sediment Samples

Nine sediment samples were collected in 1991 as part of a previous investigation. The sampling methods and depths were not identified in documents reviewed although it is presumed that the samples came from the upper sediment layer. The locations of the samples are shown on Figure 2-1 and are labeled as SECD-1 through SED-9. As illustrated on the figure, samples SED-1 through SED 4 were collected from the unnamed stream running across the front of the facility. SED-5 was collected from the outlet from the natural pond and samples SED-6 through SED-9 were collected from the natural pond.

2.8. Surface Water Sampling

Surface water samples were not collected as part of the RI. However, six surface water samples were collected from the pond during the FWIA. The locations are included on Figure 2-1 (SW-1 through SW-6). Additional information pertaining to collection methods can be found in the FWIA included as Appendix B.

2.9. Wildlife Sampling

Wildlife samples of invertebrates (worms) and vertebrates (small mammals) were collected from four distinct Site habitats and from an off-Site Reference Area during the FWIA. The locations of study areas and sampling transects as well as additional information pertaining to collection methods can be found in the FWIA included Appendix B.

2.10. Ground Water User Survey

Nearby ground water supply wells were sampled in 1990 and 1999 as part of the RCRA program. Specifically, samples were collected from four nearby wells in 1990 and five wells in 1999. A map provided with the 1999 data indicates that the four of the wells were located within a mile south or west of the Site. Additionally, a ground water supply well located within one mile to the south of the site was sampled by the New York State

Department of Health (NYSDOH) in 2005. Analytical data from the wells indicated that lead and sulfate in these wells were well below the drinking water criteria.

A ground water user survey was conducted on March 8, 2001 as part of the RI. The study area covered a 1-mile radius surrounding the RSRC facility. The objective of the survey was to identify and locate residential, commercial, municipal, or industrial ground water users within the study area.

Tax maps of the study area were obtained from of the Town of Wallkill assessor's office located at the Wallkill Town Hall in Middletown, New York. Tax parcel numbers for parcels located within the study area were identified on the tax maps. The tax parcel numbers were then cross-referenced with the tax assessment roles (dated March 1, 2001), which included municipal water/sewer billing information, to identify those parcels that were not receiving bills for municipal water or sewer. Tax parcels that were listed as not receiving water/sewer bills were reviewed further with the aid of the assessor's office to confirm that they were not receiving bills for public water on that parcel at this time.

Review of the tax assessment roles and tax maps confirmed that residential, commercial, municipal, or industrial users within the study area are currently connected to the municipal water system. There are a few parcels located within the study area that are not receiving bills for municipal water or sewer; however, these parcels are listed on the assessment roles as vacant, undeveloped parcels of land. Therefore, it appears that the developed parcels within the study area that are using municipal water and sewer.

Additionally, O'Brien & Gere reviewed the Town of Wallkill web site to locate the municipal water supply wells for the Town of Wallkill. Based on information provided on the web site, the Town's water supply system consists of five water supply well clusters. These five supply well clusters are located outside the 1-mile radius study area.

2.11. Decontamination

The drilling and sampling equipment were decontaminated to minimize the potential for contaminants to be introduced into the borehole or transferred between sampling locations.

In accordance with the Work Plan, prior to sampling, non-dedicated equipment was washed with potable water and Alconox® detergent. The sampling equipment was then rinsed with potable water followed by a reagent-grade methanol rinse and finally a deionized water rinse. Additionally, equipment used to collect samples for metals analysis received a nitric acid rinse following the deionized water

Drilling equipment was decontaminated using a high-pressure steam cleaner. Potable water was used for decontamination and drilling procedures. Decontamination water was collected and stored for subsequent characterization and disposal in accordance with Section 2.11.

Prior to initial assembly of the low flow sampling apparatus, the non-dedicated miscellaneous parts which come in contact with the sample, were decontaminated with an Alconox® and tap water wash, tap water rinse, isopropyl alcohol rinse, and a distilled water rinse. After rinsing, the various parts were dried with clean paper towels and placed in a sealed plastic bag, to ensure that no outside contaminants were introduced prior to use during subsequent sampling activities.

2.12. Handling of Investigation-Derived Waste (IDW)

The RI activities produced IDW, which required appropriate management. IDW included the following:

- Drill cuttings
- Ground water resulting from development of new monitoring wells
- Ground water resulting from the sampling of the monitoring wells
- Decontamination fluids and surface soil/sediments which settled out of such fluids
- Surface soil/sediments which settle out of ground water produced during the above
- Personnel protective equipment (PPE) and associated debris resulting from the execution of field activities.

The management of these materials is discussed below.

2.12.1 Drill Cuttings

Drill cuttings derived from each soil boring were transported to a central location designated by NYSDEC and the RSRC environmental manager at the facility. Derived soils were placed under a tarp and sealed with other untreated soils from prior remediation efforts.

2.12.2. Ground Water

Ground water produced during development and sampling activities at the shallow bedrock monitoring wells was containerized in a 55-gallon drum. The drum was labeled with the monitoring well identification and the date that the ground water was initially containerized. The contents of the drum was characterized and treated at RSRC's on site wastewater treatment facility.

2.12.3. Decontamination Fluids

Decontamination fluids containing non-indigenous materials associated with drilling and on-site (ground water and soil) sampling activities were containerized in a 55-gallon drum and treated at RSRC's on-site wastewater treatment facility.

For sediment decontamination fluids, rinse water was discharged to the surface water. Solvent and acid rinse fluids were containerized and treated at RSRC's on-site wastewater treatment facility.

2.12.4. PPE and Associated Debris

Used PPE and other associated debris (e.g., ground plastic, tubing, etc.) were placed in plastic bags disposed of as solid waste.

3. Hydrogeologic Conditions

3.1. Site Topography

Three topographic maps have been developed for the site. A topographic map prepared in 1972 represents the topography prior to construction of the facility. This map is included in Appendix D of the RDIR, which is included as Appendix A of this document. An additional topographic map was prepared in 1990 as part of the RCRA program and in 2006, the topography of the Eastern Fill Area was developed as part of the RDI to obtain more recent information following the CA completed in this area. Figure 3-1 is a composite of the two more recent topographic maps (1990 and 2006) to provide a representation of the most current topography at the site.

In general, surface topography at the Site dips from north to the south. The facility and surrounding property is also generally higher than the area to the east. The low area to the east is generally wet and highlighted by the presence of the natural pond. A raised railroad borders the south side of facility area and OU-1.

3.2. Local Geology

Based on current and previous investigations conducted at the RSRC facility, the overburden material at the site can be classified into three units: 1) fill, 2) reworked glacial till, and 3) silty glacial till. The fill material generally consists of reworked till mixed with anthropogenic material such as process residuals and slag associated with facility operations. The reworked till and silty till materials appear similar, consisting of clayey silt to silty clay with varying amounts of sand, gravel and occasional boulder. The reworked till is generally dark brown to gray with a higher percentage of gravel and rock fragment than the native till. The clay content of the reworked till is much greater on the margins of the pond on the eastern side of the property. The native till is yellowish brown to reddish brown, firmly compact with increasing clay content with depth.

Underlying the overburden was weak Ordovician shale and interbedded limestone, from the Normanskill or Martinsburg groups. A contour map of the top of the bedrock is provided as Figure 3-2. Review of the contour map indicates that there is a bedrock low area under the area where the water-filled excavation is located. The 1972 topographic map of this area (see RDIR in Appendix A) indicates that this lower bedrock elevation correlates with a topographic low spot prior to development.

Shale was encountered in areas where the bedrock surface was higher in elevation. The shale was generally dark brown to gray in color and parted easily along bedding planes. South of the water-filled excavation, the underlying bedrock is appears to be composed of dark gray shaley limestone to limey shale with fine to argillaceous grain-size and numerous fractures in-filled with carbonate deposits.

3.3. Local Hydrogeology

Ground water investigations conducted at the site between 1992 and 1994 resulted in the installation of seventeen monitoring wells within the fill and natural material at the site. The depth of these wells ranges from 8 to 33 ft below grade. A summary of ground water elevation data collected between December 1991 and September 2006 is provided as Table 3-1. These data were generated by a variety of contractors, primarily as part of the RCRA program.

The most recent and complete set of ground water elevation data was collected in March 2006. These data were used to prepare overburden and bedrock flow contour maps provided as Figures 3-3 and 3-4, respectively. As illustrated in Figure 3-3, ground water flow beneath the main portion of the site is to the southeast and the pond. On the southern parcel, the ground water flow direction is more southerly.

To evaluate potential variations in the ground water flow direction within the overburden at the site as part of the RDI, ground water contour maps were developed using elevations representing low and high ground water conditions. Data from September 2005 were selected to represent low ground water conditions as illustrated on Figure 3-5. March 2003 data were selected to represent high ground water conditions as shown on Figure 3-6. These figures reveal that the ground water flow direction does not vary significantly.

Surface water flow largely reflects the topography. As shown on Figure 3-1, an unnamed stream runs in a north-south direction along the western side of the facility. This stream flows eastward to merge with another small stream that emanates from the pond on the east side of the facility. From the convergence, the two streams flow south through a culvert under the railroad and continue southward across the southern parcel.

There is also a water-filled excavation on the Site resulting from the discontinued 1999 CA. Based on historical ground water measurements in this area, surface water reflects ground water in this area of the site (i.e. the water is no perched). This water-filled excavation is intended to be removed as part of the IRM planned for 2007.

Surface water originating along Ballard Road flows into the north/south stream just west of the facility. On the east side of the facility, surface water will drain into the pond and from there, flow across the southern parcel towards the Wallkill River located approximately one mile south of the property.

Also noteworthy to hydrogeology at the Site is the barrier slurry wall, which was partially installed around the site in the late 1990's. The slurry wall was completed in phases and is constructed of soil-bentonite, cement-bentonite, or HDPE sheeting. The location of the slurry wall is illustrated on Figure 1-3. Slurry wall effectiveness is monitored by RCRA quarterly by fourteen piezometers (PZ-1 through PZ-14), seven on each side of the wall. Locations of the piezometers are shown on Figure 2-1 and overburden groundwater levels for the piezometers are shown in Table 3-1. As illustrated, the incomplete wall has little effect on the overburden groundwater table.

4. Nature and Extent of Contamination

The following section presents the analytical results of the soil, sediment, and ground water sampling activities performed for the RI of the RSRC Site. Also incorporated are historical analytical results; soil, surface water and wildlife analytical results from the FWIA; and additional analytical results from soil samples collected during the RDI for the planned IRM.

As part of the RI investigation, collected soil and sediment samples were primarily analyzed for total lead. In addition, TCLP lead analysis and Target Compound List (TCL)/ Target Analyte List (TAL) analyses were completed on selected samples. Ground water samples were analyzed for VOCs, SVOCs, PCB/Pesticides, metals, total alkalinity, cyanide and sulfate. The analytical results from the RI investigation are summarized in Appendix J and Tables 4-1 through 4-14. Figures depicting historical, RI, FWIA, and RDI data are presented on Figures 4-1 through 4-15.

The majority of the environmental samples were submitted for total lead analysis using USEPA Methods 200.7M/245.5M/335.2 CLP. In addition, selected soil and sediment samples were submitted for TCL/TAL analysis using USEPA Methods 200.7M/245.5M/335.2 CLP. Ground water samples were submitted for VOC, SVOC, PCB/Pesticide, metals, total alkalinity, CN and sulfate analysis by NYSASP Methods 91-1, 91-2, 608, 200.7M/245.5M/335.2 CLP and 310.1/EPA 375.4.

Ground water sample results were compared to current New York State Class GA Ground Water Standards or guidance values as presented in the Division of Water Technical and Operational Guidance Series 1.1.1 (TOGS) entitled *Ambient Water Quality Standards and Guidance Values and Ground Water Effluent Limitations*.

Analytical data for soil samples were screened using NYSDEC's recommended soil cleanup objectives (RSCOs) provided in Technical Administrative Guidance Memorandum #4046, entitled *"Determination of Soil Cleanup Objectives and Soil Cleanup Levels"* (TAGM 4046 RSCOs). In addition, for inorganic analyses, background surface soil sample results were used for comparison, where appropriate.

In general, VOCs were not detected in samples except for an occasional low concentration of acetone or a petroleum-related compound. These detections were not considered significant. Similarly, detected concentrations of SVOCs were infrequent and when detected, below the respective screening criteria. No PCBs and only very low concentrations of Pesticides were detected. Therefore, VOCs, SVOCs and PCBs/Pesticides are not discussed further in this document. Tables summarizing the results of these analyses are provided in Appendix J.

Lead is the primary inorganic constituent of concern at this site. However, several inorganic constituents were identified to be present in the soil at concentrations above the TAGM RSCO. These constituents include arsenic, beryllium, cadmium, copper, iron, nickel, selenium, and zinc. Tables summarizing the inorganic analyses are provided in Appendix J.

In general, comparison of the concentrations of inorganics other than lead with typical background concentrations in Eastern US soils revealed that they were within the same order of magnitude. However, at several locations (MW-3, MW-4, MW-5, SS-OBG-21, SB-OBG-28A, SB-OBG-38) the concentrations of some of the inorganics (arsenic, cadmium copper and zinc) were significantly higher. These locations also contain elevated lead concentrations and are either within or adjacent to fill material suggesting that they are related to the process waste. Zinc was also found to be slightly elevated in subsurface soil samples collected from MW-13, MW-13B, MW-14, and MW-16. These wells are located on the southern parcel and approximately 400 ft south of the facility. The presence of slightly elevated concentrations of

zinc in these samples may be indicative of a different soil type in this area or migration of constituents from the facility.

For the purposes of assessing the extent of impacts at the Site, analytical results for total lead and TCLP lead are used. As would be expected, lead contamination is by far more prevalent than other contaminants, and lead is also a consistent indicator of other inorganic contamination. No NYSDEC standards or guidance values exist for total lead in soils. Therefore, the spatial distribution of lead at various concentrations is discussed. The hazardous waste threshold for lead is TCLP > 5 mg/l.

The discussion of horizontal extent of impacted surface and subsurface soil has been segregated into five areas as identified on Figure 1-3.

- Eastern Fill Area – The Eastern Fill Area is the area to the east of the facility where process waste is known to have been disposed. A portion of this area was previously excavated as part of a RCRA CA as discussed in Section 1.
- Northeast Area – The Northeast area lies to the east of the Eastern Fill. This area is lower in elevation than the facility, covered with vegetation and water is shallow at least part of the year.
- Front Lawn Area - The western portion of the RSRC property both north and south of the current facility driveway consisted of lawn and light shrub and brush vegetation. This area was formerly filled with waste material that was removed during a corrective action as discussed in Section 1.
- North end of property – The north end of the property consists of mature woodlands with an area of cleared land (borrow area) to the northeast.
- Southern parcel – This is a piece of property located to the south of the facility and divided from the main property by railroad tracks. The parcel is a part of OU-3, however analytical date has been collected from this parcel during various sampling activities, and analytical results are discussed briefly in this RI for site characterization purposes.

Figures 4-2 through 4-7 present the spatial distribution of lead in soil at selected depth intervals.

4.1 Data Validation

As outlined in the RI Work Plan, the analytical data were reviewed for integrity by Nancy Potak and a Data Usability Summary Report (DUSR) was provided for each set of data. These reports are provided in Appendix K. In general, the DUSRs for the analytical data packages did not note usability issues associated with the data other than the typical application of "J" qualifiers to some of the concentrations in the raw data packages. However, two sets of RI lead data were qualified as rejected ("R"). These data sets included the following samples:

Fill Samples	Surface Soil Samples
TP-02 1.3-1.5 ft	SS-OBG-08
TP-03 2.5 ft	SS-OBG-09
TP-05 1.2 ft	SS-OBG-10
TP-06 1.5 ft	SS-OBG-22
TP-07 2.2 ft	SS-OBG-23
TP-08 3.0 ft	SS-OBG-24
TP-09 1.4 ft	SS-OBG-25
TP-11 6.0 ft	SS-OBG-26
TP-12 0.9 ft	SS-OBG-27
TP-14 0.9 ft	SS-OBG-34

As indicated in the DUSR (Appendix K), the data quality was questionable given the poor correlation between replicate samples and the matrix duplicates. The DUSR stated that "the values should be examined in terms of the data quality objectives to determine the effect of the poor precision data." Discussion with the laboratory revealed that they attempted to rectify the discrepancy in the replicates by re-dividing and re-analyzing the samples. However, the laboratory continued to get similar results and the discrepancies continued to occur.

It is noted that the poor correlations occurred in samples from two types of matrices, fill and surface soil. Samples TP-09 (fill material) and SS-OBG-34 (surface soil) were used for the QA/QC samples. In the case of the fill sample, it is recognized that the fill material is a mixture of soil and lead of a variety of grain sizes ranging from dust particles to large pieces of slag. Therefore, replication of this sample may not be possible and the values need to be used qualitatively (*i.e*. is lead present at higher than background concentrations).

Similarly, the surface soil sample SS-OBG-34 is located topographically downslope from the Eastern Fill Area and, therefore, may contain varying amounts of fill material that were transported by erosion processes such as runoff. Given that enough soil to fill a 16-oz jar is generally collected for a sample, it is likely that lead particles were present in some of the samples that were analyzed and not in others.

Having said this, it should be recognized that the surface soil samples within the sample delivery group did not all come from the same area of the site. In the northern area of the site where surface soil samples SS-OBG-22 through SS-OBG-27 were collected, the transport mechanism for lead to this area is likely to have been via wind dispersion resulting in lower volumes concentrations of lead in the sample as compared to the amount of fill that could be transported via water/erosion as would be found at SS-OBG-34. Given this scenario, the possibility for discrepancies in lead concentrations in the replicate samples may be minimal. Therefore, the concentrations observed in this area could be considered to be representative. However, in the area surrounding the Front Lawn Area, fill material is known to have formerly been present and is still present in some areas. This is supported by historical data. The concentrations of samples from this area should be considered qualitatively and could be higher than represented given the replication difficulties observed in the SS-OBG-34 sample that also contained greater volumes of lead-bearing fill material.

As part of the Data Gap Analysis conducted in 2001 on historical Site data, a data usability study was completed. Section 5 of the April 2001 Data Gap Analysis for Soil report outlines the findings of this study. In general, historic data utilized in this RI was accompanied by summary level data packages, and these packages indicated compliant processing, accuracy of randomly reviewed sample results, and little matrix effect from samples.

Analytical laboratory results for the FWIA and the RDI were also reviewed for integrity and compliance with the quality assurance project plan utilized for the RI sampling and analytical efforts. Several pieces of data were qualified in the respective DUSRs for both studies, but no data was rejected. DUSRs are included in Attachment D of the FWIA and Appendix F of the RDIR. Estimation in analytical lead results across all studies is attributed to the heterogeneous nature of the contamination at the site as discussed for RI data above. However, in general data is of sufficient quality to be used in an RI analysis.

4.2 Sieve Analysis

To evaluate the potential for bioavailability of lead as well as windblown distribution of lead from the fill material, four fill samples were collected to assess lead concentrations within fine and coarse particle size fractions of the material. The fill samples designated Sieve #1 through #4 were each dry sieved through a

#60 sieve (0.0098 inches or 0.246 mm). The portion passing and that retained on the #60 sieve were then analyzed for inorganics. The results of the analyses are provided on Table 4-7. As shown on the table, these data were also qualified with an "R" meaning that the values presented were rejected by the data validator for the same reasons as that presented in section 4.1. Given that the sieve analyses were completed to evaluate whether the lead concentrations of the fine and coarser materials are significantly different, the data can be used in a qualitative fashion.

Both the fine and the coarse fractions of the sample typically contained lead at a concentration greater than 1,000 mg/kg. In addition, in one instance both fractions contained lead at a concentration in the tens of thousands of mg/kg. These data indicate that the smaller particle sizes contain enough lead to create an airborne transport pathway for lead.

4.3 Surface Soil

4.3.1 Background

Six background sample locations (SS-BG-OBG-41 through 46) were arbitrarily selected within mature woodlands around the perimeter of the RSRC property. Five additional samples were collected from an offsite location during the FWIA investigation (Reference Area samples). A summary of the lead concentrations of these samples follows:

Table 4-9 *Background Lead Concentrations*

Location	Sample ID	Lead (mg/kg)
Site Perimeter		
	SS-BG-OBG-41	110
	SS-BG-OBG-42	4,470
	SS-BG-OBG-43	7,320
	SS-BG-OBG-44	250
	SS-BG-OBG-45	1,340
	SS-BG-OBG-46	339
Reference Area		
	SSRA-01	196
	SSRA-02	34.1
	SSRA-03	39.5
	SSRA-04	42.2
	SSRA-05	50.4

Lead concentrations around the perimeter of the RSRC property ranged from 250 mg/kg to 7,320 mg/kg. Soil from three of the locations had concentrations greater than 1,000 mg/kg. Two of these, SS-BG-OBG-42 and SS-BG-OBG-43 are located on the parcel to the south of the facility. These concentrations were 4,740 mg/kg and 7,320 mg/kg respectively. The third location was SS-BG-OBG-45, which is located at the property line north of the facility. This sample contained 1,340 mg/kg of lead. Concentrations lead in the remaining three background samples were between 110 mg/kg and 340 mg/kg.

In contrast, concentrations of lead in samples collected from the reference area during the FWIA ranged from 34.1 to 196 mg/kg. These soils were collected from a property located in an undeveloped area approximately three miles to the east of the site. These samples are likely more representative of background conditions given that they less likely to be within the zone of wind deposition from the on site operations than those located at the property boundary.

4.3.2 Vertical distribution

During the RI, surface soil samples were collected from the 0 to 2 inch interval and analyzed for total lead. On the northern edge of the Eastern Fill Area and the Front Lawn Areas, select corresponding deeper samples were collected from intervals ranging from 0 to 2 ft. These samples were compared to shallow surface soil samples to identify and evaluate the distribution of lead in shallow soils around known waste areas.

Surface soil analytical results from the 0 to 0.5 ft interval are summarized on Table 4-1. Analytical results from deeper soils are included in Table 4-2. Analytical results from deeper soils for other metals are presented in Table 4-3. The following table provides comparison of the results at each location.

Table 4-10 *Lead Concentrations with Depth – RI Surface Soil*

	Lead Concentration (mg/kg or ppm)		
Sample Location	**Surface***	**Deep**	**Depth**
Front Lawn Area			
SS-OBG-6	7,550	17,400	0 to 2 ft
SS-OBG-7	52	154	0 to 1.5 ft
SS-OBG-11	7,160	1,980	0 to1.8 ft
SS-OBG-12	1,090	411	0 to 2 ft
SS-OBG-13	1,180	486	0 to 2 ft
SS-OBG-14	1,240	427	0 to 1.5 ft
SS-OBG-15	77.8	187	0 to1 ft
SS-OBG-16	438	438	0 to 0.7 ft
SS-OBG-36	2,830	331	0 to 1.2 ft
SS-OBG-37	1,370	626	0 to 2 ft
SS-OBG-39	61.8	769	0 to 1 ft
SS-OBG-40	47.9	435	0 to 2 ft
Eastern Fill Area			
SS-OBG-28	320	273	0 to 1 ft
SS-OBG-29	1,240	143	0 to 2 ft
SS-OBG-30	13,700	23,900	0 to 1 ft
SS-OBG-31	1,100	170	0 to 1.5 ft
SS-OBG-32	108	45.3	0 to 2 ft

* Surface soil samples collected from 0 to 0.2 ft interval

In general, the samples from the Front Lawn Area illustrate the variability in lead distribution due to previous filling and removal activities. Samples SS-OBG-39 and SS-OBG-40, collected in the area where fill material was previously removed, illustrate that the upper 2 inches of soil contains less than 100 mg/kg of lead while the deeper composite contains 400 to 700 mg/kg of lead. This distribution is indicative of clean topsoil cover over soil that is likely mixed with some residual fill material. At locations SS-OBG-11, SS-OBG-12 SS-OBG-13, and SS-OBG-14 the shallow 2 inches of material contains concentrations greater than 1,000 mg/kg suggesting that residual waste material may still be present in these locations. In three of these locations the concentrations of the deeper composite sample were less than 500 mg/kg suggesting that the mixing of residual waste material may have occurred during regrading. High concentrations of lead (7,550 mg/kg and 17,400 mg/kg) were observed at SS-OBG-6, which is located along Ballard Road. These data indicate that the waste material was not fully removed along the road.

The distribution of lead in shallow samples collected from the northern side of the Eastern Fill Area also varies with location with respect to the fill area. Samples from SS-OBG-30 suggest that waste material is present within the upper 1 ft. The shallow samples from SS-OBG-29 and SS-OBG-31 are elevated above 1000 mg/kg suggesting that lead-containing material has been deposited on the surface in these areas, possibly as a result of the previous waste removal activities.

To evaluate the vertical distribution of lead in surface soil outside of the waste disposal areas, additional surface soil samples were collected in 2005 as part of the Remedial Design Investigation for the IRM. Samples were collected from 17 locations surrounding the facility and waste areas. Five sample locations were to the east of the Eastern Fill Area, 10 locations were to the north of the facility, and two locations were on the parcel to the south of the facility and adjacent railroad track. At each location samples were collected from four intervals 0 to 2 in, 2 in to 4 in, 4 in to 6 in and 6 in to 12 in. the samples were screened in the field using an XRF. Selected samples were submitted for analysis for lead or TAL metals. The following table summarizes the analytical data. Additional information, including a discussion of the XRF data can be found in the RDIR (Appendix A).

Table 4-11 *Lead Concentrations with Depth -RDI Surface Soil*

	Lead Concentration (mg/kg or ppm)			
Sample Location	**0 to 2 in**	**2 to 4 in**	**4 to 6 in**	**6 to 12 in**
SS-OBG-41	117 EJ	326 EJ	407 *EJ	
SS-OBG-42	335 EJ	340 EJ	223 EJ	246 EJ
SS-OBG-43	996 *EJ	145 *EJ	68.6 *EJ	
SS-OBG-44	1550 *EJ	78.5 *EJ	22.1 *EJ	
SS-OBG-45	302 *EJ	179 *EJ	60.1 *EJ	
SS-OBG-46	236 EJ	2520 EJ	81.5 EJ	
SS-OBG-47	260 EJ	157 *EJ	97.9 *EJ	
SS-OBG-48	195 *EJ	200 *EJ	35.9 *EJ	
SS-OBG-49	21 EJ			42.6 EJ
SS-OBG-50	124 EJ	19.2 EJ		112 EJ
SS-OBG-51	204 EJ	39.2 EJ	426 EJ	
SS-OBG-52	4560 EJ	993 EJ	284 EJ	
SS-OBG-53	1410 EJ	453 EJ	118 EJ	
SS-OBG-54	342 EJ	133 EJ	54.3 EJ	
SS-OBG-55	198 EJ	56.3 EJ		
SS-OBG-56	10,300 EJ	770 EJ	74.6 EJ	
SS-OBG-57	467 EJ	193 EJ	118 EJ	79.8 EJ

U: Not detected,
J: Estimate value
R: Sample rejected
N: Spike recovery was less than 75% or greater than 125%.
E: Estimated due to serial dilution because of interferences
**: RPD for duplicate analysis outside of control limit*

As illustrated on this table, the more elevated concentrations at each location were observed within the upper 4 inches of the soil column. This distribution is consistent with the theory that lead in areas that were not used for production or waste disposal was likely deposited by wind or runoff from other areas of the site.

Surface soil samples were also screened using an XRF during the RDI investigations. Evaluation of the correlation of the XRF to the analytical results found that the correlation factor is 0.92. This suggests that the use of XRF to screen for the presence of lead may be appropriate. The data and additional discussions regarding the correlation evaluation are provided in the RDIR (Appendix A).

4.3.3 Horizontal Distribution

The NYS Department of Health (DOH) prefers to use a 0-2 inch interval for surface soil evaluations. However, most of the historic surface soil samples were collected from the interval of 0 to 0.5 ft. Figure 4-2 presents surface soil data collected from the upper 2 inches (rounded to 0 to 0.2 ft). This is the zone that is typically considered for exposure evaluations. Figure 4-3 presents the data from the 0 to 6 inch (0.5 ft) zone to capture some of the historic information. This figure includes the samples collected from 0 to 0.2 ft. As previously discussed, the discussion of the distribution of lead in the subsurface soil is divided into the following areas:

- Eastern Fill Area
- Northeast Area
- Front Lawn Area
- North End of property
- Southern Parcel

4.3.3.1. Eastern Fill Area

Five surface soil samples were collected along the northern end of the Eastern Fill Area during the RI to assess the distribution of lead in this area: SS-OBG-28 through SS-OBG-32. Samples were collected from the 0 to 0.2 ft interval as well as 0 to 1 or 2 ft interval to also evaluate vertical distribution in the shallow soils. Samples from two of the locations contained lead concentrations below 500 mg/kg at both depth intervals. These samples are beyond the fill area. Samples collected from both intervals at SS-OBG-30 contained lead at concentrations greater than 10,000 mg/kg, which suggests that this location is within the fill deposit. At locations SS-OBG-29 and SS-OBG-31 the concentration of the surface sample is greater than 1,000 mg/kg while the deeper sample interval concentration is less than 200 mg/kg. This suggests that the concentration observed may represent shallow deposition by wind or truck traffic from the fill area rather than fill material.

SS-OBG-35 is located on the southeastern side of the fill material. The lead concentration in this sample was below 100 mg/kg.

4.3.3.2. Northeast area (OU-3)

The majority of the surface soil samples collected from this area contain lead at concentrations greater than 100 mg/kg. Two of the eight samples collected from the 0 to 0.2 ft interval contain lead at concentrations exceeding 4,000 mg/kg. The horizontal extent of shallow soil containing lead in concentrations greater than 100 mg/kg in the 0 to 0.5 ft zone has - been defined by the “OFA” and “OFB” samples which were collected in 1994. The higher lead concentrations are present in the surface soil in the area closest to the Eastern Fill Area and the horizontal extent appears to be limited. The distribution of lead in the shallow samples indicates that the higher concentrations are located nearest to the bottom of the embankment from the Eastern Fill area. This suggests that the transport mechanism for lead in this area is likely a combination of airborne dust and runoff from the Eastern Fill Area.

4.3.3.3. Front Lawn

Similar to the Eastern Fill Area, samples were collected from the 0 to 0.2 ft interval as well as 0 to 0.5 or 2 ft interval. This allows for an evaluation of the vertical distribution of lead in the shallow soils. Samples from the 0-0.2 ft interval (Figure 4-2) commonly contain led concentrations in excess of 1,000 mg/kg.

This is consistent with the pattern observed in the bigger sample group at the depth interval of 0-0.5 ft. This suggests that the corrective action did not remove all of the material and that it may extend beyond the boundaries that were originally identified. In addition, there are several areas to the east of the former excavations where surface soil exceeds 1,000 mg/kg. This suggests that either the material was spread outward as part of the surface restoration, extended beyond the boundary originally identified, or originated from another source following the corrective action activities.

4.3.3.4. North End of Property

The north end of the property consists of mature woodlands with an area of cleared land (borrow area) to the northeast and a scrub/shrub area to the northwest (Appendix B). A number of samples have been collected in this area and many of them contain lead at concentrations between 100 and 1000 mg/kg (Figures 4-1, 4-2, and 4-3). However, 4 samples from the 0 to 0.2 ft zone contain lead in excess of 400 mg/kg. These samples are located directly north of the facility and within an area that appears to have been formerly disturbed. Review of the data from the 0 to 0.5 ft zone indicates that an additional sample from this area also contains lead above 400 mg/kg. Samples from five locations on the western side of this area (west of the unnamed stream) contain lead at concentrations greater than 400 mg/kg, with two of them containing lead greater that 1,000 mg/kg. Elevated surface contamination in the western part of this area may either be attributed to airborne lead distribution from on site sources or redistribution of lead-containing materials from the Front Lawn excavation areas. An additional sample (SS-BG-OBG-45) located on the northern property boundary contains lead at concentrations greater than 4,000 mg/kg. This sample was originally selected to be a background sample.

4.3.3.5. Southern Parcel (OU-3)

As previously discussed in the background section (Section 4.3.1), surface soil samples from the southern parcel generally contained lead concentrations in excess of 1,000 mg/kg. Four of the samples out of the 15 samples collected from this area contained lead in excess of 4,000 mg/kg. As previously discussed, one sample, collected during the RDI contained lead at more than 10,000 mg/kg. The source and deposition mechanism of this lead is not known, but it may be a combination of air and surface water processes.

4.3.3.6. Other Areas

As noted on Figures 4-1 and 4-2, surface soil from the portion of the RSRC property to the south end of the facility and north of the railroad tracks contains lead in excess of 1,000 mg/kg and the concentration of lead in most of the samples is greater than 4,000 mg/kg. One sample, collected from the 0 to 0.5 ft zone, contains lead in excess of 10,000 mg/kg.

4.4 Subsurface Soil/Fill

Subsurface soil and fill were evaluated using test pits and soil borings. Sampling locations were selected based on findings from the data gap analysis and collection procedures were outlined in the RI sampling strategy. Test pits were generally completed in the vicinity of the Eastern Fill area as discussed in Section 2. Soil borings collected during the RDI were also completed in the Eastern Fill Area.

The analytical results for lead in subsurface soil are summarized in Table 4-2. Figures depicting lead concentrations at selected depth intervals based on the historical data and data collected during the RI and RDI are presented as Figures 4-4 through 4-7.

As with the surface soil, the following discussion of the distribution of lead in the subsurface soil is divided into the following areas:

- Eastern Fill Area
- Northeast Area
- Front Lawn Area
- North End of property
- Southern Parcel

4.4.1. Eastern Fill Area

The horizontal extent of lead-containing materials in the Eastern Fill Area was initially evaluated during the RI. Additional investigations were conducted during the RDI to verify the horizontal extent and evaluate the vertical extent of fill throughout the embankment area. The extent of fill material was based on field screening of in-situ and prepared XRF soil samples collected from test pits, confirmation analytical test pit soil samples and, soil boring analytical samples. A complete discussion of the results of the sampling and analysis of the Eastern Fill Area conducted under the RDI is discussed in the RDIR in Appendix A.

The fill can be generally described as grayish brown silt gravel with varying amounts of sand and clay. XRF and analytical data indicate that fill material generally contains lead at concentrations greater than 1,000 mg/kg and TCLP concentrations of lead greater than the hazardous waste threshold of 5 mg/L. In general, soils with lead greater than 500 mg/kg and less than 1,000 mg/kg contained a mixture of fill and native soil with the exception of TP-14, which appeared to contain soils consisting of undisturbed glacial till.

Table 4-12 summarizes total lead and XRF lead results from identical sample locations collected during the RI and RDI. Figure 4-8 presents a graph of the RI data, which was collected from the Eastern Fill area. This graph plots total lead analytical results against XRF lead screening results to further illustrate the relationship between the results. A linear trendline, having a y-intercept set to "zero", provides for good fit for comparison of total lead by laboratory analysis to total lead by XRF. This graph shows that at the higher concentrations, the XRF and analytical data have a relatively good correlation. However, this data set is limited and the lower concentrations do not correlate well. Both of these factors limit the usability of the data set. A greater number of samples were analyzed for lead using the XRF and laboratory during the RDI. A graph presenting these data comparisons is provided as Figure 4-9. Based on this larger data set, there is no reliable correlation between the XRF result and total lead values from the laboratory for fill material. However, the correlation of XRF versus total lead concentrations in surface soil appears to be more reliable, although outliers still appear to exist.

Some of the samples were analyzed for total and TCLP lead to assess a potential relationship between total and leachability values, particularly as it relates to hazardous waste characteristics. A summary of the TCLP (or EPTOX) analytical results is included as Table 4-13. A comparison of the TCLP against the total lead results for samples collected during the RI is provided below

Table 4-14 *Total Lead and TCLP Lead Results – Remedial Investigation Data*

Sample ID	Depth	Total Pb (mg/kg)	TCLP Pb (mg/L)
SB-OBG-11	2.0-2.9	1,620	2.02
SB-OBG-12	0.0-1.6	1,190	0.246
SB-OBG-12	8.0-9.6	873	103
SB-OBG-21	4.0-5.1	568	3.49
TP-02	1.3-1.5	5,490	60

Table 4-14 *Total Lead and TCLP Lead Results – Remedial Investigation Data*

Sample ID	Depth	Total Pb (mg/kg)	TCLP Pb (mg/L)
TP-05	1.2	13,700	229
TP-07	2.2	1,370	1.23
TP-08	3	421	4.61
TP-09	1.4	2,580	30.8

Source: O'Brien & Gere

Figure 4-10 presents a graph of total lead analytical results plotted against TCLP lead screening results. As illustrated, there is little direct correlation between the two data sets, in part due to the size of the data set. Similar to the total and XRF lead evaluation, the RDI generated a larger data set. As shown on Figure 4-11, the RDI data set indicates that there is linear correlation between TCLP Lead and XRF lead values that may be useful for further activities. If used to evaluate whether the material will be a characteristic hazardous waste (TCLP > 5 mg/L), the RDIR notes that there is an estimated margin of error on the order of 16 percent. Approximately half of this error will be false positives and half will be false negatives. A more detailed discussion of this correlation is provided in the RDIR included as Appendix A.

Soil samples were collected from within the water-filled excavation from the previous CA to assess the extent to which material had been removed. Lead concentrations from the 0 to 0.5 ft interval at sample locations EX-1 and EX-2 are above 1,000 mg/kg. Lead concentration from the 0.5 to 1 ft interval from location EX-1 was slightly above 500 mg/kg while EX-2 was below 500 mg/kg. Four additional samples (SEDOBG1 through SEDOBG4), approximately 1-ft in depth, were also collected from the excavated pit during the RDI. One sample (SEDOBG2) was analyzed for total lead and the resulting concentration was between 32,000 and 42,000 mg/kg. Each of the four samples was analyzed for lead using TCLP. These results indicated that the material within the excavation is characteristically hazardous with TCLP concentrations of between 6 and 399 mg/L. This suggests that at least 1 ft of impacted material still exists within the water-filled excavation.

A cut and fill analysis using topographic maps generated in 1972, 1990, and 2006, as well as soil and fill analyses from the RI and RDI, were used during the RDI to identify the extent of fill within the Eastern Fill Area. Soil data used included field screening with the XRF, laboratory analysis for total lead, and TCLP analysis for leachable lead to verify or amend the extent of fill based on the cut and fill analysis. The cut-and-fill analysis maps are provided in the RDIR (Appendix A).

As discussed in the RDIR, assuming the 1972 topography is an accurate basis for the "native" condition, and the 1990 topography is an accurate representation of grades after the placement of fill material, the cut and fill analysis estimates that a total of approximately 57,500 cubic yards of material was placed in the Eastern Fill Area. It is assumed that this volume represents lead slag material mixed with borrow material from other locations on-site. The fill ranges to depths of approximately 14 ft from grade (1990) at the deepest points. The deepest points occurred generally within the area that was targeted during the subsequent CA that resulted in the water-filled excavation that is still present. The remainder of the fill generally ranges in thickness from less than 2 ft to approximately 6 ft. The 1972 to 1990 cut-and-fill analysis also suggests that filling occurred under the eastern edge the facility. The area was not investigated so it is not known whether this is waste material or fill from other sources.

The RDI primarily focused on assessing the extent of fill material that contained leachable lead in excess of 5 mg/L, as established by TCLP analysis. Subsurface samples generated from boreholes confirm visually distinct layers that generally correspond to anticipated fill and native materials. Fill depths visually appear to range up to approximately 12 feet; near the 14-ft depths that would have be expected based the cut-and-fill analysis. However, material containing both high levels of total lead as well as high

levels of leachable (as TCLP) lead is observed as deep at 24 ft below grade near the water-filled excavation. The RDI found that the horizontal extent of the fill material was also different than that expected based on the topographic map comparison. As illustrated on Figure 4-12, there is an area along the eastern edge of the fill area where concentrations are less than the TCLP threshold of 5 mg/L. Additional information pertaining to the delineation of the fill material can be found in the RDIR in Appendix A.

Although the cut and fill analysis from the topographic maps indicate that approximately 25,200 cu yds of fill material is in place, the RDI concluded that approximately 37,500 cu yds of material would need to be removed to excise the material that exceeds the TCLP level of 5 mg/L for lead. This includes some apparent native material that was found to contain elevated lead concentrations. While it is recognized that a portion of this volume may not contain lead above the 5 mg/L TCLP limit, it is not possible to identify and separate the materials using methods identified to date (visual or XRF screening).
An Interim Remedial Measure (IRM) has been proposed for the Eastern Fill material. The objectives of the IRM will be to:

- Remove the surface piles a dispose of the material off site.
- Excavate the fill above the seasonally high water table that exhibits a TCLP lead concentration greater than 5 mg/L.
- Remove shallow material from the water-filled excavation that exhibits a TCLP lead concentration greater than 5 mg/L.
- Regrade the area.

A 99% Draft Interim Remedial measure Design Report dated November 27, 2006 that outlines these activities was developed by O'Brien & Gere for NYSDEC.

4.4.2. Northeast Portion of Property

A limited number of borings were completed in the northeast area and only one sample was collected from below 2 ft. As illustrated on Figures 4-4 through 4-7 lead concentrations greater than 100 mg/kg were observed in 4 locations. One of the samples contained lead in excess of 40,000 mg/kg. Consistent with the surface soil data, the samples closest to the base of the embankment from the Eastern Fill area contained the highest concentrations.

4.4.3. Front Lawn Area

Lead concentrations in shallow soil samples surrounding the former Front Lawn CA excavation areas generally exceed 100 mg/kg and many were higher than 1,000 mg/kg. Lead concentrations greater than 10,000 mg/kg were noted in several samples, primarily between the excavated area on the north side of the driveway and Ballard Road. These exceedances were noted up to 4 ft. Although only eight samples from below 4 ft were analyzed in this general area, the lead concentrations at depth were generally below 100 mg/kg. . The presence of elevated concentrations of lead surrounding the Front Lawn excavations indicate that the CA previously implemented in this area was not complete. Soil samples collected from other areas surrounding the perimeter of the soil removal areas did not contain concentrations of lead above 500 mg/kg. This suggests that the lead-containing material is limited to the perimeter of the former excavation.

Samples collected from SB-OBG-13 and SB-OBG-14 located in the driveway of the RSRC facility were generally below 100 mg/kg indicating waste material was removed prior to construction of or was not used to build the current driveway.

4.4.4. Northern End of Property

Soil borings were advanced in this area to assess the distribution of lead in subsurface soils (Figure 2-1). The lead concentrations detected at depth in this portion of the site were generally below 100 mg/kg with a few exceptions. This suggests that filling did not occur in these areas.

Lead was detected above 1,000 mg/kg at location SS-9, located immediately north of the facility, from 0.5 to 1 ft. Soil samples adjacent to this location at similar depths were below 500 mg/kg, which indicate that the lead previously identified above 1,000 mg/kg at the SS-9 location is localized.

4.4.5. Southern Parcel

Most of the subsurface soils samples collected from the southern parcel were limited to depths of less than 2 ft below grade although a few deeper samples were collected at select locations. In general, lead concentrations in subsurface soil samples were less than 400 mg/kg. In those areas where concentrations greater than 100 mg/kg were noted the depth appears to be limited to 2 and in some places 4 ft below grade (Figures 4-4 through 4-7). This suggests that lead has been deposited on the surface by air or water rather than physically as waste.

