ST. LOUIS SMELTING AND REFINING
MADISON COUNTY
COLLINSVILLE, ILLINOIS
ILD980607006
LPC# 1194280014
SUPERFUND/ HRS

CERCLA

Expanded Site Inspection

Illinois Environmental
Protection Agency

CERCLA
EXPANDED SITE INSPECTION

for:

ST. LOUIS SMELTING AND REFINING
COLLINSVILLE, ILLINOIS
ILD980607006

PREPARED BY:
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
BUREAU OF LAND
DIVISION OF REMEDIATION MANAGEMENT
OFFICE OF SITE EVALUATION

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1.0 INTRODUCTION

On October 18, 2002, the Illinois Environmental Protection Agency's (Illinois EPA) Office of Site Evaluation Program was tasked by United States Environmental Protection Agency (U.S. EPA) Region V to conduct an Expanded Site Assessment (ESI) at the St. Louis Smelting and Refining Site (formerly known as "Lead Smelter") in Collinsville, Illinois. The St. Louis Smelting and Refining Site, ILD980607006, is located along Pine Lake Road, east of Pine Lake, in Collinsville, Madison County, Illinois. Specifically, the site is located in the southwestern quarter of Section 23, Township 3 North, Range 8 West. A soil sample with elevated lead concentrations was chosen as central position to represent the site location, at 38°41'28" N latitude, 89°57'35"W longitude. The ESI is performed under the authority of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) commonly known as Superfund.

The objective of an ESI is to collect all data necessary to prepare a Hazard Ranking System (HRS) scoring package in case it becomes necessary to propose the site to the National Priorities List (NPL). To fully evaluate the site and fulfill HRS documentation requirements, the ESI should:

1) Investigate and document critical hypotheses or assumptions not completely tested during previous investigations;
2) Collect samples to attribute hazardous substances to site operations;
3) Collect samples to establish representative background levels; and

4) Collect any other missing HRS data for pathways of concern.

The St. Louis Smelting and Refining Site was placed on the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) in June of 1981 as a result of "Notification of Hazardous Waste Site" (103c) forms filed by National Lead Industries (N.L. Industries) in that same year. As described in more detail in the following sections, the site was ultimately archived on CERCLIS in 1989 on the basis of the results of the Preliminary Assessment (PA) and Site Inspection (SI) conducted by Illinois EPA. In consideration of changes made to the HRS in 1990, Illinois EPA conducted a CERCLA Reassessment at the site in March, 2002 and based on the findings, the site was placed back onto the CERCLIS Active sites list in June of 2002.

2.0 SITE BACKGROUND

2.1 Site Description

The St. Louis Smelting and Refining Company Site is the former location of a primary lead smelting and lead refining operation positioned in the northeast corner of Collinsville, Illinois. The city of Collinsville is located in Madison County, Illinois. A plat map of Madison County from 1917 indicated that at one time, St. Louis Smelting and Refining Company owned up to 482 acres. However, Sanborn Fire Insurance maps from 1915 and 1926 indicate that the facility's primary activities occurred on approximately 40 acres. Analysis of historical aerial photographs and historical sampling activities have identified an

area of concern totaling approximately 148 acres and for the purposes of this ESI is referred to as "the site". Figure 1 provides general information regarding the site's location. Figure 2 shows the 1926 Sanborn map of the facility overlaid on 1998 aerial photography. Pine Lake is identifiable in the northwest portion of Figure 2 and Pine Lake Road is the primary east-west road in the photo.

The site is located east of Route 159 with Pine Lake Road as one of its central features (Figure 1). The site extends to the west to include Pine Lake and to the east to include the unnamed pond at the end of Pine Lake Road. Roads most nearly bordering the site on the north and south are Peachtree Trail and California Avenue, respectively. Property use within site boundaries is primarily single family residential. Residential property lot sizes are typically less than one acre with few exceptions. Homes in the area range from approximately 90 years old to less than 5 years in age. Residents in the area receive potable water through a public water supply system using groundwater. Topography within the central portion of the site is relatively flat changing to rolling hills on the northern, southern and eastern portions of the site.

Two surface water bodies exist on site. Pine Lake and the unnamed pond on the eastern end of Pine Lake Road. Pine Lake is approximately 5.3 acres in size. Surface water runoff from residential properties adjacent to Pine Lake is channeled into the lake. The south shore of Pine Lake is dammed and bounded by Pine Lake Road. The dam has a culvert that allows water in Pine Lake to drain under the road during high-water periods. After flowing under Pine Lake

Road, drainage from Pine Lake during wet periods flows south-southwest into the lakes in Woodland Park. The United States Department of the Interior National Wetlands Inventory Map characterizes the Pine Lake as pallustrine wetlands with an unconsolidated bottom (Department of Interior).

Residents of the Pine Lake Subdivision surrounding Pine Lake own the water body and small portions of adjacent property. Pine Lake is used for recreational fishing throughout the year and swimming during warmer months. Residents have brought in sand for a small beach area on a central finger of land protruding southward into the lake and a permanent swimming dock exists in the south-central portion of the lake.

Local residents also use the unnamed pond on the eastern end of Pine Lake road for recreational purposes. The unnamed pond is approximately one acre in size. Small boats and fishing equipment are located around the pond. The pond is fed by surface water runoff in all directions. The United States Department of the Interior National Wetlands Inventory Map characterizes the unnamed pond as as pallustrine wetlands with an unconsolidated bottom (Department of Interior).

A gently sloping drainage way feeds the pond from the west-southwest during wet periods but the drainage way appears to remain dry most of the time. The west-southwest drainage way is identified as intermittent on the United States Geological Survey's most recent 7.5 minute series topographic map of the area

(Geological Survey). Construction debris and some slag line the drainage way. The drainage way is bounded immediately on each side by established trees that in most cases, fade into residential yards. During high-water periods, water from the unnamed pond drains to the east through a small drainage way into partially wooded private lands. With the exception of the portion of the drainage way nearest the pond, the drainage way appears to be dry during much of the year. The drainage way from the pond ultimately leads toward the south into partially wooded private lands. Canteen Creek flows southward approximately 500 feet to the east of the unnamed pond but surface water runoff from the site and areas around the pond do not appear to drain into the creek. Canteen Creek is the nearest perennial stream to the site.

2.2 Site Geology

Information regarding the generalized geology was identified in a report produced by Envirodyne Engineers Inc. for the Collinsville/Glidden Waste Paint Site, which is located approximately one mile south of the St. Louis Smelting and Refining Company site. Envirodyne described the generalized stratigraphic column of the area as "thick loess (greater than 15 feet) overlying glacial till" (2). Based on Illinois State Geological Survey (ISGS) borings from the vicinity of the site, Envirodyne summarized the stratigraphic column for the Glidden Waste Paint site [which is applicable to the St. Louis Smelting and Refining Company site] as follows:

"The unconsolidated material on the uplands ranges in thickness from 44 to 77 feet (ISGS borings in sections 34 and 36, T 3 N, R 8 W). A generalized stratigraphic column for the area would be approximately 15 to 20 feet of Peoria Loess over 15 to 20 feet of Roxana Silt, with approximately 10 feet of till at the base of the overburden. The bedrock consists of Pennsylvanian age limestone, shale, sandstone, and coal of the Modesto Formation." (2)

Groundwater was encountered during the Remedial Investigation for the Collinsville/Glidden Waste Paint Site at depths ranging from 8 – 20 feet below ground surface (bgs) and was found to flow toward Canteen Creek. Although soil borings were conducted as a part of the ESI for the St. Louis Smelting and Refining Company site, earth-moving activities that occurred during residential development between 1960 and the mid-1980's reduced the reliability of much of the stratigraphic information gathered from the borings. The boring location identified as GP1 encountered a fine silt from near the ground surface to approximately five feet below the ground surface where it transitioned to a clayee silt, with the percentage of clay increasing with depth. Soil encountered at 27 feet in boring GP1 was described as dark gray silty clay.

2.3 Site History

The St. Louis Smelting and Refining Company operated a lead smelting facility in Madison County, Illinois from 1904 until November of 1933. At peak production, the facility employed 425 men. At the time of operation, the facility was located northeast of Collinsville, Illinois. Since that time, Collinsville has expanded to the area surrounding the facility and as indicated by historical aerial photographs, in the 1950's and 1960's residential homes began to expand onto the property (and into some of the buildings) formerly used by the lead smelter.

Historical information regarding the St. Louis Smelting and Refining Company indicates that environmental concerns surrounding the facility were an issue as early as 1915. In 1915, a local landowner sold rights to the company to "deposit smoke fumes, vapor, gases, acids, and like-substances" on his property (Madison County). In addition, a bicentennial document compiled for Collinsville stated that "owners of acreage in the area [around the facility] filed damage suits against the company alleging destruction of plant life by lead-laden smoke from the plant" (Collinsville). As a result, in 1917 "the company constructed a 386 foot-tall stack at a cost of $75,000" (Stehman).

The plant closed on November 21, 1933 following a strike for higher wages and shorter hours (Stehman). Following plant closure, equipment from the facility was shipped to South America (Stehman). The actual date when the facility was dismantled is unknown. However, an aerial photograph from 1941 indicates that by the date of the photo, only two buildings from the facility were still intact and the plant was reduced to primarily foundations and rubble. The 1941 aerial photograph shows lack of vegetation throughout the plant area and a large slag pile on the southeast portion of the former property. The slag pile was located where the unnamed pond at the end of Pine Lake Road is now located. The slag pile was no longer visible in a 1955 aerial photograph of the area. There is no information that indicates where the slag pile was moved.

Research regarding the ownership history of the property was conducted at the Madison County Recorder of Deeds Office. The earliest recorded transaction

identified for the property was the sale of a portion of Section 23 to the St. Louis Smelting and Refining Company by L.R. and Sarah Collins in 1903. In 1913, the company purchased mineral rights from an adjacent landowner. No other transactions were identified during the years of operation. A plat map of Madison County from 1917 indicated that at one time, St. Louis Smelting and Refining Company owned up to 482 acres. Historical Plat books along with fire insurance maps and aerial photographs indicate that the primary smelting and refining activities occurred on approximately 40 acres. In the years following the plant's closure, from 1937 to 1939, portions of the property were sold to Madison County and nine other families. Historical plat books indicate that from approximately 1966 to 1969 the Eagle Picher Company owned 50 acres in the area, including the 40 acres where St. Louis Smelting and Refining Company conducted its primary operations. Various reports from local residents indicate that based on large amounts of truck traffic, portions of the slag pile present in the 1941 aerial photograph may have been moved off-site prior to or during residential development of the area. At an unknown date following the plant's closure, National Lead purchased the assets of the St. Louis Smelting and Refining Company.

Residential development in the area directly north and south of Pine Lake began in the 1950's as evidenced by historical aerial photographs. Residential development to the east of Pine Lake in what is now called Collinwoods subdivision began in the mid-to-late 1970's. Residential development in the area progressed in phases and building currently continues on the last empty lots.

With the exception of the last 1 – 2 empty lots, the newest homes in the area are concentrated around Hickory Point Road and some are less than 10 years in age.

State-funded investigations were conducted on residential properties and surrounding areas beginning in 1985 and continuing through 1991. (The majority of residential soil data was generated in investigations in 1985 and 1991, with some additional data collected sporadically between 1985 and 1991.) Results from an Site Inspection (SI) conducted at the site (including a low preliminary site score) in 1987 resulted in the site being archived in CERCLIS in December, 1989. Changes in CERCLA and resulting modification to the site scoring process prompted a reassessment in 2002.

2.4 Previous Investigations

Illinois EPA conducted a Preliminary Assesssment (PA) at the site in May of 1985. The PA, which was finalized on June 11, 1986, assigned a high priority to the site for further inspection and identified the presence of lead ore and lead dross (a byproduct from the smelting process) as potential hazards at the site.

On July 16, 1985 representatives from Illinois EPA and Illinois Department of Public Health (IDPH) visited the site and obtained a slag sample and 9 soil samples from two residential yards in the Collinwoods Subdivision. Laboratory analysis of the lead slag showed 13,000 mg/kg, or parts per million (ppm) lead. Lead concentrations in the soils collected from the two properties ranged from 12

mg/kg to 2,600 mg/kg. In October of 1985, Illinois EPA obtained one slag and one soil sample from the area of highest concentration. The samples were analyzed for distilled water leachability and EP Toxicity. The leachability test on the slag and soil resulted in 760 ppm and 53 ppm, respectively. The EP Toxicity test on the slag and soil resulted in 1.7 ppm and 40 ppm, respectively. (Mensing)

On October 17, 1985 representatives from IDPH obtained additional soil samples from the site. Representatives from IDPH obtained 51 soil samples from 26 residential properties. Concentrations of lead in the soil samples obtained by IDPH ranged from 31 mg/kg to 7944 mg/kg. The IDPH also conducted a voluntary blood-lead screening analysis for neighborhood children in October of 1985. Results of the blood lead screening for the children tested were below levels of concern.

On September 9, 1986 Illinois EPA personnel obtained additional samples from the site. The sampling activities focused on the unnamed pond at the eastern end of Pine Lake Road, and surrounding areas. Samples of surface water and sediment were obtained from the pond. Soil samples from three locations on the dike east of the pond were also composited. In addition, surface water seeping through the dike on the east side of the pond was also obtained. Lastly, slag and a slag/soil mixture was obtained from a residential property west of the pond. (Johnson)

The table below summarizes the results from the September 1986 sampling conducted by Illinois EPA.

September 1986 Sample Summary	
Sample Location	Total Lead Concentration in PPM
Pond Water	0.005
Pond Sediment	BDL – 338
Slag	13200 – 14800
Residential Soil and Slag	2700
Dike Soil Composite	981
Dike Seep	BDL

BDL – Below Detection Limit

Illinois EPA performed an SI at the site on July 22, 1987. No samples were obtained as part of the formal SI because the site had been sampled previously and the results along with the presence of lead slag on the site were adequate to substantiate the presence of hazardous substances at the site. The SI was completed on December 1, 1989. (The site was archived on the CERCLIS list as a result of recommendations in the SI Report.)

On May 30 and 31, 1991 representatives from Illinois EPA and IDPH obtained twenty-five samples from nine yards in Collinwoods subdivision. A description of the sampling event along with lab results were provided in an Illinois EPA February 16, 1992 field office memorandum to the Division File. Each sample was analyzed for total lead and Toxicity Characteristic Leaching Procedure (TCLP) lead. Prior to analysis, samples were sieved to eliminate particles that would not pass through a #200 sieve (0.074 mm). This procedure was performed to remove large indigestible pieces of lead slag in an attempt to

determine the amount of respirable lead in the soil. Total lead concentrations in soils ranged from 8.8 mg/kg to 4700 mg/kg. Results for TCLP lead analysis ranged from 0.003 mg/L to 20 mg/L.

In November of 2001, a homeowner from the Pine Lake subdivision obtained three sediment samples from Pine Lake. The samples were obtained because at the time, the Pine Lake Homeowners Association were considering dredging the lake because it had silted in and the three northern fingers of the Lake had become more shallow than desired. A single sediment sample was taken from each of the three fingers of the lake. The homeowner identified the samples as Area 1, Area 2, and Area 3 with Area 1 representing the northwest finger of the lake, Area 2 representing the north-central finger, and Area 3 representing the northeast finger of the lake. The three sediment samples were analyzed at Teklab in Collinsville for total metals and Resource Conservation and Recovery Act (RCRA) TCLP metals. In addition, the Area 1 sample was analyzed for semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), and polychlorinated biphenyls (PCBs) (Miller, 12/03/01; Austin).

The analysis results from Pine Lake sediments collected by the homeowner in 2001 are summarized in the table below.

Sample Location	Total Lead mg/kg	TCLP Lead mg/L	Total Arsenic mg/kg
Area 1	2310	26.9	17.5
Area 2	2680	31.9	6.89
Area 3	6220	12.7	7.35

The sample results indicate that TCLP lead concentrations in the sediment are above the regulatory standard of 5.0 mg/L meaning that if the sediments were disposed of off-site, at least a portion of the material would be regulated as RCRA hazardous waste for lead. Organic analysis results for both VOCs and SVOCs on the Area 1 sample resulted in levels below detection for all compounds analyzed. The lab noted that the temperature of the sample was out of the acceptable range.