4.4.6. Other Areas

Three soil borings (SB-OBG-21, SB-OBG-22, and SB-OBG-23) and one test pit (TP-12) were completed on the south side of the facility evaluate the type of fill that was observed to be present based on the cut and fill analysis. Lead concentrations were detected above 500 mg/kg in three samples from soil boring SB-OBG-21: 0-1.5 ft interval (39,300 mg/kg), the 4 to 5.1 ft interval (568 mg/kg), and in the 6 to 6.5 ft interval (8,410 mg/kg) below grade. Historical data also show elevated concentrations of lead between 4 and 8 ft below grade in MW-2 and as deep as 12.3 ft below grade at MW-3 (Figures 4-4 through 4-7). The results of the analyses of soil samples from SB-OBG-22 and SB-OBG-23 at similar depth intervals were below 500 mg/kg. In situ XRF field screening data and a prepared XRF soil sample were collected from TP-12 showed lead concentrations below 500 mg/kg. An analytical sample collected from TP-12 at 1.2 ft below grade confirmed lead concentrations are below 500 mg/kg in this location. These data suggest that fill is present immediately south of the facility but does not extend laterally to the front (west) of the building. However, it is suspected that fill extends laterally under the south end of the facility.

4.5 Sediment Results

Sediment samples were collected from three general areas of the site: the pond located on the southeast corner of the property, the stream that discharges from the pond and flows across the southern property boundary to the property to the south, and the drainage channel that runs along the western side of the facility. Sediment samples were collected from the 0 to 0.5 ft interval and in some locations also from 0.5 to 1.0 or 1.0 to 2.0 ft intervals. The collected sediment samples were analyzed for total lead. Selected samples collected during the FWIA were also analyzed for total organic carbon (TOC) and pH. In addition SED-P2 and SED-S1 were analyzed for TCL/TAL parameters. The lead data are provided on Table 4-4. Other results are provided in Appendix J. Sample locations are shown on Figure 4-13.

4.5.1. Pond

Lead concentrations for the 0 to 0.5 and 0.5 to 1.0 ft intervals at sediment sampling location SED-P1 were below 70 mg/kg. The concentration of lead in the deeper sample was slightly lower than the shallower sample.

Six sediment samples were collected from the pond during the FWIA. These samples are labeled SED-RP-01 through SED-RP-06. With the exception of sample SED-RP-03, the concentrations of lead observed in the samples were greater than 1,000 mg/kg. The historic sediment samples also contained lead in excess of 1,000 mg/kg.

Sediment samples SED-P2 and SED-5 were collected from the outfall of the pond. In SED-P2, lead concentrations for the 0 to 0.5 and 0.5 to 1.0 ft intervals both exceeded 1,000 mg/kg. SED-P2 is located at the discharge point of the pond. The lead concentration in sample SED-5 was between 500 and 100 mg/kg. It is not possible to evaluate the reason for this difference in concentrations given the time period between the sampling dates for these two samples.

4.5.2. Stream Sediment Results

SED-S1 is located within the stream that emanates from the south side of the Site on the opposite side of the railroad tracks from the pond and represents material that has migrated off from the main facility property. Lead concentrations for the 0 to 0.5 and 1.0 to 2.0 ft intervals at location SED-S1 both exceeded 1,000 mg/kg with the deeper interval containing lead at a concentration of 12,000 mg/kg. Historic sample SED-1 was collected further downstream and also contains lead at concentrations greater than 1,000 mg/kg suggesting that migration, at least historically, continued off site.

Samples SED-S2 and SED-S3 are located in the drainage channel that runs along the western side of the facility. In addition to these two samples, twelve additional samples were collected within this drainage channel during the FWIA. These samples are labeled SED-US1 through 12 as shown on Figure 4-13. Water within the drainage channel flows from north to south across the site. In general concentrations of lead in the channel increase from north to south. Concentrations of lead in sediment in the channel on the south side of the driveway are above 500 mg/kg with some concentrations above 1,000 mg/kg. Concentrations north of the driveway are mainly lower than 100 mg/kg with the exception of samples adjacent to the driveway, which are between 100 and 250 mg/kg. Most of the production facility lies to the south of the driveway. At the two locations where deeper samples were collected, SED-S2 and SED-S3, the concentration of the deeper sample was lower than the shallower sample. Samples collected during the FWIA also show a pattern of increasing lead concentrations south and downstream of the driveway. The distribution pattern suggests that the facility may be contributing lead likely via runoff into the drainage channel. It is also apparent based on the increasing trend in lead concentration in this stream as it approaches the southern border of the site as previously discussed, that sediment contamination in the stream extends into OU-3.

Additional evaluations of the lead concentrations in the sediment, including use of the NYSDEC Technical Guidance for Screening Contaminated Sediment, were completed as part of the FWIA that is included as Appendix B.

4.6 Surface Water Results

Six surface water samples were collected from the pond during the FWIA and analyzed for lead and hardness. The locations of these samples are co-located with the sediment samples with the same number as shown on Figure 4-14. The results are summarized on Table 4-5.

The data indicate that the concentration of lead in the surface water ranges from 4.6 to 34 μg/L (ppb). The New York State Class C Surface Water criterion for lead is 5 μg/L.

4.7 Ground Water Results

As part of the RI, one set of ground water samples were collected on November 15 and 16, 2001 from new monitoring wells, MW-23S, MW-23D, MW-24, MW-25 and MW-26, and existing monitoring well MW-13. These wells are generally located south of the Eastern Fill Area. The samples were analyzed for VOC, SVOC, PCB/Pesticide, metals, total alkalinity, CN, and Sulfate. Ground water data collected during this event were compared to NYSDEC TOGS Class GA standards and guidance values. Another set of ground water samples was collected from these wells (except MW-23D) in March 2006. These samples were analyzed for antimony, arsenic, cadmium, chromium, lead, alkalinity, sulfate and pH. Summary tables for the VOCs, SVOCs, Pesticide/PCBs and inorganics are provided in Appendix J. Table 4-6 provides a summary of the site indicator parameters: lead, alkalinity, sulfate and pH. Monitoring well locations are depicted in Figure 2-1.

In addition to the ground water data collected during the RI, ground water data collected as part of the RCRA monitoring program over the period between 1998 and 2006 were used to assess general ground water conditions. Tables developed by NYSDEC summarizing these data are provided in Exhibit 2.

The RI results indicate that VOCs, SVOCs, PCBs, and pesticides were generally not detected in the ground water. The only detected compounds were chloroform and bis (2-ethylhexyl) phthalate at concentrations below 5 μg/L. None of these concentrations are above New York State Class GA values and these constituents are not considered to be of concern at the site.

Iron, manganese, and sodium were detected above criteria at each well. Nickel and Selenium were detected above standard at wells MW-13 and MW-24. Cadmium was detected above standard at well MW-24. No further metals were detected above standard. Of note, the highest concentration of lead was 24.8 μg/L, slightly less than TOGS standard of 25 μg/L, in well MW-23S. This elevated concentration is likely a result of well screen placement, which straddles fill and native material.

The RCRA monitoring data (Exhibit 2) include summaries of the concentrations of the following: lead, antimony, cadmium, chromium, arsenic, alkalinity, pH, and sulfate. In addition a summary of Appendix 33 inorganic constituent are provided for wells MW-13 and MW-14.

Review of the inorganic analytical data reveals that arsenic and chromium are only detected occasionally and, when detected, are generally below criteria. Of the remaining inorganic constituents that are analyzed, the constituents are detected close to or above criteria regularly and therefore considered to be constituents of potential concern.

- Cadmium – MW-09, MW-20, MW-24
- Antimony – MW-09
- Lead – MW-20, MW-21B

With the exception of MW-24, these wells are all located in the vicinity of the facility where metal-containing waste is handled and losses of sulfuric acid have been documented.

Measurements of pH, alkalinity and sulfate are also considered to be related due to historic releases of sulfuric acid from the processing facility. As such, these parameters can be used as indicators of impacts

from these releases. Figure 4-15 presents the occurrence of indicator parameters based on general characteristics between 1998 and 2006 at each well location as follows:

- pH: < 6
- Alkalinity: <100 mg/L
- Sulfate: > 250 mg/L

The data from the March 2006 even show the same pattern of occurrence as the 2001 data.

In general, alkalinity is a measurement of the buffering capacity of the ground water, which keeps the pH in the neutral range (generally 6.5 to 8.5). Therefore, lower pH measurements in the ground water would indicate that the buffering capacity of the groundwater has been diminished, if so, should correspond to lower alkalinity values.

Review of Figure 4-15 indicates that alkalinity values are below 100 mg/L at several well locations to within the production area and south of the facility including MW-09, MW-15, MW-16, MW-20, MW-24 and MW-25. In addition, the alkalinity at MW-18, located on the upgradient (north) end of the Site also has an alkalinity of less than 100 mg/L and typically less than 10 mg/L. The pH in several of these wells is also typically less than 6 suggesting that the buffering capacity of the ground water has been depleted and there is a continuing source of low pH.

Review of the distribution of sulfate concentrations in excess of the ground water criteria (250 mg/L) indicates that a sulfate plume is located under the south end of the production facility and extends southward to MW-13. These data, together with the pH and alkalinity results, suggest that the sulfuric acid losses from the facility have impacted the ground water. The sulfate plume extends beyond the low alkalinity/low pH area. This indicates that the buffering capacity of the ground water tends to limit the extent of the low alkalinity/pH areas even though the sulfate plume has continued to migrate.

Of note, the wells containing elevated inorganics are also located in the area where the sulfate, low pH, and low alkalinity are present. This suggests that the plume has locally dissolved some of the inorganics. The inorganics, however, do not appear to be migrating and likely re-precipitate as pH raises towards neutral at the outer edges of the plume.

Although ground water at MW-18 contains low alkalinity and low pH, sulfate concentrations at this location are consistently low (less than 40 mg/L). This suggests that the source of the low pH/alkalinity is not the sulfuric acid losses. This well is located in the vicinity of a wetland area and the ground water is typically less than 4 ft below grade. Wetland areas have been documented to contain water with low pH due to the anaerobic conditions caused by decomposition of organic materials and stagnant water conditions. The pH in the surface water may be reflected in the shallow ground water at this location.

4.8 Wildlife Sampling Results

As discussed in Section 2, invertebrate (worm) and mammalian samples were collected from the Site and the off site Reference Area for lead analysis. The sampling program for the worms allowed for the comparison of lead concentrations from each of the ecological units defined on the Site as well as comparison with those from the Reference Area. Due to sample volume requirements and the number of small mammals that were caught, the mammals had to be combined for analysis. Therefore it was not possible to compare results between the individual ecological areas from which they were collected.

On a site-wide basis, worms collected at the Site had a greater lead concentration than worm samples collected in the Reference Area. Review of the data from the Site indicates that samples from the Mowed Lawn Area (Front Lawn) and Shrub Scrub Area (northern end of property and west of the unnamed stream) had significantly greater lead concentrations than samples from the Reference Area and the other ecological units at the site. Samples from the Borrow Area contained the lowest concentrations of the ecological areas on the site and samples from the Mowed Lawn or Front Lawn area contained the highest. These values are generally reflective of the lead concentration in soil in the different areas. As illustrated on Figures 4-1 through 4-4, surface and shallow subsurface soil in the Front Lawn area contains the highest concentrations of lead and lead concentrations were also observed in soil around the Shrub Scrub area.

Lead concentrations in small mammals collected from the site were consistently an order of magnitude higher than lead concentrations in small mammals collected from the Reference Area. This is consistent with the observations that the on-site surface soil as well as the invertebrates contain lead at higher concentrations than those of the Reference Area.

A more-detailed discussion of the results of the wildlife sampling and analysis effort and the evaluation of the data is provided in the FWIA report (Appendix B).

5. Conclusions

The following conclusions are drawn based on the data collected during historical investigations and the RI at the RSRC Site in Wallkill, New York.

Lead-bearing waste generated during historical operations was disposed on-site. This material is known to have been placed in three general areas: the Eastern Fill Area, the Front Lawn Area, and beneath parts of the operating facility. Two CAs have been completed which have removed the majority of the material from the Front Lawn Area and a portion of the material from the Eastern Fill Area.

In addition to the fill, lead and, to a lesser degree, other site-related constituents have been identified in soil, sediment, ground water and surface water at the site. These constituents have migrated via several mechanisms including wind erosion, water erosion as runoff, as well as surface and ground water transport. The following discusses the nature and extent of contamination identified at the site based on the investigations completed to date.

Lead was identified as the principal component of waste material from the RSRC operations based on analytical and XRF data developed during the RI. Other inorganic constituents are also present within the waste material, however in most cases lead data can be used as an indicator parameter of other inorganic constituent contamination. The investigations suggest that waste residuals are mainly found in the Eastern Fill Area, around the perimeter of the Front Lawn Area, and on the southern end of the facility. The fill material typically exhibits leachable concentrations of lead (TCLP) in excess of the hazardous waste criterion of 5 mg/L.

The Eastern Fill Area boundaries have been defined. An IRM is planned for this area that will remove a large portion of the Eastern Fill material containing lead with TCLP concentrations greater than 5 mg/L.

Process waste fill is also known to be located beneath the south end of the facility. The depth of this material varies from shallow soils to 12.3 ft. The fill does not appear to extend laterally to the front (west) of the facility boundary. However, it is suspected that fill extends laterally under the south end of the facility.

Surface contamination on the RSRC property is generally limited to the upper 4 inches and is largely attributable to one or a combination of the following:

- residual fill material mixed with soils around former fill areas,
- wind-deposited waste material
- water-deposited waste material

Sediment samples from the pond on the southeastern side of the property were generally above 1,000 mg/kg. The sample from the discharge point of the pond contained also lead in both sampling intervals above 1,000 mg/kg. Surface water samples collected from this pond contain elevated lead concentrations. The lead in surface water can be attributed to the impacted sediment. The elevated concentrations of lead in these samples are likely attributable to soil and fill erosion from the Eastern Fill Area.

Sediment samples from the north-south trending stream that runs along the west side of the facility contain also lead. Concentrations of lead in sediment in the channel north of the driveway are mainly lower than 100 mg/kg. The concentrations increase southward with some concentrations above 1,000 mg/kg. Most of the production facility lies to the south of the driveway. The distribution in the channel suggests that the facility may be contributing lead via runoff into the drainage channel.

The streams from the pond and the west side of the facility merge and flow south across the Southern Parcel. Sediment samples collected from this stream on the Southern Parcel are still elevated indicating that lead is continuing to be transported within the streambed.

Surface soil and sediment samples from OU-3 located to the northeast of the and south of the facility were found to contain elevated concentrations of lead. This suggests that material has been transported away from the fill areas. As OU-3 was not the focus of the RI or RDI activities, limited samples have been collected from these areas. Given the presence of elevated concentrations of lead, further investigations of these areas should be completed to assess the extent of impacts and evaluate if remedial actions are warranted.

Biota samples collected as part of the FIWA indicate that uptake of lead has occurred among invertebrates and small mammals at the site. Furthermore, within the invertebrates there is a correlation between the locations of higher concentrations of lead in the soil with lead concentrations in the invertebrates.

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Table 2-1
Surface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Historical Data	MW-2	0 - 0.5	7/10/1991	TCL/TAL
	MW-3	0 - 0.5	7/10/1991	TAL Metals
	MW-4	0 - 0.5	7/10/1991	TAL Metals
	MW-5	0 - 0.5	7/10/1991	TAL Metals
	MW-13B	0 - 0.5	6/9/1997	TAL Metals
	MW-15A	0 - 0.5	6/10/1997	TAL Metals
	MW-16	0 - 0.5	6/3/1997	TAL Metals
	MW-17A	0 - 0.5	6/5/1997	TAL Metals
	MW-18	0 - 0.5	6/10/1997	TAL Metals
	OFA-1	0 - 0.5	9/12/1994	Total Lead
	OFA-2	0 - 0.5	9/12/1994	Total Lead
	OFA-3	0 - 0.5	9/12/1994	Total Lead
	OFA-4	0 - 0.5	9/12/1994	Total Lead
	OFA-5	0 - 0.5	9/12/1994	Total Lead
	OFA-6	0 - 0.5	9/12/1994	Total Lead
	OFA-7	0 - 0.5	9/12/1994	Total Lead
	OFA-7	0 - 0.5	9/12/1994	Total Lead
	OFB-1	0 - 0.5	9/12/1994	Total Lead
	OFB-2	0 - 0.5	9/12/1994	Total Lead
	OFB-4	0 - 0.5	9/12/1994	Total Lead
	OFB-5	0 - 0.5	9/12/1994	Total Lead
	OFB-6	0 - 0.5	9/12/1994	Total Lead
	OFB-7	0 - 0.5	9/12/1994	Total Lead
	OFC-3	0 - 0.5	9/12/1994	Total Lead
	OFC-4	0 - 0.5	9/12/1994	Total Lead
	OFC-5	0 - 0.5	9/12/1994	Total Lead
	OFC-6	0 - 0.5	9/12/1994	Total Lead
	OFC-7	0 - 0.5	9/12/1994	Total Lead
	OS-1	0 - 0.5	12/13/1993	Total Lead
	OS-2	0 - 0.5	12/13/1993	Total Lead
	OS-3	0 - 0.5	12/13/1993	Total Lead
	OS-4	0 - 0.5	12/13/1993	Total Lead
	OS-5	0 - 0.5	12/13/1993	Total Lead
	OS-6	0 - 0.5	12/13/1993	Total Lead
	OS-7	0 - 0.5	12/13/1993	Total Lead
	OS-7	0 - 0.5	12/13/1993	Total Lead
	OS-8	0 - 0.5	12/13/1993	Total Lead
	OS-9	0 - 0.5	12/13/1993	Total Lead
	OS-10	0 - 0.5	12/13/1993	Total Lead
	OS-11	0 - 0.5	12/13/1993	Total Lead
	OS-12	0 - 0.5	12/13/1993	Total Lead
	OS-13	0 - 0.5	12/13/1993	Total Lead
	OS-14	0 - 0.5	12/13/1993	TCLP Lead/TAL Metals
	OS-15	0 - 0.5	12/13/1993	Total Lead
	OS-16	0 - 0.5	12/13/1993	Total Lead

Note:TAL Metals analysis for historic data may only include select metals.

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Table 2-1
Surface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Historical Data	OS-17	0 - 0.5	12/13/1993	Total Lead
	OS-18	0 - 0.5	12/13/1993	Total Lead
	OS-19	0 - 0.5	12/13/1993	Total Lead
	OS-20	0 - 0.5	12/13/1993	Total Lead
	OS-21	0 - 0.5	12/13/1993	Total Lead
	OS-22	0 - 0.5	12/13/1993	TCLP Lead/TAL Metals
	OS-23	0 - 0.5	12/13/1993	Total Lead
	OS-24	0 - 0.5	12/13/1993	Total Lead
	OS-25	0 - 0.5	12/13/1993	Total Lead
	OS-26	0 - 0.5	12/13/1993	Total Lead
	OS-27	0 - 0.5	12/13/1993	Total Lead
	OS-27	0 - 0.5	12/13/1993	Total Lead
	OS-28	0 - 0.5	12/13/1993	Total Lead
	OS-29	0 - 0.5	12/13/1993	Total Lead
	OS-30	0 - 0.5	12/13/1993	Total Lead
	OS-31	0 - 0.5	12/13/1993	Total Lead
	OS-32	0 - 0.5	12/13/1993	Total Lead
	OS-33	0 - 0.5	12/13/1993	Total Lead
	OS-34	0 - 0.5	12/13/1993	Total Lead
	OS-35	0 - 0.5	12/13/1993	Total Lead
	OS-36	0 - 0.5	12/13/1993	Total Lead
	OS-37	0 - 0.5	12/13/1993	Total Lead
	OS-38	0 - 0.5	12/13/1993	Total Lead
	OS-39	0 - 0.5	12/13/1993	Total Lead
	OS-39	0 - 0.5	12/13/1993	Total Lead
	OS-40	0 - 0.5	12/13/1993	Total Lead
	OS-41	0 - 0.5	12/13/1993	Total Lead
	OS-42	0 - 0.5	12/13/1993	Total Lead
	OS-43	0 - 0.5	12/13/1993	Total Lead
	OS-44	0 - 0.5	12/13/1993	TCLP Lead/TAL Metals
	OS-45	0 - 0.5	12/13/1993	Total Lead
	SB-1	0 - 0.5	7/15/1991	TCLP Lead/TAL Metals
	SB-1-A	0 - 0.5	6/21/1993	Total Lead
	SB-1-B	0 - 0.5	6/21/1993	Total Lead
	SB-1-C	0 - 0.5	6/21/1993	Total Lead
	SB-2	0 - 0.5	7/15/1991	TCLP Lead/TAL Metals
	SB-3	0 - 0.5	7/15/1991	TCLP Lead/TAL Metals
	SB-4	0 - 0.5	7/15/1991	TCLP Lead/TAL Metals
	SB-5	0 - 0.5	7/15/1991	TCLP Lead/TAL Metals
	SB-5	0 - 0.5	7/15/1991	TCLP Lead/TAL Metals
	SS-1	0.16 - 0.5	7/10/1991	TCLP Lead/TAL Metals
	SS-1	0 - 0.16	7/10/1991	TCLP Lead/TAL Metals
	SS-1-1C	0 - 0.5	6/21/1993	Total Lead
	SS-1-2C	0 - 0.5	6/21/1993	Total Lead
	SS-1-3C	0 - 0.5	6/21/1993	Total Lead
	SS-2	0 - 0.16	7/10/1991	TCLP Lead/TAL Metals

Note:TAL Metals analysis for historic data may only include select metals.

Table 2-1
Surface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Historical Data	SS-2	0.16 - 0.5	7/10/1991	TCLP Lead/TAL Metals
	SS-2-1C	0 - 0.5	6/21/1993	Total Lead
	SS-2-2C	0 - 0.5	6/21/1993	Total Lead
	SS-2-3C	0 - 0.5	6/21/1993	Total Lead
	SS-3	0 - 0.16	7/10/1991	TCLP Lead/TAL Metals
	SS-3	0.16 - 0.5	7/10/1991	TCLP Lead/TAL Metals
	SS-4	0 - 0.5	7/10/1991	TCLP Lead/TAL Metals
	SS-5	0 - 0.5	7/10/1991	TCLP Lead/TAL Metals
	SS-6	0 - 0.5	7/10/1991	TCLP Lead/TAL Metals
	SS-7	0 - 0.5	7/10/1991	TCLP Lead/TAL Metals
	SS-8	0 - 0.5	7/10/1991	TCLP Lead/TAL Metals
	SS-9	0 - 0.5	7/10/1991	TCLP Lead/TAL Metals
	SS-9-1C	0 - 0.5	6/21/1993	Total Lead
	SS-9-2C	0 - 0.5	6/21/1993	Total Lead
	SS-9-3C	0 - 0.5	6/21/1993	Total Lead
	SS-10	0 - 0.5	7/10/1991	TCLP Lead/TAL Metals
	SS-10	0 - 0.5	7/10/1991	TCLP Lead/TAL Metals
	SS-11	0 - 0.5	7/10/1991	TCLP Lead/TAL Metals
	SS-12	0 - 0.5	6/21/1993	TCLP Lead/TAL Metals
	SS-13	0 - 0.5	6/21/1993	Total Lead
	SS-14	0 - 0.5	6/21/1993	Total Lead
	SS-15	0 - 0.5	6/21/1993	Total Lead
	SS-16	0 - 0.5	6/21/1993	Total Lead
	SS-17	0 - 0.5	6/21/1993	Total Lead
	SS-18	0 - 0.5	6/21/1993	Total Lead
	SS-19	0 - 0.5	6/21/1993	Total Lead
	SS-20	0 - 0.5	6/21/1993	Total Lead
	SS-21	0 - 0.5	6/21/1993	Total Lead
	SS-22	0 - 0.5	6/21/1993	Total Lead
	SS-23	0 - 0.5	6/21/1993	Total Lead
	SS-23	0 - 0.5	6/21/1993	Total Lead
	SS-24	0 - 0.5	6/21/1993	Total Lead
	SS-25	0 - 0.5	6/21/1993	Total Lead
	SS-26	0 - 0.5	6/21/1993	Total Lead
	SS-27	0 - 0.5	6/21/1993	Total Lead
	SS-28	0 - 0.5	6/21/1993	Total Lead
	SS-28	0 - 0.5	6/21/1993	Total Lead
	SS-29	0 - 0.5	6/21/1993	Total Lead
	SS-30	0 - 0.5	6/21/1993	Total Lead
	SS-31	0 - 0.5	6/21/1993	Total Lead
	SS-32	0 - 0.5	6/21/1993	Total Lead
	SS-33	0 - 0.5	6/21/1993	Total Lead
	SS-34	0 - 0.5	6/21/1993	Total Lead
	SS-35	0 - 0.5	6/21/1993	Total Lead
	SS-36	0 - 0.5	6/21/1993	Total Lead
	SS-37	0 - 0.5	6/21/1993	Total Lead
	SY-1	0 - 0.5	7/10/1991	TCLP Metals/TAL Metals
	SY-3	0 - 0.5	7/10/1991	TCLP Metals/TAL Metals

Note:TAL Metals analysis for historic data may only include select metals.

Table 2-1
Surface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Remedial Investigation Data	SS-BG-OBG-41	0 - 0.2	11/5/2001	Total Lead
	SS-BG-OBG-42	0 - 0.2	11/5/2001	Total Lead
	SS-BG-OBG-43	0 - 0.2	11/5/2001	Total Lead
	SS-BG-OBG-44	0 - 0.2	11/5/2001	Total Lead
	SS-BG-OBG-45	0 - 0.2	11/5/2001	Total Lead
	SS-BG-OBG-46	0 - 0.2	11/5/2001	Total Lead
	SS-OBG-01	0.0-0.2	10/26/2001	Total Lead
	SS-OBG-02	0.0-0.2	10/26/2001	TCL/TAL
	SS-OBG-03	0.0-0.2	10/26/2001	Total Lead
	SS-OBG-04	0.0-0.2	10/26/2001	Total Lead
	SS-OBG-05	0.0-0.2	10/26/2001	Total Lead
	SS-OBG-06	0.0-0.2	10/26/2001	Total Lead
	SS-OBG-07	0.0-0.2	10/26/2001	Total Lead
	SS-OBG-08	0.0-0.2	10/19/2001	Total Lead
	SS-OBG-09	0.0-0.2	10/19/2001	Total Lead
	SS-OBG-10	0.0-0.2	10/19/2001	Total Lead
	SS-OBG-11	0.0-0.2	10/26/2001	Total Lead
	SS-OBG-12	0.0-0.2	10/26/2001	Total Lead
	SS-OBG-13	0.0-0.2	10/26/2001	Total Lead
	SS-OBG-14	0.0-0.2	10/26/2001	TCL/TAL
	SS-OBG-15	0.0-0.2	10/26/2001	Total Lead
	SS-OBG-16	0.0-0.2	10/26/2001	Total Lead
	SS-OBG-17	0.0-0.2	10/25/2001	Total Lead
	SS-OBG-18	0.0-0.2	10/25/2001	Total Lead
	SS-OBG-19	0.0-0.2	10/25/2001	Total Lead
	SS-OBG-20	0.0-0.2	10/25/2001	Total Lead
	SS-OBG-21	0.0-0.2	10/25/2001	TCL/TAL
	SS-OBG-22	0.0-0.2	10/19/2001	Total Lead
	SS-OBG-23	0.0-0.2	10/19/2001	Total Lead
	SS-OBG-24	0.0-0.2	10/19/2001	Total Lead
	SS-OBG-25	0.0-0.2	10/19/2001	Total Lead
	SS-OBG-26	0.0-0.2	10/19/2001	Total Lead
	SS-OBG-27	0.0-0.2	10/19/2001	Total Lead
	SS-OBG-28	0.0-0.2	10/25/2001	Total Lead
	SS-OBG-29	0.0-0.2	10/25/2001	Total Lead
	SS-OBG-30	0.0-0.2	10/25/2001	Total Lead
	SS-OBG-31	0.0-0.2	10/25/2001	TCL/TAL
	SS-OBG-32	0.0-0.2	10/25/2001	TCL/TAL
	SS-OBG-34	0.0-0.2	10/19/2001	Total Lead
	SS-OBG-35	0.0-0.2	10/19/2001	Total Lead
	SS-OBG-36	0.0-0.2	10/26/2001	TCL/TAL
	SS-OBG-37	0.0-0.2	10/26/2001	Total Lead
	SS-OBG-38	0.0-0.2	10/25/2001	Total Lead
	SS-OBG-39	0.0-0.2	10/26/2001	Total Lead
	SS-OBG-40	0.0-0.2	10/26/2001	Total Lead

Note:TAL Metals analysis for historic data may only include select metals.

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Table 2-1
Surface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Fish & Wildlife Impact Analysis Data	SSBA-01	0 - 0.5	8/7/2003	Total Lead
	SSBA-02	0 - 0.5	8/7/2003	Total Lead
	SSBA-03	0 - 0.5	8/7/2003	Total Lead
	SSBA-04	0 - 0.5	8/7/2003	Total Lead
	SSBA-05	0 - 0.5	8/7/2003	Total Lead
	SSFW-01	0 - 0.5	8/6/2003	Total Lead
	SSFW-02	0 - 0.5	8/6/2003	Total Lead
	SSFW-03	0 - 0.5	8/6/2003	Total Lead
	SSFW-04	0 - 0.5	8/6/2003	Total Lead
	SSFW-05	0 - 0.5	8/6/2003	Total Lead
	SSRA-01	0 - 0	8/6/2003	Total Lead
	SSRA-02	0 - 0	8/6/2003	Total Lead
	SSRA-04	0 - 0	8/6/2003	Total Lead
	SSRA-05	0 - 0	8/7/2003	Total Lead
	SSSSA-01	0 - 0	8/7/2003	Total Lead
	SSSSA-02	0 - 0	8/7/2003	Total Lead
	SSSSA-03	0 - 0	8/7/2003	Total Lead
	SSSSA-04	0 - 0	8/7/2003	Total Lead
	SSSSA-05	0 - 0	8/7/2003	Total Lead
	SSSSMLA-01	0 - 0.5	8/6/2003	Total Lead
	SSSSMLA-02	0 - 0.5	8/6/2003	Total Lead
	SSSSMLA-03	0 - 0.5	8/6/2003	Total Lead
	SSSSMLA-04	0 - 0.5	8/6/2003	Total Lead
	SSSSMLA-05	0 - 0.5	8/6/2003	Total Lead
Interim Remedial Measure Data	SS-OBG-41	0 - 0.17	12/1/2005	Total Lead
	SS-OBG-41	0.17 - 0.33	12/1/2005	TAL Metals
	SS-OBG-41	0.33 - 0.5	12/1/2005	Total Lead
	SS-OBG-42	0 - 0.17	12/1/2005	Total Lead
	SS-OBG-42	0.17 - 0.33	12/1/2005	Total Lead
	SS-OBG-42	0.33 - 0.5	12/1/2005	Total Lead
	SS-OBG-43	0 - 0.17	11/30/2005	TAL Metals
	SS-OBG-43	0.17 - 0.33	11/30/2005	Total Lead
	SS-OBG-43	0.33 - 0.5	11/30/2005	Total Lead
	SS-OBG-44	0 - 0.17	11/30/2005	TAL Metals
	SS-OBG-44	0.17 - 0.33	11/30/2005	Total Lead
	SS-OBG-44	0.33 - 0.5	11/30/2005	Total Lead
	SS-OBG-45	0 - 0.17	11/30/2005	Total Lead
	SS-OBG-45	0.17 - 0.33	11/30/2005	Total Lead
	SS-OBG-45	0.33 - 0.5	11/30/2005	Total Lead
	SS-OBG-46	0 - 0.17	11/27/2005	Total Lead
	SS-OBG-46	0.17 - 0.33	11/28/2005	Total Lead
	SS-OBG-46	0.33 - 0.5	11/28/2005	Total Lead
	SS-OBG-47	0 - 0.17	11/30/2005	Total Lead
	SS-OBG-47	0 - 0.17	11/30/2005	Total Lead
	SS-OBG-47	0 - 0.17	11/30/2005	Total Lead
	SS-OBG-47	0.17 - 0.33	11/30/2005	Total Lead

Note:TAL Metals analysis for historic data may only include select metals.

Table 2-1
Surface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Interim Remedial Measure Data	SS-OBG-47	0.33 - 0.5	11/30/2005	Total Lead
	SS-OBG-48	0 - 0.17	11/30/2005	TAL Metals
	SS-OBG-48	0 - 0.17	11/30/2005	TAL Metals
	SS-OBG-48	0 - 0.17	11/30/2005	TAL Metals
	SS-OBG-48	0.17 - 0.33	11/30/2005	Total Lead
	SS-OBG-48	0.33 - 0.5	11/30/2005	Total Lead
	SS-OBG-49	0 - 0.17	11/30/2005	Total Lead
	SS-OBG-50	0 - 0.17	11/30/2005	Total Lead
	SS-OBG-50	0.17 - 0.33	11/30/2005	Total Lead
	SS-OBG-51	0 - 0.17	11/27/2005	TAL Metals
	SS-OBG-51	0.17 - 0.33	11/28/2005	Total Lead
	SS-OBG-51	0.33 - 0.5	11/28/2005	Total Lead
	SS-OBG-52	0 - 0.17	11/30/2005	TAL Metals
	SS-OBG-52	0.17 - 0.33	11/30/2005	TAL Metals
	SS-OBG-52	0.33 - 0.5	11/30/2005	Total Lead
	SS-OBG-53	0 - 0.17	11/30/2005	TAL Metals
	SS-OBG-53	0.17 - 0.33	11/30/2005	Total Lead
	SS-OBG-53	0.33 - 0.5	11/30/2005	Total Lead
	SS-OBG-54	0 - 0.17	11/30/2005	Total Lead
	SS-OBG-54	0 - 0.17	11/30/2005	Total Lead
	SS-OBG-54	0 - 0.17	11/30/2005	Total Lead
	SS-OBG-54	0.17 - 0.33	11/30/2005	Total Lead
	SS-OBG-54	0.33 - 0.5	11/30/2005	Total Lead
	SS-OBG-55	0 - 0.17	11/30/2005	TAL Metals
	SS-OBG-55	0.17 - 0.33	11/30/2005	Total Lead
	SS-OBG-56	0 - 0.17	12/1/2005	TAL Metals
	SS-OBG-56	0.17 - 0.33	12/1/2005	Total Lead
	SS-OBG-56	0.33 - 0.5	12/1/2005	Total Lead
	SS-OBG-57	0 - 0.17	12/1/2005	TAL Metals
	SS-OBG-57	0.17 - 0.33	12/1/2005	Total Lead
	SS-OBG-57	0.33 - 0.5	12/1/2005	Total Lead

Note:TAL Metals analysis for historic data may only include select metals.

Table 2-2
Subsurface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Historical Data	A1-CSWN	2 - 3	unknown	Total Lead
	A1-CSWW	2 - 3	unknown	Total Lead
	A2-CSWE	2 - 3	unknown	Total Lead
	A2-CSWN	2 - 3	unknown	Total Lead
	B1-CSWW	2 - 3	unknown	Total Lead
	B2-CSWE	2 - 3	unknown	Total Lead
	BC-1	0 - 1	11/30/1993	TCLP Lead/Total Lead
	BC-1	1 - 2	11/30/1993	Total Lead
	BC-1	2 - 4	11/30/1993	Total Lead
	BC-1	4 - 6	11/30/1993	Total Lead
	BC-1	4 - 6	11/30/1993	Total Lead
	BC-1	6 - 8	11/30/1993	Total Lead
	BC-1	8 - 10	11/30/1993	Total Lead
	BC-2	0 - 1	11/30/1993	TCLP Lead/Total Lead
	BC-2	1 - 2	11/30/1993	Total Lead
	BC-2	2 - 4	11/30/1993	Total Lead
	BC-2	4 - 6	11/30/1993	Total Lead
	BC-2	6 - 8	11/30/1993	Total Lead
	BC-3	0 - 1	11/30/1993	TCLP Lead/Total Lead
	BC-3	1 - 2	11/30/1993	TCLP Lead/Total Lead
	BC-3	2 - 2.6	11/30/1993	TCLP Lead/Total Lead
	BC-5	0 - 1	11/30/1993	TCLP Lead/Total Lead
	BC-5	1 - 2	11/30/1993	Total Lead
	BC-5	2 - 4	11/30/1993	Total Lead
	BC-5	4 - 6	11/30/1993	Total Lead
	BC-5	6 - 8	11/30/1993	Total Lead
	BC-6	0 - 1	11/30/1993	TCLP Lead/Total Lead
	BC-6	1 - 2	11/30/1993	Total Lead
	BC-6	2 - 4	11/30/1993	TCLP Lead/Total Lead
	BC-6	4 - 6	11/30/1993	Total Lead
	BC-6	6 - 8	11/30/1993	Total Lead
	BC-6	8 - 10	11/30/1993	Total Lead
	BS-1	0 - 1	11/30/1993	TCLP Lead/Total Lead
	BS-1	1 - 2	11/30/1993	Total Lead
	BS-1	2 - 3.5	11/30/1993	Total Lead
	BS-1	4 - 6	11/30/1993	Total Lead
	BS-1	6 - 8	11/30/1993	Total Lead
	BS-1	8 - 10	11/30/1993	Total Lead
	BS-1	10 - 12	11/30/1993	Total Lead
	BS-1	12 - 13.1	11/30/1993	Total Lead
	BS-3	0 - 1	11/30/1993	Total Lead
	BS-3	1 - 2	11/30/1993	Total Lead
	BS-3	2 - 4	11/30/1993	Total Lead
	BS-3	4 - 5	11/30/1993	Total Lead
	BS-3	6 - 8	11/30/1993	Total Lead
	BS-3	8 - 9	11/30/1993	Total Lead
	BS-5	0 - 1	11/30/1993	TCLP Lead/Total Lead
	BS-5	1 - 2	11/30/1993	Total Lead
	BS-5	2 - 4	11/30/1993	Total Lead
	BS-5	4 - 6	11/30/1993	Total Lead
	BS-5	6 - 8	11/30/1993	Total Lead
	BS-5	8 - 9.5	11/30/1993	Total Lead
	BS-5	8 - 9.5	11/30/1993	Total Lead

Note: TAL Metals analysis for historic data may only include select metals.

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Table 2-2
Subsurface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Historical Data	C1-CSWW	2 - 3	unknown	Total Lead
	C2-CSWE	2 - 3	unknown	Total Lead
	D1-CSWW	2 - 3	unknown	Total Lead
	D2-CSWE	2 - 3	unknown	Total Lead
	E1-CSWW	2 - 3	unknown	Total Lead
	E2-CSWE	2 - 3	unknown	Total Lead
	F1-CSWW	2 - 3	unknown	Total Lead
	F3-CSWE	2 - 3	unknown	Total Lead
	FB-1	0 - 1	12/15/1993	TCLP Lead/Total Lead
	FB-1	2 - 4	12/15/1993	TCLP Lead/Total Lead
	FB-1	4 - 6	12/15/1993	TCLP Lead/Total Lead
	FB-1	6 - 8	12/15/1993	TCLP Lead/Total Lead
	FB-1	8 - 10	12/15/1993	TCLP Lead/Total Lead
	FB-2	0 - 1	12/15/1993	TCLP Lead/Total Lead
	FB-2	2 - 4	12/15/1993	TCLP Lead/Total Lead
	FB-2	4 - 6	12/15/1993	TCLP Lead/Total Lead
	FB-2	6 - 8	12/15/1993	TCLP Lead/Total Lead
	FB-2	8 - 10	12/15/1993	TCLP Lead/Total Lead
	FB-2	8 - 10	12/15/1993	TCLP Lead/Total Lead
	FB-3	0 - 1	12/15/1993	TCLP Lead/Total Lead
	FB-3	8 - 10	12/15/1993	TCLP Lead/Total Lead
	FB-4	0 - 2	12/15/1993	TCLP Lead/Total Lead
	FB-4	2 - 4	12/15/1993	TCLP Lead/Total Lead
	FB-4	4 - 6	12/15/1993	TCLP Lead/Total Lead
	FB-4	6 - 8	12/15/1993	TCLP Lead/Total Lead
	FB-4	8 - 10	12/15/1993	TCLP Lead/Total Lead
	FB-5	0 - 2	12/15/1993	TCLP Lead/Total Lead
	FB-5	2 - 4	12/15/1993	TCLP Lead/Total Lead
	FB-5	4 - 6	12/15/1993	TCLP Lead/Total Lead
	FB-5	6 - 8	12/15/1993	TCLP Lead/Total Lead
	FB-5	8 - 10	12/15/1993	TCLP Lead/Total Lead
	G1-CSWW	2 - 3	unknown	Total Lead
	G3-CSWE	2 - 3	unknown	Total Lead
	H1-CSWW	2 - 3	unknown	Total Lead
	H3-CSWE	2 - 3	unknown	Total Lead
	I1-CSWW	2 - 3	unknown	Total Lead
	I3-CSWE	2 - 3	unknown	Total Lead
	J1-CSWW	2 - 3	unknown	Total Lead
	J3-CSWE	2 - 3	unknown	Total Lead
	K1-CSWW	2 - 3	unknown	Total Lead
	K4-CSWN	2 - 3	unknown	Total Lead
	K5-CSWE	2 - 3	unknown	Total Lead
	L1-CSWW	2 - 3	unknown	Total Lead
	L5-CSWE	2 - 3	unknown	Total Lead
	LB-4	0 - 2	9/1/1992	TCLP Lead/Total Lead
	LB-4	2 - 4	9/1/1992	TCLP Lead/Total Lead
	LB-4	4 - 6	9/1/1992	TCLP Lead/Total Lead
	LB-4	6 - 8	9/1/1992	TCLP Lead/Total Lead
	LB-4	8 - 10	9/1/1992	Total Lead
	LB-4	8 - 10	9/1/1992	Total Lead
	LB-4	10 - 12	9/1/1992	Total Lead
	LB-4	12 - 14	9/1/1992	Total Lead
	LB-6	0 - 2	9/1/1992	TCLP Lead/Total Lead
	LB-6	2 - 4	9/1/1992	TCLP Lead/Total Lead

Note: TAL Metals analysis for historic data may only include select metals.

Table 2-2
Subsurface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Historical Data	LB-6	4 - 6	9/1/1992	Total Lead
	LB-6	6 - 7	9/1/1992	Total Lead
	LB-6	8 - 9	9/1/1992	Total Lead
	LB-6	10 - 12	9/1/1992	Total Lead
	LB-6	12 - 14	9/1/1992	Total Lead
	LB-6	14 - 16	9/1/1992	Total Lead
	LB-6	16 - 17.3	9/1/1992	Total Lead
	LB-7	0 - 1	9/1/1992	Total Lead
	LB-7	1 - 2	9/1/1992	Total Lead
	LB-7	2 - 4	9/1/1992	Total Lead
	LB-7	4 - 6	9/1/1992	Total Lead
	LB-7	6 - 8	9/1/1992	Total Lead
	LB-7	8 - 10	9/1/1992	Total Lead
	LB-7	10 - 10.7	9/1/1992	Total Lead
	LB-7	12 - 14	9/1/1992	Total Lead
	LB-7	14 - 16	9/1/1992	Total Lead
	LB-7	16 - 18	9/1/1992	Total Lead
	LB-7	20 - 20.9	9/1/1992	Total Lead
	LB-8	0 - 2	9/1/1992	TCLP Lead/Total Lead
	LB-8	4 - 6	9/1/1992	TCLP Lead/Total Lead
	LB-8	4 - 6	9/1/1992	TCLP Lead/Total Lead
	LB-8	6 - 6.3	9/1/1992	TCLP Lead/Total Lead
	LB-8	8 - 10	9/1/1992	TCLP Lead/Total Lead
	LB-8	10 - 12	9/1/1992	Total Lead
	LB-8	12 - 14	9/1/1992	Total Lead
	LB-8	14 - 16	9/1/1992	Total Lead
	LB-8	16 - 18	9/1/1992	Total Lead
	LB-8	18 - 20	9/1/1992	Total Lead
	LB-8	20 - 22	9/1/1992	Total Lead
	LB-8	22 - 23	9/1/1992	Total Lead
	LB-9	0 - 1	9/1/1992	Total Lead
	LB-9	1 - 2	9/1/1992	Total Lead
	LB-9	2 - 4	9/1/1992	Total Lead
	LB-9	4 - 6	9/1/1992	Total Lead
	LB-9	6 - 8	9/1/1992	Total Lead
	LB-9	8 - 10	9/1/1992	Total Lead
	LB-9	10 - 12	9/1/1992	Total Lead
	LB-9	12 - 14	9/1/1992	Total Lead
	LB-9	14 - 16	9/1/1992	Total Lead
	LB-9	16 - 16.7	9/1/1992	Total Lead
	LB-10	0 - 2	9/1/1992	TCLP Lead/Total Lead
	LB-10	2 - 3	9/1/1992	TCLP Lead/Total Lead
	LB-10	4 - 6	9/1/1992	Total Lead
	LB-10	6 - 8	9/1/1992	TCLP Lead/Total Lead
	LB-10	10 - 12	9/1/1992	Total Lead
	LB-10	12 - 14	9/1/1992	Total Lead
	LB-10	14 - 16	9/1/1992	Total Lead
	LB-10	16 - 18	9/1/1992	TCLP Lead/Total Lead
	LB-11	0 - 2	9/1/1992	Total Lead
	LB-11	2 - 4	9/1/1992	Total Lead
	LB-11	4 - 6	9/1/1992	Total Lead
	LB-11	8 - 10	9/1/1992	Total Lead
	LB-11	10 - 12	9/1/1992	Total Lead
	LB-11	10 - 12	9/1/1992	Total Lead

Note: TAL Metals analysis for historic data may only include select metals.

Table 2-2
Subsurface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Historical Data	LB-11	12 - 14	9/1/1992	Total Lead
	LB-11	14 - 16	9/1/1992	Total Lead
	LB-11	16 - 16.3	9/1/1992	Total Lead
	LB-12	0 - 1	9/1/1992	Total Lead
	LB-12	1 - 2	9/1/1992	TCLP Lead/Total Lead
	LB-12	4 - 6	9/1/1992	Total Lead
	LB-12	6 - 8	9/1/1992	TCLP Lead/Total Lead
	LB-12	8 - 10	9/1/1992	TCLP Lead/Total Lead
	LB-12	12 - 14	9/1/1992	TCLP Lead/Total Lead
	LB-12	12 - 14	9/1/1992	TCLP Lead/Total Lead
	LB-12	14 - 16	9/1/1992	Total Lead
	LB-12	16 - 18	9/1/1992	Total Lead
	LB-12	18 - 20	9/1/1992	Total Lead
	M1-CSWS	2 - 3	unknown	Total Lead
	M1-CSWW	2 - 3	unknown	Total Lead
	M2-CSWS	2 - 3	unknown	Total Lead
	M3-CSWS	2 - 3	unknown	Total Lead
	M4-CSWS	2 - 3	unknown	Total Lead
	M5-CSWE	2 - 3	unknown	Total Lead
	M5-CSWS	2 - 3	unknown	Total Lead
	MS1-CSWW	2 - 3	unknown	Total Lead
	MS1-CSWN	2 - 3	unknown	Total Lead
	MS4-CSWN	2 - 3	unknown	Total Lead
	MS2-CSWN	2 - 3	unknown	Total Lead
	MS3-CSWN	2 - 3	unknown	Total Lead
	MS4-CSWE	2 - 3	unknown	Total Lead
	MW-1	0 - 1.5	7/10/1991	TAL Metals
	MW-1	2 - 4	7/10/1991	TAL Metals
	MW-1	4 - 5	7/10/1991	TAL Metals
	MW-1	6 - 7	7/10/1991	TAL Metals
	MW-1	8 - 9	7/10/1991	TAL Metals
	MW-2	4 - 5.5	7/10/1991	TAL Metals
	MW-2	6 - 7	7/10/1991	TAL Metals
	MW-2	8 - 9	7/10/1991	TAL Metals
	MW-2	10 - 12	7/10/1991	TAL Metals
	MW-2	10 - 12	7/10/1991	TAL Metals
	MW-2	12 - 13	7/10/1991	TAL Metals
	MW-2	14 - 14.6	7/10/1991	TAL Metals
	MW-2	16 - 17	7/10/1991	TAL Metals
	MW-2	20 - 21.2	7/10/1991	TAL Metals
	MW-2	22 - 23	7/10/1991	TAL Metals
	MW-3	2 - 2.5	7/10/1991	TAL Metals
	MW-3	4 - 4.5	7/10/1991	TAL Metals
	MW-3	6 - 6.5	7/10/1991	TAL Metals
	MW-3	8 - 8.5	7/10/1991	TAL Metals
	MW-3	10 - 10.5	7/10/1991	TAL Metals
	MW-3	12 - 12.3	7/10/1991	TAL Metals
	MW-4	2 - 2.5	7/10/1991	TAL Metals
	MW-4	4 - 6	7/10/1991	TAL Metals
	MW-4	4 - 6	7/10/1991	TAL Metals
	MW-4	12 - 14	7/10/1991	TAL Metals
	MW-4	16 - 17	7/10/1991	TAL Metals
	MW-5	2 - 3	7/10/1991	TAL Metals
	MW-5	4 - 4.5	7/10/1991	TAL Metals

Note: TAL Metals analysis for historic data may only include select metals.

Table 2-2
Subsurface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Historical Data	MW-5	6 - 6.5	7/10/1991	TAL Metals
	MW-5	8 - 8.5	7/10/1991	TAL Metals
	MW-5	10 - 10.5	7/10/1991	TAL Metals
	MW-5	12 - 12.5	7/10/1991	TAL Metals
	MW-5	14 - 14.5	7/10/1991	TAL Metals
	MW-5	16 - 16.5	7/10/1991	TAL Metals
	MW-13A	20 - 22	6/4/1997	TAL Metals
	MW-13A	22 - 23.4	6/4/1997	TAL Metals
	MW-13B	0.5 - 1	6/9/1997	TAL Metals
	MW-13B	0.5 - 1	6/9/1997	TAL Metals
	MW-13B	1 - 1.5	6/9/1997	TAL Metals
	MW-13B	1.5 - 2	6/9/1997	TAL Metals
	MW-13B	2 - 4	6/9/1997	TAL Metals
	MW-13B	4 - 6	6/9/1997	TAL Metals
	MW-13B	6 - 8	6/9/1997	TAL Metals
	MW-13B	8 - 10	6/9/1997	TAL Metals
	MW-13B	10 - 12	6/9/1997	TAL Metals
	MW-13B	10 - 12.6	6/10/1997	TAL Metals
	MW-13B	14 - 16	6/10/1997	TAL Metals
	MW-13B	19 - 20.5	6/10/1997	TAL Metals
	MW-13B	20 - 22	6/10/1997	TAL Metals
	MW-13B	22 - 24	6/10/1997	TAL Metals
	MW-15A	0.5 - 1	6/10/1997	TAL Metals
	MW-15A	1 - 1.5	6/10/1997	TAL Metals
	MW-15A	1.5 - 2	6/10/1997	TAL Metals
	MW-15A	2 - 4	6/10/1997	TAL Metals
	MW-15A	4 - 6	6/10/1997	TAL Metals
	MW-15A	6 - 8	6/10/1997	TAL Metals
	MW-15A	8 - 10	6/10/1997	TAL Metals
	MW-16	0.5 - 1	6/3/1997	TAL Metals
	MW-16	0.5 - 1	6/3/1997	TAL Metals
	MW-16	1 - 1.5	6/3/1997	TAL Metals
	MW-16	1.5 - 2	6/3/1997	TAL Metals
	MW-16	2 - 4	6/3/1997	TAL Metals
	MW-16	4 - 6	6/3/1997	TAL Metals
	MW-16	6 - 8	6/3/1997	TAL Metals
	MW-16	8 - 10	6/3/1997	TAL Metals
	MW-16	10 - 12	6/3/1997	TAL Metals
	MW-16	12 - 13.5	6/3/1997	TAL Metals
	MW-17A	0.5 - 1	6/5/1997	TAL Metals
	MW-17A	1 - 2	6/5/1997	TAL Metals
	MW-17A	2 - 4	6/5/1997	TAL Metals
	MW-17A	4 - 6	6/5/1997	TAL Metals
	MW-17A	6 - 8	6/5/1997	TAL Metals
	MW-17A	10 - 11	6/5/1997	TAL Metals
	MW-18	0.5 - 1	6/10/1997	TAL Metals
	MW-18	1 - 1.5	6/10/1997	TAL Metals
	MW-18	1.5 - 2	6/10/1997	TAL Metals
	N1-CSWW	2 - 3	unknown	Total Lead
	N4-CSWE	2 - 3	unknown	Total Lead
	O1-CSWW	2 - 3	unknown	Total Lead
	O5-CSWE	2 - 3	unknown	Total Lead
	P1-CSWW	2 - 3	unknown	Total Lead
	P5-CSWE	2 - 3	unknown	Total Lead

Note: TAL Metals analysis for historic data may only include select metals.

Table 2-2
Subsurface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Historical Data	Q1-CSWW	2 - 3	unknown	Total Lead
	Q5-CSWE	2 - 3	unknown	Total Lead
	R1-CSWW	2 - 3	unknown	Total Lead
	R5-CSWE	2 - 3	unknown	Total Lead
	S1-CSWW	2 - 3	unknown	Total Lead
	S5-CSWE	2 - 3	unknown	Total Lead
	SB-1	1.5 - 2	7/15/1991	TCLP Lead/TAL Metals
	SB-1	2.5 - 3	7/15/1991	TCLP Lead/TAL Metals
	SB-1	4 - 4.5	7/15/1991	TCLP Lead/TAL Metals
	SB-1	5.5 - 6	7/15/1991	TCLP Lead/TAL Metals
	SB-1	7 - 7.5	7/15/1991	TCLP Lead/TAL Metals
	SB-1	8.5 - 9	7/15/1991	TCLP Lead/TAL Metals
	SB-1	10 - 10.5	7/15/1991	TCLP Lead/TAL Metals
	SB-1-A	1 - 2	6/21/1993	Total Lead
	SB-1-B	1 - 2	6/21/1993	Total Lead
	SB-1-B	1 - 2	6/21/1993	Total Lead
	SB-1-C	1 - 2	6/21/1993	Total Lead
	SB-2	1.5 - 2	7/15/1991	TCLP Lead/TAL Metals
	SB-2	2.5 - 3	7/15/1991	TCLP Lead/TAL Metals
	SB-2	4 - 4.5	7/15/1991	TCLP Lead/TAL Metals
	SB-2	5.5 - 6	7/15/1991	TCLP Lead/TAL Metals
	SB-2	7 - 7.5	7/15/1991	TCLP Lead/TAL Metals
	SB-2	8.5 - 9	7/15/1991	TCLP Lead/TAL Metals
	SB-2	10 - 10.5	7/15/1991	TCLP Lead/TAL Metals
	SB-2	11.5 - 12	7/15/1991	TCLP Lead/TAL Metals
	SB-3	1.5 - 2	7/15/1991	TCLP Lead/TAL Metals
	SB-3	2.5 - 3	7/15/1991	TCLP Lead/TAL Metals
	SB-3	4 - 4.5	7/15/1991	TCLP Lead/TAL Metals
	SB-3	5.5 - 6	7/15/1991	TCLP Lead/TAL Metals
	SB-3	6.5 - 7	7/15/1991	TCLP Lead/TAL Metals
	SB-4	1.5 - 2	7/15/1991	TCLP Lead/TAL Metals
	SB-4	2 - 2.6	7/15/1991	TCLP Lead/TAL Metals
	SB-4	4 - 5	7/15/1991	TCLP Lead/TAL Metals
	SB-4	4 - 5	7/15/1991	TCLP Lead/TAL Metals
	SB-5	1.5 - 2	7/15/1991	TCLP Lead/TAL Metals
	SB-5	4 - 4.5	7/15/1991	TCLP Lead/TAL Metals
	SB-5	6 - 6.5	7/15/1991	TCLP Lead/TAL Metals
	SS-1	0.5 - 1	7/10/1991	TCLP Lead/TAL Metals
	SS-1	1 - 1.5	7/10/1991	TCLP Lead/TAL Metals
	SS-1	1.5 - 2	7/10/1991	TCLP Lead/TAL Metals
	SS-1-1C	0.5 - 1	6/21/1993	Total Lead
	SS-1-2C	0.5 - 1	6/21/1993	Total Lead
	SS-1-3C	0.5 - 1	6/21/1993	Total Lead
	SS-2	0.5 - 1	7/10/1991	TCLP Lead/TAL Metals
	SS-2	1 - 1.5	7/10/1991	TCLP Lead/TAL Metals
	SS-2	1.5 - 2	7/10/1991	TCLP Lead/TAL Metals
	SS-2-1C	0.5 - 1	6/21/1993	Total Lead
	SS-2-2C	0.5 - 1	6/21/1993	Total Lead
	SS-2-3C	0.5 - 1	6/21/1993	Total Lead
	SS-3	0.5 - 1	7/10/1991	TCLP Lead/TAL Metals
	SS-3	1 - 1.5	7/10/1991	TCLP Lead/TAL Metals
	SS-3	1.5 - 2	7/10/1991	TCLP Lead/TAL Metals
	SS-4	1 - 1.5	7/10/1991	TCLP Lead/TAL Metals
	SS-5	1 - 1.5	7/10/1991	TCLP Lead/TAL Metals

Note: TAL Metals analysis for historic data may only include select metals.

Table 2-2
Subsurface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Historical Data	SS-6	1.5 - 2	7/10/1991	TCLP Lead/TAL Metals
	SS-7	0.5 - 1	7/10/1991	TCLP Lead/TAL Metals
	SS-7	0.5 - 1	7/10/1991	TCLP Lead/TAL Metals
	SS-7	1 - 1.5	7/10/1991	TCLP Lead/TAL Metals
	SS-7	1.5 - 2	7/10/1991	TCLP Lead/TAL Metals
	SS-8	1.5 - 2	7/10/1991	TCLP Lead/TAL Metals
	SS-9	0.5 - 1	7/10/1991	TCLP Lead/TAL Metals
	SS-9	1 - 1.5	7/10/1991	TCLP Lead/TAL Metals
	SS-9	1.5 - 2	7/10/1991	TCLP Lead/TAL Metals
	SS-9-1C	0.5 - 1	6/21/1993	Total Lead
	SS-9-2C	3 - 4	6/21/1993	Total Lead
	SS-9-3C	3 - 4	6/21/1993	Total Lead
	SS-10	1.5 - 2	7/10/1991	TCLP Lead/TAL Metals
	SS-11	1.5 - 2	7/10/1991	TCLP Lead/TAL Metals
	SS-12	0.5 - 1	6/21/1993	Total Lead
	SS-13	0.5 - 1	6/21/1993	Total Lead
	SS-14	0.5 - 1	6/21/1993	Total Lead
	SS-15	0.5 - 1	6/21/1993	Total Lead
	SS-15	0.5 - 1	6/21/1993	Total Lead
	SS-16	0.5 - 1	6/21/1993	Total Lead
	SS-17	0.5 - 1	6/21/1993	Total Lead
	SS-18	0.5 - 1	6/21/1993	Total Lead
	SS-19	0.5 - 1	6/21/1993	Total Lead
	SS-20	0.5 - 1	6/21/1993	Total Lead
	SS-21	0.5 - 1	6/21/1993	Total Lead
	SS-22	0.5 - 1	6/21/1993	Total Lead
	SS-23	0.5 - 1	6/21/1993	Total Lead
	SS-24	0.5 - 1	6/21/1993	Total Lead
	SS-25	0.5 - 1	6/21/1993	Total Lead
	SS-26	0.5 - 1	6/21/1993	Total Lead
	SS-27	0.5 - 1	6/21/1993	Total Lead
	SS-28	0.5 - 1	6/21/1993	Total Lead
	SS-29	0.5 - 1	6/21/1993	Total Lead
	SS-30	0.5 - 1	6/21/1993	Total Lead
	SS-31	0.5 - 1	6/21/1993	Total Lead
	SS-32	0.5 - 1	6/21/1993	Total Lead
	SS-33	0.5 - 1	6/21/1993	Total Lead
	SS-34	0.5 - 1	6/21/1993	Total Lead
	SS-35	0.5 - 1	6/21/1993	Total Lead
	SS-36	0.5 - 1	6/21/1993	Total Lead
	SS-37	0.5 - 1	6/21/1993	Total Lead
	SY-1	1.5 - 2	7/10/1991	TCLP Metals/TAL Metals
	SY-1	2.5 - 3	7/10/1991	TCLP Metals/TAL Metals
	SY-2	0 - 0.6	7/10/1991	TCLP Metals/TAL Metals
	SY-2	0.6 - 1.1	7/10/1991	TCLP Metals/TAL Metals
	SY-2	1.1 - 1.5	7/10/1991	TCLP Metals/TAL Metals
	SY-2	1.5 - 2	7/10/1991	TCLP Metals/TAL Metals
	SY-2	2 - 2.5	7/10/1991	TCLP Metals/TAL Metals
	SY-2	2.5 - 3	7/10/1991	TCLP Metals/TAL Metals
	SY-3	1.5 - 2	7/10/1991	TCLP Metals/TAL Metals
	SY-3	2.5 - 3	7/10/1991	TCLP Metals/TAL Metals
	SY-19	0.5 - 1.5	1/27/1992	Total Lead
	SY-19	1.5 - 2.5	1/27/1992	Total Lead
	SY-19	2.5 - 3.5	1/27/1992	Total Lead

Note: TAL Metals analysis for historic data may only include select metals.

Table 2-2
Subsurface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Historical Data	SY-19	3.5 - 4.5	1/27/1992	Total Lead
	SY-19	4.5 - 5	1/27/1992	Total Lead
	SY-19	5 - 6.5	1/27/1992	Total Lead
	SY-19	6.5 - 7.5	1/27/1992	Total Lead
	SY-19	7.5 - 8.5	1/27/1992	Total Lead
	SY-19	8.5 - 10.5	1/27/1992	Total Lead
	SY-19	10.5 - 12.5	1/27/1992	Total Lead
	SY-19	12.5 - 14.5	1/27/1992	Total Lead
	SY-20	6 - 7	1/27/1992	Total Lead
	SY-20	8 - 10	1/27/1992	Total Lead
	SY-20	8 - 10	1/27/1992	Total Lead
	SY-21	0.5 - 2	1/27/1992	Total Lead
	SY-21	0.5 - 2	1/27/1992	Total Lead
	SY-21	2.5 - 4	1/27/1992	Total Lead
	SY-21	4 - 5	1/27/1992	Total Lead
	SY-21	5 - 6	1/27/1992	Total Lead
	SY-21	6 - 8	1/27/1992	Total Lead
	SY-21	8 - 9	1/27/1992	Total Lead
	SY-21	9 - 10	1/27/1992	Total Lead
	SY-21	10 - 12	1/27/1992	Total Lead
	SY-21	12 - 14	1/27/1992	Total Lead
	SY-21	14 - 16	1/27/1992	Total Lead
	SY-21	20 - 20.4	1/27/1992	Total Lead
	SY-21	22 - 22.9	1/27/1992	Total Lead
	SY-22	0.7 - 2.7	1/27/1992	Total Lead
	SY-22	2.7 - 3.5	1/27/1992	Total Lead
	SY-22	3.5 - 4.7	1/27/1992	Total Lead
	SY-22	4.7 - 5.7	1/27/1992	Total Lead
	SY-22	5.7 - 6.7	1/27/1992	Total Lead
	SY-22	6.7 - 8.7	1/27/1992	Total Lead
	SY-22	8.7 - 10	1/27/1992	Total Lead
	SY-23	3 - 4	1/27/1992	Total Lead
	SY-23	4 - 5	1/27/1992	Total Lead
	SY-23	5 - 6	1/27/1992	Total Lead
	SY-23	6 - 7	1/27/1992	Total Lead
	SY-23	10 - 12	1/27/1992	Total Lead
	SY-23	10 - 12	1/27/1992	Total Lead
	SY-24	4 - 6	1/27/1992	Total Lead
	SY-26	4 - 5	1/27/1992	Total Lead
	SY-26	6 - 8	1/27/1992	Total Lead
	SY-27	5 - 7	1/27/1992	Total Lead
	SY-27	5 - 7	1/27/1992	Total Lead
	T1-CSWW	2 - 3	unknown	Total Lead
	T4-CSWS	2 - 3	unknown	Total Lead
	T4-CSWE	2 - 3	unknown	Total Lead
	U1-CSWS	2 - 3	unknown	Total Lead
	U1-CSWW	2 - 3	unknown	Total Lead
	U2-CSWS	2 - 3	unknown	Total Lead
	U3-CSWS	2 - 3	unknown	Total Lead
	U5-CSWE	2 - 3	unknown	Total Lead
	U5-CSWS	2 - 3	unknown	Total Lead

Note: TAL Metals analysis for historic data may only include select metals.

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Table 2-2
Subsurface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Remedial Investigation Data	EX-1	0.5-1.0	11/8/2001	Total Lead
	EX-2	0.5-1.0	11/8/2001	Total Lead
	MW-23S	6.0-7.3	11/8/2001	Total Lead
	MW-24	2.0-3.9	11/8/2001	Total Lead
	MW-25	4.0-5.1	11/8/2001	Total Lead
	MW-26	8.0-8.7	11/8/2001	Total Lead
	SB-OBG-01	0.5-1.0	10/24/2001	Total Lead
	SB-OBG-02	0.0-1.0	10/24/2001	Total Lead
	SB-OBG-03	0-1.3	10/24/2001	TCL/TAL
	SB-OBG-03	2.0-3.3	10/24/2001	Total Lead
	SB-OBG-04	0.0-1.0	10/24/2001	Total Lead
	SB-OBG-04	4.0-5.7	10/24/2001	Total Lead
	SB-OBG-05	0.0-0.9	10/23/2001	Total Lead
	SB-OBG-05	2.0-3.3	10/23/2001	Total Lead
	SB-OBG-06	0.0-1.4	10/22/2001	Total Lead
	SB-OBG-06	4.0-5.7	10/22/2001	Total Lead
	SB-OBG-07	0.0-1.2	10/23/2001	Total Lead
	SB-OBG-07	2.0-2.3	10/23/2001	Total Lead
	SB-OBG-08	0.0-1.5	10/22/2001	Total Lead
	SB-OBG-08	2.0-2.6	10/22/2001	Total Lead
	SB-OBG-09	0.0-2.0	10/25/2001	TCL/TAL
	SB-OBG-09	2.0-2.3	10/25/2001	Total Lead
	SB-OBG-10	0.0-0.7	10/23/2001	Total Lead
	SB-OBG-10	4.0-4.8	10/23/2001	Total Lead
	SB-OBG-11	2.0-2.9	10/24/2001	TCL/TAL
	SB-OBG-11	4.0-4.9	10/24/2001	Total Lead
	SB-OBG-11	8.3-9.6	10/24/2001	Total Lead
	SB-OBG-12	0.0-1.6	10/25/2001	TCL/TAL
	SB-OBG-12	8.0-9.6	10/23/2001	Total Lead
	SB-OBG-12	10.0-11.9	10/23/2001	Total Lead
	SB-OBG-13	0.4-1.8	10/25/2001	Total Lead
	SB-OBG-13	2.0-3.4	10/25/2001	TCL/TAL
	SB-OBG-13	6.0-7.2	10/25/2001	Total Lead
	SB-OBG-14	0.4-1.0	10/25/2001	Total Lead
	SB-OBG-14	6.0-6.5	10/25/2001	Total Lead
	SB-OBG-15	0.0-0.9	10/25/2001	Total Lead
	SB-OBG-15	4.0-4.6	10/25/2001	Total Lead
	SB-OBG-16	0.0-1.3	10/25/2001	Total Lead
	SB-OBG-16	2.0-3.7	10/25/2001	TCL/TAL
	SB-OBG-17	0.0-1.6	10/25/2001	Total Lead
	SB-OBG-17	4.0-4.6	10/25/2001	Total Lead
	SB-OBG-18	0.0-1.9	10/24/2001	TCL/TAL
	SB-OBG-18	2.0-2.6	10/24/2001	Total Lead
	SB-OBG-19	0.0-0.6	10/24/2001	Total Lead
	SB-OBG-19	2.0-3.3	10/24/2001	Total Lead
	SB-OBG-20	0.0-1.5	10/24/2001	Total Lead
	SB-OBG-20	4.0-4.9	10/24/2001	Total Lead
	SB-OBG-21	0.0-1.5	11/6/2001	Total Lead
	SB-OBG-21	4.0-5.1	11/6/2001	Total Lead
	SB-OBG-21	6.0-6.5	11/6/2001	Total Lead
	SB-OBG-22	2.0-3.1	11/6/2001	Total Lead
	SB-OBG-22	4.0-5.3	11/6/2001	Total Lead
	SB-OBG-22	6.0-7.8	11/6/2001	Total Lead

Note: TAL Metals analysis for historic data may only include select metals.

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Table 2-2
Subsurface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Remedial Investigation Data	SB-OBG-23	0.0-1.0	11/5/2001	Total Lead
	SB-OBG-23	6.0-7.1	11/5/2001	Total Lead
	SB-OBG-23	8.0-9.3	11/5/2001	Total Lead
	SB-OBG-24	2.0-2.6	10/23/2001	Total Lead
	SB-OBG-24	6.0-6.7	10/23/2001	Total Lead
	SS-OBG-06	0.0-2.0	10/26/2001	Total Lead
	SS-OBG-07	0.0-1.5	10/26/2001	Total Lead
	SS-OBG-11	0.0-1.8	10/26/2001	Total Lead
	SS-OBG-12	0.0-2.0	10/26/2001	Total Lead
	SS-OBG-13	0.0-2.0	10/26/2001	Total Lead
	SS-OBG-14	0.0-1.5	10/26/2001	Total Lead
	SS-OBG-15	0.0-1.0	10/26/2001	Total Lead
	SS-OBG-16	0.0-0.7	10/26/2001	Total Lead
	SS-OBG-28	0.0-1.0	10/26/2001	Total Lead
	SS-OBG-27	0 - 2	10/19/2001	Total Lead
	SS-OBG-28	0 - 1	10/25/2001	Total Lead
	SS-OBG-28	0 - 1	10/25/2001	Total Lead
	SS-OBG-29	0 - 2	10/25/2001	Total Lead
	SS-OBG-30	0 - 1	10/25/2001	Total Lead
	SS-OBG-31	0 - 1.5	10/25/2001	TCL/TAL
	SS-OBG-32	0 - 2	10/25/2001	TCL/TAL
	SS-OBG-36	0 - 1.2	10/26/2001	TCL/TAL
	SS-OBG-37	0 - 2	10/26/2001	Total Lead
	SS-OBG-39	0 - 1	10/26/2001	Total Lead
	TP-02	1.3 - 1.5	10/15/2001	TCLP Lead/Total Lead
	TP-03	2.5	10/16/2001	Total Lead
	TP-05	1.2	10/16/2001	TCLP Lead/Total Lead
	TP-06	1.5	10/16/2001	Total Lead
	TP-07	2.2	10/17/2001	TCLP Lead/Total Lead
	TP-08	3	10/17/2001	TCLP Lead/Total Lead
	TP-09	1.4	10/17/2001	TCLP Lead/Total Lead
	TP-11	6	10/18/2001	Total Lead
	TP-12	0.9	10/18/2001	Total Lead
	TP-14	0.9	10/17/2001	Total Lead
Interim Remedial Measure Data	SB-OBG-25	0 - 2	11/28/2005	TCLP Lead/Total Lead
	SB-OBG-25	2 - 4	11/28/2005	TCLP Lead
	SB-OBG-25	4 - 6	11/28/2005	TCLP Lead
	SB-OBG-25	6 - 8	11/28/2005	TCLP Lead
	SB-OBG-25	8 - 10	11/25/2005	TCLP Lead/Total Lead
	SB-OBG-26	0 - 2	11/28/2005	TCLP Metals
	SB-OBG-26	0 - 2	11/28/2005	TCLP Metals
	SB-OBG-26	2 - 4	11/28/2005	TCLP Lead
	SB-OBG-26	4 - 6	11/28/2005	Total Metals
	SB-OBG-26	4 - 6	11/28/2005	Total Metals
	SB-OBG-26	6 - 8	11/28/2005	TCLP Lead
	SB-OBG-26	8 - 10	11/28/2005	TCLP Lead
	SB-OBG-26	10 - 12	11/28/2005	TCLP Lead/Total Metals
	SB-OBG-26	12 - 14	11/28/2005	TCLP Lead
	SB-OBG-27	0 - 2	12/12/2005	TCLP Lead/Total Metals
	SB-OBG-27	2 - 4	12/12/2005	TCLP Lead
	SB-OBG-27	4 - 6	12/12/2005	TCLP Metals
	SB-OBG-27	6 - 8	12/12/2005	TCLP Lead
	SB-OBG-27	6 - 8	12/12/2005	TCLP Lead
	SB-OBG-27	8 - 10	12/12/2005	TCLP Lead/Total Lead

Note: TAL Metals analysis for historical data may only include select metals.

Table 2-2
Subsurface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Interim Remedial Measure Data	SB-OBG-27	10 - 12	12/12/2005	TCLP Metals
	SB-OBG-27	12 - 14	12/12/2005	TCLP Lead
	SB-OBG-28	0 - 2	12/12/2005	TCLP Metals
	SB-OBG-28	2 - 4	12/12/2005	TCLP Metals/Total Metals
	SB-OBG-28A	0 - 2	12/12/2005	TCLP Metals
	SB-OBG-28A	2 - 4	12/12/2005	TCLP Metals
	SB-OBG-28A	4 - 6	12/12/2005	TCLP Metals
	SB-OBG-28A	6 - 8	12/12/2005	TCLP Lead/Total Metals
	SB-OBG-28A	8 - 10	12/12/2005	TCLP Lead/Total Metals
	SB-OBG-28A	10 - 12	12/12/2005	TCLP Lead/Total Metals
	SB-OBG-28A	12 - 14	12/12/2005	TCLP Metals
	SB-OBG-28A	14 - 16	12/12/2005	TCLP Lead
	SB-OBG-28A	16 - 18	12/12/2005	TCLP Lead
	SB-OBG-28A	18 - 20	12/12/2005	TCLP Lead
	SB-OBG-28A	20 - 22	12/12/2005	TCLP Lead
	SB-OBG-28A	20 - 22	12/12/2005	TCLP Lead
	SB-OBG-28A	22 - 24	12/12/2005	TCLP Lead/Total Lead
	SB-OBG-29	0 - 2	11/28/2005	TCLP Lead
	SB-OBG-29	2 - 4	11/28/2005	TCLP Lead
	SB-OBG-29	4 - 6	11/28/2005	TCLP Lead
	SB-OBG-29	6 - 8	11/28/2005	TCLP Lead
	SB-OBG-29	8 - 10	11/28/2005	TCLP Lead
	SB-OBG-29	10 - 12	11/28/2005	TCLP Lead
	SB-OBG-29	12 - 13	11/28/2005	TCLP Metals/Total Lead
	SB-OBG-30	0 - 2	11/28/2005	TCLP Lead/Total Lead
	SB-OBG-30	2 - 4	11/28/2005	TCLP Lead
	SB-OBG-30	4 - 6	11/28/2005	TCLP Lead
	SB-OBG-30	6 - 8	11/28/2005	TCLP Lead
	SB-OBG-30	8 - 10	11/28/2005	TCLP Lead
	SB-OBG-30	10 - 12	11/28/2005	TCLP Lead
	SB-OBG-30	12 - 13	11/28/2005	TCLP Lead
	SB-OBG-31	0 - 2	12/13/2005	TCLP Lead/Total Lead
	SB-OBG-31	2 - 4	12/13/2005	TCLP Lead
	SB-OBG-31	2 - 4	12/13/2005	TCLP Lead
	SB-OBG-31	4 - 6	12/13/2005	TCLP Metals
	SB-OBG-31	6 - 8	12/13/2005	TCLP Metals
	SB-OBG-31	8 - 10	12/13/2005	TCLP Lead/Total Lead
	SB-OBG-31	10 - 12	12/13/2005	TCLP Lead/Total Lead
	SB-OBG-31	12 - 14	12/13/2005	TCLP Lead
	SB-OBG-31	12 - 14	12/13/2005	TCLP Lead
	SB-OBG-31	14 - 16	12/13/2005	TCLP Lead/Total Lead
	SB-OBG-31	16 - 17	12/13/2005	TCLP Lead

Note: TAL Metals analysis for historic data may only include select metals.

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Table 2-2
Subsurface Soil Samples
Revere Smelting and Refining Site
Wallkill, New York

	Sample ID	Sample Depth (ft bgs)	Date	Analysis
Interim Remedial Measure Data	SB-OBG-32	0 - 2	11/29/2005	TCLP Lead/Total Metals
	SB-OBG-32	2 - 4	11/29/2005	TCLP Lead
	SB-OBG-32	4 - 6	11/29/2005	TCLP Lead
	SB-OBG-32	6 - 8	11/29/2005	TCLP Lead/Total Lead
	SB-OBG-32	10 - 12	11/29/2005	TCLP Lead
	SB-OBG-32	12 - 14	11/29/2005	TCLP Lead
	SB-OBG-33	0 - 2	11/29/2005	TCLP Leda/Total Lead
	SB-OBG-33	2 - 4	11/29/2005	TCLP Lead
	SB-OBG-33	8 - 10	11/29/2005	TCLP Lead
	SB-OBG-33	10 - 12	11/29/2005	TCLP Lead
	SB-OBG-33	12 - 13	11/29/2005	TCLP Lead
	SB-OBG-34	0 - 2	11/29/2005	TCLP Lead/Total Lead
	SB-OBG-34	2 - 4	11/29/2005	TCLP Lead/Total Lead
	SB-OBG-34	4 - 6	11/29/2005	TCLP Lead
	SB-OBG-34	8 - 10	11/29/2005	TCLP Lead
	SB-OBG-34	10 - 12	11/29/2005	TCLP Lead
	SB-OBG-34	12 - 13	11/29/2005	TCLP Lead
	SB-OBG-34	0 - 2	11/29/2005	TCLP Lead
	SB-OBG-34	2 - 4	11/29/2005	TCLP Lead/Total Lead
	SB-OBG-34	4 - 6	11/29/2005	TCLP Lead/Total Lead
	SB-OBG-34	6 - 8	11/29/2005	TCLP Lead
	SB-OBG-35	0 - 2	11/29/2005	TCLP Lead
	SB-OBG-35	2 - 4	11/29/2005	TCLP Lead/Total Lead
	SB-OBG-35	4 - 6	11/29/2005	TCLP Lead/Total Lead
	SB-OBG-35	6 - 8	11/29/2005	TCLP Lead
	SB-OBG-36	0 - 2	11/29/2005	TCLP Lead/Total Metals
	SB-OBG-36	2 - 4	11/29/2005	TCLP Lead
	SB-OBG-36	4 - 6	11/29/2005	TCLP Lead
	SB-OBG-36	6 - 8	11/29/2005	TCLP Lead/Total Lead
	SB-OBG-36	8 - 10	11/29/2005	TCLP Lead/Total Lead
	SB-OBG-36	10 - 11	11/29/2005	TCLP Lead
	SB-OBG-37	0 - 2	12/13/2005	TCLP Lead/Total Metals
	SB-OBG-37	2 - 4	12/13/2005	TCLP Metals
	SB-OBG-37	4 - 5	12/13/2005	TCLP Lead
	SB-OBG-37A	0 - 2	12/13/2005	TCLP Lead/Total Metals
	SB-OBG-37A	2 - 4	12/13/2005	TCLP Metals
	SB-OBG-37A	4 - 6	12/13/2005	TCLP Metals
	SB-OBG-37A	6 - 8	12/13/2005	TCLP Metals
	SB-OBG-38	0 - 2	11/29/2005	TCLP Lead/Total Metals
	SB-OBG-38	2 - 4	11/29/2005	TCLP Metals
	SB-OBG-38	4 - 6	11/29/2005	TCLP Lead
	SB-OBG-38	6 - 8	11/29/2005	TCLP Lead
	SB-OBG-38	8 - 10	11/29/2005	TCLP Lead
	SB-OBG-38	8 - 10	11/29/2005	TCLP Lead

Note: TAL Metals analysis for historic data may only include select metals.

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Table 2-3
Monitoring Well Construction
Revere Smelting and Refining
Wallkill, New York

Well ID	Installation Date	Well Status	Ground Elevation (ft)	Top of Casing Elevation (ft)	Depth to Top of Screen (ft)	Depth to Bottom of Screen (ft)	Total Depth (ft)	Elevation of Top of Screen (ft)	Elevation to Bottom of Screen (ft)	Elevation Bottom (ft)	Diameter (in.)	Slot Size (in.)
Overbuden Wells												
RSR Well (GW-1)	8/10/1982	Inactive	516.00	519.65	NA	NA	15.0	NA	NA	NA	4	NA
MW-1	7/29/1991	Inactive	518.90	520.24	8.0	13.0	13.0	510.90	505.90	NA	NA	NA
MW-1A	12/22/1993	Inactive	518.80	520.29	19.0	24.0	24.0	499.80	494.80	NA	2	0.010
MW-2	7/30/1991	Inactive	510.90	513.42	22.0	27.0	27.0	488.90	483.90	NA	2	0.010
MW-3	7/26/1991	Inactive	507.10	509.47	17.5	22.5	22.5	489.60	484.60	NA	2	0.010
MW-4	7/25/1991	Inactive	511.40	512.80	13.5	18.5	18.5	497.90	492.90	NA	2	0.010
MW-4A	12/21/1993	Inactive	511.70	513.02	23.0	33.0	33.0	488.70	478.70	NA	2	0.010
MW-5	7/22/1991	Inactive	513.00	514.72	15.0	20.0	20.0	498.00	493.00	NA	2	0.010
MW-6A	7/29/1991	Inactive	506.80	509.14	11.0	16.0	16.0	495.80	490.80	NA	2	0.010
MW-7	7/11/1991	Active	524.80	526.63	5.0	15.0	15.0	519.80	509.80	NA	2	0.010
MW-8	7/29/1991	Inactive	523.80	525.49	3.0	8.0	8.0	520.80	515.80	NA	2	0.010
MW-8R	Jun-99	Active	524.06	526.21	NA	NA	NA	NA	NA	NA	NA	NA
MW-9	12/13/1993	Active	518.70	519.35	5.0	10.0	10.0	513.70	508.70	NA	2	0.010
MW-10	12/10/1993	Inactive	497.60	499.98	3.0	8.0	8.0	494.60	489.60	NA	2	0.010
MW-11	12/15/1993	Inactive	531.4	533.48	7.1	9.4	9.4	524.30	522.00	NA	2	0.010
MW-12	12/10/1993	Inactive	500.2	502.09	4.0	9.0	9.0	496.20	491.20	NA	2	0.010
MW-13(A)	7/28/1994	Active	480.99	483.32	13.0	18.0	18.0	467.99	462.99	NA	2	0.010
MW-14	12/14/1993	Active	481.2	483.38	22.0	27.0	27.0	459.20	454.20	NA	2	0.010
MW-15(A)	6/10/1997	Active	484.17	486.47	6.0	11.0	11.0	478.17	473.17	NA	2	0.010
MW-16	6/4/1997	Active	493.12	495.22	6.0	16.0	16.0	487.12	477.12	NA	2	0.010
MW-17(A)	6/6/1997	Active	488.87	491.46	3.5	13.5	13.5	485.37	475.37	NA	NA	NA
MW-18	6/13/1997	Active	530.92	533.28	5.0	10.0	10.0	525.92	520.92	NA	2	0.010
MW-19	6/14/2001	Active	521.99	523.96	5.0	15.0	15.0	516.99	506.99	NA	2	NA
MW-20	6/14/2001	Active	512.32	511.94	19.0	29.0	29.0	493.32	483.32	NA	2	NA
MW-23S	11/7/2001	Active	496.68	498.50	2.0	12.0	12.0	494.68	484.68	NA	2	NA
MW-24	11/8/2001	Active	485.86	488.09	2.0	12.0	12.0	483.86	473.86	NA	2	NA
MW-25	11/8/2001	Active	491.65	494.16	2.0	12.0	12.0	489.65	479.65	NA	2	NA
MW-26	11/8/2001	Active	501.74	503.99	7.6	14.6	14.6	494.14	487.14	NA	2	NA
Bedrock Wells												
MW-13B	6/12/1997	Active	482.21	483.32	32.5	37.5	32.5	449.71	444.71	NA	2	0.010
MW-14B	Jul-99	Active	482.8	484.92	NA	NA	NA	NA	NA	NA	NA	NA
MW-15B	Jul-99	Active	484.01	486.32	NA	NA	NA	NA	NA	NA	NA	NA
MW-18B	Jul-99	Active	531.42	533.39	NA	NA	NA	NA	NA	NA	NA	NA
MW-21B	6/15/2001	Active	515.81	515.48	9.0	19.0	19.0	506.81	496.81	NA	2	NA
MW-23(D)	Nov-01	Active	496.72	498.06	22.0	26.8	26.8	474.72	469.90	NA	2	NA
Barrier Wall Piezometers												
PZ-1	NA	Active	529.00	531.13	NA	NA	NA	NA	NA	NA	NA	NA
PZ-2	NA	Active	527.69	529.75	NA	NA	NA	NA	NA	NA	NA	NA
PZ-3	NA	Active	523.82	525.72	NA	NA	NA	NA	NA	NA	NA	NA
PZ-4	NA	Active	522.92	524.74	NA	NA	NA	NA	NA	NA	NA	NA
PZ-5	NA	Active	523.06	522.64	NA	NA	NA	NA	NA	NA	NA	NA
PZ-6	NA	Active	522.74	524.39	NA	NA	NA	NA	NA	NA	NA	NA
PZ-7	NA	Active	519.80	521.38	NA	NA	NA	NA	NA	NA	NA	NA
PZ-8	NA	Active	528.86	527.62	NA	NA	NA	NA	NA	NA	NA	NA
PZ-9	NA	Active	519.76	521.52	NA	NA	NA	NA	NA	NA	NA	NA
PZ-10	NA	Active	517.68	519.54	NA	NA	NA	NA	NA	NA	NA	NA
PZ-11	NA	Active	516.84	519.18	NA	NA	NA	NA	NA	NA	NA	NA
PZ-12	NA	Active	512.72	514.80	NA	NA	NA	NA	NA	NA	NA	NA
PZ-13	NA	Active	513.19	514.86	NA	NA	NA	NA	NA	NA	NA	NA
PZ-14	NA	Active	506.85	508.77	NA	NA	NA	NA	NA	NA	NA	NA
IRM Piezometers												
SB-OBG-26	11/28/2005	Active	514.28	515.67	5.0	14.0	14.0	509.3	500.3	500.3	1	0.010
SB-OBG-27	12/11/2005	Active	511.81	513.33	9.0	14.0	14.0	502.8	497.8	497.8	1	0.010
SB-OBG-28A	12/11 -12/2005	Active	513.00	513.82	14.0	24.0	24.0	499.0	489.0	489.0	1	0.010
SB-OBG-32	11/29/2005	Active	510.77	512.8	2.3	12.3	12.3	508.5	498.5	498.5	1	0.010
SB-OBG-34	11/29/2005	Active	507.28	513.82	5.0	15.0	15.0	502.3	492.3	492.3	1	0.010

Notes:
NA - Not available. Boring logs not provided or incomplete.