2.4.1 CERCLA Reassessment Investigation

On March 6 – 8, 2002 representatives of Illinois EPA conducted field-based site characterization on soils and sediments at the site using a Niton X-Ray Fluorescence (XRF) multi-element analyzer. In addition, due to high levels encountered during the reassessment, arrangements were made to have several of these soil samples analyzed under the U.S. EPA's Contract Laboratory Program.

Sediment sampling activities were conducted in Pine Lake, the lake in Woodland Park, and the drainage way between the two lakes. In addition, sediment samples were taken in the unnamed pond east of the western end of Pine Lake Road and the small pond due north of Pine Lake. Sediment samples were obtained using stainless steel hand augers and placed in zip-lock bags using stainless steel trowels. Following collection, sediment samples were dried using

a microwave oven dedicated to sampling activities. Sediment samples were then analyzed using the XRF. In general, sediment samples were obtained from each location at 6, 12, 24, and 30 inches below the surface of the sediments. A total of 24 separate locations were investigated: 16 in Pine Lake, three in the lake in Woodland Park, two in the drainage way in between Pine Lake and the lake in Woodland Park, two in the unnamed pond at the end of Pine Lake Road, and one in the pond due north of Pine Lake.

Lead concentrations based on XRF readings on sediments from Pine Lake ranged from below detection limits to 86,374 ppm. Lead concentrations in sediments from the lake in Woodland Park ranged from 40.3 ppm to 357.4 ppm. Concentrations of lead in sediments from the drainage way in between Pine Lake and the lake in Woodland Park ranged between below the limit of detection to 419.2 ppm. Lead concentrations in sediments from the unnamed pond at the end of Pine Lake Road ranged from 36.8 ppm to 2099.2 ppm. Concentrations of lead in sediments from the pond just north of Pine Lake ranged between 35.5 ppm to 82 ppm. Table 1 shows concentrations of metals for which Ontario Sediment Benchmarks are available (plus chromium) for all sediment samples obtained during the Reassessment. Figure 3 displays the location and corresponding lead concentrations for sediment samples obtained from Pine Lake. Figure 4 includes lead concentrations observed at depths of approximately 6 inches in the sediments of Pine Lake, the lake in Woodland Park, and the unnamed ponds just north of Pine Lake, and at the eastern end of Pine Lake Road.

Residential soil sampling activities were conducted at homes in the area surrounding the former location of the smelting facility. Soil samples were obtained with a clean stainless steel trowel and XRF analysis was performed at the sampling location immediately following collection. Soil analysis via XRF was conducted at the soil surface at each sampling location and in general, at approximately 6-inch intervals up to a depth of 2 feet. The final depth of soil sampling and analysis at each location varied depending on soil characteristics and XRF results. Sample locations were assigned a sampling identification number ("R" [for residential] followed by a integer). Residential sampling associated with the reassessment included samples R1 through R70.

Concentrations of lead based on XRF results ranged from below detection to over 90,000 ppm. Thirteen of the 31 properties tested had lead concentrations greater than 1000 ppm. Table 2 contains the results of residential soil XRF readings from the Reassessment as well as all other existing laboratory and XRF data for the site (1985 to present).

Six soil samples were packaged and sealed for laboratory analysis in accordance with Illinois EPA's Office of Site Evaluation procedures. Soil samples were sent Sentinel Incorporated in Huntsville, Alabama. The samples were analyzed for total metals for the inorganic analytes identified within the Target Compound List (TCL). A complete list of the TCL inorganic analytes can be found in Appendix A. Lead concentrations in the soil samples ranged from

389 mg/kg to 36,700 mg/kg. A background sample was not obtained during the Reassessment. The laboratory results are included as Table 3 of this ESI report and include results for the background sample collected during the ESI (as described later in this report).

2.4.2 Additional Pine Lake and Woodland Park Investigations

Due to high concentrations of lead in sediment that were identified during the CERCLA Reassessment investigation, additional investigations were conducted at Pine Lake. Because children use the beach area during the summer and fishing occurs throughout the year, additional sediment analysis in the beach area and fish tissue analysis was conducted.

In March of 2002, the Illinois Department of Natural Resources mobilized to the site and used their boat-mounted shocking equipment to temporarily stun the fish in certain areas of Pine Lake. Three to four of the largest fish representing each species that responded to the shocking process were selected and filleted for laboratory analysis.

Because the March 2002 shocking procedure did not collect any bottom-feeders such as catfish or carp, Illinois EPA representatives returned to Pine Lake on July 30, 2002 in order to try to collect some specimens with rod and reel. One catfish was caught and as with the March sampling, the fish was filleted and sent to the laboratory for fish tissue analysis for total metals analysis. The table on the following page summaries the fish tissue analysis results from species collected in March and July.

Fish	Average Weight in Pounds	Fish Tissue Lead Concentration
Black Crappie	1.03	Below Detection (<2.4 mg/kg)
Bluegill	0.2	Below Detection (<2.4 mg/kg)
Largemouth Bass	0.3	Below Detection (<2.6 mg/kg)
Largemouth Bass	1.3	Below Detection (<2.4 mg/kg)
Channel Catfish	9.8	Below Detection (<1.2 mg/kg)

On June 26, 2002 sediment samples from 11 locations at the beach/swimming area at Pine Lake were dried and analyzed by XRF analysis. Samples were obtained at the surface, and six and twelve inches deep at each location in the sediment of the beach/swimming area. The results are summarized on Table 4 of this report. The lead concentrations at all depths for 6 of the 11 locations were below 400 mg/kg. At the remaining five locations, the surface sample and the 12-inch sample were below 400 mg/kg total lead, but the lead concentrations from six inch sample ranged between 1269 mg/kg and 4988 mg/kg. The average lead concentration for all locations and depths is 450.3 mg/kg.

In consideration of Woodland Park's use as a recreational area and based on elevated soil lead levels within approximately 1000 feet of the park, an additional investigation was planned for Woodland Park. On March 8, 2002, additional soil analysis using the XRF was performed in Woodland Park at ten locations at the surface and six inches below ground surface. The locations were selected to characterize soils within the park as a whole with special emphasis on areas where children might be playing or picnicking. Lead concentrations in the park ranged between approximately 20 ppm and 284 ppm.

2.5 Regulatory Status

Based upon available file information, the St. Louis Smelting and Refining site does not appear to be subject to Resource Conservation and Recovery Act (RCRA) corrective action authorities. Information currently available does not indicate that the site is under the authority of the Atomic Energy Act (AEA), Uranium Mine Tailings Act (UMTRCA), or the Federal Insecticide or Rodenticide Act (FIFRA).

3.0 EXPANDED SITE ASSESSMENT ACTIVITIES

3.1 Sampling Activities

The sampling activities conducted under the ESI were conducted in two separate phases in order to tailor each phase to the needs and potential ramifications of any U.S. EPA removal activities. Sampling conducted during phase 1 focused on surface water sampling in Pine Lake to determine what impacts sediment concentration were having on surface water concentrations at various depths throughout the water column. Sampling conducted during the second phase included additional field based characterization using the XRF of residential soils and area sediments. In consideration of the XRF results, several soil and sediment samples were submitted to the laboratory for analysis. Additionally, several soil borings were conducted to evaluate soil stratigraphy at depth and attempt to collect groundwater samples.

3.1.1 Surface Water Sampling

On July 29, 2002 representatives of Illinois EPA arrived on the site and began set-up for surface water sampling at Pine Lake. A Bacon bomb sampler was used to obtain surface water samples at multiple discrete depths at each sampling location. The Bacon bomb sampler is a stainless steel bottle (approximately 8 inches in length and 2.5 inches in diameter) attached to a disposable synthetic rope marked at one-foot intervals that can be lowered to a specified depth and opened with a separate trigger line.

Six surface water sampling locations were selected to characterize each of the three northern fingers of the lake as well as open water locations near the middle and southern parts of the Lake. Sampling locations were accessed by a small metal rowboat. At each location, the total depth of water was measured using a weighted measuring tape. Three surface water samples (one shallow depth, one medium depth, and one bottom) were collected at locations where the total depth of water was greater than seven feet. The shallow sample was obtained just below the water's surface, and the bottom sample was obtained at approximately 12 inches above the sediment. At locations with a total water depth of less than seven feet, only a shallow and deep sample was obtained. Samples were assigned identification numbers S201 – S207. An additional sample number modifier "A", "B", or "C" was assigned to each sample with "A" referencing the shallowest sample at each location and "C" representing the deepest. At locations where a dissolved metals analysis was to be performed, an additional modifier "D" was added to the sample number. The Bacon bomb sampler was

rinsed with surface water between differing depths and between each location. Each surface water sampling location was recorded using Illinois EPA's Global Positioning System (GPS). The surface water sampling locations are included on Figure 5.

Surface water samples collected during the ESI were analyzed for total metals, dissolved metals, cyanides, semivolatile organics, pesticides, and PCBs in various combinations. Sample S207 was a duplicate of S206 and was obtained by using the ½ of the volume of the Bacon bomb sampler to fill the sample containers for S206 and S207, alternately. Table 5 contains surface water sample descriptions. Table 6 contains total and dissolved metal analytical results for surface water samples. Tables 7 and 8 contain analytical results for surface water samples submitted for semivolatile, and pesticide/PCB analysis, respectively.

3.1.2 Residential Soil Sampling

Residential soil sampling conducted as a part of the second phase of the ESI was conducted during the week of September 6, 2002 and on October 15, 2002. In addition, residential soil samples were also collected during 2003 in order to further define the extent of contamination in anticipation of a potential removal action at the site. Soil samples collected in 2003, specifically on March 3, 2003 and September 3, 2003, as well as during the week of August 25, 2003, are included within this ESI report and will be discussed as "ESI data".

During each field visit, the XRF was used to identify concentrations of metals in residential soils at four separate depths: surface, 6 inches below ground surface (bgs), 12 inches bgs, and 24 inches below ground surface. Surface readings were obtained at each location either directly on top of the ground surface (in a location with little or no grass) or immediately beneath the sod. Soil at the surface or beneath the sod was obtained using a clean stainless steel trowel. Soil at 6, 12, and 24 inches bgs was obtained using a clean stainless steel auger. Soils brought up by the auger were flattened on a clean paper towel and analyzed using the XRF. (Field personnel kept the soil that was flattened onto the paper towel for analysis greater than 2 –3 millimeters thick to ensure that the XRF was obtaining readings from the sample aliquot and not underlying soil.) During XRF characterization, soils were inspected for classification and presence of fill materials (including slag). Sample locations were assigned a sampling identification number ("R" [for residential] followed by a integer. Residential sampling associated with the ESI includes samples R87 through R229. Each XRF sampling point was recorded using a GPS so that the location could be identified with geographic coordinates and re-visited (if necessary) at a later date. Results of XRF analysis conducted during the ESI can be found in Table 2 along with all other residential XRF and laboratory data collected at the site under state-funded programs (laboratory analysis results for residential soils collected during the CERCLA Reassessment and ESI are not included. Figure 6 identifies lead concentrations at the soil surface for all residential soil XRF and all laboratory data (generated under state-funded programs) collected at the site.

In consideration of XRF results, eight soil samples were obtained from seven different residential properties for laboratory analysis. Soil samples were collected in accordance with the Illinois Environmental Protection Agency's BOL, Sampling Procedures Guidance Manual. Similar to the XRF characterization, shallow soil samples were obtained with a clean stainless steel trowel and deeper samples were obtained with a clean stainless steel auger. Sample identification numbers were assigned to correlate with soil samples obtained in the CERCLA Reassessment and began with "X107". All soil samples were analyzed for total metals and cyanide, and in a few cases, Toxicity Characteristic Leaching Procedure (TCLP) metals. Soil sample locations for laboratory analysis were also recorded using the GPS system. Figure 7 shows the location of residential soil samples submitted for laboratory analysis during both the CERCLA Reassessment and Expanded Site Inspection.

Soil sample X107 and a duplicate, X108 were taken from 3 to 6 inches below ground surface. Soil that was obtained for X107 and X108 was placed in a stainless steel pan, mixed thoroughly, then placed alternately into sample containers for both X107 and X108. Soil samples X107 and X108 were obtained from location R91 at 102 Pine Lake Road, five feet east of the garden and approximately 20 feet east of the northeast corner of the home. An additional sample, X107T was obtained from location R91 and was submitted for TCLP metals analysis.

Soil sample X109 was taken from 12 inches bgs at location R99. Location R99 was obtained in the front yard of 210 Pine Lake Road, approximately 100 feet south of the house and 20 feet east of driveway.

Soil samples X110 and X111 were taken from 1973 Raintree at a location identified as R111. Samples X110T and X111T were also obtained from location R111. Samples X110 and X110T were obtained from between 12 and 18 inches below ground surface. Samples X111 and X111T were obtained from between 6 and 8 inches below ground surface. Samples X110T and X111T were collected and analyzed for TCLP metals. Sample location R111 was positioned in the south portion of the backyard, near the southern property boundary.

Soil sample X112 was taken from 6 inches bgs at location R119. Location R119 was obtained in the back yard of 2001 Raintree Trail, approximately 10 feet west-southwest of the southwest corner of the fence.

Soil sample X113 was taken from 12 inches bgs at location R123. Location R123 was obtained in the back yard of 1407 California Avenue, approximately 36 feet north of the house in a small spot with no grass. Samples X113T and X114T (duplicate of X113T) were also obtained from location R123, between 18 and 24 inches below ground surface. Soil that was obtained for X113T and X114T was placed in a stainless steel pan, mixed thoroughly, and then placed alternately into sample containers for both X113T and X114T. Samples X113T and X114T were collected and analyzed for TCLP metals.

Soil sample X115 was obtained on private property approximately 1.5 miles east-northeast of the eastern boundary of facility as indicated on the 1926 fire insurance map as shown on Figure 2. More specifically, sample X115 was on a wooded hillside east of canteen creek in an area, that according to historical plat maps and current conditions, has been un-impacted forestland since the early 1900s. Sample location X115 was obtained from 0 - 2 inches bgs in a tan/brown silty loam and was not designated with an alphanumeric sample location identifier other than simply "X115". Tables 10 and 11 contain total inorganic analytical results and TCLP metals results for residential soil samples, respectively. Table 12 contains soil descriptions for all residential soil samples collected for laboratory analysis.

3.1.3 Sediment Sampling

Seven sediment samples were obtained from six locations during ESI activities. Sediment sample descriptions are provided within Table 12. One sediment sample identified as X225 was obtained from Pine Lake where historical photos showed drainage entered the lake from the west side of the facility. During the Reassessment, sample X210 (analyzed by XRF) identified lead concentrations greater than 86,000 ppm within the sediment from Pine Lake near the drainage from the facility. Sample X225 was collected in order to obtain laboratory confirmation of XRF readings from the area represented by sample X210 obtained in March, 2002. Samples X226 through X231 were intended to show whether or not contaminants from the site have moved off site through the

surface water pathway. Once general sediment sampling locations were identified, the XRF was used to determine exact sample points. Sediment samples were either obtained in areas that were currently under water, or along the banks at heights that would be submerged during high flow periods.

Samples X226 and X227 were taken from the northwest shore of the unnamed pond in an area where a significant portion of the shore is made up of slag, but at locations 2 – 3 feet out into the pond, most of the sediment is unconsolidated naturally occurring material. Sample X227 is a duplicate of X226. Sediment that was obtained for X226 and X227 was placed in a stainless steel pan, mixed thoroughly, and then placed alternately into sample containers for both X226 and X227. Samples X226 and X227 were obtained from 3 – 5 inches deep in the sediment, below several large chunks of slag. Samples X226 and X227 were intended to determine if runoff from both slag materials and the facility proper impacted sediments in the pond. (Although the area where the unnamed pond now exists has always been lower in elevation than surrounding land to the northwest, the pond was not constructed until after 1968.)

Sample X228 was obtained from Canteen Creek approximately 420 feet down gradient from the east side of the unnamed pond. It appears that in general, Canteen Creek drains the entire area of the facility and associated contamination. Sample X228 was obtained from 18 to 22 inches below the surface sediments.