Table 3-1
Ground Water Elevations
Revere Smelting and Refining Site
Wallkill, New York

	Overburden																											Surface Water
Date	**MW-01**	**MW-01A**	**MW-02**	**MW-03**	**MW-04**	**MW-04A**	**MW-05**	**MW-06A**	**MW-07**	**MW-08**	**MW-08R**	**MW-09**	**MW-10**	**MW-11**	**MW-12**	**MW-13(A)**	**MW-14**	**MW-15(A)**	**MW-16**	**MW-17(A)**	**MW-18**	**MW-19**	**MW-20**	**MW-23(S)**	**MW-24**	**MW-25**	**MW-26**	**RSR Well**	**SG-1**
Dec-91	515.29	NA	492.77	492.82	496.69	NA	500.47	496.54	522.65	523.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.89	NA
Mar-92	514.77	NA	492.09	492.20	496.55	NA	499.89	496.24	522.62	523.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.50	NA
May-92	514.65	NA	490.92	491.73	496.40	NA	499.21	496.18	522.34	522.92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.40	NA
Aug-92	514.86	NA	493.04	492.82	496.61	NA	499.62	496.07	521.81	522.79	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.33	NA
Nov-92	514.71	NA	491.27	492.03	496.53	NA	499.46	495.84	521.23	522.09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.41	NA
Mar-93	515.30	NA	491.29	492.21	496.72	NA	501.50	496.50	523.14	523.37	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.72	NA
May-93	514.59	NA	490.45	491.65	496.37	NA	498.83	496.19	521.90	523.90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.51	NA
Oct-93	514.56	NA	491.55	492.03	496.45	NA	499.75	495.79	520.77	521.44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.32	NA
Jan-94	514.44	514.12	490.21	491.50	495.96	495.80	498.48	495.94	521.70	523.04	NA	513.23	493.58	523.18	495.02	NA	464.90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.53	NA
Mar-94	515.62	515.18	497.21	495.97	497.33	499.40	504.22	499.03	523.27	524.87	NA	516.03	496.32	528.66	497.13	NA	469.64	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	495.89	NA
May-94	514.57	514.03	491.03	492.08	496.69	496.56	500.01	497.00	522.49	523.35	NA	513.07	494.42	522.42	495.66	NA	465.34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.39	NA
Sep-94	514.68	514.05	489.62	491.21	495.93	496.31	500.31	495.91	521.07	522.00	NA	512.63	493.01	522.45	494.81	477.01	464.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.30	NA
Dec-94	515.63	515.02	492.86	492.56	496.64	496.84	501.48	497.29	523.18	523.59	NA	513.54	494.72	524.80	495.93	478.17	465.89	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	510.06	NA
Mar-95	514.91	514.31	492.26	492.23	496.70	497.17	501.40	497.32	522.98	523.66	NA	512.77	494.86	524.12	495.70	478.28	466.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.70	NA
Jun-95	514.22	513.57	488.61	490.39	494.98	494.57	499.13	495.76	521.02	521.61	NA	511.51	492.59	522.15	494.07	476.46	463.35	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.10	NA
Sep-95	513.62	512.90	487.12	488.97	NA	492.93	496.97	494.38	517.98	519.69	NA	510.72	491.57	NA	492.71	475.44	461.76	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	508.78	NA
Dec-95	514.49	511.84	490.30	491.42	496.45	495.67	499.28	496.28	521.33	523.46	NA	510.98	494.20	522.74	495.15	476.14	464.87	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.51	NA
Mar-96	514.74	514.05	491.73	492.15	496.69	496.59	500.32	497.37	522.30	524.33	NA	514.07	494.90	523.60	495.40	478.21	466.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.64	NA
Jun-96	514.33	513.57	489.97	491.14	496.02	495.05	498.88	496.30	521.28	523.27	NA	512.85	493.50	522.69	494.40	477.72	465.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.24	NA
Sep-96	514.83	513.96	491.45	492.17	495.30	495.65	499.31	496.99	521.48	522.85	NA	512.52	493.86	522.58	494.73	477.99	464.44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.49	NA
Dec-96	515.67	514.99	497.21	495.03	497.17	498.28	501.31	499.20	522.96	525.00	NA	515.25	495.98	527.84	496.17	478.85	469.66	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	510.54	NA
Mar-97	515.02	514.32	491.80	492.05	496.48	496.04	499.50	497.19	522.80	522.69	NA	514.30	494.37	523.57	495.39	478.59	466.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	509.83	NA
Jun-97	514.08	513.29	488.52	490.27	494.34	493.96	498.05	495.56	520.37	521.78	NA	514.77	492.40	522.27	493.59	476.63	463.80	481.15	485.72	486.83	527.81	NA	NA	NA	NA	NA	NA	504.95	NA
Sep-97	NA	NA	NA	NA	NA	NA	NA	NA	521.20	522.05	NA	513.55	NA	NA	NA	477.58	463.81	482.06	485.81	487.40	527.33	NA	NA	NA	NA	NA	NA	509.40	NA
Dec-97	NA	NA	NA	NA	NA	NA	NA	NA	522.14	523.27	NA	513.76	NA	NA	NA	478.41	465.02	483.07	486.28	488.08	528.36	NA	NA	NA	NA	NA	NA	509.77	NA
Mar-98	NA	NA	NA	NA	NA	NA	NA	NA	522.51	524.05	NA	513.99	NA	NA	NA	478.64	467.49	483.33	486.81	488.32	529.11	NA	NA	NA	NA	NA	NA	510.15	NA
Jun-98	NA	NA	NA	NA	NA	NA	NA	NA	523.18	524.84	NA	514.83	NA	NA	NA	479.23	469.76	483.47	487.33	488.71	529.50	NA	NA	NA	NA	NA	NA	513.77	NA
Sep-98	NA	NA	NA	NA	NA	NA	NA	NA	518.51	520.34	NA	511.08	NA	NA	NA	476.17	462.99	480.01	483.70	485.48	526.52	NA	NA	NA	NA	NA	NA	509.17	NA
Dec-98	NA	NA	NA	NA	NA	NA	NA	NA	519.30	520.89	NA	510.90	NA	NA	NA	477.31	462.79	481.89	485.00	487.18	527.21	NA	NA	NA	NA	NA	NA	509.27	NA
Mar-99	NA	NA	NA	NA	NA	NA	NA	NA	523.21	523.39	NA	514.10	NA	NA	NA	479.21	467.19	483.63	487.84	488.70	529.43	NA	NA	NA	NA	NA	NA	510.95	NA
Jun-99	NA	NA	NA	NA	NA	NA	NA	NA	519.38	NA	521.30	511.40	NA	NA	NA	476.58	463.26	480.56	484.86	486.06	526.95	NA	NA	NA	NA	NA	NA	NA	NA
Sep-99	NA	NA	NA	NA	NA	NA	NA	NA	520.71	NA	522.16	513.21	NA	NA	NA	478.38	464.35	482.55	485.82	487.65	527.63	NA	NA	NA	NA	NA	NA	NA	NA
Dec-99	NA	NA	NA	NA	NA	NA	NA	NA	520.42	NA	522.26	511.64	NA	NA	NA	478.38	463.65	483.18	486.23	487.77	527.90	NA	NA	NA	NA	NA	NA	NA	NA
Mar-00	NA	NA	NA	NA	NA	NA	NA	NA	521.98	NA	524.10	514.88	NA	NA	NA	478.75	466.85	483.51	486.80	488.20	528.99	NA	NA	NA	NA	NA	NA	NA	NA
Jun-00	NA	NA	NA	NA	NA	NA	NA	NA	520.75	NA	523.23	513.01	NA	NA	NA	478.13	464.71	482.98	486.43	487.52	528.14	NA	NA	NA	NA	NA	NA	NA	NA
Sep-00	NA	NA	NA	NA	NA	NA	NA	NA	521.43	NA	523.34	511.89	NA	NA	NA	478.39	464.44	481.96	486.49	487.89	528.18	NA	NA	NA	NA	NA	NA	NA	NA
Dec-00	NA	NA	NA	NA	NA	NA	NA	NA	520.50	NA	522.19	511.36	NA	NA	NA	478.24	463.57	483.18	486.17	488.12	527.87	NA	NA	NA	NA	NA	NA	NA	NA
Mar-01	NA	NA	NA	NA	NA	NA	NA	NA	522.31	NA	524.60	514.80	NA	NA	NA	478.69	467.95	483.43	486.84	488.26	529.30	NA	NA	NA	NA	NA	NA	NA	NA
Jun-01	NA	NA	NA	NA	NA	NA	NA	NA	521.23	NA	522.54	511.64	NA	NA	NA	478.51	464.11	482.77	485.99	487.71	527.72	515.83	500.68	NA	NA	NA	NA	NA	492.01
Sep-01	NA	NA	NA	NA	NA	NA	NA	NA	518.14	NA	520.17	511.01	NA	NA	NA	476.66	461.80	479.68	482.59	485.50	526.40	515.34	500.40	NA	NA	NA	NA	NA	490.46
Nov-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	477.40	NA	NA	NA	NA	NA	NA	NA	488.47	482.65	487.39	493.53	NA	NA
Dec-01	NA	NA	NA	NA	NA	NA	NA	NA	518.09	NA	520.20	510.21	NA	NA	NA	477.27	461.56	480.42	483.34	487.01	526.96	515.17	500.01	NA	NA	NA	NA	NA	488.93
Mar-02	NA	NA	NA	NA	NA	NA	NA	NA	520.66	NA	521.32	510.65	NA	NA	NA	478.43	460.75	482.99	485.35	487.83	527.31	518.33	500.42	NA	NA	NA	NA	NA	489.83
Jun-02	NA	NA	NA	NA	NA	NA	NA	NA	521.18	NA	523.10	511.71	NA	NA	NA	478.21	465.78	482.60	486.32	487.41	527.94	515.71	499.41	NA	NA	NA	NA	NA	489.53
Sep-02	NA	NA	NA	NA	NA	NA	NA	NA	519.02	NA	520.85	510.96	NA	NA	NA	477.21	462.33	480.16	483.45	486.35	526.85	515.74	499.83	NA	NA	NA	NA	NA	489.11
Dec-02	NA	NA	NA	NA	NA	NA	NA	NA	521.46	NA	523.57	513.51	NA	NA	NA	478.26	465.06	483.09	486.18	487.53	528.27	515.86	500.33	NA	NA	NA	NA	NA	489.91
Mar-03	NA	NA	NA	NA	NA	NA	NA	NA	523.05	NA	524.54	514.92	NA	NA	NA	478.96	469.07	483.51	486.97	488.09	529.40	516.47	500.70	NA	NA	NA	NA	NA	489.80
Jun-03	NA	NA	NA	NA	NA	NA	NA	NA	522.36	NA	523.86	514.10	NA	NA	NA	478.52	466.85	483.20	487.15	488.00	528.82	516.10	500.48	NA	NA	NA	NA	NA	489.97
Sep-03	NA	NA	NA	NA	NA	NA	NA	NA	521.02	NA	523.10	513.07	NA	NA	NA	478.44	465.11	482.61	486.67	487.40	528.03	515.93	498.75	NA	NA	NA	NA	NA	489.49
Dec-03	NA	NA	NA	NA	NA	NA	NA	NA	522.22	NA	524.12	512.90	NA	NA	NA	478.70	466.07	483.22	486.80	488.04	528.98	515.90	499.87	NA	NA	NA	NA	NA	490.04
Mar-04	NA	NA	NA	NA	NA	NA	NA	NA	522.39	NA	523.58	514.21	NA	NA	NA	478.61	465.72	483.19	487.25	487.82	528.93	516.01	500.44	NA	NA	NA	NA	NA	489.36
Jun-04	NA	NA	NA	NA	NA	NA	NA	NA	520.28	NA	522.24	511.74	NA	NA	NA	477.45	463.37	481.37	486.07	486.41	527.81	515.48	499.84	NA	NA	NA	NA	NA	489.63
Sep-04	NA	NA	NA	NA	NA	NA	NA	NA	521.22	NA	522.93	512.26	NA	NA	NA	478.31	464.13	482.50	486.31	487.12	527.72	515.72	500.13	NA	NA	NA	NA	NA	490.33
Dec-04	NA	NA	NA	NA	NA	NA	NA	NA	522.48	NA	524.01	513.09	NA	NA	NA	479.01	466.10	483.06	486.96	488.10	529.12	516.11	500.38	NA	NA	NA	NA	NA	490.61
Mar-05	NA	NA	NA	NA	NA	NA	NA	NA	522.92	NA	523.20	514.18	NA	NA	NA	478.87	465.82	483.07	487.23	487.86	529.10	516.24	500.22	NA	NA	NA	NA	NA	488.52
Jun-05	NA	NA	NA	NA	NA	NA	NA	NA	519.70	NA	521.91	511.99	NA	NA	NA	477.17	463.07	480.86	485.42	485.97	527.50	515.45	499.57	NA	NA	NA	NA	NA	489.63
Sep-05	NA	NA	NA	NA	NA	NA	NA	NA	517.56	NA	519.56	510.64	NA	NA	NA	476.57	461.32	479.08	482.41	484.80	526.08	515.04	498.74	NA	NA	NA	NA	NA	488.78
Dec-05	NA	NA	NA	NA	NA	NA	NA	NA	522.40	NA	524.29	513.83	NA	NA	NA	478.19	466.96	483.04	486.79	487.36	528.82	516.20	499.67	NA	NA	NA	NA	NA	490.24
Mar-06	NA	NA	NA	NA	NA	NA	NA	NA	522.78	NA	523.61	513.70	NA	NA	NA	478.93	464.77	483.33	487.30	487.68	528.65	516.11	500.12	495.46	485.69	491.12	496.47	NA	490.14
Jun-06	NA	NA	NA	NA	NA	NA	NA	NA	522.33	NA	523.00	512.99	NA	NA	NA	478.65	465.19	483.08	487.16	487.50	528.13	515.96	500.36	NA	NA	NA	NA	NA	490.34
Sep-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
NA - Not Available
SW- Surface Water
All Elevations ASTM

Table 3-1
Ground Water Elevations
Revere Smelting and Refining Site
Wallkill, New York

	Bedrock						Barrier Wall Piezometers														IRM Piezometers				
Date	**MW-13B**	**MW-14B**	**MW-15B**	**MW-18B**	**MW-21B**	**MW-23(D)**	**PZ-1**	**PZ-2**	**PZ-3**	**PZ-4**	**PZ-5**	**PZ-6**	**PZ-7**	**PZ-8**	**PZ-9**	**PZ-10**	**PZ-11**	**PZ-12**	**PZ-13**	**PZ-14**	**SB-OBG-26**	**SB-OBG-27**	**SB-OBG-28A**	**SB-OBG-32**	**SB-OBG-34**
Dec-91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mar-92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
May-92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aug-92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nov-92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mar-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
May-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oct-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jan-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mar-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
May-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sep-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dec-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mar-95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sep-95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dec-95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mar-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sep-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dec-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mar-97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-97	455.23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sep-97	477.23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dec-97	468.17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mar-98	478.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-98	478.33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sep-98	476.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dec-98	470.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mar-99	478.22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-99	477.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sep-99	477.07	464.24	481.25	503.55	NA	NA	522.13	522.71	520.27	520.25	518.96	518.99	518.10	518.91	515.32	514.68	509.21	510.35	496.70	493.26	NA	NA	NA	NA	NA
Dec-99	477.16	463.47	481.81	503.87	NA	NA	525.02	522.69	520.06	520.06	518.79	518.83	517.87	518.06	515.00	514.87	509.08	510.11	494.22	491.19	NA	NA	NA	NA	NA
Mar-00	478.67	466.70	482.19	504.84	NA	NA	524.20	523.80	521.32	520.80	519.44	519.48	518.57	520.31	515.53	515.16	510.17	510.59	496.29	493.36	NA	NA	NA	NA	NA
Jun-00	478.23	464.43	482.10	503.41	NA	NA	522.22	522.68	520.44	520.43	518.82	518.84	517.91	519.05	514.82	514.35	509.41	509.75	494.40	491.26	NA	NA	NA	NA	NA
Sep-00	478.22	464.27	482.02	504.62	NA	NA	521.89	522.77	520.96	520.94	519.14	519.17	518.15	519.11	515.11	514.83	509.41	509.83	495.31	492.69	NA	NA	NA	NA	NA
Dec-00	478.41	463.35	482.14	504.43	NA	NA	521.70	522.35	520.16	520.16	518.56	518.60	517.68	518.46	514.67	514.45	509.27	509.68	494.12	491.15	NA	NA	NA	NA	NA
Mar-01	478.86	467.90	482.52	505.90	NA	NA	524.08	524.05	521.62	521.61	519.38	519.41	518.52	520.38	515.95	515.15	509.95	510.18	496.50	492.89	NA	NA	NA	NA	NA
Jun-01	478.07	463.68	481.99	504.44	511.27	NA	521.73	522.59	521.03	521.02	518.80	519.02	518.03	518.81	515.00	514.49	509.41	509.70	495.25	492.67	NA	NA	NA	NA	NA
Sep-01	477.09	461.56	479.06	504.13	511.06	NA	DRY	518.71	518.30	518.32	517.89	517.91	517.24	517.64	514.45	513.57	508.93	509.19	493.99	490.88	NA	NA	NA	NA	NA
Nov-01	NA	NA	NA	NA	NA	491.23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dec-01	477.16	461.34	479.72	503.97	511.05	NA	DRY	519.20	518.73	518.74	518.04	518.07	517.34	517.76	514.54	514.12	509.16	509.59	493.61	490.32	NA	NA	NA	NA	NA
Mar-02	478.24	463.99	481.95	504.41	510.91	NA	521.08	521.39	520.32	520.29	518.43	518.70	517.72	518.17	514.61	514.36	509.32	509.74	494.09	491.26	NA	NA	NA	NA	NA
Jun-02	478.28	465.43	481.75	505.25	510.79	NA	522.72	523.09	521.08	521.01	518.49	518.69	517.74	519.51	514.70	514.23	509.25	509.97	494.96	491.87	NA	NA	NA	NA	NA
Sep-02	477.30	462.09	479.56	506.25	511.00	NA	521.03	520.43	519.16	519.18	516.76	518.41	517.62	518.11	514.93	514.16	509.35	509.70	494.77	492.36	NA	NA	NA	NA	NA
Dec-02	478.22	464.90	481.83	505.86	511.05	NA	522.78	521.23	521.09	521.03	518.96	518.96	517.93	519.74	515.14	514.94	509.71	510.21	494.88	491.84	NA	NA	NA	NA	NA
Mar-03	478.74	469.01	482.56	506.89	511.14	NA	524.74	524.37	522.27	522.22	519.75	519.76	518.67	520.96	515.77	515.52	510.69	511.06	496.78	493.65	NA	NA	NA	NA	NA
Jun-03	478.29	466.69	482.56	504.77	511.18	NA	523.70	523.82	521.80	521.76	519.26	519.26	518.24	520.81	515.34	515.00	509.62	509.99	496.41	493.13	NA	NA	NA	NA	NA
Sep-03	478.09	464.89	481.93	505.58	510.83	NA	522.27	522.93	521.19	521.17	519.08	519.10	518.19	519.41	515.07	514.52	509.12	509.49	495.29	492.53	NA	NA	NA	NA	NA
Dec-03	479.33	465.93	482.45	504.63	511.18	NA	522.95	523.48	521.79	521.75	519.23	519.24	518.19	520.15	515.26	515.07	509.36	509.81	495.08	491.95	NA	NA	NA	NA	NA
Mar-04	478.69	465.54	482.61	504.77	511.18	NA	523.50	523.77	521.96	521.85	519.23	519.26	518.22	520.17	515.30	515.06	509.48	509.90	495.32	492.30	NA	NA	NA	NA	NA
Jun-04	478.13	464.91	481.30	505.22	511.17	NA	521.01	521.23	520.16	520.07	518.49	518.49	517.59	518.34	514.70	514.11	508.88	509.37	494.26	491.46	NA	NA	NA	NA	NA
Sep-04	477.60	463.85	481.99	504.13	511.14	NA	522.02	522.57	520.72	520.62	518.21	518.76	517.80	518.82	515.04	514.48	509.17	509.58	494.90	491.97	NA	NA	NA	NA	NA
Dec-04	478.07	465.90	482.61	504.81	511.17	NA	523.77	523.92	522.29	522.18	518.86	519.60	518.56	520.56	515.75	515.64	509.69	510.19	495.68	492.65	NA	NA	NA	NA	NA
Mar-05	478.37	465.50	482.87	504.58	511.05	NA	523.99	523.98	522.26	522.13	518.71	519.54	518.51	521.33	516.39	515.19	509.52	509.99	495.64	492.64	NA	NA	NA	NA	NA
Jun-05	476.12	462.69	480.87	504.72	511.21	NA	520.82	520.69	519.63	519.53	518.29	518.31	517.51	518.25	514.52	513.85	508.68	509.15	494.18	488.77	NA	NA	NA	NA	NA
Sep-05	474.87	461.03	478.69	504.34	509.93	NA	DRY	517.98	517.80	517.71	517.64	517.65	517.02	517.35	514.34	513.54	508.71	509.10	493.75	490.47	NA	NA	NA	NA	NA
Dec-05	474.70	466.79	482.15	504.79	511.18	NA	523.76	523.83	521.72	521.60	517.65	519.34	518.31	520.26	515.36	515.00	509.46	509.84	495.66	492.62	504.97	DRY	496.82	499.97	498.35
Mar-06	477.85	464.42	482.56	506.12	511.37	492.80	522.76	523.37	522.30	522.12	519.55	519.57	518.45	519.69	515.27	515.05	509.18	509.79	494.84	492.29	504.92	499.37	496.51	DRY	497.57
Jun-06	478.55	464.88	482.57	504.68	511.28	NA	522.14	521.75	521.88	521.72	519.26	519.25	518.17	519.09	515.12	514.59	509.12	509.60	495.31	492.47	NA	NA	NA	NA	NA
Sep-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	505.05	501.78	496.86	DRY	498.27

Notes:
NA - Not Available
SW- Surface Water
All Elevations ASTM

Table 4-1
Revere Smelting and Refining
Wallkill, New York
Surface Soil - Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/Kg
Historical Data	MW-2	0 - 0.5	7/10/1991	12000
	MW-3	0 - 0.5	7/10/1991	7100
	MW-4	0 - 0.5	7/10/1991	12000
	MW-5	0 - 0.5	7/10/1991	26000
	MW-13B	0 - 0.5	6/9/1997	1580
	MW-15A	0 - 0.5	6/10/1997	121
	MW-16	0 - 0.5	6/3/1997	2590
	MW-17A	0 - 0.5	6/5/1997	268
	MW-18	0 - 0.5	6/10/1997	251
	OFA-1	0 - 0.5	9/12/1994	207
	OFA-2	0 - 0.5	9/12/1994	116.1
	OFA-3	0 - 0.5	9/12/1994	30
	OFA-4	0 - 0.5	9/12/1994	46.5
	OFA-5	0 - 0.5	9/12/1994	69.1
	OFA-6	0 - 0.5	9/12/1994	32.9
	OFA-7	0 - 0.5	9/12/1994	43.2
	OFA-7	0 - 0.5	9/12/1994	48.4
	OFB-1	0 - 0.5	9/12/1994	121.9
	OFB-2	0 - 0.5	9/12/1994	42.4
	OFB-4	0 - 0.5	9/12/1994	15.94
	OFB-5	0 - 0.5	9/12/1994	57.53
	OFB-6	0 - 0.5	9/12/1994	51
	OFB-7	0 - 0.5	9/12/1994	29.14
	OFC-3	0 - 0.5	9/12/1994	120
	OFC-4	0 - 0.5	9/12/1994	158
	OFC-5	0 - 0.5	9/12/1994	80.04
	OFC-6	0 - 0.5	9/12/1994	35.08
	OFC-7	0 - 0.5	9/12/1994	64.87
	OS-1	0 - 0.5	12/13/1993	46
	OS-2	0 - 0.5	12/13/1993	66.8
	OS-3	0 - 0.5	12/13/1993	72.8
	OS-4	0 - 0.5	12/13/1993	47
	OS-5	0 - 0.5	12/13/1993	103
	OS-6	0 - 0.5	12/13/1993	369
	OS-7	0 - 0.5	12/13/1993	101
	OS-7	0 - 0.5	12/13/1993	115
	OS-8	0 - 0.5	12/13/1993	57.3
	OS-9	0 - 0.5	12/13/1993	165
	OS-10	0 - 0.5	12/13/1993	52.5
	OS-11	0 - 0.5	12/13/1993	297
	OS-12	0 - 0.5	12/13/1993	387
	OS-13	0 - 0.5	12/13/1993	59.7
	OS-14	0 - 0.5	12/13/1993	441.6
	OS-15	0 - 0.5	12/13/1993	98.5
	OS-16	0 - 0.5	12/13/1993	85.8
	OS-17	0 - 0.5	12/13/1993	40.1
	OS-18	0 - 0.5	12/13/1993	40.9
	OS-19	0 - 0.5	12/13/1993	123.5
	OS-20	0 - 0.5	12/13/1993	106.5
	OS-21	0 - 0.5	12/13/1993	7.4
	OS-22	0 - 0.5	12/13/1993	1320
	OS-23	0 - 0.5	12/13/1993	449.8
	OS-24	0 - 0.5	12/13/1993	40.8

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-1
Revere Smelting and Refining
Wallkill, New York
Surface Soil - Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/Kg
Historical Data	OS-25	0 - 0.5	12/13/1993	491.7
	OS-26	0 - 0.5	12/13/1993	327
	OS-27	0 - 0.5	12/13/1993	285.2
	OS-27	0 - 0.5	12/13/1993	411.7
	OS-28	0 - 0.5	12/13/1993	44.9
	OS-29	0 - 0.5	12/13/1993	104.3
	OS-30	0 - 0.5	12/13/1993	72.3
	OS-31	0 - 0.5	12/13/1993	60
	OS-32	0 - 0.5	12/13/1993	398
	OS-33	0 - 0.5	12/13/1993	208.9
	OS-34	0 - 0.5	12/13/1993	343.9
	OS-35	0 - 0.5	12/13/1993	346.5
	OS-36	0 - 0.5	12/13/1993	325
	OS-37	0 - 0.5	12/13/1993	187.6
	OS-38	0 - 0.5	12/13/1993	232.7
	OS-39	0 - 0.5	12/13/1993	204.9
	OS-39	0 - 0.5	12/13/1993	123.5
	OS-40	0 - 0.5	12/13/1993	129.7
	OS-41	0 - 0.5	12/13/1993	177
	OS-42	0 - 0.5	12/13/1993	144.8
	OS-43	0 - 0.5	12/13/1993	113.4
	OS-44	0 - 0.5	12/13/1993	392.5
	OS-45	0 - 0.5	12/13/1993	6.2
	SB-1	0 - 0.5	7/15/1991	2100
	SB-1-A	0 - 0.5	6/21/1993	2500
	SB-1-B	0 - 0.5	6/21/1993	180
	SB-1-C	0 - 0.5	6/21/1993	4500
	SB-2	0 - 0.5	7/15/1991	7100
	SB-3	0 - 0.5	7/15/1991	720
	SB-4	0 - 0.5	7/15/1991	310
	SB-5	0 - 0.5	7/15/1991	62 B
	SB-5	0 - 0.5	7/15/1991	88 B
	SS-1	0.16 - 0.5	7/10/1991	110
	SS-1	0 - 0.16	7/10/1991	1200
	SS-1-1C	0 - 0.5	6/21/1993	73
	SS-1-2C	0 - 0.5	6/21/1993	500
	SS-1-3C	0 - 0.5	6/21/1993	760
	SS-2	0 - 0.16	7/10/1991	4800
	SS-2	0.16 - 0.5	7/10/1991	1100
	SS-2-1C	0 - 0.5	6/21/1993	220
	SS-2-2C	0 - 0.5	6/21/1993	730
	SS-2-3C	0 - 0.5	6/21/1993	550
	SS-3	0 - 0.16	7/10/1991	9000
	SS-3	0.16 - 0.5	7/10/1991	960
	SS-4	0 - 0.5	7/10/1991	480
	SS-5	0 - 0.5	7/10/1991	540
	SS-6	0 - 0.5	7/10/1991	420
	SS-7	0 - 0.5	7/10/1991	180
	SS-8	0 - 0.5	7/10/1991	420
	SS-9	0 - 0.5	7/10/1991	110
	SS-9-1C	0 - 0.5	6/21/1993	40
	SS-9-2C	0 - 0.5	6/21/1993	180
	SS-9-3C	0 - 0.5	6/21/1993	130
	SS-10	0 - 0.5	7/10/1991	93

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-1
Revere Smelting and Refining
Wallkill, New York
Surface Soil - Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/Kg
Historical Data	SS-10	0 - 0.5	7/10/1991	100
	SS-11	0 - 0.5	7/10/1991	400
	SS-12	0 - 0.5	6/21/1993	100
	SS-13	0 - 0.5	6/21/1993	150
	SS-14	0 - 0.5	6/21/1993	130
	SS-15	0 - 0.5	6/21/1993	140
	SS-16	0 - 0.5	6/21/1993	480
	SS-17	0 - 0.5	6/21/1993	3700
	SS-18	0 - 0.5	6/21/1993	1900
	SS-19	0 - 0.5	6/21/1993	430
	SS-20	0 - 0.5	6/21/1993	150
	SS-21	0 - 0.5	6/21/1993	140
	SS-22	0 - 0.5	6/21/1993	74
	SS-23	0 - 0.5	6/21/1993	51
	SS-23	0 - 0.5	6/21/1993	46
	SS-24	0 - 0.5	6/21/1993	250
	SS-25	0 - 0.5	6/21/1993	280
	SS-26	0 - 0.5	6/21/1993	86
	SS-27	0 - 0.5	6/21/1993	150
	SS-28	0 - 0.5	6/21/1993	1100
	SS-28	0 - 0.5	6/21/1993	760
	SS-29	0 - 0.5	6/21/1993	92
	SS-30	0 - 0.5	6/21/1993	890
	SS-31	0 - 0.5	6/21/1993	790
	SS-32	0 - 0.5	6/21/1993	140
	SS-33	0 - 0.5	6/21/1993	43
	SS-34	0 - 0.5	6/21/1993	48
	SS-35	0 - 0.5	6/21/1993	100
	SS-36	0 - 0.5	6/21/1993	320
	SS-37	0 - 0.5	6/21/1993	12000
	SY-1	0 - 0.5	7/10/1991	9300
	SY-3	0 - 0.5	7/10/1991	2000
Remedial Investigation Data	EX-1	0.0 - 0.5	11/8/2001	1300
	EX-2	0.0 - 0.5	11/8/2001	2130
	SS-BG-OBG-41	0 - 0.2	11/5/2001	110
	SS-BG-OBG-42	0 - 0.2	11/5/2001	4740
	SS-BG-OBG-43	0 - 0.2	11/5/2001	7320
	SS-BG-OBG-44	0 - 0.2	11/5/2001	250
	SS-BG-OBG-45	0 - 0.2	11/5/2001	1340
	SS-BG-OBG-46	0 - 0.2	11/5/2001	339
	SS-OBG-01	0 - 0.2	10/26/2001	1260
	SS-OBG-02	0 - 0.2	10/26/2001	505
	SS-OBG-03	0 - 0.2	10/26/2001	863
	SS-OBG-04	0 - 0.2	10/26/2001	1270
	SS-OBG-05	0 - 0.2	10/26/2001	1140
	SS-OBG-06	0 - 0.2	10/26/2001	7550
	SS-OBG-07	0 - 0.2	10/26/2001	52.0
	SS-OBG-08	0 - 0.2	10/19/2001	411 R
	SS-OBG-09	0 - 0.2	10/19/2001	648 R
	SS-OBG-10	0 - 0.2	10/19/2001	1190 R

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-1
Revere Smelting and Refining
Wallkill, New York
Surface Soil - Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/Kg
Remedial Investigation Data	SS-OBG-11	0 - 0.2	10/26/2001	7160
	SS-OBG-12	0 - 0.2	10/26/2001	1090
	SS-OBG-13	0 - 0.2	10/26/2001	1180
	SS-OBG-14	0 - 0.2	10/26/2001	1240
	SS-OBG-15	0 - 0.2	10/26/2001	77.8
	SS-OBG-16	0 - 0.2	10/26/2001	438
	SS-OBG-17	0 - 0.2	10/25/2001	2170
	SS-OBG-18	0 - 0.2	10/25/2001	2770
	SS-OBG-19	0 - 0.2	10/25/2001	464
	SS-OBG-20	0 - 0.2	10/25/2001	7030
	SS-OBG-21	0 - 0.2	10/25/2001	5610
	SS-OBG-22	0 - 0.2	10/19/2001	544 R
	SS-OBG-23	0 - 0.2	10/19/2001	509 R
	SS-OBG-24	0 - 0.2	10/19/2001	257 R
	SS-OBG-25	0 - 0.2	10/19/2001	92.7 R
	SS-OBG-26	0 - 0.2	10/19/2001	27 R
	SS-OBG-27	0 - 0.2	10/19/2001	95.8 R
	SS-OBG-28	0 - 0.2	10/25/2001	320
	SS-OBG-29	0 - 0.2	10/25/2001	1240
	SS-OBG-30	0 - 0.2	10/25/2001	13700
	SS-OBG-31	0 - 0.2	10/25/2001	1100
	SS-OBG-32	0 - 0.2	10/25/2001	108
	SS-OBG-34	0 - 0.2	10/19/2001	1370 R
	SS-OBG-35	0 - 0.2	10/19/2001	249 R
	SS-OBG-36	0 - 0.2	10/26/2001	2830
	SS-OBG-37	0 - 0.2	10/26/2001	1370
	SS-OBG-38	0 - 0.2	10/25/2001	3370
	SS-OBG-39	0 - 0.2	10/26/2001	61.8
	SS-OBG-40	0 - 0.2	10/26/2001	47.9
Fish & Wildlife Impact Analysis Data	SSBA-01	0 - 0.5	8/7/2003	92.2
	SSBA-02	0 - 0.5	8/7/2003	196
	SSBA-03	0 - 0.5	8/7/2003	82.2
	SSBA-04	0 - 0.5	8/7/2003	198
	SSBA-05	0 - 0.5	8/7/2003	91.6
	SSFW-01	0 - 0.5	8/6/2003	519
	SSFW-02	0 - 0.5	8/6/2003	258
	SSFW-03	0 - 0.5	8/6/2003	574
	SSFW-04	0 - 0.5	8/6/2003	1500
	SSFW-05	0 - 0.5	8/6/2003	1920
	SSSSMLA-01	0 - 0.5	8/6/2003	1200
	SSSSMLA-02	0 - 0.5	8/6/2003	3660
	SSSSMLA-03	0 - 0.5	8/6/2003	734
	SSSSMLA-04	0 - 0.5	8/6/2003	1090
	SSSSMLA-05	0 - 0.5	8/6/2003	23.9
	SSRA-01	0 - 0.5	8/6/2003	196
	SSRA-02	0 - 0.5	8/6/2003	34.1
	SSRA-04	0 - 0.5	8/6/2003	42.2
	SSRA-05	0 - 0.5	8/7/2003	50.4
	SSSSA-01	0 - 0.5	8/7/2003	155
	SSSSA-02	0 - 0.5	8/7/2003	257
	SSSSA-03	0 - 0.5	8/7/2003	159
	SSSSA-04	0 - 0.5	8/7/2003	127
	SSSSA-05	0 - 0.5	8/7/2003	333

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-1
Revere Smelting and Refining
Wallkill, New York
Surface Soil - Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/Kg
Interim Remedial Measure Data	SS-OBG-41	0 - 0.17	12/1/2005	117 EJ
	SS-OBG-41	0.17 - 0.33	12/1/2005	326 EJ
	SS-OBG-41	0.33 - 0.5	12/1/2005	407 *EJ
	SS-OBG-42	0 - 0.17	12/1/2005	335 EJ
	SS-OBG-42	0.17 - 0.33	12/1/2005	340 EJ
	SS-OBG-42	0.33 - 0.5	12/1/2005	223 EJ
	SS-OBG-43	0 - 0.17	11/30/2005	996 *EJ
	SS-OBG-43	0.17 - 0.33	11/30/2005	145 *EJ
	SS-OBG-43	0.33 - 0.5	11/30/2005	68.6 *EJ
	SS-OBG-44	0 - 0.17	11/30/2005	1550 *EJ
	SS-OBG-44	0.17 - 0.33	11/30/2005	78.5 *EJ
	SS-OBG-44	0.33 - 0.5	11/30/2005	22.1 *EJ
	SS-OBG-45	0 - 0.17	11/30/2005	302 *EJ
	SS-OBG-45	0.17 - 0.33	11/30/2005	179 *EJ
	SS-OBG-45	0.33 - 0.5	11/30/2005	60.1 *EJ
	SS-OBG-46	0 - 0.17	11/27/2005	236 EJ
	SS-OBG-46	0.17 - 0.33	11/28/2005	2520 EJ
	SS-OBG-46	0.33 - 0.5	11/28/2005	81.5 EJ
	SS-OBG-47	0 - 0.17	11/30/2005	260 EJ
	SS-OBG-47	0 - 0.17	11/30/2005	244 *EJ
	SS-OBG-47	0 - 0.17	11/30/2005	236 *EJ
	SS-OBG-47	0.17 - 0.33	11/30/2005	157 *EJ
	SS-OBG-47	0.33 - 0.5	11/30/2005	97.9 *EJ
	SS-OBG-48	0 - 0.17	11/30/2005	241 *EJ
	SS-OBG-48	0 - 0.17	11/30/2005	209 *EJ
	SS-OBG-48	0 - 0.17	11/30/2005	195 *EJ
	SS-OBG-48	0.17 - 0.33	11/30/2005	200 *EJ
	SS-OBG-48	0.33 - 0.5	11/30/2005	35.9 *EJ
	SS-OBG-49	0 - 0.17	11/30/2005	21 EJ
	SS-OBG-50	0 - 0.17	11/30/2005	124 EJ
	SS-OBG-50	0.17 - 0.33	11/30/2005	19.2 EJ
	SS-OBG-51	0 - 0.17	11/27/2005	204 EJ
	SS-OBG-51	0.17 - 0.33	11/28/2005	39.2 EJ
	SS-OBG-51	0.33 - 0.5	11/28/2005	426 EJ
	SS-OBG-52	0 - 0.17	11/30/2005	4560 EJ
	SS-OBG-52	0.17 - 0.33	11/30/2005	993 EJ
	SS-OBG-52	0.33 - 0.5	11/30/2005	284 EJ
	SS-OBG-53	0 - 0.17	11/30/2005	1410 EJ
	SS-OBG-53	0.17 - 0.33	11/30/2005	453 EJ
	SS-OBG-53	0.33 - 0.5	11/30/2005	118 EJ
	SS-OBG-54	0 - 0.17	11/30/2005	342 EJ
	SS-OBG-54	0 - 0.17	11/30/2005	326 EJ
	SS-OBG-54	0 - 0.17	11/30/2005	324 EJ
	SS-OBG-54	0.17 - 0.33	11/30/2005	133 EJ
	SS-OBG-54	0.33 - 0.5	11/30/2005	54.3 EJ
	SS-OBG-55	0 - 0.17	11/30/2005	198 EJ
	SS-OBG-55	0.17 - 0.33	11/30/2005	56.3 EJ
	SS-OBG-56	0 - 0.17	12/1/2005	10300 EJ
	SS-OBG-56	0.17 - 0.33	12/1/2005	770 EJ
	SS-OBG-56	0.33 - 0.5	12/1/2005	74.6 EJ
	SS-OBG-57	0 - 0.17	12/1/2005	467 EJ
	SS-OBG-57	0.17 - 0.33	12/1/2005	193 EJ
	SS-OBG-57	0.33 - 0.5	12/1/2005	118 EJ

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-2
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/kg
Historical Data	A1-CSWN	2 - 3	unknown	3240
	A1-CSWW	2 - 3	unknown	10128
	A2-CSWE	2 - 3	unknown	58.9
	A2-CSWN	2 - 3	unknown	272
	B1-CSWW	2 - 3	unknown	8648
	B2-CSWE	2 - 3	unknown	42.8
	BC-1	0 - 1	11/30/1993	1900
	BC-1	1 - 2	11/30/1993	21
	BC-1	2 - 4	11/30/1993	19
	BC-1	4 - 6	11/30/1993	23
	BC-1	4 - 6	11/30/1993	12
	BC-1	6 - 8	11/30/1993	12
	BC-1	8 - 10	11/30/1993	24
	BC-2	0 - 1	11/30/1993	750
	BC-2	1 - 2	11/30/1993	47
	BC-2	2 - 4	11/30/1993	51
	BC-2	4 - 6	11/30/1993	35
	BC-2	6 - 8	11/30/1993	33
	BC-3	0 - 1	11/30/1993	610
	BC-3	1 - 2	11/30/1993	740
	BC-3	2 - 2.6	11/30/1993	180
	BC-5	0 - 1	11/30/1993	1000
	BC-5	1 - 2	11/30/1993	16
	BC-5	2 - 4	11/30/1993	16
	BC-5	4 - 6	11/30/1993	7.4 J
	BC-5	6 - 8	11/30/1993	11
	BC-6	0 - 1	11/30/1993	210
	BC-6	1 - 2	11/30/1993	17
	BC-6	2 - 4	11/30/1993	560
	BC-6	4 - 6	11/30/1993	29
	BC-6	6 - 8	11/30/1993	13
	BC-6	8 - 10	11/30/1993	19
	BS-1	0 - 1	11/30/1993	260
	BS-1	1 - 2	11/30/1993	8.3 J
	BS-1	2 - 3.5	11/30/1993	11
	BS-1	4 - 6	11/30/1993	22
	BS-1	6 - 8	11/30/1993	58
	BS-1	8 - 10	11/30/1993	17
	BS-1	10 - 12	11/30/1993	26
	BS-1	12 - 13.1	11/30/1993	46
	BS-3	0 - 1	11/30/1993	76
	BS-3	1 - 2	11/30/1993	25
	BS-3	2 - 4	11/30/1993	6.6 J
	BS-3	4 - 5	11/30/1993	76
	BS-3	6 - 8	11/30/1993	16
	BS-3	8 - 9	11/30/1993	42
	BS-5	0 - 1	11/30/1993	170
	BS-5	1 - 2	11/30/1993	18
	BS-5	2 - 4	11/30/1993	11
	BS-5	4 - 6	11/30/1993	21
	BS-5	6 - 8	11/30/1993	9.9 J

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-2
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/kg
Historical Data	BS-5	8 - 9.5	11/30/1993	28
	BS-5	8 - 9.5	11/30/1993	17
	C1-CSWW	2 - 3	unknown	1375
	C2-CSWE	2 - 3	unknown	88.7
	D1-CSWW	2 - 3	unknown	2456
	D2-CSWE	2 - 3	unknown	47.4
	E1-CSWW	2 - 3	unknown	4403
	E2-CSWE	2 - 3	unknown	49.5
	F1-CSWW	2 - 3	unknown	32256
	F3-CSWE	2 - 3	unknown	40.2
	FB-1	0 - 1	12/15/1993	83600
	FB-1	2 - 4	12/15/1993	124000
	FB-1	4 - 6	12/15/1993	107000
	FB-1	6 - 8	12/15/1993	28.4
	FB-1	8 - 10	12/15/1993	37
	FB-2	0 - 1	12/15/1993	1870
	FB-2	2 - 4	12/15/1993	80000
	FB-2	4 - 6	12/15/1993	3440
	FB-2	6 - 8	12/15/1993	263
	FB-2	8 - 10	12/15/1993	6090
	FB-2	8 - 10	12/15/1993	4590
	FB-3	0 - 1	12/15/1993	631
	FB-3	8 - 10	12/15/1993	146
	FB-4	0 - 2	12/15/1993	13400
	FB-4	2 - 4	12/15/1993	181000
	FB-4	4 - 6	12/15/1993	54.4
	FB-4	6 - 8	12/15/1993	976
	FB-4	8 - 10	12/15/1993	745
	FB-5	0 - 2	12/15/1993	86
	FB-5	2 - 4	12/15/1993	1780
	FB-5	4 - 6	12/15/1993	40.6
	FB-5	6 - 8	12/15/1993	924
	FB-5	8 - 10	12/15/1993	602
	G1-CSWW	2 - 3	unknown	21831
	G3-CSWE	2 - 3	unknown	96.7
	H1-CSWW	2 - 3	unknown	3285
	H3-CSWE	2 - 3	unknown	84.7
	I1-CSWW	2 - 3	unknown	1894
	I3-CSWE	2 - 3	unknown	69.1
	J1-CSWW	2 - 3	unknown	3821
	J3-CSWE	2 - 3	unknown	44.2
	K1-CSWW	2 - 3	unknown	6734
	K4-CSWN	2 - 3	unknown	139
	K5-CSWE	2 - 3	unknown	280
	L1-CSWW	2 - 3	unknown	1231
	L5-CSWE	2 - 3	unknown	147
	LB-4	0 - 2	9/1/1992	3500
	LB-4	2 - 4	9/1/1992	9300
	LB-4	4 - 6	9/1/1992	310
	LB-4	6 - 8	9/1/1992	62000
	LB-4	8 - 10	9/1/1992	54 J
	LB-4	8 - 10	9/1/1992	29 J

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-2
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/kg
Historical Data	LB-4	10 - 12	9/1/1992	120
	LB-4	12 - 14	9/1/1992	44
	LB-6	0 - 2	9/1/1992	1500
	LB-6	2 - 4	9/1/1992	270
	LB-6	4 - 6	9/1/1992	210
	LB-6	6 - 7	9/1/1992	88
	LB-6	8 - 9	9/1/1992	50
	LB-6	10 - 12	9/1/1992	23
	LB-6	12 - 14	9/1/1992	20
	LB-6	14 - 16	9/1/1992	170
	LB-6	16 - 17.3	9/1/1992	16
	LB-7	0 - 1	9/1/1992	350000
	LB-7	1 - 2	9/1/1992	180000
	LB-7	2 - 4	9/1/1992	62000
	LB-7	4 - 6	9/1/1992	16000
	LB-7	6 - 8	9/1/1992	710
	LB-7	8 - 10	9/1/1992	1100
	LB-7	10 - 10.7	9/1/1992	13000
	LB-7	12 - 14	9/1/1992	110
	LB-7	14 - 16	9/1/1992	140
	LB-7	16 - 18	9/1/1992	24
	LB-7	20 - 20.9	9/1/1992	62
	LB-8	0 - 2	9/1/1992	5100
	LB-8	4 - 6	9/1/1992	5000
	LB-8	4 - 6	9/1/1992	12000
	LB-8	6 - 6.3	9/1/1992	29000
	LB-8	8 - 10	9/1/1992	520
	LB-8	10 - 12	9/1/1992	43
	LB-8	12 - 14	9/1/1992	180
	LB-8	14 - 16	9/1/1992	100
	LB-8	16 - 18	9/1/1992	12
	LB-8	18 - 20	9/1/1992	12
	LB-8	20 - 22	9/1/1992	20
	LB-8	22 - 23	9/1/1992	16
	LB-9	0 - 1	9/1/1992	330000
	LB-9	1 - 2	9/1/1992	280000
	LB-9	2 - 4	9/1/1992	1500
	LB-9	4 - 6	9/1/1992	16000
	LB-9	6 - 8	9/1/1992	6400
	LB-9	8 - 10	9/1/1992	4600
	LB-9	10 - 12	9/1/1992	360
	LB-9	12 - 14	9/1/1992	280
	LB-9	14 - 16	9/1/1992	39
	LB-9	16 - 16.7	9/1/1992	45
	LB-10	0 - 2	9/1/1992	210000
	LB-10	2 - 3	9/1/1992	83000
	LB-10	4 - 6	9/1/1992	100
	LB-10	6 - 8	9/1/1992	1300
	LB-10	10 - 12	9/1/1992	64
	LB-10	12 - 14	9/1/1992	49
	LB-10	14 - 16	9/1/1992	21
	LB-10	16 - 18	9/1/1992	860

Notes:
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Table 4-2
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/kg
Historical Data	LB-11	0 - 2	9/1/1992	380000
	LB-11	2 - 4	9/1/1992	1300
	LB-11	4 - 6	9/1/1992	2000
	LB-11	8 - 10	9/1/1992	55
	LB-11	10 - 12	9/1/1992	88
	LB-11	10 - 12	9/1/1992	29
	LB-11	12 - 14	9/1/1992	13000
	LB-11	14 - 16	9/1/1992	97
	LB-11	16 - 16.3	9/1/1992	570
	LB-12	0 - 1	9/1/1992	200
	LB-12	1 - 2	9/1/1992	350000
	LB-12	4 - 6	9/1/1992	200
	LB-12	6 - 8	9/1/1992	2900
	LB-12	8 - 10	9/1/1992	8700
	LB-12	12 - 14	9/1/1992	400 J
	LB-12	12 - 14	9/1/1992	39 J
	LB-12	14 - 16	9/1/1992	26 B
	LB-12	16 - 18	9/1/1992	38 B
	LB-12	18 - 20	9/1/1992	120
	M1-CSWS	2 - 3	unknown	805
	M1-CSWW	2 - 3	unknown	136
	M2-CSWS	2 - 3	unknown	641
	M3-CSWS	2 - 3	unknown	3400
	M4-CSWS	2 - 3	unknown	1770
	M5-CSWE	2 - 3	unknown	883
	M5-CSWS	2 - 3	unknown	803
	MS1-CSWW	2 - 3	unknown	2000
	MS1-CSWN	2 - 3	unknown	5420
	MS4-CSWN	2 - 3	unknown	22400
	MS2-CSWN	2 - 3	unknown	770
	MS3-CSWN	2 - 3	unknown	3100
	MS4-CSWE	2 - 3	unknown	624
	MW-1	0 - 1.5	7/10/1991	33000
	MW-1	2 - 4	7/10/1991	87000
	MW-1	4 - 5	7/10/1991	44 B
	MW-1	6 - 7	7/10/1991	2400
	MW-1	8 - 9	7/10/1991	17000
	MW-2	4 - 5.5	7/10/1991	3300
	MW-2	6 - 7	7/10/1991	27000
	MW-2	8 - 9	7/10/1991	62 B
	MW-2	10 - 12	7/10/1991	27 B
	MW-2	10 - 12	7/10/1991	24 B
	MW-2	12 - 13	7/10/1991	66 B
	MW-2	14 - 14.6	7/10/1991	28 B
	MW-2	16 - 17	7/10/1991	17 B
	MW-2	20 - 21.2	7/10/1991	23 B
	MW-2	22 - 23	7/10/1991	28 B
	MW-3	2 - 2.5	7/10/1991	1500
	MW-3	4 - 4.5	7/10/1991	53
	MW-3	6 - 6.5	7/10/1991	5900
	MW-3	8 - 8.5	7/10/1991	210
	MW-3	10 - 10.5	7/10/1991	17000

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-2
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/kg
Historical Data	MW-3	12 - 12.3	7/10/1991	15000
	MW-4	2 - 2.5	7/10/1991	43000
	MW-4	4 - 6	7/10/1991	170000
	MW-4	4 - 6	7/10/1991	170000
	MW-4	12 - 14	7/10/1991	91000
	MW-4	16 - 17	7/10/1991	39000
	MW-5	2 - 3	7/10/1991	170000
	MW-5	4 - 4.5	7/10/1991	9000
	MW-5	6 - 6.5	7/10/1991	460
	MW-5	8 - 8.5	7/10/1991	1000
	MW-5	10 - 10.5	7/10/1991	300
	MW-5	12 - 12.5	7/10/1991	9800
	MW-5	14 - 14.5	7/10/1991	54
	MW-5	16 - 16.5	7/10/1991	26
	MW-13A	20 - 22	6/4/1997	20.9
	MW-13A	22 - 23.4	6/4/1997	14.4
	MW-13B	0.5 - 1	6/9/1997	28
	MW-13B	0.5 - 1	6/9/1997	25.2
	MW-13B	1 - 1.5	6/9/1997	132
	MW-13B	1.5 - 2	6/9/1997	232
	MW-13B	2 - 4	6/9/1997	19.7
	MW-13B	4 - 6	6/9/1997	19.5
	MW-13B	6 - 8	6/9/1997	30.8
	MW-13B	8 - 10	6/9/1997	16
	MW-13B	10 - 12	6/9/1997	18.4
	MW-13B	10 - 12.6	6/10/1997	20.8
	MW-13B	14 - 16	6/10/1997	16.7
	MW-13B	19 - 20.5	6/10/1997	14.4
	MW-13B	20 - 22	6/10/1997	12.2
	MW-13B	22 - 24	6/10/1997	12.1
	MW-15A	0.5 - 1	6/10/1997	14.5
	MW-15A	1 - 1.5	6/10/1997	13.1
	MW-15A	1.5 - 2	6/10/1997	12.7
	MW-15A	2 - 4	6/10/1997	9.1
	MW-15A	4 - 6	6/10/1997	11.9
	MW-15A	6 - 8	6/10/1997	17.8
	MW-15A	8 - 10	6/10/1997	17.9
	MW-16	0.5 - 1	6/3/1997	179
	MW-16	0.5 - 1	6/3/1997	159
	MW-16	1 - 1.5	6/3/1997	12.7
	MW-16	1.5 - 2	6/3/1997	12.3
	MW-16	2 - 4	6/3/1997	15.9
	MW-16	4 - 6	6/3/1997	36.3
	MW-16	6 - 8	6/3/1997	48.1
	MW-16	8 - 10	6/3/1997	15
	MW-16	10 - 12	6/3/1997	15.2
	MW-16	12 - 13.5	6/3/1997	15.6
	MW-17A	0.5 - 1	6/5/1997	382
	MW-17A	1 - 2	6/5/1997	62.4
	MW-17A	2 - 4	6/5/1997	7.4
	MW-17A	4 - 6	6/5/1997	12.5
	MW-17A	6 - 8	6/5/1997	13.3

Notes:
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Table 4-2
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/kg
Historical Data	MW-17A	10 - 11	6/5/1997	17.2
	MW-18	0.5 - 1	6/10/1997	191
	MW-18	1 - 1.5	6/10/1997	74
	MW-18	1.5 - 2	6/10/1997	13.1
	N1-CSWW	2 - 3	unknown	111
	N4-CSWE	2 - 3	unknown	448
	O1-CSWW	2 - 3	unknown	7340
	O5-CSWE	2 - 3	unknown	634
	P1-CSWW	2 - 3	unknown	115
	P5-CSWE	2 - 3	unknown	152
	Q1-CSWW	2 - 3	unknown	108
	Q5-CSWE	2 - 3	unknown	369
	R1-CSWW	2 - 3	unknown	2900
	R5-CSWE	2 - 3	unknown	31
	S1-CSWW	2 - 3	unknown	1180
	S5-CSWE	2 - 3	unknown	371
	SB-1	1.5 - 2	7/15/1991	160
	SB-1	2.5 - 3	7/15/1991	200
	SB-1	4 - 4.5	7/15/1991	360
	SB-1	5.5 - 6	7/15/1991	43 B
	SB-1	7 - 7.5	7/15/1991	310
	SB-1	8.5 - 9	7/15/1991	35 B
	SB-1	10 - 10.5	7/15/1991	160
	SB-1-A	1 - 2	6/21/1993	1800
	SB-1-B	1 - 2	6/21/1993	61
	SB-1-B	1 - 2	6/21/1993	60
	SB-1-C	1 - 2	6/21/1993	330
	SB-2	1.5 - 2	7/15/1991	24
	SB-2	2.5 - 3	7/15/1991	32
	SB-2	4 - 4.5	7/15/1991	13
	SB-2	5.5 - 6	7/15/1991	32 B
	SB-2	7 - 7.5	7/15/1991	12 B
	SB-2	8.5 - 9	7/15/1991	20 B
	SB-2	10 - 10.5	7/15/1991	54 B
	SB-2	11.5 - 12	7/15/1991	41 B
	SB-3	1.5 - 2	7/15/1991	88
	SB-3	2.5 - 3	7/15/1991	66 B
	SB-3	4 - 4.5	7/15/1991	130
	SB-3	5.5 - 6	7/15/1991	74 B
	SB-3	6.5 - 7	7/15/1991	120
	SB-4	1.5 - 2	7/15/1991	32
	SB-4	2 - 2.6	7/15/1991	41
	SB-4	4 - 5	7/15/1991	34
	SB-4	4 - 5	7/15/1991	28
	SB-5	1.5 - 2	7/15/1991	170
	SB-5	4 - 4.5	7/15/1991	770000
	SB-5	6 - 6.5	7/15/1991	340
	SS-1	0.5 - 1	7/10/1991	22
	SS-1	1 - 1.5	7/10/1991	20
	SS-1	1.5 - 2	7/10/1991	28
	SS-1-1C	0.5 - 1	6/21/1993	14
	SS-1-2C	0.5 - 1	6/21/1993	46

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-2
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/kg
Historical Data	SS-1-3C	0.5 - 1	6/21/1993	29
	SS-2	0.5 - 1	7/10/1991	43
	SS-2	1 - 1.5	7/10/1991	25
	SS-2	1.5 - 2	7/10/1991	19
	SS-2-1C	0.5 - 1	6/21/1993	59
	SS-2-2C	0.5 - 1	6/21/1993	28
	SS-2-3C	0.5 - 1	6/21/1993	49
	SS-3	0.5 - 1	7/10/1991	22
	SS-3	1 - 1.5	7/10/1991	11
	SS-3	1.5 - 2	7/10/1991	13
	SS-4	1 - 1.5	7/10/1991	46
	SS-5	1 - 1.5	7/10/1991	62
	SS-6	1.5 - 2	7/10/1991	61
	SS-7	0.5 - 1	7/10/1991	41
	SS-7	0.5 - 1	7/10/1991	11
	SS-7	1 - 1.5	7/10/1991	28
	SS-7	1.5 - 2	7/10/1991	14
	SS-8	1.5 - 2	7/10/1991	19
	SS-9	0.5 - 1	7/10/1991	3500
	SS-9	1 - 1.5	7/10/1991	8.4
	SS-9	1.5 - 2	7/10/1991	8.1
	SS-9-1C	0.5 - 1	6/21/1993	31
	SS-9-2C	3 - 4	6/21/1993	23
	SS-9-3C	3 - 4	6/21/1993	11
	SS-10	1.5 - 2	7/10/1991	7
	SS-11	1.5 - 2	7/10/1991	100
	SS-12	0.5 - 1	6/21/1993	36
	SS-13	0.5 - 1	6/21/1993	33
	SS-14	0.5 - 1	6/21/1993	57
	SS-15	0.5 - 1	6/21/1993	16
	SS-15	0.5 - 1	6/21/1993	16
	SS-16	0.5 - 1	6/21/1993	91
	SS-17	0.5 - 1	6/21/1993	530
	SS-18	0.5 - 1	6/21/1993	31
	SS-19	0.5 - 1	6/21/1993	230
	SS-20	0.5 - 1	6/21/1993	30
	SS-21	0.5 - 1	6/21/1993	15
	SS-22	0.5 - 1	6/21/1993	33
	SS-23	0.5 - 1	6/21/1993	21
	SS-24	0.5 - 1	6/21/1993	55
	SS-25	0.5 - 1	6/21/1993	16 J
	SS-26	0.5 - 1	6/21/1993	54
	SS-27	0.5 - 1	6/21/1993	50
	SS-28	0.5 - 1	6/21/1993	210
	SS-29	0.5 - 1	6/21/1993	37
	SS-30	0.5 - 1	6/21/1993	82
	SS-31	0.5 - 1	6/21/1993	250
	SS-32	0.5 - 1	6/21/1993	29
	SS-33	0.5 - 1	6/21/1993	17
	SS-34	0.5 - 1	6/21/1993	12
	SS-35	0.5 - 1	6/21/1993	14
	SS-36	0.5 - 1	6/21/1993	110

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-2
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/kg
Historical Data	SS-37	0.5 - 1	6/21/1993	1200
	SY-1	1.5 - 2	7/10/1991	310
	SY-1	2.5 - 3	7/10/1991	570
	SY-2	0 - 0.6	7/10/1991	570
	SY-2	0.6 - 1.1	7/10/1991	1700
	SY-2	1.1 - 1.5	7/10/1991	160000
	SY-2	1.5 - 2	7/10/1991	200
	SY-2	2 - 2.5	7/10/1991	73
	SY-2	2.5 - 3	7/10/1991	28 B
	SY-3	1.5 - 2	7/10/1991	12000
	SY-3	2.5 - 3	7/10/1991	66 B
	SY-19	0.5 - 1.5	1/27/1992	25000
	SY-19	1.5 - 2.5	1/27/1992	5300
	SY-19	2.5 - 3.5	1/27/1992	880
	SY-19	3.5 - 4.5	1/27/1992	3200
	SY-19	4.5 - 5	1/27/1992	400
	SY-19	5 - 6.5	1/27/1992	150
	SY-19	6.5 - 7.5	1/27/1992	34
	SY-19	7.5 - 8.5	1/27/1992	120
	SY-19	8.5 - 10.5	1/27/1992	22
	SY-19	10.5 - 12.5	1/27/1992	14
	SY-19	12.5 - 14.5	1/27/1992	42
	SY-20	6 - 7	1/27/1992	11
	SY-20	8 - 10	1/27/1992	13
	SY-20	8 - 10	1/27/1992	10
	SY-21	0.5 - 2	1/27/1992	480
	SY-21	0.5 - 2	1/27/1992	38000
	SY-21	2.5 - 4	1/27/1992	77
	SY-21	4 - 5	1/27/1992	24
	SY-21	5 - 6	1/27/1992	12
	SY-21	6 - 8	1/27/1992	38
	SY-21	8 - 9	1/27/1992	9.5
	SY-21	9 - 10	1/27/1992	11
	SY-21	10 - 12	1/27/1992	13
	SY-21	12 - 14	1/27/1992	15
	SY-21	14 - 16	1/27/1992	28
	SY-21	20 - 20.4	1/27/1992	8.8
	SY-21	22 - 22.9	1/27/1992	9.5
	SY-22	0.7 - 2.7	1/27/1992	600
	SY-22	2.7 - 3.5	1/27/1992	45
	SY-22	3.5 - 4.7	1/27/1992	36
	SY-22	4.7 - 5.7	1/27/1992	610
	SY-22	5.7 - 6.7	1/27/1992	43
	SY-22	6.7 - 8.7	1/27/1992	16
	SY-22	8.7 - 10	1/27/1992	11
	SY-23	3 - 4	1/27/1992	18
	SY-23	4 - 5	1/27/1992	42
	SY-23	5 - 6	1/27/1992	68
	SY-23	6 - 7	1/27/1992	180
	SY-23	10 - 12	1/27/1992	840
	SY-23	10 - 12	1/27/1992	13
	SY-24	4 - 6	1/27/1992	5300

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-2
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/kg
Historical Data	SY-26	4 - 5	1/27/1992	22
	SY-26	6 - 8	1/27/1992	100
	SY-27	5 - 7	1/27/1992	37
	SY-27	5 - 7	1/27/1992	350
	T1-CSWW	2 - 3	unknown	214
	T4-CSWS	2 - 3	unknown	936
	T4-CSWE	2 - 3	unknown	177
	U1-CSWS	2 - 3	unknown	821
	U1-CSWW	2 - 3	unknown	926
	U2-CSWS	2 - 3	unknown	294
	U3-CSWS	2 - 3	unknown	225
	U5-CSWE	2 - 3	unknown	1201
	U5-CSWS	2 - 3	unknown	643
Remedial Investigation Data	EX-1	0.5-1.0	11/8/2001	607 J*
	EX-2	0.5-1.0	11/8/2001	306 J*
	MW-23S	6 - 7.3	11/8/2001	14.5 J*
	MW-24	2 - 3.9	11/8/2001	23.7 J*
	MW-25	4 - 5.1	11/8/2001	32.0 J*
	MW-26	8 - 8.7	11/8/2001	189 J*
	SB-OBG-01	0.5 - 1	10/24/2001	36.0
	SB-OBG-02	0 - 1	10/24/2001	38.2
	SB-OBG-03	0 - 1.3	10/24/2001	30.7
	SB-OBG-03	2 - 3.3	10/24/2001	23.9
	SB-OBG-04	0 - 1	10/24/2001	39.7
	SB-OBG-04	4 - 5.7	10/24/2001	35.5
	SB-OBG-05	0 - 0.9	10/23/2001	34.5
	SB-OBG-05	2 - 3.3	10/23/2001	14.3
	SB-OBG-06	0 - 1.4	10/22/2001	21.5
	SB-OBG-06	4 - 5.7	10/22/2001	21.3
	SB-OBG-07	0 - 1.2	10/23/2001	16.0
	SB-OBG-07	2 - 2.3	10/23/2001	20.3
	SB-OBG-08	0 - 1.5	10/22/2001	8990
	SB-OBG-08	2 - 2.6	10/22/2001	3690
	SB-OBG-09	0 - 2	10/25/2001	349
	SB-OBG-09	2 - 2.3	10/25/2001	480
	SB-OBG-10	0 - 0.7	10/23/2001	332
	SB-OBG-10	4 - 4.8	10/23/2001	26.3
	SB-OBG-11	2 - 2.9	10/24/2001	1620
	SB-OBG-11	4 - 4.9	10/24/2001	14600
	SB-OBG-11	8.3 - 9.6	10/24/2001	38.3
	SB-OBG-11	8.3 - 9.6	10/24/2001	20.2
	SB-OBG-12	0 - 1.6	10/25/2001	1190
	SB-OBG-12	8 - 9.6	10/23/2001	873
	SB-OBG-12	10 - 11.9	10/23/2001	106
	SB-OBG-12	10 - 11.9	10/23/2001	10000
	SB-OBG-13	0.4 - 1.8	10/25/2001	53.1
	SB-OBG-13	2 - 3.4	10/25/2001	36.5
	SB-OBG-13	2 - 3.4	10/25/2001	24.5
	SB-OBG-13	6 - 7.2	10/25/2001	21.0
	SB-OBG-14	0.4 - 1	10/25/2001	304
	SB-OBG-14	6 - 6.5	10/25/2001	18.8

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-2
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/kg
Remedial Investigation Data	SB-OBG-15	0 - 0.9	10/25/2001	69200
	SB-OBG-15	4 - 4.6	10/25/2001	204
	SB-OBG-16	0 - 1.3	10/25/2001	55.9
	SB-OBG-16	2 - 3.7	10/25/2001	26.0
	SB-OBG-17	0 - 1.6	10/25/2001	33.3
	SB-OBG-17	4 - 4.6	10/25/2001	29.7
	SB-OBG-18	0 - 1.9	10/24/2001	30.5
	SB-OBG-18	2 - 2.6	10/24/2001	37.7
	SB-OBG-19	0 - 0.6	10/24/2001	23.3
	SB-OBG-19	2 - 3.3	10/24/2001	21.4
	SB-OBG-20	0 - 1.5	10/24/2001	125
	SB-OBG-20	4 - 4.9	10/24/2001	22.8
	SB-OBG-21	0 - 1.5	11/6/2001	39300
	SB-OBG-21	4 - 5.1	11/6/2001	568
	SB-OBG-21	6 - 6.5	11/6/2001	8410
	SB-OBG-22	2 - 3.1	11/6/2001	23.1
	SB-OBG-22	4 - 5.3	11/6/2001	12.0
	SB-OBG-22	6 - 7.8	11/6/2001	12.2
	SB-OBG-23	0 - 1	11/5/2001	38.2
	SB-OBG-23	6 - 7.1	11/5/2001	475
	SB-OBG-23	8 - 9.3	11/5/2001	44.2
	SB-OBG-24	2 - 2.6	10/23/2001	19800
	SB-OBG-24	6 - 6.7	10/23/2001	49.1
	SS-OBG-06	0 - 2	10/26/2001	17400
	SS-OBG-07	0 - 1.5	10/26/2001	154
	SS-OBG-11	0 - 1.8	10/26/2001	1980
	SS-OBG-12	0 - 2	10/26/2001	411
	SS-OBG-13	0 - 2	10/26/2001	486
	SS-OBG-14	0 - 1.5	10/26/2001	427
	SS-OBG-14	1 - 1.5	10/26/2001	667
	SS-OBG-15	0 - 1	10/26/2001	187
	SS-OBG-16	0 - 0.7	10/26/2001	438
	SS-OBG-16	0 - 0.7	10/26/2001	426
	SS-OBG-27	0 - 2	10/19/2001	< .326 R
	SS-OBG-28	0 - 1	10/25/2001	219
	SS-OBG-28	0 - 1	10/25/2001	273
	SS-OBG-29	0 - 2	10/25/2001	143
	SS-OBG-30	0 - 1	10/25/2001	23900
	SS-OBG-31	0 - 1.5	10/25/2001	170
	SS-OBG-32	0 - 2	10/25/2001	45.3
	SS-OBG-36	0 - 1.2	10/26/2001	331
	SS-OBG-37	0 - 2	10/26/2001	626
	SS-OBG-39	0 - 1	10/26/2001	769
	SS-OBG-40	0 - 2	10/26/2001	435
	TP-02	1.3 - 1.5	10/15/2001	5490 R
	TP-03	2.5	10/16/2001	398 R
	TP-05	1.2	10/16/2001	13700 R
	TP-06	1.5	10/17/2001	141000 R
	TP-07	2.2	10/17/2001	1370 R
	TP-08	3	10/17/2001	421 R
	TP-09	1.4	10/17/2001	2580 R
	TP-11	6	10/18/2001	21.7 R
	TP-12	0.9	10/18/2001	13.3 R
	TP-14	0.9	10/17/2001	18.5 R

Notes:
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Table 4-2
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/kg
Interim Remedial Measure Data	SB-OBG-25	0 - 2	11/28/2005	594 EJ
	SB-OBG-25	8 - 10	11/28/2005	228 EJ
	SB-OBG-26	4 - 6	11/28/2005	571 *EJ
	SB-OBG-26	4 - 6	11/28/2005	468 *EJ
	SB-OBG-26	10 - 12	11/28/2005	193 *EJ
	SB-OBG-27	0 - 2	12/12/2005	380 N*EJ
	SB-OBG-27	8 - 10	12/12/2005	555 N*EJ
	SB-OBG-28	2 - 4	12/12/2005	49900 N*EJ
	SB-OBG-28A	6 - 8	12/12/2005	39500 N*EJ
	SB-OBG-28A	8 - 10	12/12/2005	62600 N*EJ
	SB-OBG-28A	10 - 12	12/12/2005	33100 N*EJ
	SB-OBG-28A	18 - 20	12/12/2005	1280 N*EJ
	SB-OBG-28A	22 - 24	12/12/2005	2780 N*EJ
	SB-OBG-29	0 - 2	11/28/2005	24.1 EJ
	SB-OBG-30	0 - 2	11/28/2005	13300 *EJ
	SB-OBG-31	0 - 2	12/13/2005	666 N*EJ
	SB-OBG-31	8 - 10	12/13/2005	135 N*ER
	SB-OBG-31	10 - 12	12/13/2005	55.1 N*ER
	SB-OBG-31	14 - 16	12/13/2005	41.7 N*ER
	SB-OBG-32	0 - 2	11/29/2005	12600 *EJ
	SB-OBG-32	6 - 8	11/29/2005	993 EJ
	SB-OBG-33	0 - 2	11/29/2005	99.9 EJ
	SB-OBG-34	0 - 2	11/29/2005	24.8 EJ
	SB-OBG-34	2 - 4	11/29/2005	73.3 EJ
	SB-OBG-35	2 - 4	11/29/2005	128 EJ
	SB-OBG-35	4 - 6	11/29/2005	191 EJ
	SB-OBG-36	0 - 2	11/29/2005	848 *EJ
	SB-OBG-36	6 - 8	11/29/2005	60.2 EJ
	SB-OBG-36	8 - 10	11/29/2005	2250 EJ
	SB-OBG-37	0 - 2	12/13/2005	451 N*EJ
	SB-OBG-37A	0 - 2	12/13/2005	368 N*EJ
	SB-OBG-38	0 - 2	11/29/2005	37500 *EJ
	SS-OBG-42	0.5 - 1	12/1/2005	246 EJ
	SS-OBG-49	0.5 - 1	11/30/2005	42.6 EJ
	SS-OBG-50	0.5 - 1	11/30/2005	112 EJ
	SS-OBG-57	0.5 - 1	12/1/2005	79.8 EJ

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-3
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Other Metals Results

	Location ID	Depth Interval (ft)	Sample Date	Chemical Name	Result Value (mg/kg)
Historical	MW-1	2 - 4	7/10/1991	Antimony	600
	MW-1	0 - 1.5	7/10/1991	Antimony	170
	MW-1	6 - 7	7/10/1991	Antimony	17
	MW-1	4 - 5	7/10/1991	Antimony	0.62 J
	MW-1	8 - 9	7/10/1991	Antimony	290.0
	MW-1	2 - 4	7/10/1991	Arsenic	540
	MW-1	8 - 9	7/10/1991	Arsenic	49
	MW-1	0 - 1.5	7/10/1991	Arsenic	150
	MW-1	2 - 4	7/10/1991	Cadmium	7.2
	MW-2	4 - 5.5	7/10/1991	Antimony	60
	MW-2	6 - 7	7/10/1991	Antimony	220
	MW-2	8 - 9	7/10/1991	Antimony	1.8 J
	MW-2	12 - 13	7/10/1991	Antimony	1.2 J
	MW-2	10 - 12	7/10/1991	Antimony	0.86 J
	MW-2	22 - 23	7/10/1991	Antimony	0.46 J
	MW-2	20 - 21.2	7/10/1991	Antimony	0.36 J
	MW-2	14 - 14.6	7/10/1991	Antimony	0.31 J
	MW-2	16 - 17	7/10/1991	Antimony	0.31 J
	MW-2	10 - 12	7/10/1991	Antimony	0.09 J
	MW-2	6 - 7	7/10/1991	Arsenic	84
	MW-2	4 - 5.5	7/10/1991	Arsenic	26
	MW-3	0 - 0.5	7/10/1991	Antimony	79
	MW-3	6 - 6.5	7/10/1991	Antimony	780
	MW-3	10 - 10.5	7/10/1991	Antimony	450
	MW-3	12 - 12.3	7/10/1991	Antimony	340
	MW-3	2 - 2.5	7/10/1991	Antimony	25
	MW-3	8 - 8.5	7/10/1991	Antimony	20
	MW-3	4 - 4.5	7/10/1991	Antimony	2.8
	MW-3	2 - 2.5	7/10/1991	Arsenic	95
	MW-3	8 - 8.5	7/10/1991	Arsenic	58
	MW-3	0 - 0.5	7/10/1991	Arsenic	42
	MW-3	10 - 10.5	7/10/1991	Arsenic	150
	MW-3	6 - 6.5	7/10/1991	Arsenic	140
	MW-3	4 - 4.5	7/10/1991	Arsenic	120
	MW-3	12 - 12.3	7/10/1991	Arsenic	120
	MW-3	0 - 0.5	7/10/1991	Cadmium	11
	MW-3	10 - 10.5	7/10/1991	Chromium	59
	MW-3	12 - 12.3	7/10/1991	Chromium	44
	MW-4	4 - 6	7/10/1991	Antimony	8900
	MW-4	4 - 6	7/10/1991	Antimony	8300
	MW-4	16 - 17	7/10/1991	Antimony	640
	MW-4	2 - 2.5	7/10/1991	Antimony	340
	MW-4	12 - 14	7/10/1991	Antimony	3200
	MW-4	12 - 14	7/10/1991	Arsenic	6700
	MW-4	4 - 6	7/10/1991	Arsenic	2300
	MW-4	4 - 6	7/10/1991	Arsenic	2300
	MW-4	2 - 2.5	7/10/1991	Arsenic	220
	MW-4	16 - 17	7/10/1991	Arsenic	130
	MW-4	16 - 17	7/10/1991	Cadmium	21
	MW-4	4 - 6	7/10/1991	Cadmium	190
	MW-4	4 - 6	7/10/1991	Cadmium	160

Table 4-3
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Other Metals Results

	Location ID	Depth Interval (ft)	Sample Date	Chemical Name	Result Value (mg/kg)
Historical	MW-4	2 - 2.5	7/10/1991	Cadmium	14
	MW-4	4 - 6	7/10/1991	Chromium	46
	MW-5	2 - 3	7/10/1991	Antimony	9400
	MW-5	10 - 10.5	7/10/1991	Antimony	8
	MW-5	12 - 12.5	7/10/1991	Antimony	560
	MW-5	8 - 8.5	7/10/1991	Antimony	35
	MW-5	4 - 4.5	7/10/1991	Antimony	240
	MW-5	14 - 14.5	7/10/1991	Antimony	2.4
	MW-5	6 - 6.5	7/10/1991	Antimony	17
	MW-5	16 - 16.5	7/10/1991	Antimony	0.5 J
	MW-5	4 - 4.5	7/10/1991	Arsenic	99
	MW-5	10 - 10.5	7/10/1991	Arsenic	51
	MW-5	2 - 3	7/10/1991	Arsenic	2600
	MW-5	6 - 6.5	7/10/1991	Arsenic	19
	MW-5	12 - 12.5	7/10/1991	Arsenic	100
	MW-5	12 - 12.5	7/10/1991	Cadmium	7.4
	MW-5	4 - 4.5	7/10/1991	Cadmium	6.3
	MW-5	2 - 3	7/10/1991	Cadmium	140
	MW-5	6 - 6.5	7/10/1991	Cadmium	1.3
	MW-13B	19 - 20.5	6/10/1997	Magnesium	9570
	MW-13B	14 - 16	6/10/1997	Magnesium	9010
	MW-13B	22 - 24	6/10/1997	Magnesium	7640
	MW-13B	20 - 22	6/10/1997	Magnesium	7110
	MW-13B	10 - 12.6	6/10/1997	Magnesium	10100
	MW-13B	10 - 12.6	6/10/1997	Nickel	34
	MW-13B	14 - 16	6/10/1997	Nickel	34
	MW-13B	19 - 20.5	6/10/1997	Nickel	30
	MW-13B	14 - 16	6/10/1997	Zinc	85
	MW-13B	19 - 20.5	6/10/1997	Zinc	69
	MW-13B	10 - 12.6	6/10/1997	Zinc	62
	MW-13B	20 - 22	6/10/1997	Zinc	58
	MW-13B	22 - 24	6/10/1997	Zinc	56
	MW-13B	1 - 1.5	6/9/1997	Arsenic	22
	MW-13B	1.5 - 2	6/9/1997	Arsenic	20
	MW-13B	10 - 12	6/9/1997	Magnesium	9040
	MW-13B	4 - 6	6/9/1997	Magnesium	7730
	MW-13B	6 - 8	6/9/1997	Magnesium	7310
	MW-13B	2 - 4	6/9/1997	Magnesium	7230
	MW-13B	8 - 10	6/9/1997	Magnesium	6690
	MW-13B	1 - 1.5	6/9/1997	Magnesium	6350
	MW-13B	1.5 - 2	6/9/1997	Magnesium	5950
	MW-13B	10 - 12	6/9/1997	Nickel	34
	MW-13B	4 - 6	6/9/1997	Nickel	30
	MW-13B	2 - 4	6/9/1997	Nickel	29
	MW-13B	6 - 8	6/9/1997	Nickel	28
	MW-13B	8 - 10	6/9/1997	Nickel	26
	MW-13B	4 - 6	6/9/1997	Zinc	99
	MW-13B	2 - 4	6/9/1997	Zinc	89
	MW-13B	10 - 12	6/9/1997	Zinc	86
	MW-13B	6 - 8	6/9/1997	Zinc	86
	MW-13B	8 - 10	6/9/1997	Zinc	76
	MW-13B	1 - 1.5	6/9/1997	Zinc	76

Table 4-3
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Other Metals Results

	Location ID	Depth Interval (ft)	Sample Date	Chemical Name	Result Value (mg/kg)
Historical	MW-13B	0.5 - 1	6/9/1997	Zinc	64.8
	MW-13B	1.5 - 2	6/9/1997	Zinc	61
	MW-13B	0.5 - 1	6/9/1997	Zinc	59
	MW-17A	1 - 2	6/5/1997	Arsenic	15
	MW-17A	1 - 2	6/5/1997	Cadmium	3
	SB-1	7 - 7.5	7/15/1991	Antimony	3.5
	SB-1	1.5 - 2	7/15/1991	Antimony	2.2
	SB-1	2.5 - 3	7/15/1991	Antimony	2 J
	SB-1	4 - 4.5	7/15/1991	Antimony	1.8 J
	SB-1	10 - 10.5	7/15/1991	Antimony	1.6 J
	SB-1	8.5 - 9	7/15/1991	Antimony	0.84 J
	SB-1	5.5 - 6	7/15/1991	Antimony	0.56 J
	SB-2	8.5 - 9	7/15/1991	Antimony	0.8 J
	SB-2	11.5 - 12	7/15/1991	Antimony	0.53 J
	SB-2	7 - 7.5	7/15/1991	Antimony	0.46 J
	SB-2	10 - 10.5	7/15/1991	Antimony	0.4 J
	SB-2	2.5 - 3	7/15/1991	Antimony	0.39 J
	SB-2	1.5 - 2	7/15/1991	Antimony	0.28 J
	SB-3	1.5 - 2	7/15/1991	Antimony	1.4 J
	SB-3	6.5 - 7	7/15/1991	Antimony	1 J
	SB-3	4 - 4.5	7/15/1991	Antimony	0.94 J
	SB-3	2.5 - 3	7/15/1991	Antimony	0.65 J
	SB-3	5.5 - 6	7/15/1991	Antimony	0.6 J
	SB-4	1.5 - 2	7/15/1991	Antimony	1.3 J
	SB-4	2 - 2.6	7/15/1991	Antimony	0.93 J
	SB-4	4 - 5	7/15/1991	Antimony	0.8 J
	SB-4	4 - 5	7/15/1991	Antimony	0.78
	SB-5	6 - 6.5	7/15/1991	Antimony	3800
	SB-5	4 - 4.5	7/15/1991	Antimony	1500
	SB-5	1.5 - 2	7/15/1991	Antimony	0.84 J
	SS-1	0.5 - 1	7/10/1991	Antimony	0.8 J
	SS-1	1.5 - 2	7/10/1991	Antimony	0.7 J
	SS-11	1.5 - 2	7/10/1991	Antimony	1.4 J
	SS-4	1 - 1.5	7/10/1991	Antimony	0.6 J
	SS-7	1 - 1.5	7/10/1991	Antimony	0.42 J
	SS-7	1.5 - 2	7/10/1991	Antimony	0.41 J
	SS-7	0.5 - 1	7/10/1991	Antimony	0.23 J
	SS-7	0.5 - 1	7/10/1991	Antimony	0.17 J
	SS-8	1.5 - 2	7/10/1991	Antimony	0.026 J
	SS-9	0.5 - 1	7/10/1991	Antimony	28
	SY-1	2.5 - 3	7/10/1991	Antimony	6.6
	SY-1	1.5 - 2	7/10/1991	Antimony	3.9
	SY-1	2.5 - 3	7/10/1991	Arsenic	44
	SY-2	1.1 - 1.5	7/10/1991	Antimony	5700
	SY-2	1.5 - 2	7/10/1991	Antimony	5.8
	SY-2	0 - 0.6	7/10/1991	Antimony	3.7
	SY-2	0.6 - 1.1	7/10/1991	Antimony	29
	SY-2	2 - 2.5	7/10/1991	Antimony	1.8 J
	SY-2	2.5 - 3	7/10/1991	Antimony	0.9 J
	SY-2	1.5 - 2	7/10/1991	Arsenic	97
	SY-2	1.1 - 1.5	7/10/1991	Arsenic	770
	SY-2	2.5 - 3	7/10/1991	Arsenic	33
	SY-2	2 - 2.5	7/10/1991	Arsenic	27
	SY-2	0.6 - 1.1	7/10/1991	Arsenic	16
	SY-3	1.5 - 2	7/10/1991	Antimony	88
	SY-3	2.5 - 3	7/10/1991	Antimony	0.7 J
	SY-3	1.5 - 2	7/10/1991	Arsenic	55

Table 4-3
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Other Metals Results

	Location ID	Depth Interval (ft)	Sample Date	Chemical Name	Result Value (mg/kg)
Remedial Investigation Data	SB-OBG-03	0 - 1.3	10/24/2001	Antimony	0.51 JN
	SB-OBG-03	0 - 1.3	10/24/2001	Zinc	60.1 J*
	SB-OBG-09	0 - 2	10/25/2001	Antimony	4.5 JN
	SB-OBG-09	0 - 2	10/25/2001	Zinc	67.8 J*
	SB-OBG-11	2 - 2.9	10/24/2001	Antimony	20.3 JN
	SB-OBG-11	2 - 2.9	10/24/2001	Arsenic	22.9 J*
	SB-OBG-11	2 - 2.9	10/24/2001	Cadmium	1.1 J
	SB-OBG-11	2 - 2.9	10/24/2001	Magnesium	7880 J*
	SB-OBG-11	2 - 2.9	10/24/2001	Nickel	31.0 J*
	SB-OBG-11	2 - 2.9	10/24/2001	Zinc	79.0 J*
	SB-OBG-12	0 - 1.6	10/25/2001	Antimony	21.1 JN
	SB-OBG-12	0 - 1.6	10/25/2001	Arsenic	14.2 J*
	SB-OBG-13	2 - 3.4	10/25/2001	Antimony	0.66 JN
	SB-OBG-13	2 - 3.4	10/25/2001	Antimony	0.63 JN
	SB-OBG-13	2 - 3.4	10/25/2001	Arsenic	12.4 J*
	SB-OBG-13	2 - 3.4	10/25/2001	Copper	53.9 J*
	SB-OBG-13	2 - 3.4	10/25/2001	Magnesium	9370 J*
	SB-OBG-13	2 - 3.4	10/25/2001	Magnesium	22200 J*
	SB-OBG-13	2 - 3.4	10/25/2001	Nickel	36.1 J*
	SB-OBG-13	2 - 3.4	10/25/2001	Nickel	33.2 J*
	SB-OBG-13	2 - 3.4	10/25/2001	Zinc	119 J*
	SB-OBG-13	2 - 3.4	10/25/2001	Zinc	111 J*
	SB-OBG-16	2 - 3.7	10/25/2001	Antimony	0.56 JN
	SB-OBG-16	2 - 3.7	10/25/2001	Magnesium	8760 J*
	SB-OBG-16	2 - 3.7	10/25/2001	Nickel	37.0 J*
	SB-OBG-16	2 - 3.7	10/25/2001	Zinc	118 J*
	SB-OBG-18	0 - 1.9	10/24/2001	Antimony	0.53 JN
	SB-OBG-18	0 - 1.9	10/24/2001	Zinc	71.1 J*
	SS-OBG-14	1 - 1.5	10/26/2001	Antimony	9.2 JN
	SS-OBG-14	0 - 1.5	10/26/2001	Antimony	7.1 JN
	SS-OBG-14	1 - 1.5	10/26/2001	Arsenic	16.1 J*
	SS-OBG-14	1 - 1.5	10/26/2001	Beryllium	1.0 J
	SS-OBG-14	1 - 1.5	10/26/2001	Magnesium	5810 J*
	SS-OBG-14	1 - 1.5	10/26/2001	Nickel	29.9 J*
	SS-OBG-14	0 - 1.5	10/26/2001	Zinc	66.6 J*
	SS-OBG-14	1 - 1.5	10/26/2001	Zinc	102 J*
Interim Remedial Measure Data	SB-OBG-26	4 - 6	11/28/2005	Antimony	2.7 NJ
	SB-OBG-26	4 - 6	11/28/2005	Antimony	1.9 NJ
	SB-OBG-26	10 - 12	11/28/2005	Antimony	1.8 NJ
	SB-OBG-26	10 - 12	11/28/2005	Magnesium	7320 EJ
	SB-OBG-26	4 - 6	11/28/2005	Magnesium	5220 EJ
	SB-OBG-26	10 - 12	11/28/2005	Nickel	26.3 EJ
	SB-OBG-26	4 - 6	11/28/2005	Thallium	2.3
	SB-OBG-26	4 - 6	11/28/2005	Thallium	2.3
	SB-OBG-26	10 - 12	11/28/2005	Thallium	2
	SB-OBG-26	10 - 12	11/28/2005	Zinc	74.6 EJ
	SB-OBG-26	4 - 6	11/28/2005	Zinc	69.1 EJ
	SB-OBG-26	4 - 6	11/28/2005	Zinc	68.7 EJ
	SB-OBG-27	0 - 2	12/12/2005	Antimony	4.2
	SB-OBG-27	0 - 2	12/12/2005	Magnesium	8080
	SB-OBG-27	0 - 2	12/12/2005	Nickel	30.6
	SB-OBG-27	0 - 2	12/12/2005	Zinc	73.5