Sample X229 was collected in a small intermittent drainage way that collects runoff from areas surrounding the unnamed pond, and from the pond itself during high water periods. However, the drainage way also collects runoff from homes to the northeast on Pinehurst. It also appeared as though some the Pinehurst homes discharged their sumps to the drainage way. The sample was obtained at approximately six inches below the sediment surface.

Sample X230 was taken from a drainage way that drains a large area to the northeast of the facility and possibly. The drainage way also drains the most northern regions of areas now considered to be part of the site due to contaminated soils identified in residential yards. The drainage way also collects runoff from homes to the northwest on Pinehurst, including what appear to be sumps from the homes. Sample X230 was taken from 4 – 6 inches below the sediment surface.

Sample X231 is considered to be representative background conditions for waterways surrounding the site. Sample X231 was taken from Canteen Creek upgradient of the site. Sample X231 was obtained approximately 2000 feet northeast of the area where the facility was located during operation and appears not to impacted by facility operations. The sample was obtained from 0 – 2 inches below the sediment surface.

All sediment samples were analyzed for TCL metals. Analytical results for TCL metals sediment samples are presented in Table 13. Figure 8 identifies the

location of all sediment samples collected during ESI activities and submitted for laboratory analysis.

3.1.4 Subsurface Soil Investigation

On October 15, 2002, Illinois EPA used its geoprobe unit to collect site-specific subsurface information from four locations at the site. The geoprobe is a truck-mounted, hydraulic-driven device used to advance steel rods capable of collecting soil or groundwater sample. The four geoprobe locations were identified as GP1 – GP4. Illinois EPA intended to collect groundwater samples from each of the four locations but all but the last location, GP4 were dry. A groundwater sample was not obtained from GP4 because one groundwater sample from the whole site would not have been particularly informative (especially considering GP4's location - well west of the facility's original location). The Geoprobe locations are shown on Figure 9. Table 14 contains descriptions of geologic materials encountered in each of the borings along with corresponding XRF results.

Geoprobe location one (GP1) was obtained near the northern border of what was once the facility proper. The second boring, GP2 was conducted on the southeast corner of the facility's historical location. Boring GP3 was conducted at the eastern end of Pine Lake Road in an area believed to be built on slag from what was once the slag pile area. Geoprobe location GP4 was conducted in an area east of the unnamed pond near to what was reportedly a dumping area.

The location of GP4 was at a lower elevation than surrounding areas to the west and north, and was intended to determine the eastern extent of subsurface slag.

At GP1, steel rods with a slotted screen were advanced to what appeared to be a saturated groundwater zone with the hope of retrieving a groundwater sample. However, the strata produced no water. Geoprobe location GP2 was advanced to 35 feet bgs but no water bearing zones were encountered. At the third subsurface boring location, GP3, a water bearing zone was encountered at approximately 3 feet bgs amongst a seam of slag and small percentage gravel approximately one foot in thickness. Between 3 – 4 feet bgs, stiff gray clay was encountered. The boring was terminated at 12 feet due to fears that continuing the boring might introduce contaminated water from the three-foot strata, to deeper aquifers in the area. A moist sand and gravel seam was encountered at 15 feet bgs in GP4, followed by clay till in deeper strata. As mentioned previously, field staff decided not to attempt to obtain a groundwater sample from GP4 because previous boring locations were dry.

3.2 Analytical Results

Following sample collection, all samples were transferred to containers provided by Illinois EPA's Contract Laboratory Program. The sample containers were packaged and sealed in accordance with Illinois EPA's Site Assessment Program procedures. Soil and sediment samples requiring inorganic analysis were sent to Liberty Analytical in Cary, North Carolina. Soil samples collected for TCLP metals analysis were sent to U.S. EPA's Central Regional Lab in Chicago,

Illinois. Surface water samples requiring inorganic analysis were sent to Datachem Laboratories in Salt Lake City, Utah. Surface water samples requiring organic analysis were sent to American Analytical and Technical Services in Baton Rouge, Louisiana. A complete analytical data package, including quality assurance review sheets, for the St. Louis Smelting and Refining site is located in Appendix D (volume 2 of the Expanded Site Inspection Report).

3.2.1 Surface Water Results

Surface water samples taken in Pine Lake were conducted to determine if there were any impacts to the water quality caused by sediments in the lake with high lead concentrations. No background surface water sample was obtained during the ESI activities because there were no plans to evaluate the site based on the surface water pathway. In consideration of lead concentrations in sediments as shown in Figure 3 (the lowest lead concentrations in sediment were identified in the western finger of Pine Lake), it can be assumed that the surface water sample obtained from the western finger of Pine Lake would be the least likely to have elevated lead and S204 A, obtained in the western finger of the lake, will be used as background. The analytical results for S204 A also support using this sample as a background location.

Using S204 A as background, three metals met the observed release criteria (concentrations at 3x background levels) manganese in S201 C, iron in S203 A, S205 B, and S206 B, and lead in S207 which was a duplicate of S206A. Surface water samples analyzed for semivolatiles resulted in concentrations

below detection for all compound except two, caprolactum, and bis-2(ethylhexyl) phthalate. Caprolactum was only identified in one sample at an estimated value of 2 parts per billion (ppb). Bis-2(ethylhexyl) phthalate is a common laboratory contaminant and was identified in every sample (including field blank) at between 1 and 5 ppb. Results for PCB analysis for all samples and compounds were below the level of detection. The pesticide analysis of surface waters identified numerous compounds, all of which were at estimated concentrations, and none of which met the observed release criteria.

3.2.2 Residential Soil Results

The analytical results of the residential soil samples indicate the presence of arsenic, cobalt, copper, lead, mercury, and zinc at levels at least three times that identified in background soil. Arsenic was the only compound identified in residential soils at concentrations above the USEPA's removal action level (RAL).

Soil metal concentrations were compared to the soil background sample results (X115) in order to document an observed release. As shown on Table 9, eleven metals met the observed release criteria in one or more samples. Lead, zinc, and antimony were some of the most prevalent metals meeting observed release criteria. Lead met observed release criteria in 6 of 7 seven samples, while zinc, and antimony met the criteria in 4 of 7 samples. Lead, the primary contaminant of concern at the site, ranged from 16,400 ppm in sample X107, to 100 ppm in

X112. All six samples that met the observed release criteria were above 400 ppm, with 4 above 1000 parts per million.

Although the XRF data cannot be used to document an observed release, the enormous amount of data collected on residential soils can be used to identify metals of concern and delineate the aerial extent of contamination. The data shown in Table 9 shows a good correlation with laboratory results and identifies lead and to a lesser extent, arsenic and chromium as metals of concern.

Five residential soil samples were analyzed for TCLP metals in order to provide some indication as to how the soil might be regulated if a removal action was conducted at the site and the soil was taken off site for disposal. Lead was the only compound that exceeded regulatory standards for TCLP results. The TCLP regulatory standard for lead of 5000 micrograms per liter (parts per billion) was exceeded in samples X107T, X110T, and X111T. Lead TCLP concentrations for X107T, X110T, and X111T were 20,000, 5520, and 29,900 ppb, respectively. The TCLP results for X107T, X110T, and X111T indicate that a portion of the soil, if removed and transported off site, would be regulated as a hazardous waste under the Resource Conservation and Recovery Act (RCRA). Table 10 contains the TCLP analytical results for residential soil samples.

3.2.3 Sediment Results

A total of 12 metals met the criteria for an observed release and four of the six sample locations had at least one metal that met observed release criteria.

Lead, copper, zinc, and mercury were the metals for which samples met the observed release criteria the most often. Table 13 contains the metal analytical results for sediment samples.

4.0 SITE SOURCES

This section includes descriptions of the various hazardous waste sources that have been identified at the St. Louis Smelting and Refining site. The HRS defines a "source" as: "Any area where a hazardous substance has been stored, disposed or placed, plus those soils that have become contaminated from migration of the hazardous substance". The definition of a "source" does not include surface water or sediments below surface water that has become contaminated.

Information obtained during the ESI identified contaminated residential soil that is considered a source of contamination at the St. Louis Smelting and Refining site. As additional information becomes available, the possibility exists that additional sources will be identified.

4.1 Contaminated Residential Soil

Analysis of historical aerial photographs and fire insurance maps (see Figure 3) indicate that approximately 55 single family residences were built on the same location that once encompassed the buildings and associated structures of the St. Louis Smelting and Refining Company. As a result of the facility's operations,

and activities during the development of the residential subdivision, slag and associated contaminated soil underlie and surround an area of approximately 40 acres (as determined by soil XRF and laboratory analysis). The 40-acre area of contamination nearly matches the facility footprint (plus the area where slag was stored) as identified in historical aerial photographs and analysis using geographic information systems (GIS). However, for actual HRS scoring purposes, only soil samples analyzed by a laboratory can be used for determining the extent of contamination, and the area contained within a polygon drawn by connecting analytical sample locations is only 16.5 acres. Under HRS, material under permanent structures such as homes, roads, and sidewalks cannot be included as part of a source, however, the 16.5-acre estimation does not have areas covered by a permanent barrier removed form the source area calculation. In addition, XRF analysis identified several homes outside the 16.5-acre area source area that have lead contamination in association with the facility, but were not included since there was no analytical confirmation of the XRF readings. As discussed in section 3.2.2, lead concentrations as determined by laboratory analysis range from 36,700 ppm to 463 ppm. Soil samples making up the Contaminated Residential Soil source include X101, X102, X104, X105, X106, X109, X110, X111, and X113. Sample X107 was not included because the sample was taken near a driveway where material had presumably been transported from the site, and therefore did not represent a contiguous area with other samples. Also, samples X103 and X108 were not noted, as they were duplicate samples. Analytical samples that were used to delineate the source

area were obtained from depths ranging from 0 - 18 inches below ground surface.

5.0 MIGRATION PATHWAYS

The Office of Site Evaluation identifies three migration pathways and one exposure pathway, as identified in CERCLA's Hazard Ranking System, by which hazardous substances may pose threat to human health and/or the environment. Consequently, sites are evaluated on their known or potential impact to these pathways. The pathways evaluated are groundwater migration, surface water migration, air migration, and soil exposure.

5.1 Groundwater

No groundwater was encountered or sampled beneath the site. All residents in the immediate vicinity of the site obtain drinking water from the city of Collinsville. Collinsville gets its drinking water from groundwater wells located on the west side of the city. Additionally, under normal soil pH conditions, the primary contaminants of concern at the site are not expected to migrate the distances required to impact groundwater drinking water sources in the region.

5.2 Surface Water

Two separate surface water routes were evaluated during the ESI, Pine Lake and associated drainage ways to the south of the lake, and drainage to the southeast of the site that feeds into Canteen Creek.

Sediment concentrations in Pine Lake document an observed release to surface water. During operations, drainage from the facility and the Lake's use to provide cooling water for the facility contributed to the sediment contamination. Pine Lake is currently used as a fishery as residents have been seen fishing at the Lake and interviews with residents indicate that several individuals do indeed fish at the Lake. An overflow culvert in the dam on the south side of the Lake provides the means for overland migration of the contamination to Woodland Park Lake located approximately 600 feet to the south-southwest. Although no analytical sediment samples were obtained from the drainage way leading from the overflow culvert to the park, XRF analysis indicate that areas downgradient (to the south of Pine Lake) have not been impacted.

An additional surface water route was evaluated considering runoff from the contaminated soils to the southeast toward the unnamed pond and Canteen Creek. Sediment concentrations in the unnamed pond document an observed release to surface water. Drainage from the facility and the slag stored in the area has contributed to the sediment contamination. The unnamed pond is considered a fishery, as fishing equipment has been observed at the pond, and interviews with residents indicate that several individuals do indeed fish at the pond. An overflow culvert in the dam along with seeps on the east side of the pond provides the means for overland migration of the contamination to Canteen Creek. The continued surface water pathway to Canteen Creek was not completed. Although sediments from the intermittent drainage way from the

pond to Canteen creek met observed release criteria, attribution to Canteen Creek could not be established.

Sample X225 represents the probable point of entry (PPE) for Pine Lake and sample X227 is the PPE for the unnamed pond. Both samples had lead concentrations that met observed release criteria. Lead concentrations in X225 and X227 were 35,900 ppm and 5,840 ppm, respectively and can be attributed to the contaminated soil source.

5.3 Soil Exposure

Using information gathered from aerial photographs and U.S. Geological Survey topographical maps, an estimated 6,000 people live within one-mile of the area of contaminated soil, and an estimated 24,000 live within four miles. Available information indicates that there are no sensitive environments, other than wetlands, on-site or within ½ mile.

Soil exposure in connection with the St. Louis Smelting facility was evaluated primarily through residential soil samples obtained within the residential subdivisions in the area of the former facility. Thirteen soil samples (not including the background sample) were obtained from 10 residential properties within the immediate vicinity of the historical location of the facility. Twelve of the soil samples had lead at levels 3 times background (ten times for qualified data) documenting observed contamination within residential soils.

The table on the next page identifies approximate populations within 1/4, 1/2, 1, and 4 miles of observed contaminated soil at the facility. The XRF data supported the laboratory data and indicated that inorganic contamination is

spread throughout the subdivision. The XRF data will be used in determining future remedial actions.

Distance from Facility	Population
.25 Miles	600
0.5 Miles	800
1 Mile	6000
4 Miles	24000

4.4 Air Route

No formal air samples were collected during site assessment activities. An estimated 24,000 people reside within a four-mile radius of the site. Air emissions from smelting operations conducted at St. Louis Smelting and Refining site during the years of operation may have resulted in air deposition of contamination in the nearby residential and agricultural properties surrounding the site.

6.0 ADDITIONAL RISK-BASED OBJECTIVES

This section discusses additional risk-based objectives used to evaluate the St. Louis Smelting and Refining Company site. These objectives have not been used to assess the site for Hazard Ranking System (HRS) purposes.

6.1 Sediment Quality Guidelines

The sediment samples collected during the ESI were compared to ecological benchmarks to help determine whether site activities have impacted the surface water pathway. Two sources of benchmarks were used for this comparison: Ontario sediment quality guidelines and U.S. EPA ecotoxicological ("ecotox") thresholds. Ontario sediment quality guidelines are non-regulatory ecological benchmark values that serve as indicators of potential aquatic impacts. Levels of contaminants below Ontario benchmarks indicate a level of pollution that has no effect on the majority of sediment-dwelling organisms. Contaminants for which no Ontario benchmarks were available were compared to U.S. EPA ecotox thresholds. Ecotox thresholds are ecological benchmarks above which there is sufficient concern regarding adverse ecological effects to warrant further site investigation. Ecotox thresholds are to be used for screening purposes and are not to be used as regulatory criteria, site-specific cleanup standards or remediation goals.

Sediment samples were compared to Ontario sediment criteria for lowest level of effect to determine if concentrations present may be harmful to the environment. Samples from all 5 of 6 locations had concentrations of some metal exceeding the benchmark. As with soil samples from the area, lead, arsenic and zinc were the metals most commonly above the benchmark and at the highest concentrations above the benchmark. A total of 12 different metals exceeded the benchmark in samples from five of six locations. In total, benchmarks were exceeded for arsenic, cadmium, calcium, cobalt, copper, iron, lead, mercury, nickel, selenium, vanadium, zinc, and cyanide. Table 13 compares observed sediment concentrations to inorganic benchmarks.