Table 4-3
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Other Metals Results

	Location ID	Depth Interval (ft)	Sample Date	Chemical Name	Result Value (mg/kg)
Interim Remedial Measure Data	SB-OBG-28	2 - 4	12/12/2005	Antimony	445
	SB-OBG-28	2 - 4	12/12/2005	Arsenic	288
	SB-OBG-28	2 - 4	12/12/2005	Cadmium	6.3
	SB-OBG-28	2 - 4	12/12/2005	Copper	69.6
	SB-OBG-28	2 - 4	12/12/2005	Magnesium	5580
	SB-OBG-28	2 - 4	12/12/2005	Nickel	35.8
	SB-OBG-28	2 - 4	12/12/2005	Thallium	2.6
	SB-OBG-28	2 - 4	12/12/2005	Zinc	88.1
	SB-OBG-28A	6 - 8	12/12/2005	Antimony	851
	SB-OBG-28A	10 - 12	12/12/2005	Antimony	784
	SB-OBG-28A	8 - 10	12/12/2005	Antimony	1800
	SB-OBG-28A	8 - 10	12/12/2005	Arsenic	358
	SB-OBG-28A	10 - 12	12/12/2005	Arsenic	320
	SB-OBG-28A	6 - 8	12/12/2005	Arsenic	298
	SB-OBG-28A	6 - 8	12/12/2005	Cadmium	9.6
	SB-OBG-28A	10 - 12	12/12/2005	Cadmium	16.9
	SB-OBG-28A	8 - 10	12/12/2005	Cadmium	11.4
	SB-OBG-28A	10 - 12	12/12/2005	Copper	84.2
	SB-OBG-28A	8 - 10	12/12/2005	Copper	244
	SB-OBG-28A	6 - 8	12/12/2005	Copper	142
	SB-OBG-28A	8 - 10	12/12/2005	Magnesium	6470
	SB-OBG-28A	6 - 8	12/12/2005	Magnesium	5770
	SB-OBG-28A	8 - 10	12/12/2005	Nickel	41.4
	SB-OBG-28A	6 - 8	12/12/2005	Nickel	35.8
	SB-OBG-28A	10 - 12	12/12/2005	Nickel	27.7
	SB-OBG-28A	8 - 10	12/12/2005	Thallium	1.8
	SB-OBG-28A	6 - 8	12/12/2005	Thallium	1.2
	SB-OBG-28A	10 - 12	12/12/2005	Thallium	1 B
	SB-OBG-28A	8 - 10	12/12/2005	Zinc	99.1
	SB-OBG-28A	10 - 12	12/12/2005	Zinc	93.4
	SB-OBG-28A	6 - 8	12/12/2005	Zinc	115
	SB-OBG-30	0 - 2	11/28/2005	Antimony	189 NJ
	SB-OBG-30	0 - 2	11/28/2005	Arsenic	155 *EJ
	SB-OBG-30	0 - 2	11/28/2005	Cadmium	3.6 *J
	SB-OBG-30	0 - 2	11/28/2005	Copper	180 EJ
	SB-OBG-30	0 - 2	11/28/2005	Nickel	37.5 EJ
	SB-OBG-30	0 - 2	11/28/2005	Silver	0.14 B
	SB-OBG-30	0 - 2	11/28/2005	Thallium	2.4
	SB-OBG-30	0 - 2	11/28/2005	Zinc	154 EJ
	SB-OBG-31	0 - 2	12/13/2005	Antimony	9.9
	SB-OBG-31	0 - 2	12/13/2005	Arsenic	13.5
	SB-OBG-31	0 - 2	12/13/2005	Magnesium	6890
	SB-OBG-31	0 - 2	12/13/2005	Nickel	29.2
	SB-OBG-31	0 - 2	12/13/2005	Thallium	0.44 B
	SB-OBG-31	0 - 2	12/13/2005	Zinc	80.6
	SB-OBG-32	0 - 2	11/29/2005	Antimony	232 NJ
	SB-OBG-32	0 - 2	11/29/2005	Arsenic	88.8 *EJ
	SB-OBG-32	0 - 2	11/29/2005	Cadmium	3 *
	SB-OBG-32	0 - 2	11/29/2005	Copper	110 EJ
	SB-OBG-32	0 - 2	11/29/2005	Nickel	30.8 EJ
	SB-OBG-32	0 - 2	11/29/2005	Silver	0.19 B
	SB-OBG-32	0 - 2	11/29/2005	Thallium	5.8
	SB-OBG-32	0 - 2	11/29/2005	Zinc	74.5 EJ
	SB-OBG-36	0 - 2	11/29/2005	Antimony	9.6 NJ
	SB-OBG-36	0 - 2	11/29/2005	Arsenic	15.6 *EJ

Table 4-3
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Greater than 0.5 ft
Other Metals Results

	Location ID	Depth Interval (ft)	Sample Date	Chemical Name	Result Value (mg/kg)
Interim Remedial Measure Data	SB-OBG-36	0 - 2	11/29/2005	Magnesium	5720 EJ
	SB-OBG-36	0 - 2	11/29/2005	Nickel	25.3 EJ
	SB-OBG-36	0 - 2	11/29/2005	Thallium	2.9
	SB-OBG-36	0 - 2	11/29/2005	Zinc	84.2 EJ
	SB-OBG-37	0 - 2	12/13/2005	Antimony	7.4
	SB-OBG-37	0 - 2	12/13/2005	Arsenic	15.8
	SB-OBG-37	0 - 2	12/13/2005	Magnesium	7140
	SB-OBG-37	0 - 2	12/13/2005	Nickel	31
	SB-OBG-37	0 - 2	12/13/2005	Thallium	0.36 B
	SB-OBG-37	0 - 2	12/13/2005	Zinc	82.1
	SB-OBG-37A	0 - 2	12/13/2005	Antimony	5.5
	SB-OBG-37A	0 - 2	12/13/2005	Arsenic	14
	SB-OBG-37A	0 - 2	12/13/2005	Magnesium	6370
	SB-OBG-37A	0 - 2	12/13/2005	Nickel	27.3
	SB-OBG-37A	0 - 2	12/13/2005	Thallium	0.31 B
	SB-OBG-37A	0 - 2	12/13/2005	Zinc	77.9
	SB-OBG-38	0 - 2	11/29/2005	Antimony	416 NJ
	SB-OBG-38	0 - 2	11/29/2005	Arsenic	317 *EJ
	SB-OBG-38	0 - 2	11/29/2005	Cadmium	13.7 *J
	SB-OBG-38	0 - 2	11/29/2005	Copper	380 EJ
	SB-OBG-38	0 - 2	11/29/2005	Magnesium	5140 EJ
	SB-OBG-38	0 - 2	11/29/2005	Nickel	58.9 EJ
	SB-OBG-38	0 - 2	11/29/2005	Silver	0.59 B
	SB-OBG-38	0 - 2	11/29/2005	Thallium	2.7
	SB-OBG-38	0 - 2	11/29/2005	Zinc	126 EJ

Notes:
Results only greater than highest Eastern US Background values provided in TAGM 4046.
B - concentration greater than MDLand below CRDL
E - estimated due to matrix interference,
J - estimated, N - sample recovery not within limits
* - laboratory duplicate analysis not within control limits.

Table 4-4
Revere Smelting and Refining
Wallkill, New York
Sediment - Lead Results

	Location ID	Depth Interval (ft)	Chemical Name Sample Date	Lead mg/kg
Historical Data	SED-1	NA	7/12/1991	1100
	SED-2	NA	7/12/1991	460
	SED-3	NA	7/12/1991	1800
	SED-4	NA	7/12/1991	92
	SED-5	NA	7/12/1991	840
	SED-6	NA	7/12/1991	180
	SED-7	NA	7/12/1991	3300
	SED-7	NA	7/12/1991	3000
	SED-8	NA	7/12/1991	1900
	SED-9	NA	7/12/1991	1000
Remedial Investigation Data	SED-P1	0.5 - 1	11/8/2001	39.4 J*
	SED-P1	0 - 0.5	11/8/2001	62.6 J*
	SED-P2	0 - 0.5	11/8/2001	1410 J*
	SED-P2	0 - 0.5	11/8/2001	1630 J*
	SED-P2	0.5 - 1	11/8/2001	1000 J*
	SED-S1	0 - 0.5	11/8/2001	2510 J*
	SED-S1	1 - 2	11/8/2001	12000 J*
	SED-S2	0 - 0.5	11/8/2001	1490 J*
	SED-S2	1 - 2	11/8/2001	421 J*
	SED-S3	1 - 2	11/8/2001	77.0 J*
	SED-S3	0 - 0.5	11/8/2001	245 J*
Fish & Wildlife Impact Analysis Data	SEDRP-01	0 - 0.5	8/4/2003	1620
	SEDRP-02	0 - 0.5	8/4/2003	1770
	SEDRP-03	0 - 0.5	8/4/2003	621
	SEDRP-04	0 - 0.5	8/4/2003	2180
	SEDRP-05	0 - 0.5	8/4/2003	2240
	SEDRP-05	0 - 0.5	8/4/2003	2340
	SEDRP-06	0 - 0.5	8/4/2003	1740
	SEDUS-01	0 - 0.5	8/5/2003	981
	SEDUS-02	0 - 0.5	8/5/2003	1140
	SEDUS-03	0 - 0.5	8/5/2003	1110
	SEDUS-04	0 - 0.5	8/5/2003	597
	SEDUS-05	0 - 0.5	8/5/2003	1150
	SEDUS-06	0 - 0.5	8/5/2003	860
	SEDUS-07	0 - 0.5	8/5/2003	198
	SEDUS-08	0 - 0.5	8/5/2003	94.9
	SEDUS-09	0 - 0.5	8/5/2003	80
	SEDUS-10	0 - 0.5	8/5/2003	41.9
	SEDUS-11	0 - 0.5	8/5/2003	46.9
	SEDUS-12	0 - 0.5	8/5/2003	26.9

Notes:
J - estimated, * - RPD greater than 20%

Table 4-5
Revere Smelting and Refining
Wallkill, New York
Surface Water - Lead and Hardness Results

			Location ID	SW-01	SW-02	SW-03	SW-04	SW-05	SW-05	SW-06
		NYS Class C	Sample Code	SW-01_08042003N	SW-02_08042003N	SW-03_08042003N	SW-04_08042003N	SW-05_08042003N	SW-05_08042003FD	SW-06_08042003N
Chemical Name	Unit	Standard	Sample Date	8/4/2003	8/4/2003	8/4/2003	8/4/2003	8/4/2003	8/4/2003	8/4/2003
Hardness (as CaCO3)	mg/L	NA		150	120	120	72	120	NA	100
Lead	mg/L	0.003		**0.0046 J**	**0.0151 J**	**0.0344 J**	< 0.0030 UJ	**0.0223 J**	**0.0097 J**	**0.0162 J**

Notes:
Lead standard determined using highest concentration of hardness detected (150 mg/L). U not detected, J - estimated values, NA - Not Analyzed.

Table 4-6
Revere Smelting and Refining
Wallkill, New York
Ground Water - Lead, pH, Sulfate, and Alkalinity Results

Chemical Name	Unit	Location ID Sample Date Criteria	MW-13 11/16/2001	MW-13 March-06	MW-23D 11/16/2001	MW-23S 11/16/2001	MW-23S March-06	MW-24 11/15/2001	MW-24 March-06	MW-25 11/15/2001	MW-25 March-06	MW-26 11/16/2001	MW-26 March-06	MW-26 (DUP) 11/16/2001
Lead	mg/L	0.025	0.0031 J	0.0065	0.0000015 U	0.0248	0.005 U	0.0028 J	0.005 U	0.0000015 U	0.005 U	0.0033 J	0.0149	0.0042
Alkalinity (As CaCO3)	mg/L	NA	290	118	210	460	271	26	55.8	60	30.1	150	150	150
Sulfate	mg/L	250	2300	1690	1300	1500	515	2500	1790	50	48.6	330	307	330
pH			6.61	6.23	7.24	6.70	6.79	5.47	5.71	6.31	6.11	6.28	6.03	NA

Notes:
J- estimated, U - not detected, NA - Not Analyzed.

Table 4-7
Revere Smelting and Refining
Wallkill, New York
Sieve Analysis - Lead Results

Location ID	Chemical Name Sample Date	Lead mg/Kg
Sieve#1 + #60	11/16/2001	2820 R
Sieve#1 - #60	11/16/2001	1200 R
Sieve#2 + #60	11/16/2001	248 R
Sieve#2 + #60 (DUP)	11/16/2001	625 R
Sieve#2 - #60	11/16/2001	66.5 R
Sieve#3 + #60	11/16/2001	35300 R
Sieve#3 - #60	11/16/2001	3170 R
Sieve#4 + #60	11/16/2001	74700 R
Sieve#4 - #60	11/16/2001	92000 R

Notes:
R - rejected
+ #60 - Sample passed a 60 mesh sieve.
- #60 - Sample retained in a 60 mesh sieve.

Table 4-8
Revere Smelting and Refining
Wallkill, New York
Water Filled Excavation Soil - Lead Results

		Location ID	EX-1	EX-1	EX-2	EX-2	SED-1	SED-1
		Sample Date	11/8/2001	11/8/2001	11/8/2001	11/8/2001	11/29/2005	11/29/2005
		Sample ID	EX-1_11082001N-1	EX-1_11082001N-2	EX-2_11082001N-1	EX-2_11082001N-2	SEDOBG1D_L	SEDOBG1_L
		Depth Interval (ft)	0.0 - 0.5	0.5 - 1.0	0.0 - 0.5	0.5 - 1.0	0.0 - 0.5	0.0 - 0.5
Chemical Name	Unit	Action Level						
Lead	mg/Kg	SB	1300 J*	607 J*	2130 J*	306 J*	NA	NA
Lead	mg/l	NC	NA	NA	NA	NA	377	399

		Location ID	SED-2	SED-2	SED-3	SED-4
		Sample Date	11/29/2005	11/29/2005	11/29/2005	11/29/2005
		Sample ID	SEDOBG2D_L	SEDOBG2_L	SEDOBG3_L	SEDOBG4_L
		Depth Interval (ft)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Chemical Name	Unit	Action Level				
Lead	mg/Kg	SB	42300 *EJ	32800 *EJ	NA	NA
Lead	mg/l	NC	NA	6.08	8.72	6.1

Notes:
U - not detected, J - estimated, E - recovery greater than 10% for serial dilution, * - RPD greater than 20%.
NC - No Criteria, NA - Not Analyzed.

Table 4-12
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - Laboratory and XRF Comparison
Lead Results

	Location ID	Depth (ft)	Date	Laboratory Concentration (mg/kg)	XRF Concentration (mg/kg)
Remedial Investigation Data	TP-02	1.3 - 1.5	10/15/2001	5490 R	10400
	TP-03	2.5	10/16/2001	398 R	1089.6
	TP-05	1.2	10/17/2001	13700 R	13798.4
	TP-06	1.5	10/17/2001	141000 R	246988.8
	TP-07	2.2	10/17/2001	1370 R	1100
	TP-08	3	10/17/2001	421 R	642.8
	TP-09	1.4	10/17/2001	2580 R	2779.2
	TP-11	6	10/18/2001	21.7 R	BDL
	TP-12	0.9	10/18/2001	13.3 R	BDL
	TP-14	0.9	10/18/2001	18.5 R	BDL
Interim Remedial Measure Data	SB-OBG-25	0 - 2	11/28/2005	594 EJ	664.4
	SB-OBG-25	8 - 10	11/28/2005	228 EJ	283.8
	SB-OBG-26	4 - 5	11/28/2005	571 EJ (DUP - 468 *EJ) [1]	3798
	SB-OBG-26	5 - 6	11/28/2005	571 EJ (DUP - 468 *EJ) [1]	461
	SB-OBG-26	10-12	11/28/2005	193 *EJ	556
	SB-OBG-27	0 - 2	12/12/2005	380 N*EJ	1480
	SB-OBG-27	8 - 9	12/12/2005	555 N*EJ [1]	322.4
	SB-OBG-27	9 - 10	12/12/2005	555 N*EJ [1]	50.8
	SB-OBG-28	2 - 3	12/12/2005	49900 N*EJ	2099.2
	SB-OBG-28	3 - 4	12/12/2005	49900 N*EJ	232.4
	SB-OBG-28A	6 - 7	12/12/2005	39500 N*EJ	294.6
	SB-OBG-28A	7 - 8	12/12/2005	39500 N*EJ	269.8
	SB-OBG-28A	8 - 9	12/12/2005	62600 N*EJ	19494.4
	SB-OBG-28A	9 - 10	12/12/2005	62600 N*EJ	324.6
	SB-OBG-28A	10 - 11	12/12/2005	33100 N*EJ	1600
	SB-OBG-28A	11 - 12	12/12/2005	33100 N*EJ	263.2
	SB-OBG-28A	18 - 19	12/12/2005	1280 N*EJ	6649.6
	SB-OBG-28A	19 - 20	12/12/2005	1280 N*EJ	84.6
	SB-OBG-28A	22 - 24	12/12/2005	2780 N*EJ	5027.2
	SBOBG-29	0 - 2	11/28/2005	24.1 EJ	104.4
	SB-OBG-30	0 - 2	11/28/2005	13300 *EJ	4960
	SB-OBG-31	0 - 1	12/13/2005	666 N*EJ	431.2
	SB-OBG-31	1 - 2	12/13/2005	666 N*EJ	103
	SB-OBG-31	8 - 9	12/13/2005	135 N*ER	440.4
	SB-OBG-31	9 - 10	12/13/2005	135 N*ER	BDL
	SB-OBG-31	10 - 12	12/13/2005	55.1 N*ER	130.2
	SB-OBG-31	14 - 15	12/13/2005	41.7 N*ER	766.4
	SB-OBG-31	15 - 16	12/13/2005	41.7 N*ER	197
	SB-OBG-32	0 - 1	11/29/2005	12600 *EJ	16793.6
	SB-OBG-32	1 - 2	11/29/2005	12600 *EJ	2588.8
	SB-OBG-32	6 - 8	11/29/2005	993 EJ	334
Interim Remedial Measure Data	SB-OBG-33	0 - 2	11/29/2005	99.9 EJ	44.9
	SB-OBG-34	0 - 2	11/29/2005	24.8 EJ	BDL
	SB-OBG-35	2 - 4	11/29/2005	128 EJ	209.2
	SB-OBG-35	4 - 6	11/29/2005	191 EJ	BDL
	SB-OBG-36	0 - 2	11/29/2005	848 *EJ	884.8
	SB-OBG-36	6 - 7	11/29/2005	60.2 EJ	BDL
	SB-OBG-36	7 - 8	11/29/2005	60.2 EJ	BDL
	SB-OBG-36	8 - 9	11/29/2005	2250 EJ	218.8
	SB-OBG-36	9 - 10	11/29/2005	2250 EJ	BDL
	SB-OBG-37	0 - 1	12/13/2005	451 N*EJ	683.6
	SB-OBG-37	1 - 2	12/13/2005	451 N*EJ	54.8
	SB-OBG-37A	0 - 1	12/13/2005	368 N*EJ	187.1
	SB-OBG-37A	1 - 2	12/13/2005	368 N*EJ	363.2
	SB-OBG-38	0 - 1	11/29/2005	37500 *EJ	9209.6
	SB-OBG-38	1 - 2	11/29/2005	37500 *EJ	12096

Notes:
J -estimated, R -rejected, N -matrix spike outside 75-125% limit, E -recovery greater than 10% for serial dilution, B -detected in associated blank, * - RPD > than 20%, BDL -Below Detection Limit.

Table 4-13
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - TCLP and EPTOX Lead Results

			Analysis Method Chemical Name Units	TCLP Lead mg/l	EPTOX Lead mg/l
	Location ID	Depth Interval	Sample Date		
Historical Data	BC-1	0 - 1	11/30/1993	28	---
	BC-2	0 - 1	11/30/1993	16	---
	BC-3	0 - 1	11/30/1993	7.1	---
	BC-3	1 - 2	11/30/1993	1.2	---
	BC-3	2 - 2.6	11/30/1993	1.6	---
	BC-5	0 - 1	11/30/1993	21	---
	BC-6	0 - 1	11/30/1993	4.8/5.9 D	---
	BC-6	2 - 4	11/30/1993	2.6	---
	BS-1	0 - 1	11/30/1993	1.5	---
	BS-5	0 - 1	11/30/1993	0.6	---
	FB-1	0 - 1	12/15/1993	276	---
	FB-1	2 - 4	12/15/1993	121	---
	FB-1	4 - 6	12/15/1993	395	---
	FB-1	6 - 8	12/15/1993	ND U	---
	FB-1	8 - 10	12/15/1993	ND U	---
	FB-2	0 - 1	12/15/1993	134	---
	FB-2	2 - 4	12/15/1993	398	---
	FB-2	4 - 6	12/15/1993	192	---
	FB-2	6 - 8	12/15/1993	2.1	---
	FB-2	8 - 10	12/15/1993	67.2	---
	FB-3	0 - 1	12/15/1993	4.4	---
	FB-3	8 - 10	12/15/1993	1.2	---
	FB-4	0 - 2	12/15/1993	228	---
	FB-4	2 - 4	12/15/1993	355	---
	FB-4	4 - 6	12/15/1993	2.1	---
	FB-4	6 - 8	12/15/1993	2.1	---
	FB-4	8 - 10	12/15/1993	0.3	---
	FB-5	0 - 2	12/15/1993	0.3	---
	FB-5	2 - 4	12/15/1993	18.6	---
	FB-5	4 - 6	12/15/1993	0.3	---
	FB-5	6 - 8	12/15/1993	11.9	---
	FB-5	8 - 10	12/15/1993	1.9	---
	LB-4	0 - 2	9/1/1992	79	4.8
	LB-4	2 - 4	9/1/1992	130	2.2
	LB-4	4 - 6	9/1/1992	36	0.4
	LB-4	6 - 8	9/1/1992	250	31
	LB-6	0 - 2	9/1/1992	570	1000
	LB-6	2 - 4	9/1/1992	7.8	16
	LB-8	0 - 2	9/1/1992	270	35
	LB-8	6 - 6.3	9/1/1992	24	10
	LB-8	8 - 10	9/1/1992	48	10
	LB-10	0 - 2	9/1/1992	200	30
	LB-10	2 - 3	9/1/1992	410	540

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-13
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - TCLP and EPTOX Lead Results

			Analysis Method	TCLP	EPTOX
			Chemical Name	Lead	Lead
			Units	mg/l	mg/l
	Location ID	Depth Interval	Sample Date		
Historical Data	LB-10	6 - 8	9/1/1992	47	0.72
	LB-10	16 - 18	9/1/1992	34	0.13
	LB-12	1 - 2	9/1/1992	180	4.4
	LB-12	6 - 8	9/1/1992	14	16
	LB-12	8 - 10	9/1/1992	630	8.7
	SB-1	1.5 - 2	7/15/1991	0.53 U	0.5 U
	SB-1	2.5 - 3	7/15/1991	0.53 U	0.5 U
	SB-1	4 - 4.5	7/15/1991	0.4 J	0.19 J
	SB-1	5.5 - 6	7/15/1991	0.53 U	0.5 U
	SB-1	7 - 7.5	7/15/1991	1.2	0.5 U
	SB-1	8.5 - 9	7/15/1991	0.26 J	0.5 U
	SB-1	10 - 10.5	7/15/1991	1.3	0.5 U
	SB-2	1.5 - 2	7/15/1991	0.75 B	0.5 U
	SB-2	2.5 - 3	7/15/1991	0.53 U	0.5 U
	SB-2	4 - 4.5	7/15/1991	0.53 U	0.5 U
	SB-2	5.5 - 6	7/15/1991	0.33 J	0.5 U
	SB-2	7 - 7.5	7/15/1991	0.53 U	0.5 U
	SB-2	8.5 - 9	7/15/1991	0.53 U	0.5 U
	SB-2	11.5 - 12	7/15/1991	27 J	0.5 U
	SB-2	10 - 10.5	7/15/1991	0.53 U	0.5 U
	SB-3	1.5 - 2	7/15/1991	0.53 U	0.5 U
	SB-3	2.5 - 3	7/15/1991	0.52 U	0.5 U
	SB-3	4 - 4.5	7/15/1991	0.52 U	0.5 U
	SB-3	5.5 - 6	7/15/1991	0.52 U	0.5 U
	SB-3	6.5 - 7	7/15/1991	0.52 U	0.5 U
	SB-4	1.5 - 2	7/15/1991	6.5	0.5 U
	SB-4	2 - 2.6	7/15/1991	0.92	0.5 U
	SB-5	1.5 - 2	7/15/1991	1.6	0.5 U
	SB-5	4 - 4.5	7/15/1991	240	63
	SB-5	6 - 6.5	7/15/1991	7.4	0.61 B
	SS-1	0.5 - 1	7/10/1991	0.57 U	0.5 U
	SS-1	1 - 1.5	7/10/1991	0.57 U	0.5 U
	SS-1	1.5 - 2	7/10/1991	0.57 U	0.5 U
	SS-2	0.5 - 1	7/10/1991	0.57 U	0.5 U
	SS-2	1 - 1.5	7/10/1991	0.57 U	0.5 U
	SS-2	1.5 - 2	7/10/1991	0.57 U	0.5 U
	SS-3	0.5 - 1	7/10/1991	0.57 U	0.5 U
	SS-3	1 - 1.5	7/10/1991	0.57 U	0.5 U
	SS-3	1.5 - 2	7/10/1991	0.57 U	0.17 J
	SS-4	1 - 1.5	7/10/1991	0.57 U	0.5 U
	SS-5	1 - 1.5	7/10/1991	0.6 U	0.41 J
	SS-6	1.5 - 2	7/10/1991	0.6 U	0.5 U
	SS-7	0.5 - 1	7/10/1991	0.6 U	0.5 U
	SS-7	1 - 1.5	7/10/1991	0.6 U	0.5 U

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-13
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - TCLP and EPTOX Lead Results

			Analysis Method	TCLP	EPTOX
			Chemical Name	Lead	Lead
			Units	mg/l	mg/l
	Location ID	Depth Interval	Sample Date		
Historical Data	SS-7	1.5 - 2	7/10/1991	0.6 U	0.5 U
	SS-8	1.5 - 2	7/10/1991	0.6 U	0.5 U
	SS-9	0.5 - 1	7/10/1991	0.55 U	0.5 U
	SS-9	1 - 1.5	7/10/1991	0.27 J	0.5 U
	SS-9	1.5 - 2	7/10/1991	0.55 U	0.5 U
	SS-10	1.5 - 2	7/10/1991	0.55 U	0.5 U
	SS-11	1.5 - 2	7/10/1991	0.36 J	0.21 J
	SY-1	1.5 - 2	7/10/1991	35	---
	SY-1	2.5 - 3	7/10/1991	8.6	---
	SY-2	0 - 0.6	7/10/1991	16	---
	SY-2	0.6 - 1.1	7/10/1991	74	---
	SY-2	1.1 - 1.5	7/10/1991	350	---
	SY-2	1.5 - 2	7/10/1991	46	---
	SY-2	2 - 2.5	7/10/1991	0.78	---
	SY-2	2.5 - 3	7/10/1991	4.2	---
	SY-3	1.5 - 2	7/10/1991	260	---
	SY-3	2.5 - 3	7/10/1991	1.7	---
Remedial Investigation D	SB-OBG-11	2 - 2.9	10/24/2001	2.02	---
	SB-OBG-12	0 - 1.6	10/25/2001	0.246	---
	SB-OBG-12	8 - 9.6	10/23/2001	103	---
	SB-OBG-21	4 - 5.1	11/6/2001	3.49	---
	TP-02	1.3 - 1.5	10/15/2001	60	---
	TP-05	1.2	10/16/2001	229	---
	TP-07	2.2	10/17/2001	1.23	---
	TP-08	3	10/17/2001	4.61	---
	TP-09	1.4	10/17/2001	30.8	---
Interim Remedial Measure Data	SB-OBG-25	0 - 2	11/28/2005	2.27 EJ	---
	SB-OBG-25	2 - 4	11/25/2005	0.381 EJ	---
	SB-OBG-25	4 - 6	11/28/2005	0.352 EJ	---
	SB-OBG-25	6 - 8	11/25/2005	1.13 EJ	---
	SB-OBG-25	8 - 10	11/25/2005	1.66 EJ	---
	SB-OBG-26	0 - 2	11/28/2005	260 EJ	---
	SB-OBG-26	0 - 2	11/28/2005	92.1 EJ	---
	SB-OBG-26	2 - 4	11/28/2005	0.0582 UJE	---
	SB-OBG-26	4 - 6	11/28/2005	12.7 EJ	---
	SB-OBG-26	4 - 6	11/28/2005	16.7 EJ	---
	SB-OBG-26	6 - 8	11/28/2005	1.14 EJ	---
	SB-OBG-26	8 - 10	11/28/2005	0.104 EJU	---
	SB-OBG-26	10 - 12	11/28/2005	3.47 EJ	---
	SB-OBG-26	12 - 14	11/28/2005	19.6 EJ	---
	SB-OBG-27	0 - 2	12/12/2005	2.46	---
	SB-OBG-27	2 - 4	12/12/2005	0.662	---

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-13
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - TCLP and EPTOX Lead Results

			Analysis Method Chemical Name Units	TCLP Lead mg/l	EPTOX Lead mg/l
	Location ID	Depth Interval	Sample Date		
Interim Remedial Measure Data	SB-OBG-27	4 - 6	12/12/2005	10.3	---
	SB-OBG-27	6 - 8	12/12/2005	55.3	---
	SB-OBG-27	6 - 8	12/12/2005	136	---
	SB-OBG-27	8 - 10	12/12/2005	10.1	---
	SB-OBG-27	10 - 12	12/12/2005	7.68	---
	SB-OBG-27	12 - 14	12/12/2005	1.8	---
	SB-OBG-28	0 - 2	12/12/2005	121	---
	SB-OBG-28	2 - 4	12/12/2005	210	---
	SB-OBG-28A	0 - 2	12/12/2005	316	---
	SB-OBG-28A	2 - 4	12/12/2005	78.7	---
	SB-OBG-28A	4 - 6	12/12/2005	1010	---
	SB-OBG-28A	6 - 8	12/12/2005	82.9	---
	SB-OBG-28A	8 - 10	12/12/2005	300	---
	SB-OBG-28A	10 - 12	12/12/2005	167	---
	SB-OBG-28A	12 - 14	12/12/2005	6.31	---
	SB-OBG-28A	14 - 16	12/12/2005	3.59 EJ	---
	SB-OBG-28A	16 - 18	12/12/2005	0.371	---
	SB-OBG-28A	18 - 20	12/12/2005	6.1 EJ	---
	SB-OBG-28A	20 - 22	12/12/2005	10 EJ	---
	SB-OBG-28A	20 - 22	12/12/2005	39.7 EJ	---
	SB-OBG-28A	22 - 24	12/12/2005	11.3 EJ	---
	SB-OBG-29	0 - 2	11/28/2005	48.3 EJ	---
	SB-OBG-29	2 - 4	11/28/2005	0.446 EJ	---
	SB-OBG-29	4 - 6	11/28/2005	0.159 UEJ	---
	SB-OBG-29	6 - 8	11/28/2005	0.11 UEJ	---
	SB-OBG-29	8 - 10	11/28/2005	0.0489 UEJ	---
	SB-OBG-29	10 - 12	11/28/2005	0.898 EJ	---
	SB-OBG-29	12 - 13	11/28/2005	38.2 EJ	---
	SB-OBG-30	0 - 2	11/28/2005	4.54 EJ	---
	SB-OBG-30	2 - 4	11/28/2005	24.7 EJ	---
	SB-OBG-30	4 - 6	11/28/2005	6.02 EJ	---
	SB-OBG-30	6 - 8	11/28/2005	10.8 EJ	---
	SB-OBG-30	8 - 10	11/28/2005	18 EJ	---
	SB-OBG-30	10 - 12	11/28/2005	3.82 EJ	---
	SB-OBG-30	12 - 13	11/28/2005	18.1 EJ	---
	SB-OBG-31	0 - 2	12/13/2005	6.11 EJ	---
	SB-OBG-31	2 - 4	12/13/2005	4.52 EJ	---
	SB-OBG-31	2 - 4	12/13/2005	0.139 EJ	---
	SB-OBG-31	4 - 6	12/13/2005	57.6	---
	SB-OBG-31	6 - 8	12/13/2005	28	---
	SB-OBG-31	8 - 10	12/13/2005	3.12 EJ	---
	SB-OBG-31	10 - 12	12/13/2005	0.385 EJ	---
	SB-OBG-31	12 - 14	12/13/2005	0.03 EJ	---
	SB-OBG-31	12 - 14	12/13/2005	0.0354 EJ	---

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

Table 4-13
Revere Smelting and Refining
Wallkill, New York
Subsurface Soil - TCLP and EPTOX Lead Results

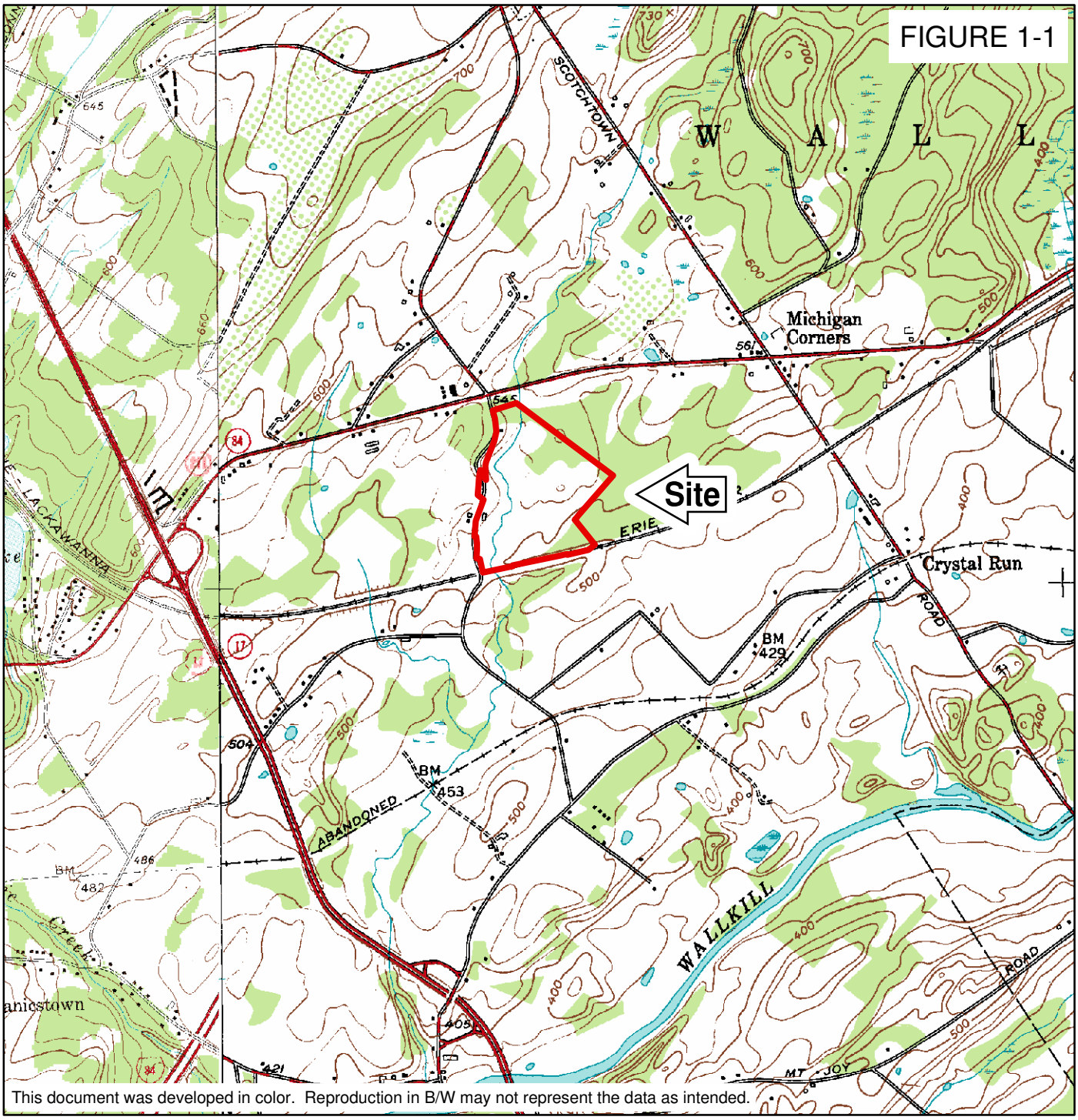
			Analysis Method	TCLP	EPTOX
			Chemical Name	Lead	Lead
			Units	mg/l	mg/l
	Location ID	Depth Interval	Sample Date		
Interim Remedial Measure Data	SB-OBG-31	14 - 16	12/13/2005	0.0933 EJ	---
	SB-OBG-31	16 - 17	12/13/2005	1.09 EJ	---
	SB-OBG-32	0 - 2	11/29/2005	188	---
	SB-OBG-32	2 - 4	11/29/2005	7.29	---
	SB-OBG-32	4 - 6	11/29/2005	30.8	---
	SB-OBG-32	6 - 8	11/29/2005	39.9	---
	SB-OBG-32	10 - 12	11/29/2005	0.243	---
	SB-OBG-32	12 - 14	11/29/2005	6.46	---
	SB-OBG-33	0 - 2	11/29/2005	0.213	---
	SB-OBG-33	2 - 4	11/29/2005	0.266	---
	SB-OBG-33	8 - 10	11/29/2005	0.0116	---
	SB-OBG-33	12 - 13	11/29/2005	0.822	---
	SB-OBG-33	12 - 14	11/29/2005	0.0765	---
	SB-OBG-34	0 - 2	11/29/2005	0.742	---
	SB-OBG-34	2 - 4	11/29/2005	1.67	---
	SB-OBG-34	4 - 6	11/29/2005	0.0202	---
	SB-OBG-34	8 - 10	11/29/2005	3.86	---
	SB-OBG-34	10 - 12	11/29/2005	0.158	---
	SB-OBG-34	12 - 13	11/29/2005	0.0079 B	---
	SB-OBG-35	0 - 2	11/29/2005	1.16	---
	SB-OBG-35	2 - 4	11/29/2005	0.66	---
	SB-OBG-35	4 - 6	11/29/2005	0.701	---
	SB-OBG-35	6 - 8	11/29/2005	0.191	---
	SB-OBG-36	0 - 2	11/29/2005	13	---
	SB-OBG-36	2 - 4	11/29/2005	0.0687	---
	SB-OBG-36	4 - 6	11/29/2005	0.153	---
	SB-OBG-36	6 - 8	11/29/2005	0.76	---
	SB-OBG-36	8 - 10	11/29/2005	1.29	---
	SB-OBG-36	10 - 11	11/29/2005	0.0084 B	---
	SB-OBG-37	0 - 2	12/13/2005	5.78 EJ	---
	SB-OBG-37	2 - 4	12/13/2005	109	---
	SB-OBG-37	4 - 5	12/13/2005	11.7 EJ	---
	SB-OBG-37A	0 - 2	12/13/2005	12.8 EJ	---
	SB-OBG-37A	2 - 4	12/13/2005	111	---
	SB-OBG-38	0 - 2	11/29/2005	194	---
	SB-OBG-38	2 - 4	11/29/2005	404	---
	SB-OBG-38	4 - 6	11/29/2005	365	---
	SB-OBG-38	6 - 8	11/29/2005	30.4	---
	SB-OBG-38	8 - 10	11/29/2005	56.7	---

Notes:
J - estimated, R - rejected, N - matrix spike outside 75-125% limit, E - recovery greater than 10% for serial dilution, B - detected in associated blank, * - RPD greater than 20%

T:\10653_NYSDEC\RevereSmelting\GIS - RI Report\FIG 1-1.mxd

PLOT DATE: 04/17/06

FIGURE 1-1



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ADAPTED FROM: MIDTOWN AND GOSHEN, NY USGS QUADRANGLE

QUADRANGLE LOCATION

NEW YORK STATE D.E.C.
REVERE SMELTING AND REFINING
NYSDEC SITE #336053
WALLKILL, NEW YORK

SITE LOCATION

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

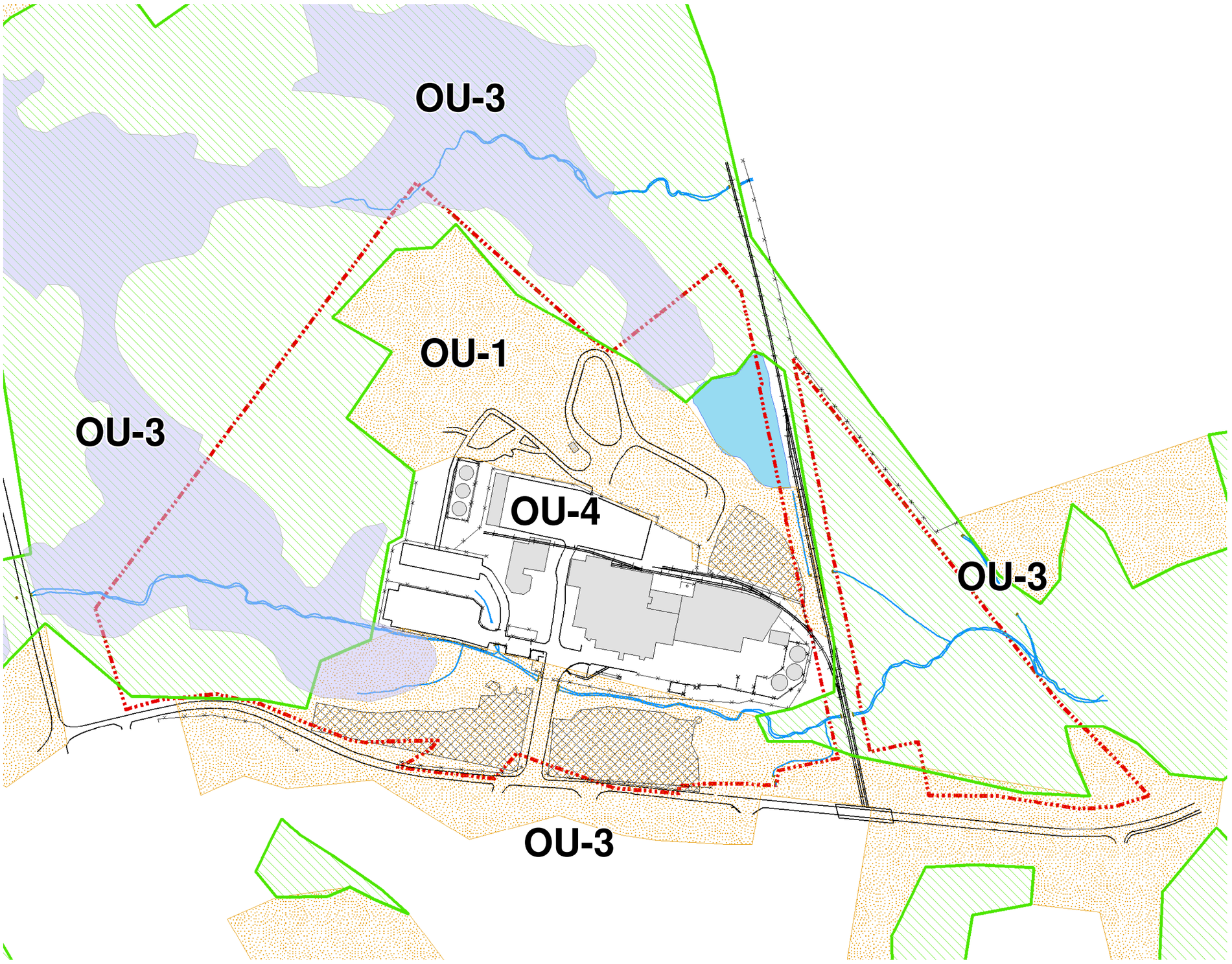
1:24,000

FILE NO. 10653.26408
DATE: JANUARY 2007

O'BRIEN & GERE ENGINEERS, INC.