7.0 REFERENCES

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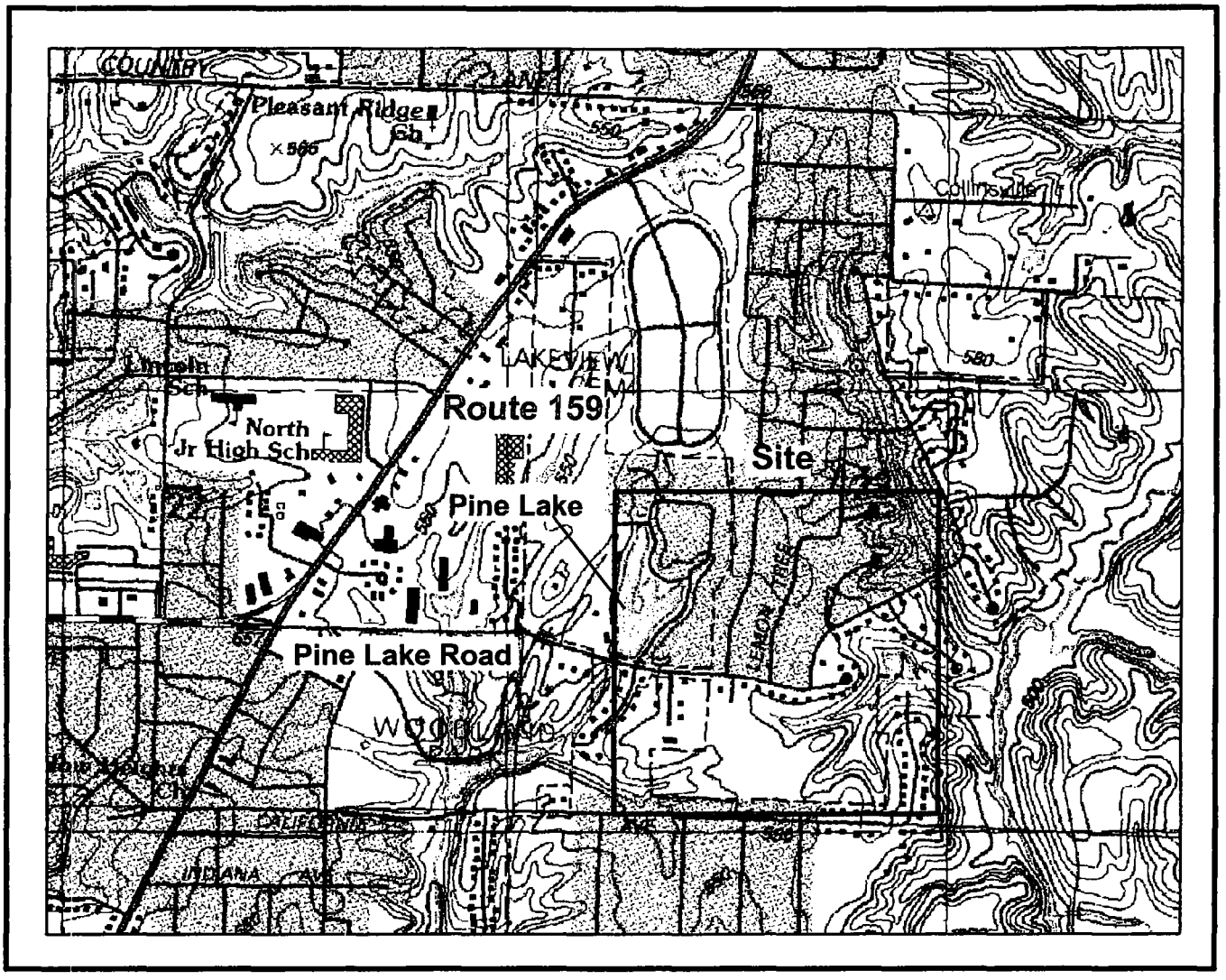
Figures

Figure 1
Site Location Map
St. Louis Smelting and Refining Company Site
Collinsville, Illinois



Tables

Table 1
Metal Concentrations in Sediment as Identified by X-Ray Fluorescence
During CERCLA Reassessment

Sample Number	Sample Depth in inches	Sample Location Notes	XRF Reading Number	Metal Concentrations in mg/kg as identified by X-Ray Fluorescence											
				Lead	Arsenic	Mercury	Zinc	Copper	Nickel	Cobalt	Iron	Manganese	Chromium	Cadmium	Silver
				Ontario Sediment Screening Benchmarks											
				31	6	0.2	120	16	16	50	20000	460		0.6	0.5
X201	6	Pine Lake	59, 60	438.4	<LOD	<LOD	205	482.8	<LOD	<LOD	6828.8	<LOD	<LOD	<LOD	<LOD
X201	12	Pine Lake	61, 62	2788.8	<LOD	<LOD	684.4	389.6	<LOD	<LOD	21299.2	1329.6	<LOD	65.2	<LOD
X201	24	Pine Lake	63,64	2379.2	<LOD	<LOD	358.6	<LOD	<LOD	<LOD	14988.8	<LOD	410.8	<LOD	<LOD
X201	30	Pine Lake	53,54	107.5	<LOD	<LOD	109	<LOD	<LOD	<LOD	10297.6	<LOD	<LOD	<LOD	<LOD
X202	6	Pine Lake	65,66	646.4	<LOD	<LOD	224.6	153.1	<LOD	<LOD	9216	<LOD	<LOD	<LOD	<LOD
X202	12	Pine Lake	67,68	4368	<LOD	<LOD	1009.6	224.8	<LOD	<LOD	18099.2	905.6	<LOD	<LOD	<LOD
X202	24	Pine Lake	57,58	1868.8	<LOD	<LOD	344.6	<LOD	<LOD	<LOD	11699.2	<LOD	<LOD	<LOD	<LOD
X202	30	Pine Lake	55,56	66.2	<LOD	<LOD	87.4	<LOD	178.8	<LOD	13696	<LOD	366.6	<LOD	<LOD
X203	6	Pine Lake	69,70	2400	<LOD	<LOD	753.6	848.8	<LOD	<LOD	26675.2	1369.6	<LOD	<LOD	250.6
X203	12	Pine Lake	71,72	4748.8	<LOD	<LOD	1209.6	<LOD	<LOD	<LOD	25190.4	<LOD	<LOD	223.8	<LOD
X203	24	Pine Lake	73,74	12998.4	<LOD	<LOD	2748.8	<LOD	<LOD	<LOD	21696	<LOD	<LOD	290	<LOD
X203	30	Pine Lake	75,76	161.7	<LOD	<LOD	143.7	<LOD	<LOD	<LOD	15897.6	<LOD	<LOD	<LOD	<LOD
X204	6	Pine Lake	77,78	3219.2	<LOD	<LOD	641.6	1040	<LOD	<LOD	30080	1800	<LOD	<LOD	<LOD
X204	12	Pine Lake	79,80	7097.6	<LOD	<LOD	1708.8	330	331.4	<LOD	35097.6	<LOD	634.4	207.8	<LOD
X204	24	Pine Lake	81,82	4307.2	<LOD	<LOD	1080	713.2	<LOD	<LOD	35891.2	<LOD	523.2	83.2	<LOD
X204	30	Pine Lake	83,84	820	<LOD	<LOD	100.3	<LOD	<LOD	<LOD	12096	<LOD	<LOD	<LOD	<LOD
X205	2	Pine Lake	85,86	<LOD	<LOD	<LOD	49.8	<LOD	<LOD	<LOD	4067.2	<LOD	<LOD	<LOD	<LOD
X205	4	Pine Lake (beach)	87,88	18.7	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	3539.2	<LOD	<LOD	*<LOD	210.6
X205	5	Pine Lake (beach)	89,90	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	3737.6	<LOD	<LOD	<LOD	<LOD
X206	6	Pine Lake	91,92	1009.6	<LOD	<LOD	192.8	<LOD	<LOD	<LOD	18892.8	<LOD	549.2	<LOD	<LOD
X206	12	Pine Lake	93,94	180.5	<LOD	<LOD	117.7	<LOD	<LOD	<LOD	14400	<LOD	<LOD	<LOD	<LOD
X206	24	Pine Lake	95,96	155.2	<LOD	<LOD	123.5	<LOD	<LOD	<LOD	14694.4	<LOD	<LOD	<LOD	<LOD
X207	6	Pine Lake	97,98	1720	<LOD	<LOD	376	164.6	<LOD	<LOD	14592	<LOD	<LOD	<LOD	<LOD
X207	12	Pine Lake	99, 100	2019.2	<LOD	<LOD	428	393	<LOD	<LOD	16691.2	<LOD	<LOD	<LOD	<LOD
X207	24	Pine Lake	101,102	3059.2	<LOD	<LOD	1009.6	934.4	<LOD	<LOD	29184	<LOD	779.6	<LOD	813.6
X207	30	Pine Lake	103,104	34.2	<LOD	<LOD	70.5	<LOD	<LOD	<LOD	13696	952	<LOD	<LOD	<LOD
X208	6	Pine Lake	105,106	1260	<LOD	<LOD	271.4	410	<LOD	<LOD	16192	<LOD	1200	<LOD	<LOD
X208	12	Pine Lake	108,109	2779.2	<LOD	<LOD	544.4	548	<LOD	<LOD	19494.4	<LOD	568	<LOD	<LOD
X208	24 - 26	Pine Lake	110,111	281.6	<LOD	<LOD	68	<LOD	153.4	<LOD	11398.4	<LOD	713.2	<LOD	<LOD
X208	30	Pine Lake	112,113	73.8	<LOD	<LOD	99.3	<LOD	<LOD	<LOD	18688	<LOD	<LOD	<LOD	<LOD
X209	6	Pine Lake	114,115	8960	<LOD	<LOD	1920	248.2	<LOD	<LOD	24896	<LOD	950.4	127.1	<LOD

Table 1
Metal Concentrations in Sediment as Identified by X-Ray Fluorescence
During CERCLA Reassessment

Sample Number	Sample Depth in inches	Sample Location Notes	XRF Reading Number	Metal Concentrations in mg/kg as identified by X-Ray Fluorescence											
				Lead	Arsenic	Mercury	Zinc	Copper	Nickel	Cobalt	Iron	Manganese	Chromium	Cadmium	Silver
				Ontario Sediment Screening Benchmarks											
				31	6	0.2	120	16	16	50	20000	460		0.6	0.5
X209	12	Pine Lake	116,117	47283.2	1009.6	<LOD	9984	<LOD	<LOD	<LOD	42188.8	2840	<LOD	221.8	<LOD
X209	24	Pine Lake	118,119	12998.4	<LOD	<LOD	1868.8	<LOD	<LOD	<LOD	25996.8	<LOD	1720	<LOD	<LOD
X209	30	Pine Lake	120,121	179.3	<LOD	<LOD	103.1	<LOD	<LOD	<LOD	16896	<LOD	610.8	<LOD	<LOD
X210	6	Pine Lake	136,137	86374.4	1029.6	<LOD	13593.6	<LOD	<LOD	<LOD	76950.4	<LOD	2099.2	124.4	<LOD
X210	12	Pine Lake	138,139	16294.4	<LOD	<LOD	3859.2	<LOD	439.6	<LOD	42086.4	<LOD	986.4	103.5	<LOD
X210	18	Pine Lake	142,143	28083.2	<LOD	<LOD	4480	<LOD	<LOD	<LOD	49894.4	4627.2	<LOD	169.8	<LOD
X210	20	Pine Lake	140,141	4508.8	224.4	<LOD	612.8	<LOD	<LOD	<LOD	22195.2	1629.6	<LOD	<LOD	<LOD
X211	6	Pine Lake	144,145	37785.6	864.8	<LOD	2508.8	<LOD	<LOD	<LOD	28595.2	<LOD	<LOD	<LOD	<LOD
X211	12	Pine Lake	146,147	244	<LOD	<LOD	294	<LOD	<LOD	<LOD	22195.2	<LOD	508	<LOD	<LOD
X211	20	Pine Lake	148,149	133.4	<LOD	<LOD	188.4	<LOD	<LOD	<LOD	16294.4	<LOD	<LOD	<LOD	<LOD
X212	6	Pine Lake	150,151	8128	239.8	<LOD	1389.6	<LOD	<LOD	<LOD	21388.8	<LOD	702.8	<LOD	<LOD
X212	12	Pine Lake	152,153	110.7	<LOD	<LOD	132.8	<LOD	512.8	<LOD	18393.6	<LOD	1779.2	<LOD	11398.4
X213	6	Pine Lake	154,155	4960	<LOD	<LOD	802	<LOD	<LOD	<LOD	18995.2	<LOD	484	87.8	<LOD
X213	12	Pine Lake	156,157	1480	<LOD	<LOD	252.8	<LOD	<LOD	<LOD	12000	<LOD	<LOD	<LOD	<LOD
X213	15	Pine Lake	158,159	108.5	<LOD	<LOD	135.4	<LOD	<LOD	<LOD	19788.8	<LOD	875.2	<LOD	<LOD
X214	6	Pine Lake	160,161	35276.8	1129.6	<LOD	7558.4	<LOD	<LOD	<LOD	37376	<LOD	<LOD	372	<LOD
X214	12	Pine Lake	162,163	2739.2	<LOD	<LOD	654.8	654.8	<LOD	<LOD	19993.6	928.8	<LOD	<LOD	<LOD
X214	24	Pine Lake	164,165	19596.8	482.8	<LOD	3080	<LOD	<LOD	<LOD	27878.4	<LOD	<LOD	178	<LOD
X214	30	Pine Lake	166,167	693.6	73.8	<LOD	239.2	<LOD	<LOD	<LOD	14592	<LOD	<LOD	<LOD	<LOD
X215	6	Pine Lake	168,169	878.4	<LOD	<LOD	163.4	150.8	<LOD	<LOD	8704	<LOD	<LOD	<LOD	<LOD
X215	12	Pine Lake	170,171	1560	102.3	<LOD	294	253.2	<LOD	<LOD	12198.4	<LOD	<LOD	<LOD	<LOD
X215	24	Pine Lake	172,173	309.6	<LOD	<LOD	143.9	<LOD	<LOD	<LOD	13094.4	<LOD	<LOD	<LOD	<LOD
X216	6	Pine Lake	174,175	4678.4	<LOD	<LOD	610	<LOD	<LOD	<LOD	11494.4	<LOD	<LOD	111.3	<LOD
X216	12	Pine Lake	176,177	146.7	<LOD	<LOD	83.4	<LOD	<LOD	<LOD	10598.4	<LOD	<LOD	<LOD	<LOD
X217	6	Lake at Woodland Park	178,179	292.6	<LOD	<LOD	129.9	<LOD	<LOD	<LOD	16192	<LOD	<LOD	<LOD	<LOD
X217	12	Lake at Woodland Park	180,181	169.9	<LOD	<LOD	107.8	<LOD	<LOD	<LOD	11494.4	<LOD	<LOD	<LOD	<LOD
X217	24	Lake at Woodland Park	182,183	357.4	<LOD	<LOD	197.7	<LOD	<LOD	<LOD	17292.8	<LOD	<LOD	<LOD	<LOD
X218	6	Lake at Woodland Park	184,185	147.9	<LOD	<LOD	105	<LOD	<LOD	<LOD	12294.4	<LOD	345.4	<LOD	<LOD

Table 1
Metal Concentrations in Sediment as Identified by X-Ray Fluorescence
During CERCLA Reassessment

Sample Number	Sample Depth in inches	Sample Location Notes	XRF Reading Number	Metal Concentrations in mg/kg as Identified by X-Ray Fluorescence											
				Lead	Arsenic	Mercury	Zinc	Copper	Nickel	Cobalt	Iron	Manganese	Chromium	Cadmium	Silver
				Ontario Sediment Screening Benchmarks											
				31	6	0.2	120	16	16	50	20000	460		0.6	0.5
X218	12	Lake at Woodland Park	186,187	166.3	<LOD	<LOD	130.3	<LOD	<LOD	<LOD	11596.8	<LOD	<LOD	<LOD	<LOD
X218	24	Lake at Woodland Park	188,189	150.2	<LOD	<LOD	120.4	<LOD	<LOD	<LOD	12198.4	<LOD	399.8	<LOD	<LOD
X218	30	Lake at Woodland Park	190,191	153	<LOD	<LOD	102	<LOD	<LOD	<LOD	11494.4	<LOD	<LOD	<LOD	<LOD
X219	6	Lake at Woodland Park	192,193	183.6	<LOD	<LOD	186.6	<LOD	<LOD	<LOD	17689.6	<LOD	<LOD	<LOD	<LOD
X219	12	Lake at Woodland Park	194,195	155.9	<LOD	<LOD	129.9	<LOD	<LOD	<LOD	18598.4	<LOD	<LOD	<LOD	<LOD
X219	24	Lake at Woodland Park	196,197	175	31.6	<LOD	142.2	<LOD	<LOD	<LOD	18892.8	<LOD	<LOD	<LOD	<LOD
X219	34	Lake at Woodland Park	198,199	40.3	<LOD	<LOD	<LOD	<LOD	<LOD	325.4	9395.2	704.8	<LOD	<LOD	<LOD
X220	6	Drainage way between two lakes	200,201	101.2	<LOD	<LOD	107	<LOD	<LOD	<LOD	12499.2	<LOD	<LOD	<LOD	<LOD
X220	12	Drainage way between two lakes	202,023	41.3	<LOD	<LOD	91.9	<LOD	<LOD	<LOD	12998.4	<LOD	361	<LOD	<LOD
X220	24	Drainage way between two lakes	204,205	28.7	<LOD	<LOD	77.3	<LOD	<LOD	<LOD	13888	<LOD	<LOD	<LOD	<LOD
X221	6	Drainage way between two lakes	206,207	419.2	<LOD	<LOD	100.4	<LOD	<LOD	<LOD	12396.8	<LOD	<LOD	<LOD	<LOD
X221	12	Drainage way between two lakes	208,209	22.5	<LOD	<LOD	53.1	<LOD	<LOD	<LOD	7846.4	<LOD	<LOD	<LOD	<LOD
X221	24	Drainage way between two lakes	210,211	<LOD	<LOD	<LOD	72.1	<LOD	<LOD	<LOD	9747.2	<LOD	<LOD	<LOD	<LOD

Table 1
Metal Concentrations in Sediment as Identified by X-Ray Fluorescence
During CERCLA Reassessment

Sample Number	Sample Depth in inches	Sample Location Notes	XRF Reading Number	Metal Concentrations in mg/kg as identified by X-Ray Fluorescence											
				Lead	Arsenic	Mercury	Zinc	Copper	Nickel	Cobalt	Iron	Manganese	Chromium	Cadmium	Silver
				Ontario Sediment Screening Benchmarks											
				31	6	0.2	120	16	16	50	20000	460		0.6	0.5
X222	6	Unnamed Pond at Pine Lake Rd.	347	938.4	<LOD	<LOD	354.2	<LOD	<LOD	<LOD	19289.6	<LOD	<LOD	NA	NA
X222	12	Unnamed Pond at Pine Lake Rd.	348	638	<LOD	<LOD	824	<LOD	<LOD	<LOD	35481.6	<LOD	<LOD	NA	NA
X222	24	Unnamed Pond at Pine Lake Rd.	349	833.6	<LOD	<LOD	1739.2	<LOD	398.2	399.6	24998.4	<LOD	<LOD	NA	NA
X223	6	Unnamed Pond at Pine Lake Rd.	350	2099.2	<LOD	<LOD	1140	194.9	192.1	<LOD	10796.8	<LOD	<LOD	NA	NA
X223	12	Unnamed Pond at Pine Lake Rd.	351	36.8	<LOD	<LOD	161	<LOD	<LOD	<LOD	10598.4	<LOD	<LOD	NA	NA
X223	24	Unnamed Pond at Pine Lake Rd.	352	276.4	<LOD	<LOD	235	<LOD	<LOD	<LOD	8499.2	<LOD	<LOD	NA	NA
X224	6	Pond at 21 Pine Lake Dr.	353	82	<LOD	<LOD	58.7	<LOD	<LOD	<LOD	9056	<LOD	<LOD	NA	NA
X224	12	Pond at 21 Pine Lake Dr.	354	35.5	<LOD	<LOD	73.6	<LOD	<LOD	<LOD	8864	<LOD	<LOD	NA	NA
X224	24	Pond at 21 Pine Lake Dr.	355	39.5	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	16793.6	<LOD	<LOD	NA	NA

Notes

1 NA - Soil not analyzed for metal
2 < LOD - Metal is below level of detection

Table 2

St. Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286889.45	242829.60	01853	2	Aspen Circle			1		119			513
4286921.48	242819.00	01852	2	Aspen Circle			1		172			514
4286942.774	242849.450	R145	4	Aspen Circle	front	surface	1	20	20.1	<LOD	<LOD	582
4286942.774	242849.450	R145	4	Aspen Circle	front	6	2	21	33	<LOD	<LOD	583
4286942.774	242849.450	R145	4	Aspen Circle	front	12	4	22	44.3	<LOD	<LOD	584
4286942.774	242849.450	R145	4	Aspen Circle	front	24	5	23	337	<LOD	<LOD	585
4286955.54	242838.15	01847	5	Aspen Circle			1		92			519
4286978.76	242836.14	01846	5	Aspen Circle			1		112			520
4286567.670	242651.475	R120	1963	Banyan Tree Road	back	surface	1	182	33	<LOD	446.8	395
4286567.670	242651.475	R120	1963	Banyan Tree Road	back	6	2	183	122	<LOD	<LOD	396
4286567.670	242651.475	R120	1963	Banyan Tree Road	back	12	4	184	300	<LOD	<LOD	397
4286567.670	242651.475	R120	1963	Banyan Tree Road	back	24	5	185	48	<LOD	<LOD	398
4286549.892	242683.506	R121	1963	Banyan Tree Road	front	surface	1	186	178.9	<LOD	<LOD	399
4286549.892	242683.506	R121	1963	Banyan Tree Road	front	6	2	187	77.6	<LOD	<LOD	400
4286549.892	242683.506	R121	1963	Banyan Tree Road	front	12	4	188	152.8	<LOD	<LOD	401
4286549.892	242683.506	R121	1963	Banyan Tree Road	front	24	5	189	52	<LOD	<LOD	402
4286615.31	242746.59	01688	1966	Banyan Tree Road			1		175			556
4286631.80	242722.87	01687	1966	Banyan Tree Road			1		736			557
4286608.98	242658.21	X104	1967	Banyan Tree Road			1		3400			483
4286620.17	242658.74	X105	1967	Banyan Tree Road			1		570			484
4286610.58	242689.65	X106	1967	Banyan Tree Road			1		100			485
4286613.24	242653.27	01692	1967	Banyan Tree Road			1		424			552
4286614.79	242688.84	01691	1967	Banyan Tree Road			1		1769			553
4286646.76	242667.70	01694	1969	Banyan Tree Road			1		3828			550
4286636.44	242696.58	01693	1969	Banyan Tree Road			1		1124			551
4286558.59	242731.64	01684	1969	Banyan Tree Road			1		143			560
4286558.59	242705.86	01683	1969	Banyan Tree Road			1		0			561
4286650.35	242795.73	X107	1970	Banyan Tree Road			1		140			486
4286645.44	242777.23	X108	1970	Banyan Tree Road			1		3000			487
4286676.08	242772.31	X110	1970	Banyan Tree Road			1		530			488
4286642.12	242789.90	01690	1970	Banyan Tree Road			1		74			554
4286670.99	242771.33	01689	1970	Banyan Tree Road			1		366			555
4286678.72	242690.90	01686	1971	Banyan Tree Road			1		2284			558
4286659.13	242711.53	01685	1971	Banyan Tree Road			1		0			559

Table 2

St. Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286659.64	242813.10	01682	1972	Banyan Tree Road			1		121			562
4286682.33	242797.63	01681	1972	Banyan Tree Road			1		204			563
4286762.18	242845.98	X111	1979	Banyan Tree Road			1		11			489
4286766.06	242864.57	X112	1979	Banyan Tree Road			1		20			490
4286742.82	242863.02	X113	1979	Banyan Tree Road			1		41			491
4286742.228	242852.410	R122	1981	Banyan Tree Road	front	surface	1	190	42.8	<LOD	<LOD	403
4286742.228	242852.410	R122	1981	Banyan Tree Road	front	6	2	191	27.8	<LOD	231.4	404
4286742.228	242852.410	R122	1981	Banyan Tree Road	front	12	4	192	30	<LOD	<LOD	405
4286742.228	242852.410	R122	1981	Banyan Tree Road	front	24	5	193	0	<LOD	<LOD	406
4286838.013	242964.030	R66	1989	Banyan Tree Road	side	1	1	411	45	<LOD	<LOD	181
4286838.013	242964.030	R66	1989	Banyan Tree Road	side	4	2	412	56.2	<LOD	<LOD	182
4286616.362	242708.677	R144	1966	Banyon Tree Road	front	surface	1	16	869.6	<LOD	711.6	578
4286616.362	242708.677	R144	1966	Banyon Tree Road	front	6	2	17	653.2	<LOD	<LOD	579
4286616.362	242708.677	R144	1966	Banyon Tree Road	front	12	4	18	836.8	<LOD	<LOD	580
4286616.362	242708.677	R144	1966	Banyon Tree Road	front	24	5	19	672.4	<LOD	<LOD	581
4286767.137	242946.381	R141	1982	Banyon Tree Road	front	surface	1	4	30.5	<LOD	<LOD	566
4286767.137	242946.381	R141	1982	Banyon Tree Road	front	6	2	5	78	<LOD	<LOD	567
4286767.137	242946.381	R141	1982	Banyon Tree Road	front	12	4	6	117.2	<LOD	<LOD	568
4286767.137	242946.381	R141	1982	Banyon Tree Road	front	24	5	7	252.4	<LOD	1040	569
4286733.689	242980.827	R142	1982	Banyon Tree Road	back	surface	1	8	175.4	<LOD	<LOD	570
4286733.689	242980.827	R142	1982	Banyon Tree Road	back	6	2	9	160.8	<LOD	<LOD	571
4286733.689	242980.827	R142	1982	Banyon Tree Road	back	12	4	10	278.6	<LOD	<LOD	572
4286733.689	242980.827	R142	1982	Banyon Tree Road	back	24	5	11	30	<LOD	<LOD	573
4286814.856	242926.666	R143	1987	Banyon Tree Road	back	surface	1	12	164.9	<LOD	897.6	574
4286814.856	242926.666	R143	1987	Banyon Tree Road	back	6	2	13	104.3	<LOD	<LOD	575
4286814.856	242926.666	R143	1987	Banyon Tree Road	back	12	4	14	69.9	<LOD	1049.6	576
4286814.856	242926.666	R143	1987	Banyon Tree Road	back	24	5	15	27.9	<LOD	604	577
4286526.028	242269.616	R27	4	Briarwood	front	surface	1	292	43.6	<LOD	<LOD	77
4286526.028	242269.616	R27	4	Briarwood	front	4	2	293	42.3	<LOD	<LOD	78
4286526.028	242269.616	R27	4	Briarwood	front	12	4	294	30	<LOD	<LOD	79
4286543.917	242244.628	R28	4	Briarwood	back	surface	1	295	30	<LOD	<LOD	80
4286543.917	242244.628	R28	4	Briarwood	back	4	2	296	26.1	<LOD	<LOD	81
4286543.917	242244.628	R28	4	Briarwood	back	12	4	297	36.3	<LOD	<LOD	82
4286536.290	242276.694	R29	4	Briarwood	front	surface	1	298	29.4	<LOD	<LOD	83

Table 2

St. Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286463.496	242251.212	R30	7	Briarwood	side	surface	1	301	429.2	<LOD	<LOD	84
4286463.496	242251.212	R30	7	Briarwood	side	4	2	302	264.6	<LOD	<LOD	85
4286463.496	242251.212	R30	7	Briarwood	side	8	3	303	245.4	<LOD	<LOD	86
4286456.808	242282.861	R31	7	Briarwood	back	surface	1	305	694	<LOD	347	87
4286456.808	242282.861	R31	7	Briarwood	back	4	2	306	581.2	<LOD	<LOD	88
4286456.808	242282.861	R31	7	Briarwood	back	8	3	308	516	<LOD	405.2	89
4286456.808	242282.861	R31	7	Briarwood	back	12	4	307	67.3	<LOD	<LOD	90
4286375.296	242160.861	R84	14	Briarwood	back	surface	1	36	206.6	<LOD	<LOD	227
4286375.296	242160.861	R84	14	Briarwood	back	6	2	37	164.6	<LOD	<LOD	228
4286375.296	242160.861	R84	14	Briarwood	back	12	4	38	101.4	<LOD	<LOD	229
4286375.296	242160.861	R84	14	Briarwood	back	24	5	39	171	<LOD	<LOD	230
4286358.919	242178.949	R85	14	Briarwood	back	surface	1	40	50.8	<LOD	<LOD	231
4286358.919	242178.949	R85	14	Briarwood	back	6	2	41	126.6	<LOD	<LOD	232
4286358.919	242178.949	R85	14	Briarwood	back	12	4	42	161.2	<LOD	<LOD	233
4286388.152	242166.484	R86	14	Briarwood	side	surface	1	43	123.2	<LOD	<LOD	234
4286388.152	242166.484	R86	14	Briarwood	side	6	2	44	87.8	<LOD	<LOD	235
4286388.152	242166.484	R86	14	Briarwood	side	12	4	45	125.5	<LOD	<LOD	236
4286285.343	242512.915	R123	1407	California Avenue	back	surface	1	194	604.4	<LOD	<LOD	407
4286285.343	242512.915	R123	1407	California Avenue	back	6	2	195	654	<LOD	<LOD	408
4286285.343	242512.915	R123	1407	California Avenue	back	12	4	196	749.2	<LOD	<LOD	409
4286285.343	242512.915	R123	1407	California Avenue	back	24	5	197	525	<LOD	<LOD	410
4286258.153	242537.511	R124	1409	California Avenue	front	surface	1	199	122	<LOD	<LOD	412
4286258.153	242537.511	R124	1409	California Avenue	front	6	2	200	116	<LOD	<LOD	413
4286276.880	242606.392	R67	1505	California Avenue	back	1	1	413	221.6	<LOD	<LOD	183
4286276.880	242606.392	R67	1505	California Avenue	back	6	2	414	188.7	<LOD	<LOD	184
4286276.880	242606.392	R67	1505	California Avenue	back	12	4	415	590.4	<LOD	<LOD	185
4286276.880	242606.392	R67	1505	California Avenue	back	24	5	416	43	<LOD	<LOD	186
4286294.272	242600.750	R68	1505	California Avenue	back	surface	1	417	333.2	<LOD	<LOD	187
4286294.272	242600.750	R68	1505	California Avenue	back	6	2	418	864.8	<LOD	362	188
4286294.272	242600.750	R68	1505	California Avenue	back	12	4	419	1369.6	<LOD	<LOD	189
4286294.272	242600.750	R68	1505	California Avenue	back	24	5	420	42	<LOD	<LOD	190
4286244.904	242665.960	R133	1511	California Avenue	front	surface	1	81	103	<LOD	<LOD	445
4286244.904	242665.960	R133	1511	California Avenue	front	6	2	82	111.9	<LOD	<LOD	446
4286244.904	242665.960	R133	1511	California Avenue	front	12	4	83	228.8	<LOD	<LOD	447