T:\10653_NYSDEC\RevereSmelting\GIS - RI Report\FIG 1-2.mxd

FIGURE 1-2



Legend

- POND
- NYS WETLAND
- SUCCESSIONAL FIELD/MOWED LAWN
- RICH MESOPHYTIC FOREST
- APPROXIMATE EXTENT OF EXCAVATION
- PROPERTY LINE

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
NYSDEC SITE #336053
WALLKILL, NEW YORK

COVER TYPES

0 150 300 600
Feet

APRIL 2007
10653.26408

PLOT DATE: 04/11/07 SMT

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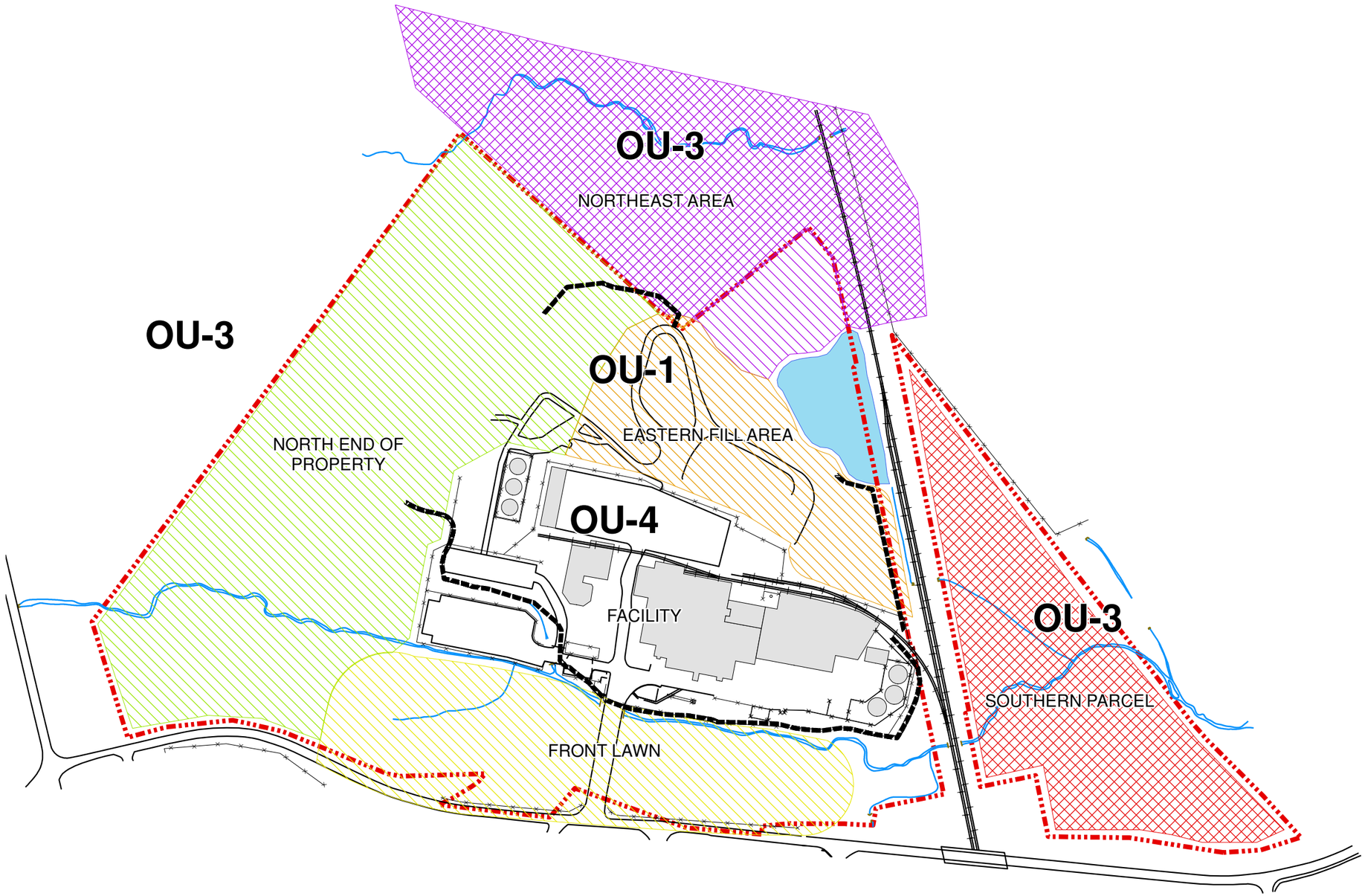
T:\10653_NYSDEC\RevereSmelting\GIS - RI Report\FIG 1-3.mxd

FIGURE 1-3



Legend

- Buildings
- POND
- PROPERTY LINE
- BARRIER WALL

AREAS OF INVESTIGATION

- FRONT LAWN
- NORTH END OF PROPERTY
- SOUTHERN PARCEL
- NORTHEAST AREA IN OU-3
- NORTHEAST AREA IN OU-1
- EASTERN FILL AREA IN OU-1
- EASTERN FILL AREA IN OU-3

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

INVESTIGATION AREAS

0 100 200 400 600 800
Feet

JANUARY 2007
10653.24608

O'BRIEN & GERE ENGINEERS, INC.

PLOT DATE: 01/09/07 SMT

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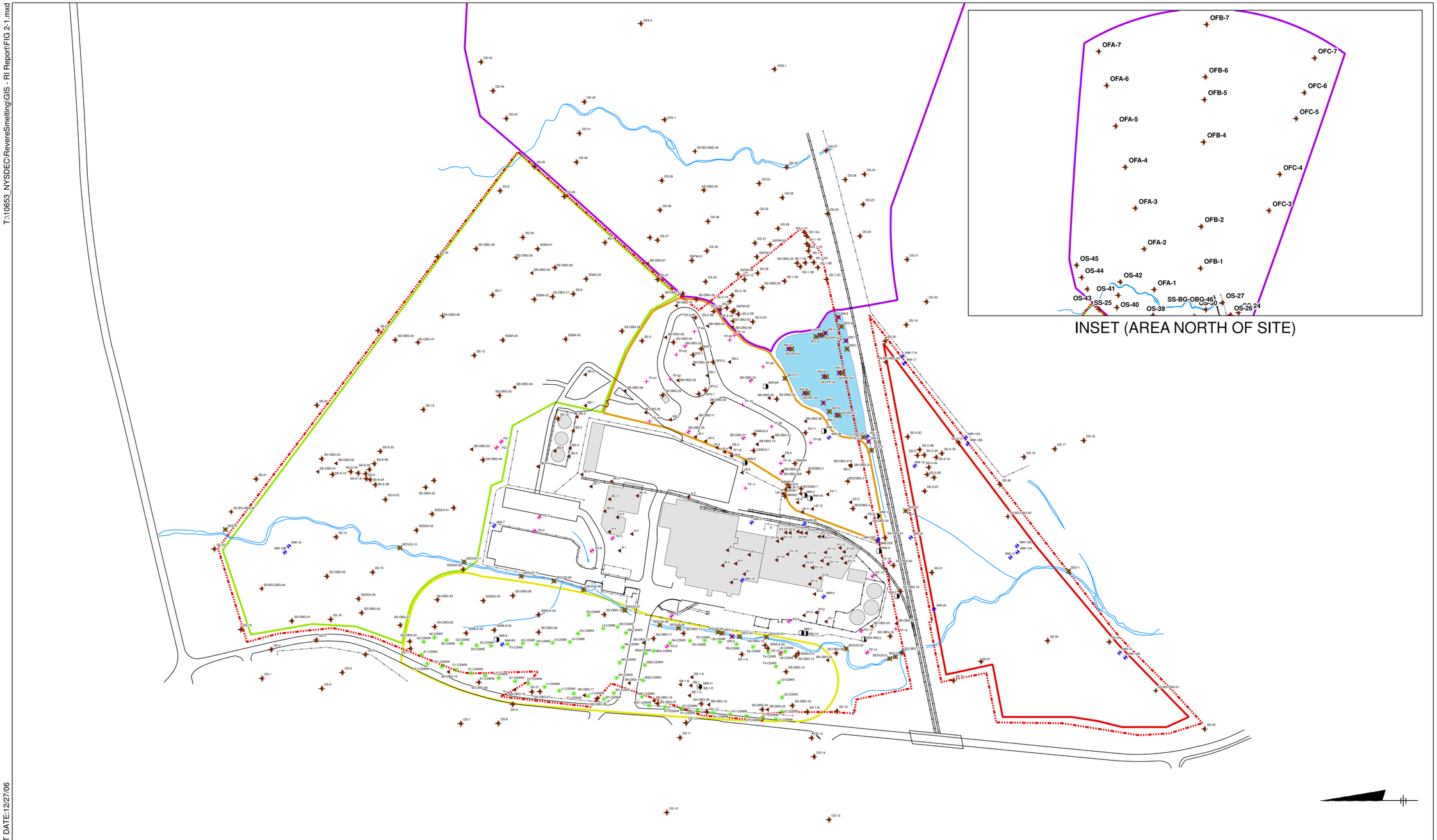
T:\10653_NYSDEC\ReverereSmelting\GIS - RI Report\FIG 2-1.mxd



PLOT DATE:12/27/06

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LEGEND

- ROAD
- RAILROAD
- FENCE
- SURFACE WATER
- BUILDING
- POND
- PROPERTY LINE
- BACKGROUND SURFACE SOIL
- SURFACE WATER
- EXCAVATION CONFIRMATION
- TEST PIT
- PIEZOMETER
- EXISTING MONITORING WELL
- ABANDONED MONITORING WELL
- SEDIMENT
- SOIL BORING
- SURFACE SOIL
- EASTERN FILL AREA
- FRONT LAWN
- NORTH END OF PROPERTY
- NORTHEAST OF PROPERTY
- SOUTHERN PARCEL
- NORTH EAST OF PROPERTY IN OU-1
- EASTERN FILL AREA IN OU-3

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

0 50 100 200 300 400 Feet

SAMPLE LOCATION MAP

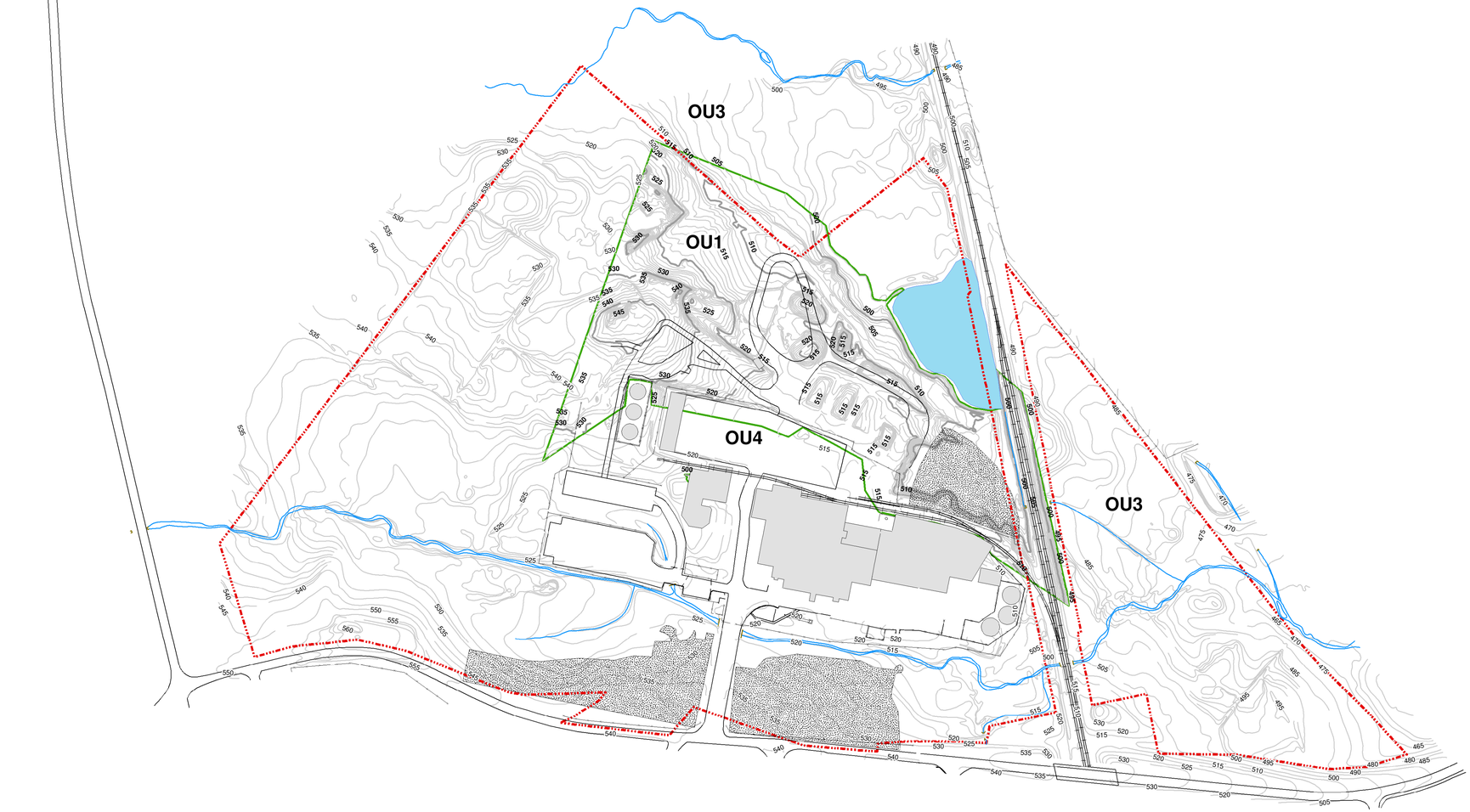
FILE NO.
10653/26408

DATE
DECEMBER 2006

FIGURE 2-1

O'BRIEN & GERE ENGINEERS, INC.

T:\10653_NYSDEC\ReverseSmelting\GIS - RI Report\FIG 3-1.mxd



PLOT DATE: 01/08/07 SMT

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LEGEND

ROADS	PROPERTY LINE	2006 TOPOGRAPHY	1988 TOPOGRAPHY
Fence	POND	10 FT CONTOUR	1 FT CONTOURS
Railroad	APPROXIMATE EXTENT OF EXCAVATION	1 FT CONTOUR	
Buildings	2006 TOPOGRAPHIC MAP OUTLINE	2 FT CONTOUR	
		5 FT CONTOUR	

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

0 60 120 240 360 480 Feet

SITE TOPOGRAPHY

FILE NO.
10653/26408

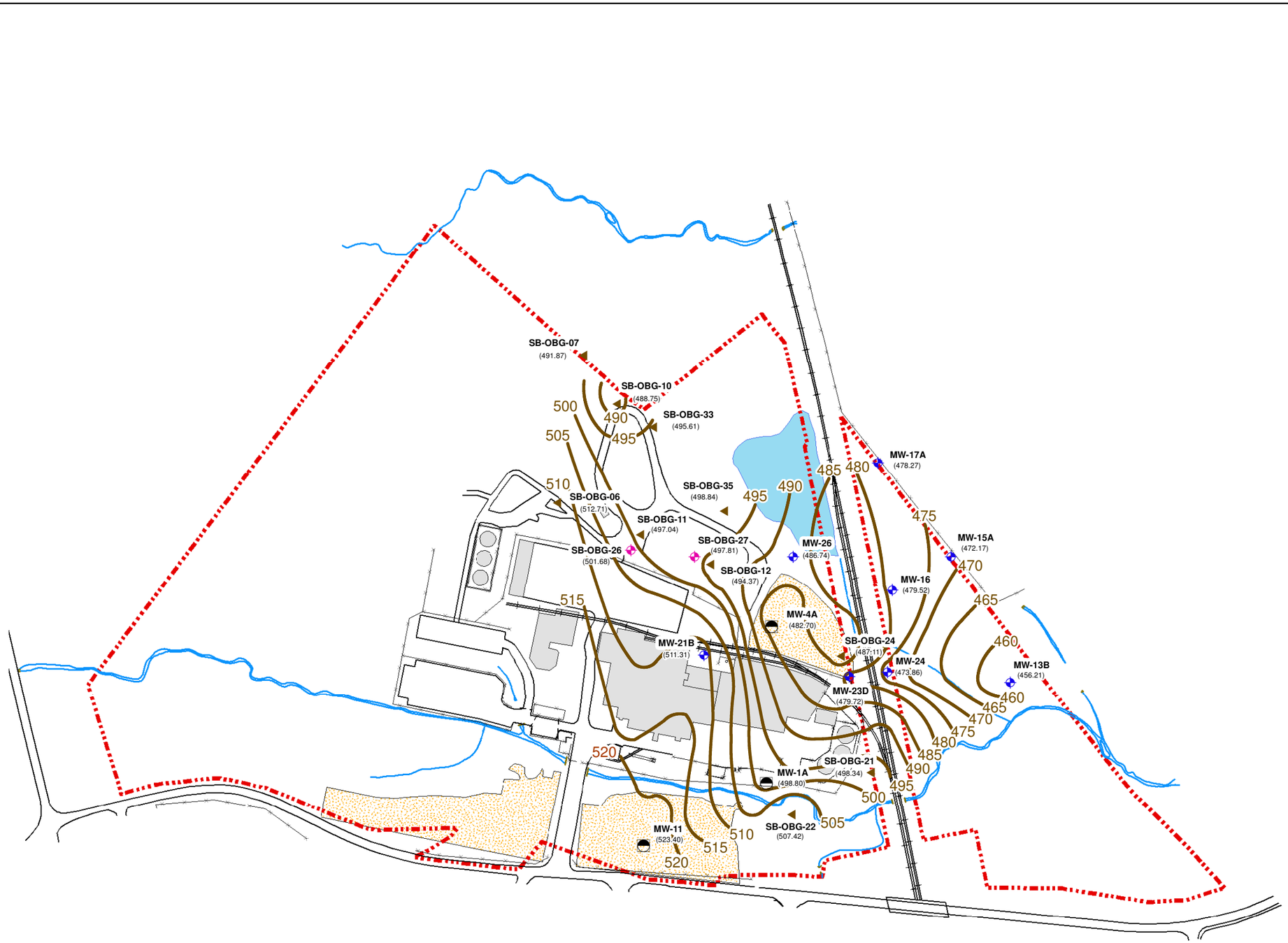
DATE
JANUARY 2007

FIGURE 3-1

O'BRIEN & GERE ENGINEERS, INC.

T:\10653_NYSDEC\ReverеSmelting\GIS - RI Report\FIG 3-2.mxd

FIGURE 3-2



Legend

- POND
- PROPERTY LINE
- TOP OF BEDROCK
- APPROXIMATE EXTENT OF EXCAVATION

SAMPLE LOCATIONS

- PIEZOMETER
- EXISTING MONITORING WELL
- ABANDONED MONITORING WELL
- SOIL BORING

NOTE: (478.27) - ELEVATION FT AMSL

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

TOP OF BEDROCK CONTOURS

0 100 200 400 600 800
Feet

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O'BRIEN & GERE ENGINEERS, INC.

PLOT DATE: 01/08/07 SMT

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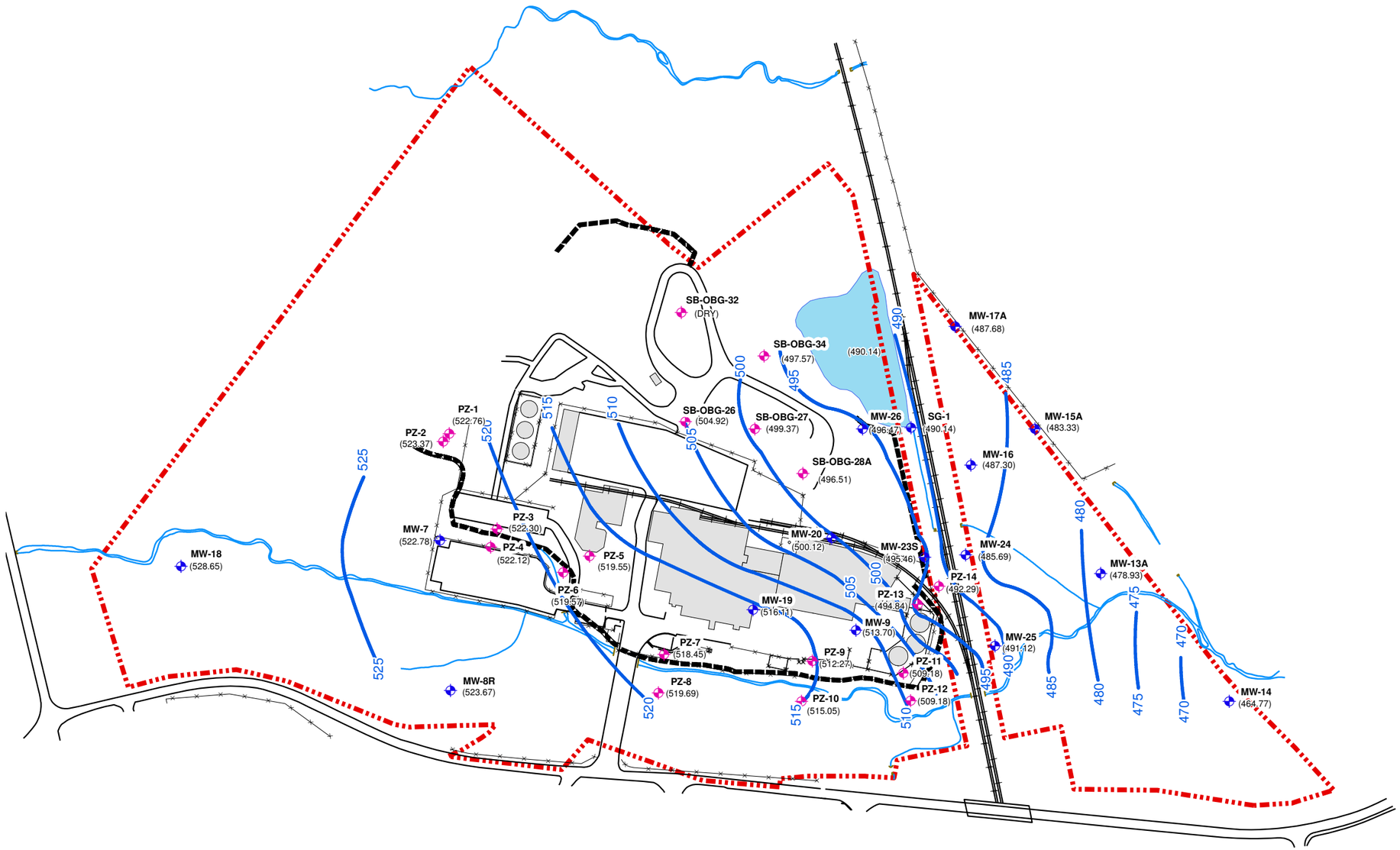
T:\10653_NYSDEC\ReverеSmelting\GIS - RI Report\FIG 3-3.mxd

FIGURE 3-3



Legend

- POND
- PROPERTY LINE
- BARRIER WALL
- SHALLOW GROUND WATER CONTOUR

SAMPLE LOCATIONS

- PIEZOMETER
- EXISTING MONITORING WELL

NOTE: (487.68) - ELEVATION (FT AMSL)

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

SHALLOW GROUND WATER CONTOURS (MARCH 6, 2006)

0 100 200 400 600 800
Feet

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T:\10653_NYSDEC\RevereSmelting\GIS - RI Report\FIG 3-4.mxd

FIGURE 3-4

Legend

- POND
- PROPERTY LINE
- DEEP GROUND WATER CONTOUR
- BARRIER WALL

SAMPLE LOCATIONS

- EXISTING MONITORING WELL

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

DEEP GROUND WATER CONTOURS (MARCH 6, 2006)

0 100 200 400 600 800
Feet

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O'BRIEN & GERE ENGINEERS, INC.

PLOT DATE: 01/08/07 SMT

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T:\10653_NYSDEC\RevereSmelting\GIS - RI Report\FIG 3-5.mxd

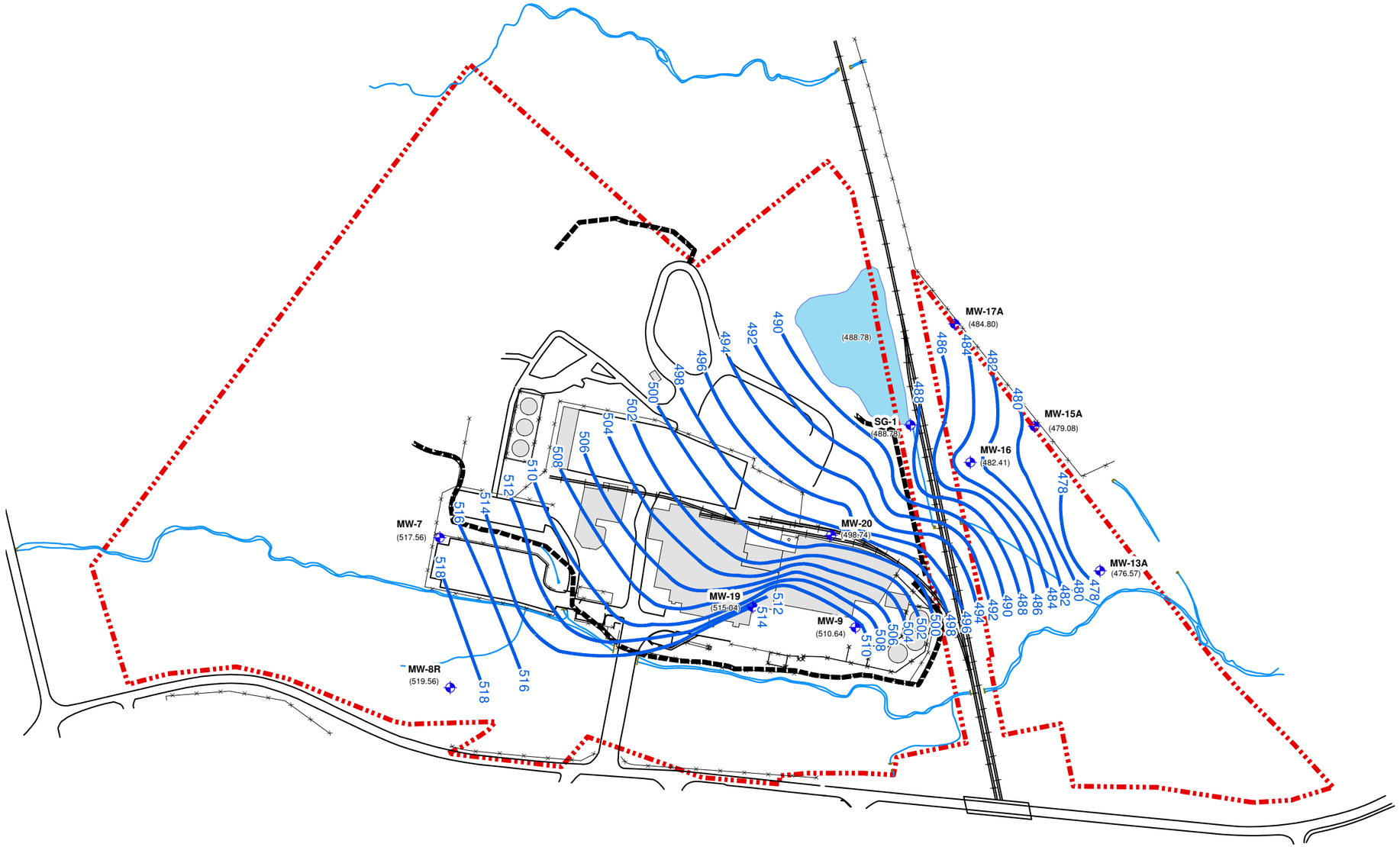

FIGURE 3-5

Legend

- POND
- PROPERTY LINE
- LOW GROUND WATER CONTOURS
- BARRIER WALL

SAMPLE LOCATIONS

- EXISTING MONITORING WELL

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

LOW GROUND WATER CONTOURS (SEPTEMBER 2005)

0 100 200 400 600 800
Feet

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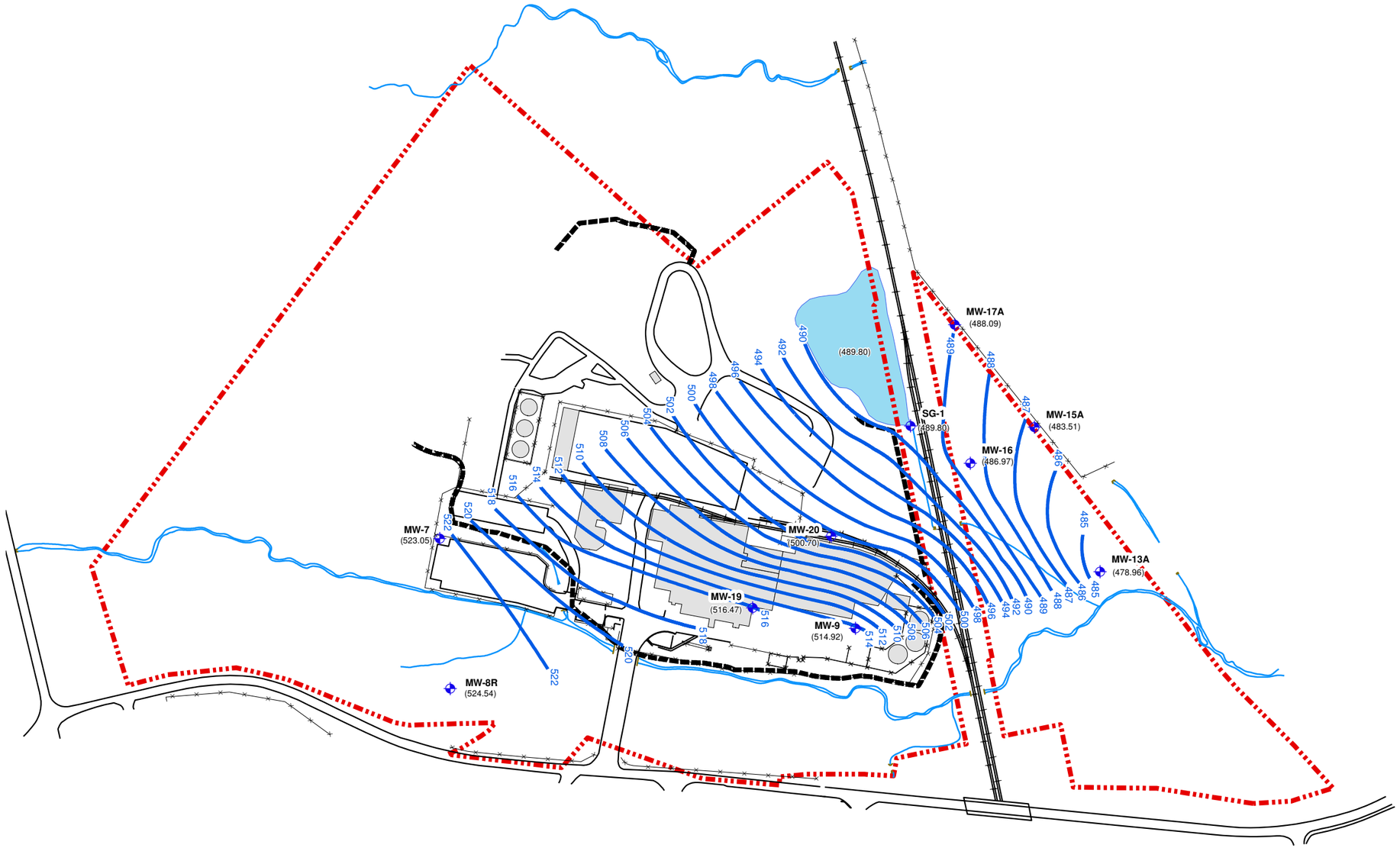
T:\10653_NYSDEC\RevereSmelting\GIS - RI Report\FIG 3-6.mxd

FIGURE 3-6



Legend

- POND
- PROPERTY LINE
- HIGH GROUND WATER CONTOURS
- BARRIER WALL

SAMPLE LOCATIONS

- EXISTING MONITORING WELL

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

HIGH GROUND WATER CONTOURS (MARCH 2003)

0 100 200 400 600 800
Feet

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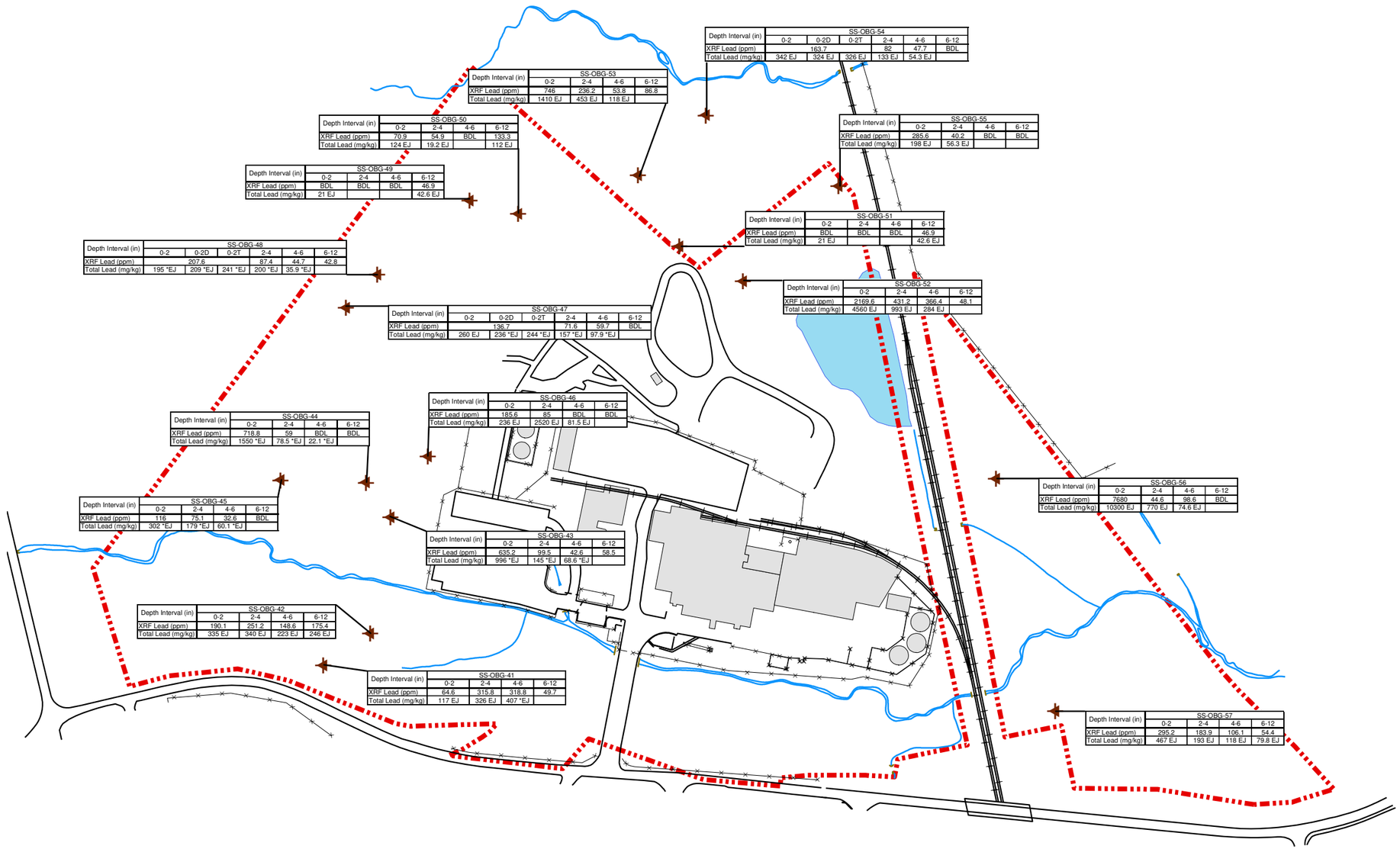
T:\10653_NYSDEC\RevereSmelting\GIS - RI Report\FIG 4-1.mxd

FIGURE 4-1



Legend

- POND
- PROPERTY LINE
- SURFACE SOIL

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

INTERIM REMEDIAL MEASURE
SURFACE SOIL DATA

0 100 200 400 600 800
Feet

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PLOT DATE: 01/08/07 SMT

T:\10653_NYSDEC\RevereSmelting\GIS - RI Report\Figure 4-2.mxd

FIGURE 4-2

Locations where a sample was analyzed at this interval are labelled. Remaining locations are not labelled.
Color symbols indicate that a sample was analyzed at this interval but was below the specified action limits.
Gray symbol indicates no sample was analyzed at this depth interval.
This document was developed in color. Reproduction in B/W may not represent the data as intended.

Legend

- APPROXIMATE EXTENT OF EXCAVATION
- POND
- PROPERTY LINE
- BARRIER WALL
- LEAD >= 10000 PPM
- LEAD >= 4000 PPM
- LEAD >= 1000 PPM
- LEAD >= 400 PPM
- LEAD >= 100 PPM
- BACKGROUND SURFACE SOIL
- PIEZOMETER
- EXISTING MONITORING WELL
- ABANDONED MONITORING WELL
- SEDIMENT
- SOIL BORING
- SURFACE SOIL

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

SURFACE SOIL LEAD CONCENTRATIONS 0 - 0.2 FT

0 100 200 400 600 800
Feet

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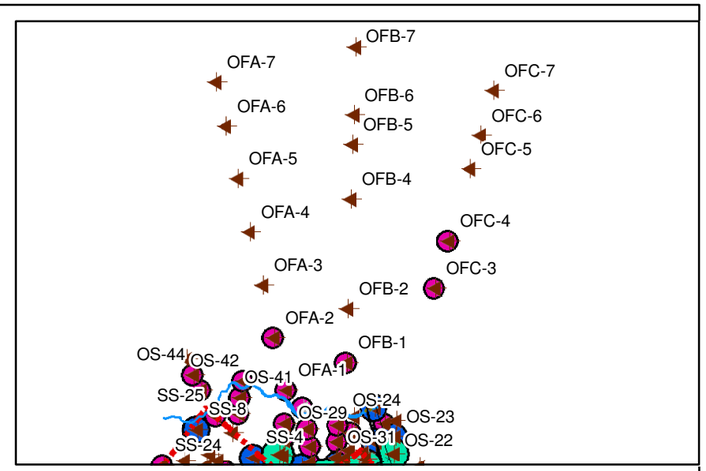
O'BRIEN & GERE ENGINEERS, INC.

PLOT DATE: 01/08/07 SMT

T:\10653_NYSDEC\RevereSmelting\GIS - RI Report\Figure 4-3.mxd

FIGURE 4-3



INSET (AREA NORTH OF SITE)

Locations where a sample was analyzed at this interval are labelled. Remaining locations are not labelled.
Color symbols indicate that a sample was analyzed at this interval but was below the specified action limits.
Gray symbol indicates no sample was analyzed at this depth interval.
This document was developed in color. Reproduction in B/W may not represent the data as intended.

Legend

- APPROXIMATE EXTENT OF EXCAVATION
- POND
- PROPERTY LINE
- BARRIER WALL
- LEAD >= 10000 PPM
- LEAD >= 4000 PPM
- LEAD >= 1000 PPM
- LEAD >= 400 PPM
- LEAD >= 100 PPM
- BACKGROUND SURFACE SOIL
- TEST PIT
- PIEZOMETER
- EXISTING MONITORING WELL
- ABANDONED MONITORING WELL
- SEDIMENT
- SOIL BORING
- SURFACE SOIL

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

SURFACE SOIL
LEAD CONCENTRATIONS
0 - 0.5 FT

0 100 200 400 600 800
Feet

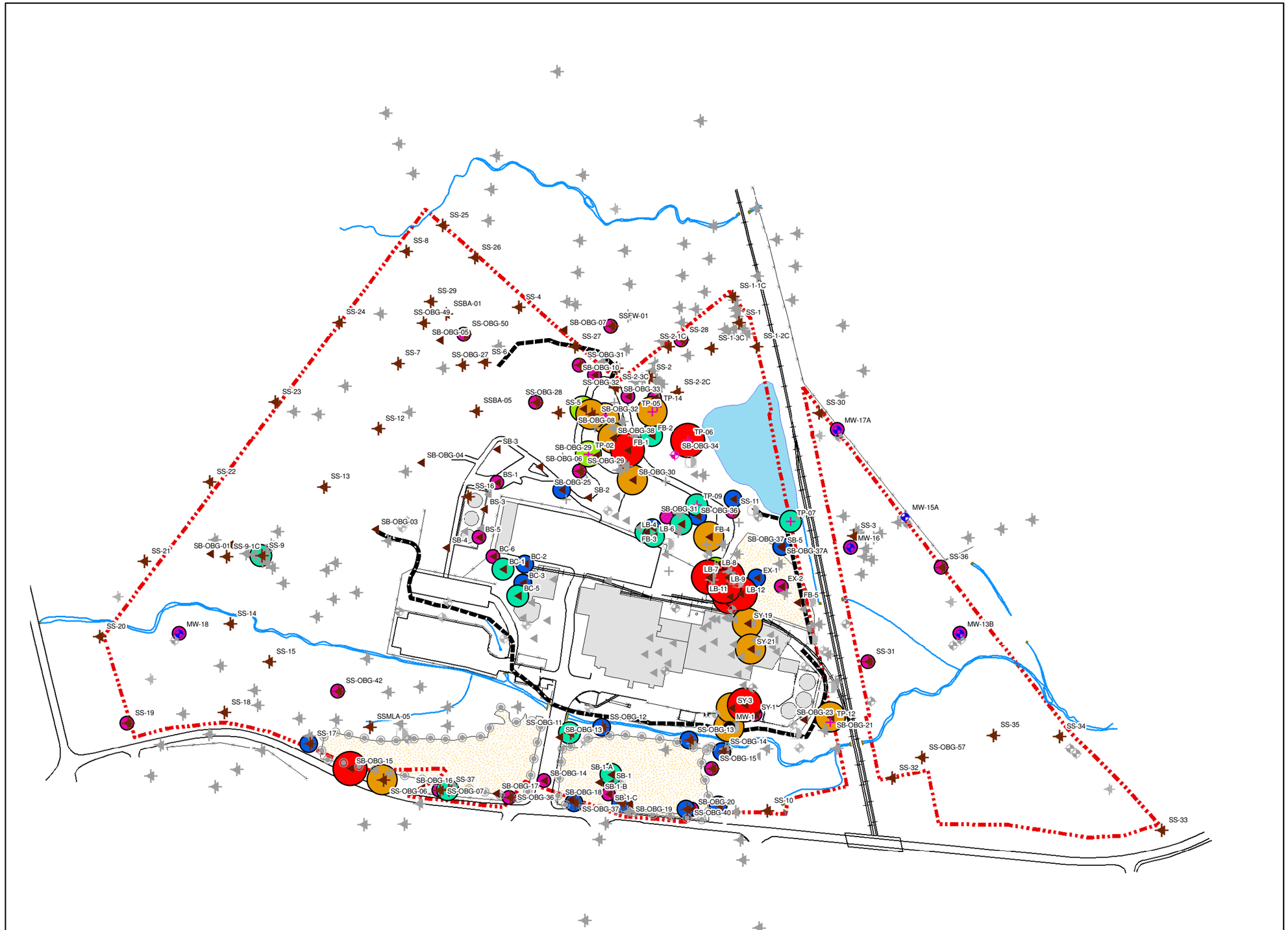
JANUARY 2007
10653.24608

O'BRIEN & GERE
ENGINEERS, INC.