Table 2

St. Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286244.904	242665.960	R133	1511	California Avenue	front	24	5	84	93	<LOD	243.2	448
4286285.980	242677.781	R134	1511	California Avenue	back	surface	1	85	159.2	<LOD	217.8	449
4286285.980	242677.781	R134	1511	California Avenue	back	6	2	86	301	<LOD	404	450
4286285.980	242677.781	R134	1511	California Avenue	back	12	4	87	173.1	<LOD	<LOD	451
4286285.980	242677.781	R134	1511	California Avenue	back	24	5	88	775	<LOD	<LOD	452
4286247.510	242719.890	R135	1601	California Avenue	front	surface	1	89	252	<LOD	<LOD	453
4286247.510	242719.890	R135	1601	California Avenue	front	6	2	90	221.8	<LOD	265.4	454
4286247.510	242719.890	R135	1601	California Avenue	front	12	4	91	505.2	<LOD	<LOD	455
4286247.510	242719.890	R135	1601	California Avenue	front	24	5	92	107	16.6	<LOD	456
4286285.840	242722.121	R136	1601	California Avenue	back	surface	1	93	154.5	<LOD	<LOD	457
4286285.840	242722.121	R136	1601	California Avenue	back	6	2	94	106.2	<LOD	<LOD	458
4286285.840	242722.121	R136	1601	California Avenue	back	12	4	95	119	<LOD	212.6	459
4286285.840	242722.121	R136	1601	California Avenue	back	24	5	96	413	<LOD	257.4	460
4286237.006	242881.866	R96	1701	California Avenue	front	surface	1	79	77.6	<LOD	249.8	300
4286237.006	242881.866	R96	1701	California Avenue	front	6	2	80	147.5	<LOD	343.2	301
4286237.006	242881.866	R96	1701	California Avenue	front	12	4	81	775.2	<LOD	758.4	302
4286255.736	242862.619	R97	1701	California Avenue	back	surface	1	82	63.4	<LOD	<LOD	303
4286367.014	242858.014	R69	1711	California Avenue	back	surface	1	421	252.4	<LOD	<LOD	191
4286367.014	242858.014	R69	1711	California Avenue	back	6	2	422	324	<LOD	<LOD	192
4286367.014	242858.014	R69	1711	California Avenue	back	12	4	423	57.2	<LOD	<LOD	193
4286367.014	242858.014	R69	1711	California Avenue	back	24	5	424	137	<LOD	<LOD	194
4286363.073	242915.648	R70	1711	California Avenue	front	surface	1	426	103.6	<LOD	<LOD	195
4286363.073	242915.648	R70	1711	California Avenue	front	6	2	427	199.6	<LOD	<LOD	196
4286363.073	242915.648	R70	1711	California Avenue	front	12	4	428	49.8	<LOD	<LOD	197
4286529.836	242936.010	GP4	1750	California Avenue	front	surface	1	65	158.9	<LOD	282.6	287
4286529.836	242936.010	GP4	1750	California Avenue	front	6	2	66	57.1	<LOD	<LOD	288
4286529.836	242936.010	GP4	1750	California Avenue	front	12	4	67	157.3	<LOD	333	289
4286529.836	242936.010	GP4	1750	California Avenue	front	24	5	68	60.8	<LOD	665.6	290
4286529.836	242936.010	GP4	1750	California Avenue	front	48	48	69	30	<LOD	<LOD	291
4286529.836	242936.010	GP4	1750	California Avenue	front	84	84	70	41.6	<LOD	<LOD	292
4286529.836	242936.010	GP4	1750	California Avenue	front	120	120	72	30	<LOD	<LOD	293
4286529.836	242936.010	GP4	1750	California Avenue	front	216	216	73	30	<LOD	<LOD	294
4286498.657	242962.411	R93	1750	California Avenue	front	surface	1	74	76.6	<LOD	353.8	295
4286498.657	242962.411	R93	1750	California Avenue	front	12	4	75	31.1	<LOD	<LOD	296

Table 2

St. Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286498.657	242962.411	R93	1750	California Avenue	front	24	5	76	30	<LOD	<LOD	297
4286530.654	242937.892	R94	1750	California Avenue	road, front	surface	1	77	30	<LOD	<LOD	298
4286478.304	242919.015	R95	1750	California Avenue	front	surface	1	78	435.2	<LOD	420.4	299
4286362.978	242729.525	R146	2	Cedar Point	back	surface	1	25	107.1	<LOD	<LOD	586
4286362.978	242729.525	R146	2	Cedar Point	back	6	2	26	107.1	<LOD	<LOD	587
4286362.978	242729.525	R146	2	Cedar Point	back	12	4	27	67	22.7	<LOD	588
4286362.978	242729.525	R146	2	Cedar Point	back	24	5	28	125.1	<LOD	<LOD	589
4286400.149	242715.698	R147	4	Cedar Point	front	surface	1	29	65.3	<LOD	<LOD	590
4286400.149	242715.698	R147	4	Cedar Point	front	6	2	30	51	<LOD	<LOD	591
4286400.149	242715.698	R147	4	Cedar Point	front	12	4	31	22	<LOD	<LOD	592
4286400.149	242715.698	R147	4	Cedar Point	front	24	5	32	21.9	21.6	<LOD	593
4286418.701	242731.647	R148	4	Cedar Point	back	surface	1	33	842.4	<LOD	1380	594
4286418.701	242731.647	R148	4	Cedar Point	back	6	2	34	2619.2	<LOD	<LOD	595
4286418.701	242731.647	R148	4	Cedar Point	back	12	4	35	416	<LOD	557.6	596
4286418.701	242731.647	R148	4	Cedar Point	back	24	5	36	250.6	<LOD	<LOD	597
4286436.955	242676.438	R149	5	Cedar Point	back	surface	1	37	186.2	<LOD	<LOD	598
4286436.955	242676.438	R149	5	Cedar Point	back	6	2	38	141.6	<LOD	<LOD	599
4286436.955	242676.438	R149	5	Cedar Point	back	12	4	39	113	<LOD	<LOD	600
4286436.955	242676.438	R149	5	Cedar Point	back	24	5	40	30	<LOD	<LOD	601
4286412.955	242697.237	R51	6	Cedar Point	front	2	1	364	51.5	<LOD	<LOD	134
4286445.567	242718.428	R52	6	Cedar Point	back	surface	1	365	68.9	<LOD	<LOD	135
4286445.567	242718.428	R52	6	Cedar Point	back	24	5	366	34	<LOD	307.8	136
4286457.750	242717.821	R53	6	Cedar Point	ravine to south	1 - 2	1	367	1819.2	<LOD	<LOD	137
4286698.863	242740.712	R87	1972	Dogwood Trail	front	surface	1	10	1600	<LOD	318.4	237
4286698.863	242740.712	R87	1972	Dogwood Trail	front	6	2	11	2028.8	<LOD	438.4	238
4286698.863	242740.712	R87	1972	Dogwood Trail	front	12	4	12	3379.2	<LOD	543.2	239
4286698.863	242740.712	R87	1972	Dogwood Trail	front	24	5	13	4029	<LOD	<LOD	240
4286728.380	242755.806	R139	1972	Dogwood Trail	north side yard	surface	1	19	202.1	<LOD	<LOD	469
4286728.380	242755.806	R139	1972	Dogwood Trail	north side yard	6	2	20	510.8	40.3	406.2	470
4286728.380	242755.806	R139	1972	Dogwood Trail	north side yard	12	4	21	118.3	<LOD	<LOD	471
4286728.380	242755.806	R139	1972	Dogwood Trail	north side yard	24	5	22	404.6	<LOD	<LOD	472
4286728.689	242748.417	R140	1972	Dogwood Trail	front	surface	1	23	1149.6	<LOD	797.2	473
4286728.689	242748.417	R140	1972	Dogwood Trail	front	6	2	24	2579.2	<LOD	<LOD	474
4286728.689	242748.417	R140	1972	Dogwood Trail	front	12	4	25	270.2	<LOD	<LOD	475

Table 2

St Louis Smelting and Refining Company

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Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286728.689	242748.417	R140	1972	Dogwood Trail	front	24	5	26	2289.6	<LOD	<LOD	476
4286702.95	242686.78	01702	1973	Dogwood Trail			1		347			542
4286699.86	242720.81	01701	1973	Dogwood Trail			1		691			543
4286745.953	242781.068	R88	1974	Dogwood Trail	back	surface	1	14	38.5	<LOD	340.2	241
4286745.953	242781.068	R88	1974	Dogwood Trail	back	6	2	15	31.5	<LOD	<LOD	242
4286745.953	242781.068	R88	1974	Dogwood Trail	back	12	4	16	22.3	<LOD	<LOD	243
4286745.953	242781.068	R88	1974	Dogwood Trail	back	24	5	17	26	<LOD	<LOD	244
4286727.537	242724.871	R92	1975	Dogwood Trail	front	surface	1	55	87.1	<LOD	<LOD	282
4286727.537	242724.871	R92	1975	Dogwood Trail	front	6	2	56	92.1	<LOD	<LOD	283
4286727.537	242724.871	R92	1975	Dogwood Trail	front	12	4	57	871.2	<LOD	350.6	284
4286727.537	242724.871	R92	1975	Dogwood Trail	front	18	5	58	357.4	<LOD	<LOD	285
4286732.86	242728.54	01700	1975	Dogwood Trail			1		2652			544
4286734.92	242697.61	01699	1975	Dogwood Trail			1		1072			545
4286798.369	242795.111	R105	1976	Dogwood Trail	front	surface	1	113	105.9	<LOD	788.4	334
4286798.369	242795.111	R105	1976	Dogwood Trail	front	6	2	114	174.2	<LOD	270.2	335
4286798.369	242795.111	R105	1976	Dogwood Trail	front	12	4	115	117.2	<LOD	565.6	336
4286798.369	242795.111	R105	1976	Dogwood Trail	front	24	5	116	1160	<LOD	<LOD	337
4286802.46	242848.16	01698	1980	Dogwood Trail			1		1400			546
4286810.71	242839.91	01697	1980	Dogwood Trail			1		832			547
4286807.10	242748.65	01696	1981	Dogwood Trail			1		74			548
4286797.82	242759.48	01695	1981	Dogwood Trail			1		85			549
4286809.090	242772.193	R151	1983	Dogwood Trail	front	surface	1	45	19.2	<LOD	<LOD	606
4286809.090	242772.193	R151	1983	Dogwood Trail	front	6	2	46	30	<LOD	<LOD	607
4286809.090	242772.193	R151	1983	Dogwood Trail	front	12	4	47	23.5	<LOD	<LOD	608
4286809.090	242772.193	R151	1983	Dogwood Trail	front	24	5	48	29.8	<LOD	<LOD	609
4286841.144	242754.448	R152	1983	Dogwood Trail	back	surface	1	49	423.6	<LOD	662.4	610
4286841.144	242754.448	R152	1983	Dogwood Trail	back	6	2	50	459.2	<LOD	745.2	611
4286841.144	242754.448	R152	1983	Dogwood Trail	back	12	4	51	126.3	<LOD	492.4	612
4286841.144	242754.448	R152	1983	Dogwood Trail	back	24	5	52	28.7	<LOD	<LOD	613
4286829.568	242806.819	R150	1985	Dogwood Trail	front	surface	1	41	41.4	<LOD	<LOD	602
4286829.568	242806.819	R150	1985	Dogwood Trail	front	6	2	42	51	<LOD	<LOD	603
4286829.568	242806.819	R150	1985	Dogwood Trail	front	12	4	43	34.1	<LOD	729.6	604
4286829.568	242806.819	R150	1985	Dogwood Trail	front	24	5	44	26.9	<LOD	<LOD	605
4286403.669	242641.124	R54	4	Driftwood	back	1	1	368	171.1	<LOD	<LOD	138

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Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286403.669	242641.124	R54	4	Driftwood	back	10	3	369	561.6	<LOD	299	139
4286403.669	242641.124	R54	4	Driftwood	back	14	4	370	546	<LOD	0	140
4286403.669	242641.124	R54	4	Driftwood	back	24	5	371	35	<LOD	340	141
4286418.762	242586.296	R153	5	Driftwood	front	surface	1	53	46.5	<LOD	<LOD	614
4286418.762	242586.296	R153	5	Driftwood	front	6	2	54	30	<LOD	<LOD	615
4286418.762	242586.296	R153	5	Driftwood	front	24	5	55	135.2	<LOD	<LOD	616
4286435.433	242559.874	R154	5	Driftwood	back	surface	1	56	368.6	<LOD	<LOD	617
4286435.433	242559.874	R154	5	Driftwood	back	6	2	57	308.6	<LOD	<LOD	618
4286435.433	242559.874	R154	5	Driftwood	back	12	4	58	161.4	<LOD	<LOD	619
4286435.433	242559.874	R154	5	Driftwood	back	24	5	59	3600	<LOD	<LOD	620
4286461.386	242583.294	X101	7	Driftwood Lane		surface	1		730			477
4286985.830	243171.193	R155	2011	Greenbrier Drive	front	surface	1	60	30	<LOD	3337.6	621
4286985.830	243171.193	R155	2011	Greenbrier Drive	front	6	2	61	30	<LOD	729.2	622
4286985.830	243171.193	R155	2011	Greenbrier Drive	front	12	4	62	25.2	<LOD	<LOD	623
4286985.830	243171.193	R155	2011	Greenbrier Drive	front	24	5	63	30	<LOD	<LOD	624
4287078.361	243300.546	R83	2016	Greenbrier Drive	back	surface	1	33	30	<LOD	<LOD	224
4287078.361	243300.546	R83	2016	Greenbrier Drive	back	6	2	34	30	<LOD	<LOD	225
4287078.361	243300.546	R83	2016	Greenbrier Drive	back	12	4	35	30	<LOD	<LOD	226
4287118.597	243286.654	R156	2020	Greenbrier Drive	front	surface	1	64	30	<LOD	677.2	625
4287118.597	243286.654	R156	2020	Greenbrier Drive	front	6	2	65	30	<LOD	1100	626
4287118.597	243286.654	R156	2020	Greenbrier Drive	front	12	4	66	31.4	<LOD	<LOD	627
4287118.597	243286.654	R156	2020	Greenbrier Drive	front	24	5	68	30	<LOD	589.2	628
4287119.52	243312.09	R157	2020	Greenbrier Drive	back	surface	1	69	23.5	<LOD	<LOD	629
4287119.52	243312.09	R157	2020	Greenbrier Drive	back	6	2	70	30	<LOD	<LOD	630
4287119.52	243312.09	R157	2020	Greenbrier Drive	back	12	4	71	30	<LOD	<LOD	631
4287119.52	243312.09	R157	2020	Greenbrier Drive	back	24	5	72	30	<LOD	<LOD	632
4286355.465	242419.002	R36	1009	Hickory Point	front	2	1	325	47.7	<LOD	<LOD	107
4286355.465	242419.002	R36	1009	Hickory Point	front	8	3	326	30	<LOD	<LOD	108
4286355.465	242419.002	R36	1009	Hickory Point	front	24	5	327	280	<LOD	<LOD	109
4286309.178	242543.159	R55	1016	Hickory Point	back	surface	1	372	33.3	20.5	<LOD	142
4286309.178	242543.159	R55	1016	Hickory Point	back	6	2	373	71.7	<LOD	<LOD	143
4286297.263	242539.523	R56	1016	Hickory Point	back	surface	1	374	1720	<LOD	<LOD	144
4286297.263	242539.523	R56	1016	Hickory Point	back	6	2	375	522.8	65.1	<LOD	145
4286297.263	242539.523	R56	1016	Hickory Point	back	12	4	376	1189.6	<LOD	<LOD	146

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UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286297.263	242539.523	R56	1016	Hickory Point	back	18	5	377	2250	<LOD	385.6	147
4286297.263	242539.523	R56	1016	Hickory Point	back	24	5	378	353	<LOD	<LOD	148
4286306.147	242535.061	R57	1016	Hickory Point	back	surface	1	379	28.2	<LOD	<LOD	149
4286306.147	242535.061	R57	1016	Hickory Point	back	10	3	380	84.4	<LOD	<LOD	150
4286306.147	242535.061	R57	1016	Hickory Point	back	18	5	381	88	<LOD	<LOD	151
4286306.147	242535.061	R57	1016	Hickory Point	back	24	5	382	272	<LOD	<LOD	152
4286372.470	242755.702	R158	1025	Hickory Point	back	surface	1	73	173.5	<LOD	895.2	633
4286372.470	242755.702	R158	1025	Hickory Point	back	6	2	74	161.9	<LOD	<LOD	634
4286372.470	242755.702	R158	1025	Hickory Point	back	12	4	75	128.2	<LOD	<LOD	635
4286372.470	242755.702	R158	1025	Hickory Point	back	24	5	76	136.1	<LOD	<LOD	636
4286332.681	242706.424	R50	1028	Hickory Point	front	surface	1	362	218.6	<LOD	<LOD	132
4286332.681	242706.424	R50	1028	Hickory Point	front	6	2	363	194.3	<LOD	<LOD	133
4286357.299	242809.325	R47	1029	Hickory Point	front	2	1	356	109.7	<LOD	<LOD	126
4286357.299	242809.325	R47	1029	Hickory Point	front	8	3	357	74.7	<LOD	291.2	127
4286357.299	242809.325	R47	1029	Hickory Point	front	18	5	358	39	<LOD	<LOD	128
4286414.123	242796.396	R48	1029	Hickory Point	creek in back	2	1	359	166.6	<LOD	<LOD	129
4286410.934	242802.459	R49	1029	Hickory Point	back	surface	1	360	67	<LOD	<LOD	130
4286410.934	242802.459	R49	1029	Hickory Point	back	6	2	361	102.7	<LOD	<LOD	131
4286301.993	242746.644	R129	1032	Hickory Point	back	surface	1	65	26.7	<LOD	<LOD	429
4286301.993	242746.644	R129	1032	Hickory Point	back	6	2	66	21.8	<LOD	235.6	430
4286301.993	242746.644	R129	1032	Hickory Point	back	12	4	67	15.6	<LOD	845.6	431
4286301.993	242746.644	R129	1032	Hickory Point	back	24	5	68	23	<LOD	<LOD	432
4287010.071	242811.161	R172	1996	Lemon Tree Court	west side yard	surface	1	137	32.1	<LOD	<LOD	688
4287010.071	242811.161	R172	1996	Lemon Tree Court	west side yard	6	2	138	34.6	<LOD	<LOD	689
4287010.071	242811.161	R172	1996	Lemon Tree Court	west side yard	12	4	139	30	<LOD	<LOD	690
4287010.071	242811.161	R172	1996	Lemon Tree Court	west side yard	24	5	140	30	<LOD	<LOD	691
4287001.207	242830.788	R173	1996	Lemon Tree Court	back	surface	1	141	36.2	<LOD	<LOD	692
4287001.207	242830.788	R173	1996	Lemon Tree Court	back	6	2	142	41.9	<LOD	642	693
4287001.207	242830.788	R173	1996	Lemon Tree Court	back	12	4	143	45.1	<LOD	<LOD	694
4287001.207	242830.788	R173	1996	Lemon Tree Court	back	24	5	144	53	<LOD	<LOD	695
4286577.465	242615.295	R159	1962	Lemon Tree Lane	front	surface	1	77	1760	<LOD	<LOD	637
4286577.465	242615.295	R159	1962	Lemon Tree Lane	front	6	2	78	1209.6	<LOD	1400	638
4286577.465	242615.295	R159	1962	Lemon Tree Lane	front	12	4	79	2346.6	<LOD	<LOD	639
4286577.465	242615.295	R159	1962	Lemon Tree Lane	front	24	5	80	1180	<LOD	<LOD	640

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UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286561.146	242637.313	R160	1962	Lemon Tree Lane	back	surface	1	81	1089.6	118.2	<LOD	641
4286561.146	242637.313	R160	1962	Lemon Tree Lane	back	6	2	82	3939.2	<LOD	<LOD	642
4286561.146	242637.313	R160	1962	Lemon Tree Lane	back	12	4	83	3148.8	<LOD	<LOD	643
4286561.146	242637.313	R160	1962	Lemon Tree Lane	back	24	5	84	460.4	<LOD	<LOD	644
4286659.164	242591.719	R161	1969	Lemon Tree Lane	front	surface	1	85	2049.6	<LOD	<LOD	645
4286659.164	242591.719	R161	1969	Lemon Tree Lane	front	6	2	89	7417.6	<LOD	<LOD	646
4286659.164	242591.719	R161	1969	Lemon Tree Lane	front	12	4	90	3638.4	<LOD	<LOD	647
4286659.164	242591.719	R161	1969	Lemon Tree Lane	front	24	5	91	4137.6	<LOD	<LOD	648
4286682.060	242577.693	R162	1969	Lemon Tree Lane	back	surface	1	92	2600	<LOD	<LOD	649
4286682.060	242577.693	R162	1969	Lemon Tree Lane	back	6	2	93	1748.8	<LOD	<LOD	650
4286682.060	242577.693	R162	1969	Lemon Tree Lane	back	12	4	97	1480	<LOD	1280	651
4286682.060	242577.693	R162	1969	Lemon Tree Lane	back	24	5	98	4947.2	<LOD	<LOD	652
4286682.060	242577.693	R162	1969	Lemon Tree Lane	slag from back			99	9459.2	<LOD	<LOD	653
4286707.883	242602.832	R163	1971	Lemon Tree Lane	north side yard	surface	1	100	1060	<LOD	585.2	654
4286707.883	242602.832	R163	1971	Lemon Tree Lane	north side yard	6	2	101	1140	<LOD	<LOD	655
4286707.883	242602.832	R163	1971	Lemon Tree Lane	north side yard	12	4	102	1240	<LOD	<LOD	656
4286707.883	242602.832	R163	1971	Lemon Tree Lane	north side yard	24	5	103	952.8	<LOD	<LOD	657
4286748.145	242684.503	R106	1976	Lemon Tree Lane	back	surface	1	118	44.8	<LOD	1080	338
4286748.145	242684.503	R106	1976	Lemon Tree Lane	back	6	2	119	94.6	<LOD	498.8	339
4286748.145	242684.503	R106	1976	Lemon Tree Lane	back	12	4	120	62.1	<LOD	<LOD	340
4286748.145	242684.503	R106	1976	Lemon Tree Lane	back	18	5	121	240.8	<LOD	<LOD	341
4286763.961	242655.489	R107	1976	Lemon Tree Lane	front	surface	1	122	36	<LOD	<LOD	342
4286763.961	242655.489	R107	1976	Lemon Tree Lane	front	6	2	123	38.4	<LOD	<LOD	343
4286763.961	242655.489	R107	1976	Lemon Tree Lane	front	12	4	124	149	<LOD	<LOD	344
4286763.961	242655.489	R107	1976	Lemon Tree Lane	front	24	5	125	232.8	<LOD	354.2	345
4286787.830	242612.685	R90	1977	Lemon Tree Lane	back	surface	1	22	242.8	<LOD	315	249
4286787.830	242612.685	R90	1977	Lemon Tree Lane	back	6	2	23	243.6	<LOD	<LOD	250
4286787.830	242612.685	R90	1977	Lemon Tree Lane	back	12	4	24	51.2	<LOD	<LOD	251
4286787.830	242612.685	R90	1977	Lemon Tree Lane	back	24	5	25	0	<LOD	<LOD	252
4286778.228	242640.744	GP1	1977	Lemon Tree Lane	front	surface	1	26	100.6	<LOD	<LOD	253
4286778.228	242640.744	GP1	1977	Lemon Tree Lane	front	6	2	27	40.1	<LOD	457.6	254
4286778.228	242640.744	GP1	1977	Lemon Tree Lane	front	12	4	28	28.4	<LOD	<LOD	255
4286778.228	242640.744	GP1	1977	Lemon Tree Lane	front	24	5	29	38	<LOD	<LOD	256
4286778.228	242640.744	GP1	1977	Lemon Tree Lane	front	72	72	30	29	<LOD	0	257

Table 2

St Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286778.228	242640.744	GP1	1977	Lemon Tree Lane	front	120	120	31	0	<LOD	0	258
4286778.228	242640.744	GP1	1977	Lemon Tree Lane	front	180	180	32	0	<LOD	0	259
4286778.228	242640.744	GP1	1977	Lemon Tree Lane	front	324	324	33	0	<LOD	0	260
4286811.681	242651.277	R108	1979	Lemon Tree Lane	front	surface	1	126	173.9	<LOD	534.4	346
4286811.681	242651.277	R108	1979	Lemon Tree Lane	front	6	2	127	233.2	<LOD	331.8	347
4286811.681	242651.277	R108	1979	Lemon Tree Lane	front	12	4	128	214.8	<LOD	<LOD	348
4286811.681	242651.277	R108	1979	Lemon Tree Lane	front	20	5	129	2059.2	<LOD	<LOD	349
4286826.97	242701.77	X114	1980	Lemon Tree Lane			1		41			492
4286807.72	242693.38	X115	1980	Lemon Tree Lane			1		60			493
4286822.53	242668.71	X116	1980	Lemon Tree Lane			1		180			494
4286820.55	242623.81	X117	1981	Lemon Tree Lane			1		1000			495
4286836.84	242623.31	X118	1981	Lemon Tree Lane			1		1500			496
4286870.344	242696.430	R109	1982	Lemon Tree Lane	front	surface	1	130	37.4	<LOD	398	350
4286870.344	242696.430	R109	1982	Lemon Tree Lane	front	6	2	131	30	<LOD	<LOD	351
4286870.344	242696.430	R109	1982	Lemon Tree Lane	front	12	4	132	45.2	<LOD	<LOD	352
4286870.344	242696.430	R109	1982	Lemon Tree Lane	front	24	5	133	30	<LOD	<LOD	353
4286885.89	242658.71	01849	1985	Lemon Tree Lane			1		959			517
4286907.47	242634.05	01848	1985	Lemon Tree Lane			1		75			518
4286889.986	242682.743	R164	1987	Lemon Tree Lane	front	surface	1	104	23.5	<LOD	<LOD	658
4286889.986	242682.743	R164	1987	Lemon Tree Lane	front	6	2	105	28.7	<LOD	<LOD	659
4286889.986	242682.743	R164	1987	Lemon Tree Lane	front	12	4	106	30	<LOD	<LOD	660
4286889.986	242682.743	R164	1987	Lemon Tree Lane	front	24	5	107	168.7	<LOD	<LOD	661
4286889.547	242685.868	R165	1987	Lemon Tree Lane	east side yard	surface	1	108	250.8	<LOD	<LOD	662
4286889.547	242685.868	R165	1987	Lemon Tree Lane	east side yard	6	2	109	123.6	<LOD	<LOD	663
4286889.547	242685.868	R165	1987	Lemon Tree Lane	east side yard	12	4	110	167.5	<LOD	<LOD	664
4286889.547	242685.868	R165	1987	Lemon Tree Lane	east side yard	24	5	111	74.3	<LOD	<LOD	665
4286919.344	242674.915	R166	1987	Lemon Tree Lane	back	surface	1	112	362	<LOD	<LOD	666
4286919.344	242674.915	R166	1987	Lemon Tree Lane	back	6	2	113	512.4	<LOD	<LOD	667
4286919.344	242674.915	R166	1987	Lemon Tree Lane	back	12	4	114	795.2	<LOD	<LOD	668
4286919.344	242674.915	R166	1987	Lemon Tree Lane	back	24	5	115	34	<LOD	<LOD	669
4286901.609	242764.647	R167	1988	Lemon Tree Lane	front	surface	1	119	54.2	<LOD	911.2	670
4286901.609	242764.647	R167	1988	Lemon Tree Lane	front	6	2	120	92.1	<LOD	<LOD	671
4286901.609	242764.647	R167	1988	Lemon Tree Lane	front	12	4	121	105.7	<LOD	<LOD	672
4286866.734	242783.615	R168	1988	Lemon Tree Lane	back	surface	1	122	101.2	<LOD	2209.6	673

Table 2

St. Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in miiligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286866.734	242783.615	R168	1988	Lemon Tree Lane	back	6	2	123	90.9	<LOD	<LOD	674
4286866.734	242783.615	R168	1988	Lemon Tree Lane	back	12	4	124	77.2	<LOD	<LOD	675
4286866.734	242783.615	R168	1988	Lemon Tree Lane	back	24	5	125	23.6	<LOD	<LOD	676
4286858.829	242788.686	R169	1988	Lemon Tree Lane	back	surface	1	126	146.9	<LOD	<LOD	677
4286858.829	242788.686	R169	1988	Lemon Tree Lane	back	6	2	127	245.8	<LOD	720	678
4287022.602	242769.277	R170	1994	Lemon Tree Lane	west side yard	surface	1	128	65.2	<LOD	<LOD	679
4287022.602	242769.277	R170	1994	Lemon Tree Lane	west side yard	6	2	129	28.6	<LOD	<LOD	680
4287022.602	242769.277	R170	1994	Lemon Tree Lane	west side yard	12	4	130	30	<LOD	<LOD	681
4287022.602	242769.277	R170	1994	Lemon Tree Lane	west side yard	24	5	131	23.8	<LOD	<LOD	682
4287030.985	242791.140	R171	1994	Lemon Tree Lane	front	surface	1	132	75.9	<LOD	738	683
4287030.985	242791.140	R171	1994	Lemon Tree Lane	front	6	2	133	104.3	<LOD	<LOD	684
4287030.985	242791.140	R171	1994	Lemon Tree Lane	front	12	4	134	90.7	<LOD	<LOD	685
4287030.985	242791.140	R171	1994	Lemon Tree Lane	front	24	5	135	123.5	<LOD	<LOD	686
4287030.985	242791.140	R171	1994	Lemon Tree Lane	front	slag chunk	2	136	5017.6	<LOD	<LOD	687
4286984.669	242750.739	R61	1997	Lemon Tree Lane	front	1	1	395	30	<LOD	<LOD	165
4286984.669	242750.739	R61	1997	Lemon Tree Lane	front	4	2	396	49	<LOD	<LOD	166
4286984.669	242750.739	R61	1997	Lemon Tree Lane	front	18	5	397	233	<LOD	<LOD	167
4286984.669	242750.739	R61	1997	Lemon Tree Lane	front	24	5	398	45	<LOD	<LOD	168
4286772.674	243097.294	R174	1980	Maple Leaf Drive	front	surface	1	145	23.7	<LOD	1109.6	696
4286772.674	243097.294	R174	1980	Maple Leaf Drive	front	6	2	146	27.4	<LOD	<LOD	697
4286772.674	243097.294	R174	1980	Maple Leaf Drive	front	12	4	147	30	<LOD	<LOD	698
4286772.674	243097.294	R174	1980	Maple Leaf Drive	front	24	5	148	30	17.2	<LOD	699
4286786.630	243128.364	R175	1980	Maple Leaf Drive	back	surface	1	149	31.7	<LOD	<LOD	700
4286786.630	243128.364	R175	1980	Maple Leaf Drive	back	6	2	150	73	<LOD	609.2	701
4286786.630	243128.364	R175	1980	Maple Leaf Drive	back	12	4	151	72.3	<LOD	<LOD	702
4286786.630	243128.364	R175	1980	Maple Leaf Drive	back	24	5	152	30	<LOD	<LOD	703
4286951.603	242942.920	R176	1991	Maple Leaf Drive	back	surface	1	153	30	<LOD	<LOD	704
4286951.603	242942.920	R176	1991	Maple Leaf Drive	back	6	2	154	23.2	<LOD	<LOD	705
4286951.603	242942.920	R176	1991	Maple Leaf Drive	back	12	4	155	19.8	<LOD	<LOD	706
4286951.603	242942.920	R176	1991	Maple Leaf Drive	back	24	5	156	30	<LOD	<LOD	707
4287147.598	242894.837	R177	2003	Maple Leaf Drive	front	surface	1	157	21	<LOD	<LOD	708
4287147.598	242894.837	R177	2003	Maple Leaf Drive	front	6	2	158	30	<LOD	<LOD	709
4287147.598	242894.837	R177	2003	Maple Leaf Drive	front	12	4	159	30	<LOD	<LOD	710
4287147.598	242894.837	R177	2003	Maple Leaf Drive	front	24	5	160	30	<LOD	557.6	711