PLOT DATE: 01/08/07 SMT

T:\10653_NYSDEC\RevereSmelting\GIS - RI Report\Figure 4-4.mxd

FIGURE 4-4



Locations where a sample was analyzed at this interval are labelled. Remaining locations are not labelled.
Color symbols indicate that a sample was analyzed at this interval but was below the specified action limits.
Gray symbol indicates no sample was analyzed at this depth interval.
This document was developed in color. Reproduction in B/W may not represent the data as intended.

Legend

- APPROXIMATE EXTENT OF EXCAVATION
- POND
- PROPERTY LINE
- BARRIER WALL
- LEAD >= 40000 PPM
- LEAD >= 10000 PPM
- LEAD >= 4000 PPM
- LEAD >= 1000 PPM
- LEAD >= 400 PPM
- LEAD >= 100 PPM
- TEST PIT
- PIEZOMETER
- EXISTING MONITORING WELL
- ABANDONED MONITORING WELL
- SEDIMENT
- SOIL BORING
- SURFACE SOIL

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

SUBSURFACE SOIL LEAD CONCENTRATIONS 0.5 - 2.0 FT

0 100 200 400 600 800
Feet

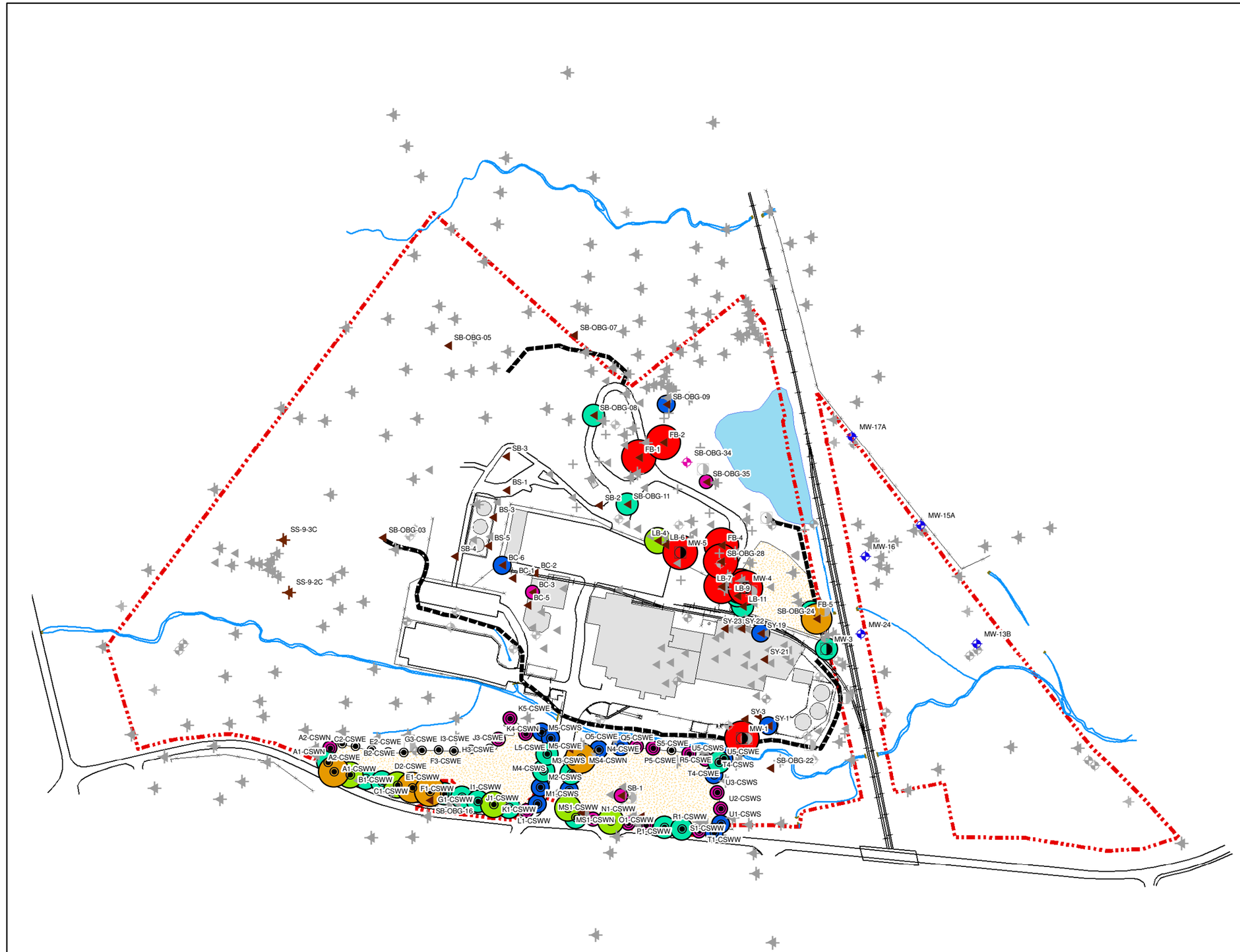
JANUARY 2007
10653.24608

O'BRIEN & GERE ENGINEERS, INC.

PLOT DATE: 01/08/07 SMT

T:\10653_NYSDEC\RevereSmelting\GIS - RI Report\Figure 4-5.mxd

FIGURE 4-5



Locations where a sample was analyzed at this interval are labelled. Remaining locations are not labelled.
Color symbols indicate that a sample was analyzed at this interval but was below the specified action limits.
Gray symbol indicates no sample was analyzed at this depth interval.
This document was developed in color. Reproduction in B/W may not represent the data as intended.

PLOT DATE: 01/08/07 SMT

Legend

- APPROXIMATE EXTENT OF EXCAVATION
- POND
- PROPERTY LINE
- BARRIER WALL
- LEAD >= 40000 PPM
- LEAD >= 10000 PPM
- LEAD >= 4000 PPM
- LEAD >= 1000 PPM
- LEAD >= 400 PPM
- LEAD >= 100 PPM
- CONFIRMATION SAMPLE
- TEST PIT
- PIEZOMETER
- EXISTING MONITORING WELL
- ABANDONED MONITORING WELL
- SEDIMENT
- SOIL BORING
- SURFACE SOIL

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

SUBSURFACE SOIL LEAD CONCENTRATIONS 2.0 - 4.0 FT

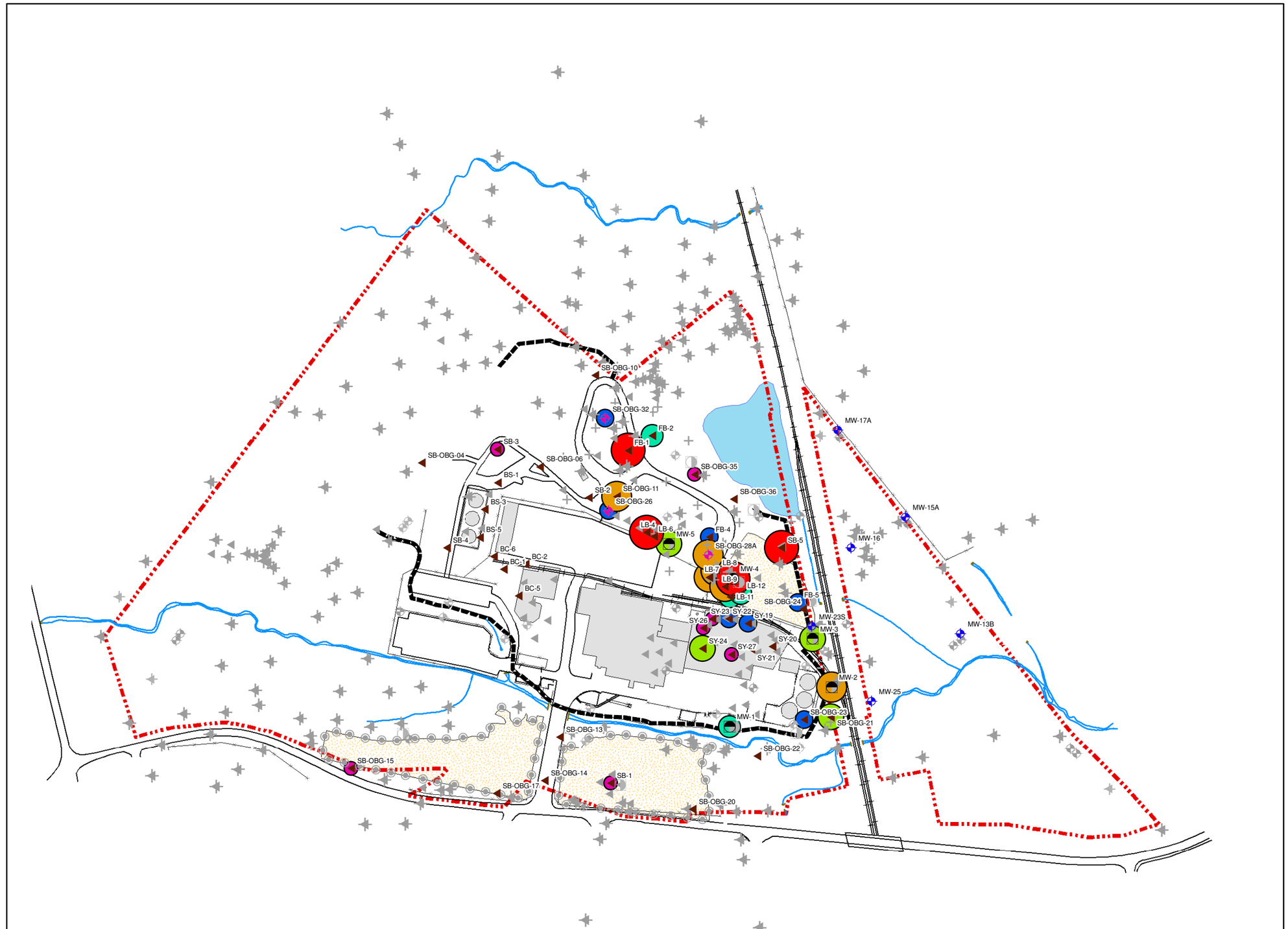
0 100 200 400 600 800
Feet

JANUARY 2007
10653.24608

O'BRIEN & GERE ENGINEERS, INC.

T:\10653_NYSDEC\RevereSmelting\GIS - RI Report\Figure 4-6.mxd

FIGURE 4-6



Locations where a sample was analyzed at this interval are labelled. Remaining locations are not labelled.
Color symbols indicate that a sample was analyzed at this interval but was below the specified action limits.
Gray symbol indicates no sample was analyzed at this depth interval.
This document was developed in color. Reproduction in B/W may not represent the data as intended.

PLOT DATE: 01/08/07 SMT

Legend

- APPROXIMATE EXTENT OF EXCAVATION
- POND
- PROPERTY LINE
- BARRIER WALL
- LEAD >= 40000 PPM
- LEAD >= 10000 PPM
- LEAD >= 4000 PPM
- LEAD >= 1000 PPM
- LEAD >= 400 PPM
- LEAD >= 100 PPM
- TEST PIT
- PIEZOMETER
- EXISTING MONITORING WELL
- ABANDONED MONITORING WELL
- SEDIMENT
- SOIL BORING
- SURFACE SOIL

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

SUBSURFACE SOIL LEAD CONCENTRATIONS 4.0 - 8.0 FT

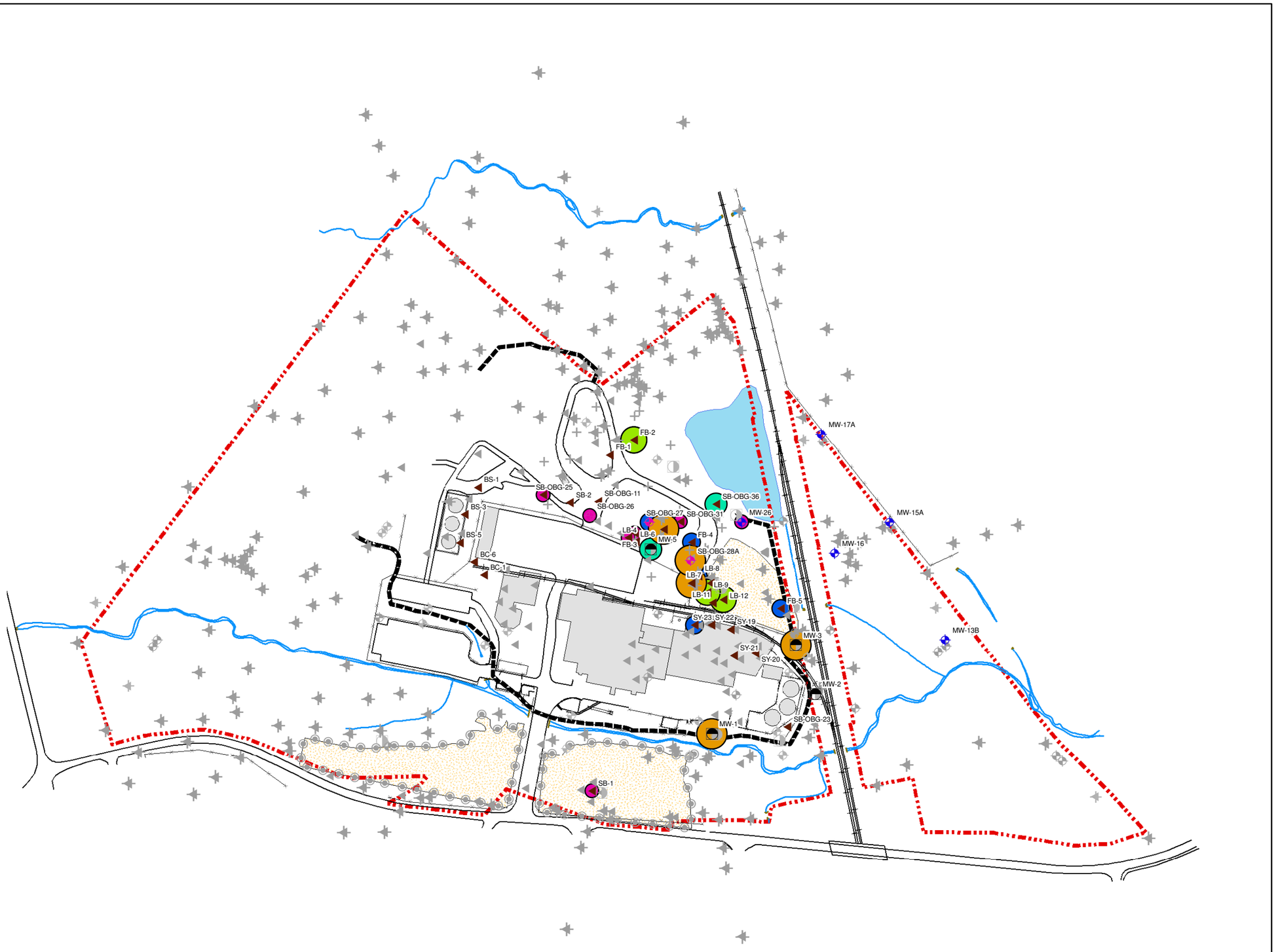
0 100 200 400 600 800
Feet

JANUARY 2007
10653.24608

O'BRIEN & GERE ENGINEERS, INC.

T:\10653_NYSDEC\RevereSmelting\GIS - RI Report\Figure 4-7.mxd

FIGURE 4-7



Legend

- APPROXIMATE EXTENT OF EXCAVATION
- POND
- PROPERTY LINE
- BARRIER WALL
- LEAD >= 10000 PPM
- LEAD >= 4000 PPM
- LEAD >= 1000 PPM
- LEAD >= 400 PPM
- LEAD >= 100 PPM
- PIEZOMETER
- EXISTING MONITORING WELL
- ABANDONED MONITORING WELL
- SEDIMENT
- SOIL BORING
- SURFACE SOIL

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

SUBSURFACE SOIL LEAD CONCENTRATIONS 8.0 - 12.0 FT

0 100 200 400 600 800
Feet

JANUARY 2007
10653.24608

O'BRIEN & GERE ENGINEERS, INC.

Locations where a sample was analyzed at this interval are labelled. Remaining locations are not labelled.
Color symbols indicate that a sample was analyzed at this interval but was below the specified action limits.
Gray symbol indicates no sample was analyzed at this depth interval.
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PLOT DATE: 01/08/07 SMT

Figure 4-8
Total Lead vs XRF Lead
Remedial Investigation Samples

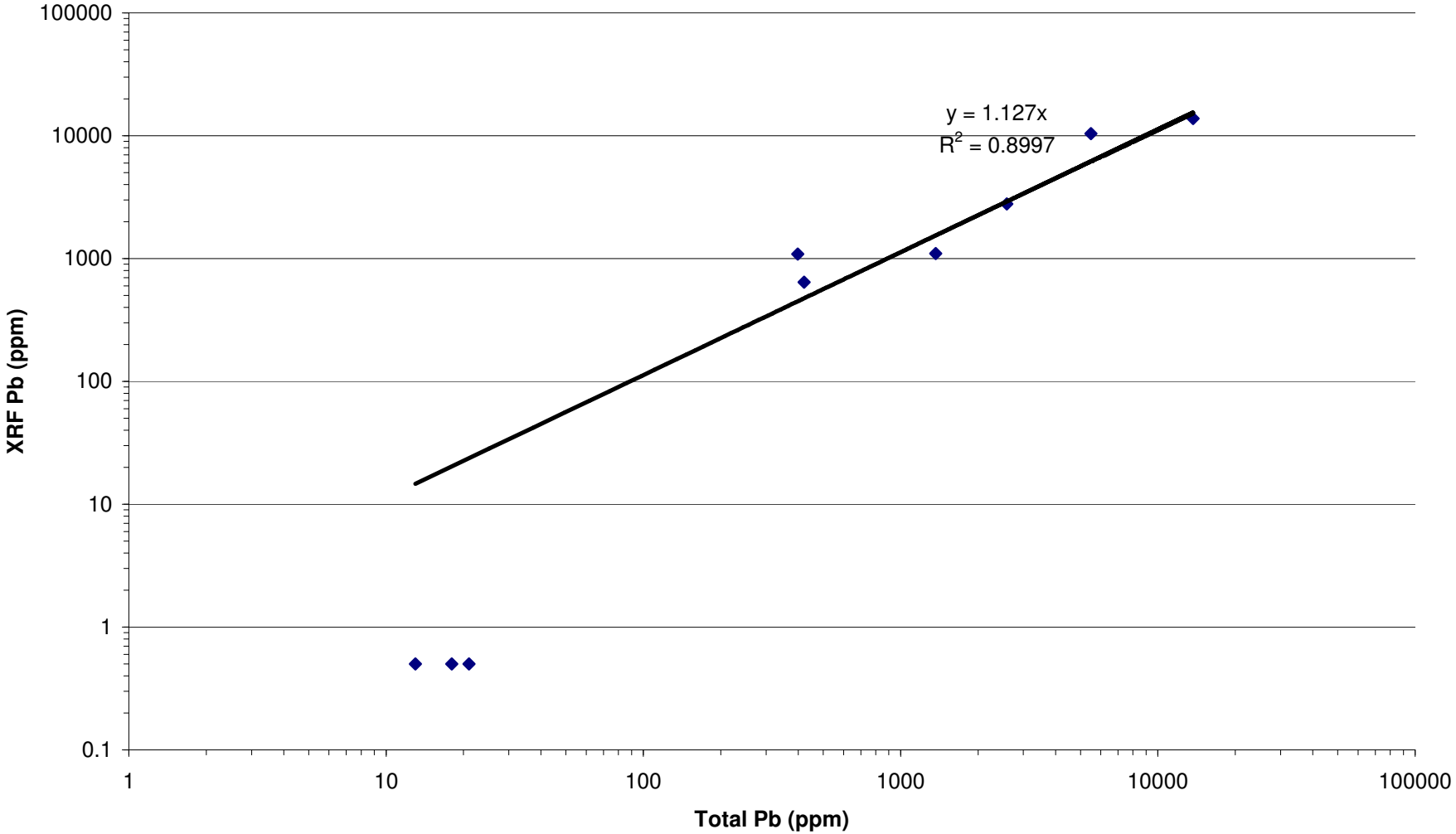


Figure 4-9
Total Lead (mg/Kg) vs. XRF Lead (ppm)
(by media type)
Remedial Design Investigation Samples

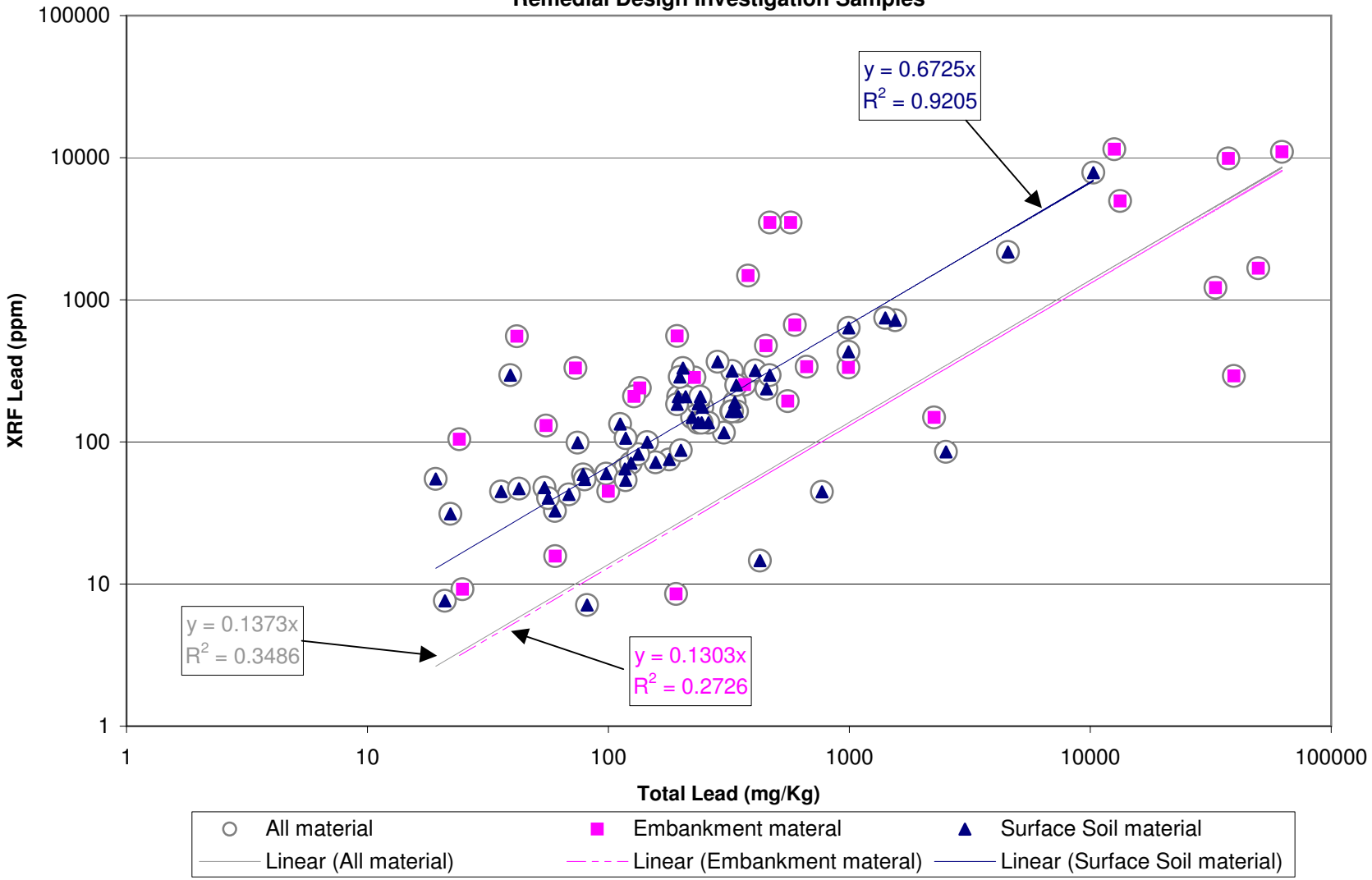


Figure 4-10
Total Lead vs TCLP Lead
Remedial Investigation Data

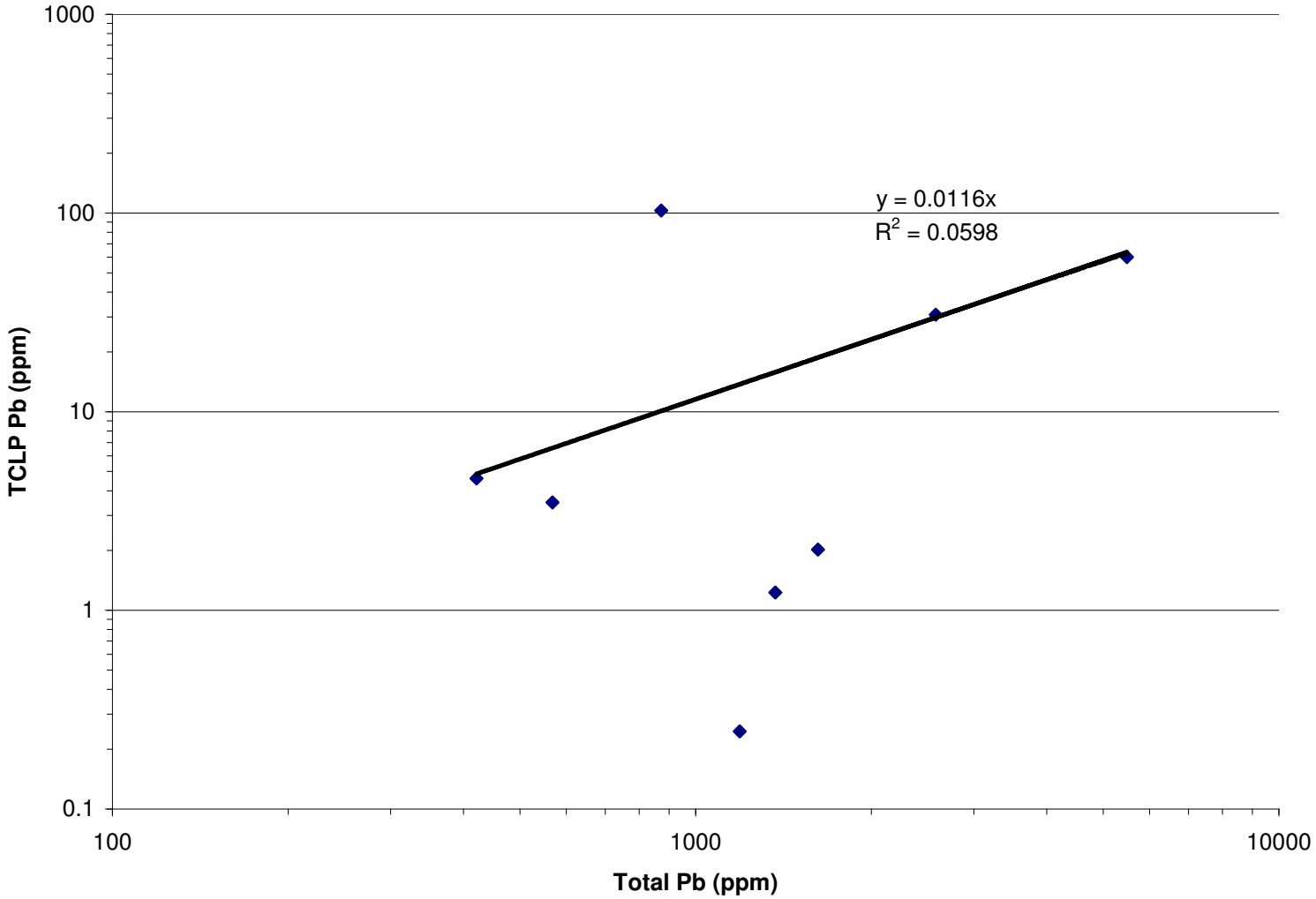
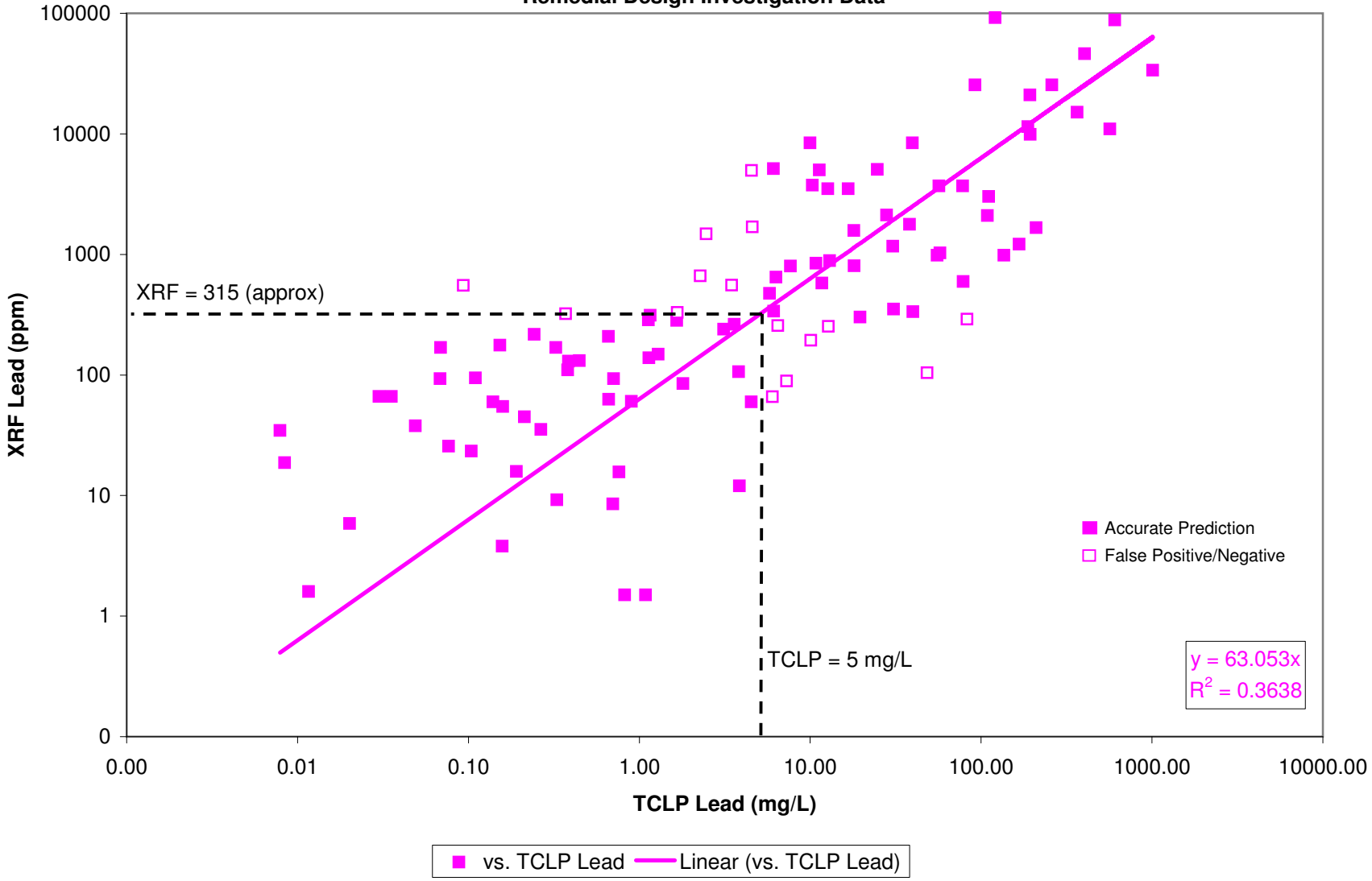


Figure 4-11
TCLP Lead vs. XRF Lead
Remedial Design Investigation Data



T:\10653_NYSDEC\RevereSmelting\GIS - RI Report\FIG 4-12.mxd

FIGURE 4-12

Legend

- FORMER TEST PIT LOCATIONS
- EXISTING SOIL BORING
- SOIL BORING
- PIEZOMETER
- PROPERTY LINE
- ESTIMATED EXTENT OF FILL BASED ON CUT AND FILL EVALUATION
- MATERIAL NOT ASSESSED BEYOND THIS POINT

NOTES:
DEPTHS SHOWN REPRESENT THE GREATEST DEPTH BELOW GRADE SURFACE (bgs) WHERE TCLP LEAD > 5 mg/L WAS OBSERVED FOR INTERVALS ASSESSED.

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
NYSDEC SITE #336053
MIDDLETOWN, NEW YORK

ESTIMATED EXTENTS OF MATERIAL >5MG/L TCLP

0 60 120 240
Feet

JUNE 2007
10653.24608

O'BRIEN & GERE

PLOT DATE: 06/06/07 SMT

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T:\10653_NYSDEC\ReverеSmelting\GIS - RI Report\Figure 4-13.mxd

FIGURE 4-13

Legend

- POND
- PROPERTY LINE
- SEDIMENT
- 0 - 99
- 100 - 499
- 500 - 999
- 1,000 - 9,999
- >=10,000

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

SEDIMENT
SAMPLE RESULTS

0 100 200 400 600 800
Feet

JANUARY 2007
10653.24608

O'BRIEN & GERE
ENGINEERS, INC.

Units: mg/kg
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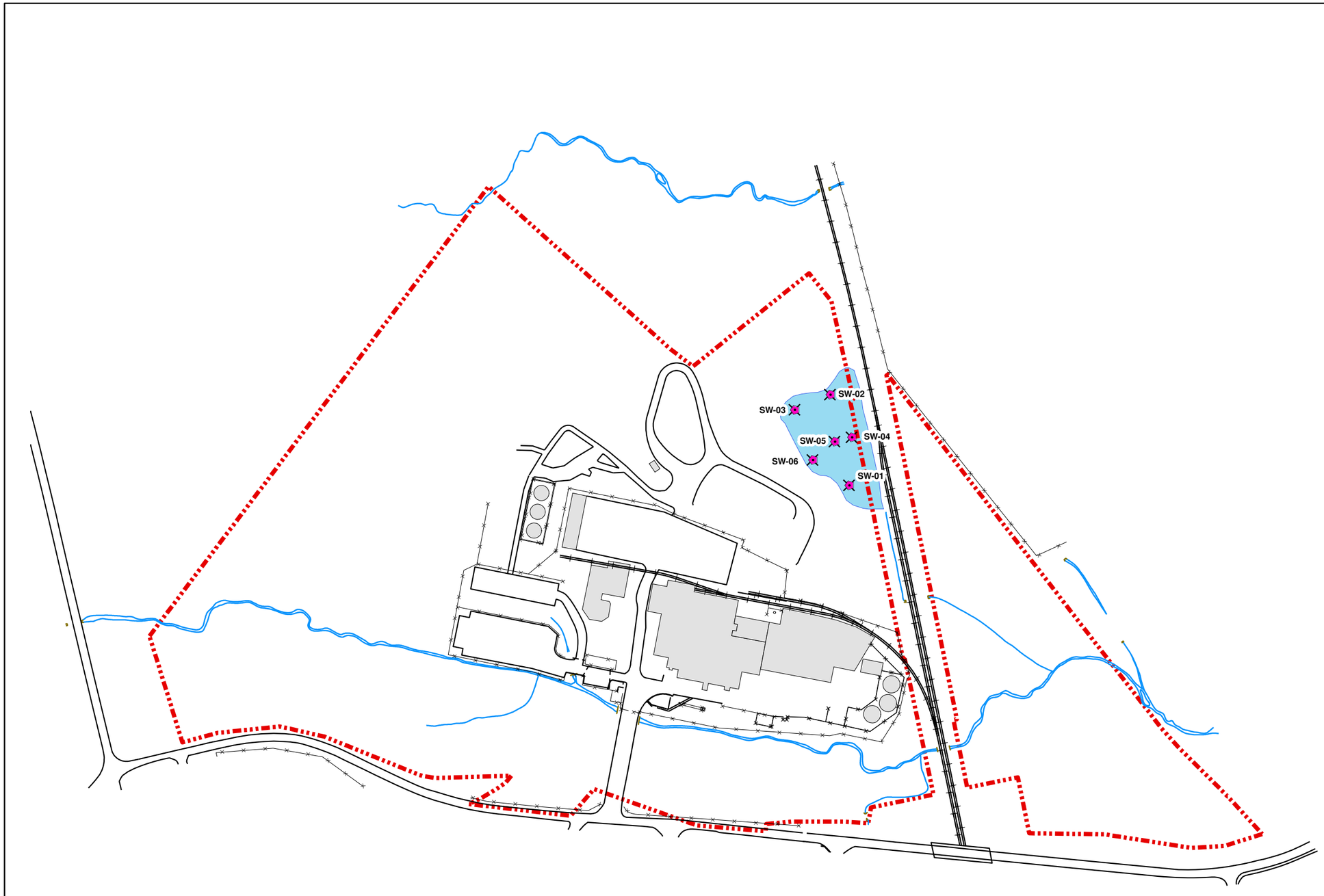
PLOT DATE: 01/08/07

T:\10653_NYSDEC\ReverеSmelting\GIS - RI Report\Figure 4-14.mxd



Units: mk/kg
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PLOT DATE: 06/06/07 SMT

FIGURE 4-14

Legend

PROPERTY LINE

POND

Surface water

SAMPLE LOCATIONS

SURFACE WATER

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

SURFACE WATER SAMPLE LOCATIONS

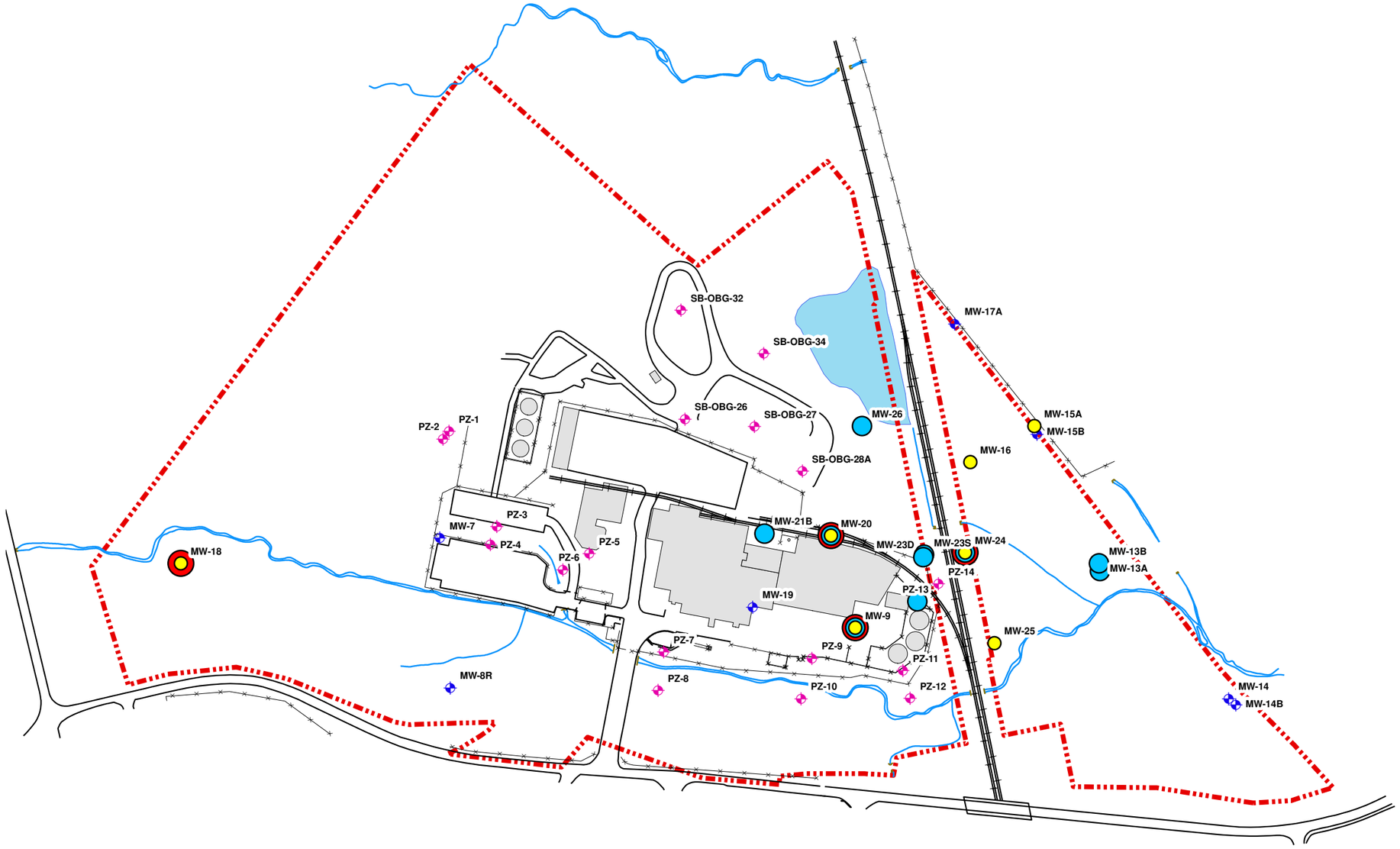
0 100 200 400 600 800
Feet

JUNE 2007
10653.24608

O'BRIEN & GERE ENGINEERS, INC.

T:\10653_NYSDEC\RevereSmelting\GIS - RI Report\FIG 4-15.mxd

FIGURE 4-15



Legend

- Pond
- PROPERTY LINE
- pH < 6
- SULFATE ABOVE CRITERIA
- ALKALINITY BELOW 100
- PIEZOMETER
- EXISTING MONITORING WELL

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

REVERE SMELTING AND REFINING
WALLKILL, NEW YORK

GROUND WATER INDICATOR PARAMETERS (GENERAL TRENDS)

0 100 200 400 600 800
Feet

JANUARY 2007
10653.24608

O'BRIEN & GERE ENGINEERS, INC.

Sulfate criteria: 250 mg/L
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