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St. Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4287132.072	242860.736	R178	2003	Maple Leaf Drive	back	surface	1	161	22.9	16.6	630.8	712
4287132.072	242860.736	R178	2003	Maple Leaf Drive	back	6	2	162	38.5	<LOD	<LOD	713
4287132.072	242860.736	R178	2003	Maple Leaf Drive	back	12	4	163	22.2	<LOD	<LOD	714
4287132.072	242860.736	R178	2003	Maple Leaf Drive	back	24	5	164	57.4	<LOD	<LOD	715
4287248.806	242846.294	R227	2009	Maple Leaf Drive	front	surface	1	9	127.9	<LOD	<LOD	900
4287248.806	242846.294	R227	2009	Maple Leaf Drive	front	6	2	10	452.8	<LOD	<LOD	901
4287248.806	242846.294	R227	2009	Maple Leaf Drive	front	12	4	11	77.2	<LOD	<LOD	902
4287248.806	242846.294	R227	2009	Maple Leaf Drive	front	24	5	12	211.8	<LOD	<LOD	903
4287239.001	242817.055	R228	2009	Maple Leaf Drive	back	surface	1	13	30	<LOD	<LOD	904
4287239.001	242817.055	R228	2009	Maple Leaf Drive	back	6	2	14	30	<LOD	807.6	905
4287239.001	242817.055	R228	2009	Maple Leaf Drive	back	12	4	15	30	<LOD	<LOD	906
4287239.001	242817.055	R228	2009	Maple Leaf Drive	back	24	5	16	30	<LOD	844	907
4287478.728	242779.965	R180	2025	Maple Leaf Drive	front, N of drive	surface	1	170	123.4	<LOD	<LOD	720
4287478.728	242779.965	R180	2025	Maple Leaf Drive	front, N of drive	6	2	171	124.3	<LOD	<LOD	721
4287478.728	242779.965	R180	2025	Maple Leaf Drive	front, N of drive	12	4	172	55.3	<LOD	<LOD	722
4287478.728	242779.965	R180	2025	Maple Leaf Drive	front, N of drive	24	5	173	86.2	<LOD	<LOD	723
4287467.188	242788.840	R181	2025	Maple Leaf Drive	front, S of drive	surface	1	174	76.2	<LOD	<LOD	724
4287467.188	242788.840	R181	2025	Maple Leaf Drive	front, S of drive	6	2	175	82.2	<LOD	<LOD	725
4287467.188	242788.840	R181	2025	Maple Leaf Drive	front, S of drive	12	4	176	66.1	<LOD	<LOD	726
4287467.188	242788.840	R181	2025	Maple Leaf Drive	front, S of drive	24	5	177	48.6	<LOD	2948.8	727
4286828.471	243163.468	R182	10	Oak Leaf Circle	front	surface	1	178	43.5	<LOD	<LOD	728
4286828.471	243163.468	R182	10	Oak Leaf Circle	front	6	2	179	26.9	<LOD	<LOD	729
4286828.471	243163.468	R182	10	Oak Leaf Circle	front	12	4	180	32.6	<LOD	<LOD	730
4286828.471	243163.468	R182	10	Oak Leaf Circle	front	24	5	181	27.1	<LOD	712.8	731
4286761.660	243190.943	R183	12	Oak Leaf Circle	east side yard	surface	1	182	30	<LOD	754.4	732
4286761.660	243190.943	R183	12	Oak Leaf Circle	east side yard	6	2	183	30	<LOD	<LOD	733
4286761.660	243190.943	R183	12	Oak Leaf Circle	east side yard	12	4	184	37.8	<LOD	<LOD	734
4286761.660	243190.943	R183	12	Oak Leaf Circle	east side yard	24	5	185	21.6	<LOD	<LOD	735
4287132.210	242745.774	R130	707	Peachtree Trail	front	surface	1	77	23.8	<LOD	223.8	441
4287132.210	242745.774	R130	707	Peachtree Trail	front	6	2	78	35.7	<LOD	294.6	442
4287132.210	242745.774	R130	707	Peachtree Trail	front	12	4	79	28.6	<LOD	<LOD	443
4287132.210	242745.774	R130	707	Peachtree Trail	front	24	5	80	0	<LOD	367.4	444
4287120.230	242841.065	R179	710	Peachtree Trail	back	surface	1	165	45.7	<LOD	510.4	716
4287120.230	242841.065	R179	710	Peachtree Trail	back	6	2	166	60.1	<LOD	<LOD	717

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St. Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4287120.230	242841.065	R179	710	Peachtree Trail	back	12	4	167	34.7	<LOD	<LOD	718
4287120.230	242841.065	R179	710	Peachtree Trail	back	24	5	168	92	<LOD	<LOD	719
4287055.310	243028.648	R60	733	Peachtree Trail	front	surface	1	391	30	<LOD	<LOD	161
4287055.310	243028.648	R60	733	Peachtree Trail	front	6	2	392	30	<LOD	<LOD	162
4287055.310	243028.648	R60	733	Peachtree Trail	front	16	4	393	37	<LOD	0	163
4287055.310	243028.648	R60	733	Peachtree Trail	front	24	5	394	0	<LOD	<LOD	164
4287147.97	242892.76	X122	916	Peachtree Trail			1		9			500
4286624.26	242883.88	X123	1903	Peachtree Trail			1		4700			501
4286629.69	242898.68	X124	1903	Peachtree Trail			1		140			502
4286654.85	242914.96	X125	1903	Peachtree Trail			1		20			503
4286599.031	242365.690	R98	3	Pine Lake Drive	back	surface	1	83	510	<LOD	1120	304
4286599.031	242365.690	R98	3	Pine Lake Drive	back	6	2	84	88.4	<LOD	<LOD	305
4286599.031	242365.690	R98	3	Pine Lake Drive	back	12	4	85	125.3	<LOD	<LOD	306
4286599.031	242365.690	R98	3	Pine Lake Drive	back	24	5	86	189.6	<LOD	<LOD	307
4286644.804	242408.982	R24	4	Pine Lake Drive	back	surface	1	279	8198.4	394	<LOD	64
4286644.804	242408.982	R24	4	Pine Lake Drive	back	1 - 3	1	280	3657.6	131.6	<LOD	65
4286644.804	242408.982	R24	4	Pine Lake Drive	back	4	2	281	8768	568.8	<LOD	66
4286644.804	242408.982	R24	4	Pine Lake Drive	back	8	3	282	3888	150	<LOD	67
4286644.804	242408.982	R24	4	Pine Lake Drive	back	20	5	283	144	<LOD	<LOD	68
4286638.038	242435.149	R25	4	Pine Lake Drive	back	surface	1	284	2419.2	<LOD	<LOD	69
4286638.038	242435.149	R25	4	Pine Lake Drive	back	4	2	285	2609.6	129.2	<LOD	70
4286638.038	242435.149	R25	4	Pine Lake Drive	back	8	3	286	1289.6	84	<LOD	71
4286638.038	242435.149	R25	4	Pine Lake Drive	back	24	5	287	250	<LOD	<LOD	72
4286641.979	242360.570	R26	4	Pine Lake Drive	front	surface	1	288	210.6	<LOD	<LOD	73
4286641.979	242360.570	R26	4	Pine Lake Drive	front	4	2	289	288.4	<LOD	<LOD	74
4286641.979	242360.570	R26	4	Pine Lake Drive	front	8	3	290	540.8	<LOD	<LOD	75
4286641.979	242360.570	R26	4	Pine Lake Drive	front	16	4	291	35	<LOD	0	76
4286672.448	242379.271	R6	5	Pine Lake Drive	front	2	1	230	218.2	<LOD	380.2	15
4286672.448	242379.271	R6	5	Pine Lake Drive	front	5	2	231	242	<LOD	302	16
4286672.448	242379.271	R6	5	Pine Lake Drive	front	7	3	232	291.8	<LOD	595.2	17
4286672.448	242379.271	R6	5	Pine Lake Drive	front	8	3	233	333	<LOD	760.4	18
4286672.448	242379.271	R6	5	Pine Lake Drive	front	30	30	234	333	<LOD	379	19
4286670.763	242452.397	R7	5	Pine Lake Drive	back	surface	1	235	327	40.8	826.4	20
4286670.763	242452.397	R7	5	Pine Lake Drive	back	4	2	236	154.5	<LOD	389.6	21

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Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286670.763	242452.397	R7	5	Pine Lake Drive	back	8	3	237	5968	<LOD	1249.6	22
4286686.865	242453.923	R8	5	Pine Lake Drive	back	surface	1	238	2329.6	<LOD	560.4	23
4286696.347	242457.496	R9	6	Pine Lake Drive	back	surface	1	239	833.6	<LOD	477.2	24
4286696.347	242457.496	R9	6	Pine Lake Drive	back	4	2	240	9318.4	307.6	621.2	25
4286696.347	242457.496	R9	6	Pine Lake Drive	back	4	2	242	13388.6	718.6	<LOD	26
4286696.347	242457.496	R9	6	Pine Lake Drive	back	12	4	241	226.2	<LOD	674	27
4286699.102	242435.346	R10	6	Pine Lake Drive	front	surface	1	243	3228.6	<LOD	728.4	28
4286729.592	242414.560	R11	6	Pine Lake Drive	front	2	1	244	382.4	<LOD	472.6	29
4286729.592	242414.560	R11	6	Pine Lake Drive	front	4	2	245	114.5	<LOD	666.4	30
4286882.971	242350.457	R104	11	Pine Lake Drive	front	surface	1	109	140.4	<LOD	<LOD	330
4286882.971	242350.457	R104	11	Pine Lake Drive	front	6	2	110	331	<LOD	340.6	331
4286882.971	242350.457	R104	11	Pine Lake Drive	front	12	4	111	103.8	<LOD	<LOD	332
4286882.971	242350.457	R104	11	Pine Lake Drive	front	24	5	112	55.5	<LOD	<LOD	333
4286893.353	242444.540	R18	13	Pine Lake Drive	front	1	1	261	456.4	<LOD	<LOD	46
4286893.353	242444.540	R18	13	Pine Lake Drive	front	4	2	262	512.4	<LOD	<LOD	47
4286893.353	242444.540	R18	13	Pine Lake Drive	front	8	3	263	318.8	<LOD	281.2	48
4286896.830	242419.749	R19	13	Pine Lake Drive	back	surface	1	264	670	<LOD	<LOD	49
4286896.830	242419.749	R19	13	Pine Lake Drive	back	4	2	265	854.4	<LOD	<LOD	50
4286896.830	242419.749	R19	13	Pine Lake Drive	back	8	3	266	460.8	<LOD	<LOD	51
4286953.26	242472.83	R187	17	Pine Lake Drive	front	surface	1	198	1009.6	73	<LOD	748
4286953.26	242472.83	R187	17	Pine Lake Drive	front	6	2	199	1200	<LOD	<LOD	749
4286953.26	242472.83	R187	17	Pine Lake Drive	front	12	4	200	230.2	<LOD	<LOD	750
4286953.26	242472.83	R187	17	Pine Lake Drive	front	24	5	201	341.8	<LOD	<LOD	751
4287016.202	242419.673	R103	18	Pine Lake Drive	back	surface	1	105	58.8	<LOD	<LOD	326
4287016.202	242419.673	R103	18	Pine Lake Drive	back	6	2	106	38.9	<LOD	275	327
4287016.202	242419.673	R103	18	Pine Lake Drive	back	12	4	107	30	<LOD	<LOD	328
4287016.202	242419.673	R103	18	Pine Lake Drive	back	24	5	108	30	<LOD	727.2	329
4286990.757	242329.519	R13	20	Pine Lake Drive	front	2	1	249	151.8	<LOD	<LOD	34
4286990.757	242329.519	R13	20	Pine Lake Drive	front	4	2	250	165	<LOD	345	35
4286996.046	242293.189	R14	20	Pine Lake Drive	front	3	2	251	69.5	<LOD	<LOD	36
4286927.111	242320.904	R12	21	Pine Lake Drive	front	surface	1	246	62.5	<LOD	<LOD	31
4286927.111	242320.904	R12	21	Pine Lake Drive	front	4	2	247	89.8	<LOD	<LOD	32
4286927.111	242320.904	R12	21	Pine Lake Drive	front	6	2	248	31	<LOD	<LOD	33
4286891.419	242297.054	R15	22	Pine Lake Drive	back	1	1	252	320.2	<LOD	<LOD	37

Table 2

St. Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286891.419	242297.054	R15	22	Pine Lake Drive	back	4	2	253	387	<LOD	<LOD	38
4286891.419	242297.054	R15	22	Pine Lake Drive	back	8	3	254	461.2	<LOD	<LOD	39
4286869.305	242268.643	R16	22	Pine Lake Drive	back	1	1	255	83.6	<LOD	<LOD	40
4286869.305	242268.643	R16	22	Pine Lake Drive	back	4	2	256	94.6	<LOD	663.6	41
4286856.113	242285.159	R17	22	Pine Lake Drive	back	surface	1	257	1400	<LOD	<LOD	42
4286856.113	242285.159	R17	22	Pine Lake Drive	back	4	2	258	692.4	<LOD	<LOD	43
4286856.113	242285.159	R17	22	Pine Lake Drive	back	8	3	259	915.2	<LOD	<LOD	44
4286856.113	242285.159	R17	22	Pine Lake Drive	back	10	3	260	577.2	<LOD	<LOD	45
4286879.906	242480.552	R20	16	Pine Lake Road	front	2	1	267	182	<LOD	<LOD	52
4286879.906	242480.552	R20	16	Pine Lake Road	front	4	2	268	184.2	<LOD	<LOD	53
4286891.592	242518.787	R21	16	Pine Lake Road	back	surface	1	269	824	<LOD	<LOD	54
4286891.592	242518.787	R21	16	Pine Lake Road	back	4	2	270	1060	<LOD	<LOD	55
4286891.592	242518.787	R21	16	Pine Lake Road	back	8	3	271	432	<LOD	<LOD	56
4286891.592	242518.787	R21	16	Pine Lake Road	back	12	4	273	1029.6	<LOD	<LOD	57
4286891.592	242518.787	R21	16	Pine Lake Road	back	14	4	272	1250	<LOD	0	58
4286613.866	242423.402	R91	102	Pine Lake Road	back	surface	1	34	5600	<LOD	<LOD	261
4286613.866	242423.402	R91	102	Pine Lake Road	back	6	2	35	8064	400.8	<LOD	262
4286613.866	242423.402	R91	102	Pine Lake Road	back	12	4	36	1859.2	<LOD	<LOD	263
4286613.866	242423.402	R91	102	Pine Lake Road	back	24	5	37	173.3	<LOD	<LOD	264
4286591.923	242435.901	GP2	102	Pine Lake Road	side	surface	1	38	4438.4	335.8	<LOD	265
4286591.923	242435.901	GP2	102	Pine Lake Road	side	6	2	39	10099.2	457.2	<LOD	266
4286591.923	242435.901	GP2	102	Pine Lake Road	side	12	4	40	8096	<LOD	<LOD	267
4286591.923	242435.901	GP2	102	Pine Lake Road	side	24	5	41	4000	<LOD	<LOD	268
4286591.923	242435.901	GP2	102	Pine Lake Road	side	42	42	42	46	<LOD	0	269
4286591.923	242435.901	GP2	102	Pine Lake Road	side	72	72	43	53	<LOD	0	270
4286591.923	242435.901	GP2	102	Pine Lake Road	side	120	120	44	65	<LOD	0	271
4286591.923	242435.901	GP2	102	Pine Lake Road	side	168	168	45	26	<LOD	0	272
4286591.923	242435.901	GP2	102	Pine Lake Road	side	216	216	46	18	<LOD	0	273
4286591.923	242435.901	GP2	102	Pine Lake Road	side	264	264	47	0	<LOD	0	274
4286658.881	242192.211	R99	210	Pine Lake Road	front	surface	1	87	162	<LOD	<LOD	308
4286658.881	242192.211	R99	210	Pine Lake Road	front	6	2	88	237	<LOD	231.8	309
4286658.881	242192.211	R99	210	Pine Lake Road	front	12	4	89	261.8	<LOD	<LOD	310
4286658.881	242192.211	R99	210	Pine Lake Road	front	24	5	90	82	<LOD	<LOD	311
4286658.881	242192.211	R99	210	Pine Lake Road	front	12, X109	4	91	429.2	<LOD	<LOD	312

Table 2

St Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286721.181	242216.307	R100	210	Pine Lake Road	back	surface	1	92	478	<LOD	<LOD	313
4286721.181	242216.307	R100	210	Pine Lake Road	back	6	2	93	265.6	<LOD	<LOD	314
4286721.181	242216.307	R100	210	Pine Lake Road	back	12	4	94	45.9	<LOD	<LOD	315
4286721.181	242216.307	R100	210	Pine Lake Road	back	24	5	95	71.4	<LOD	<LOD	316
4286714.820	242215.970		210	Pine Lake Road	driveway	4	2	96	187.6	<LOD	762.4	317
4286607.051	242195.421	R3	211	Pine Lake Road	front	surface	1	222	1000	<LOD	<LOD	7
4286607.051	242195.421	R3	211	Pine Lake Road	front	4	2	223	540	<LOD	<LOD	8
4286607.051	242195.421	R3	211	Pine Lake Road	front	6	2	224	162.4	<LOD	<LOD	9
4286550.107	242177.348	R4	211	Pine Lake Road	back	surface	1	225	1160	144.1	<LOD	10
4286550.107	242177.348	R4	211	Pine Lake Road	back	4	2	226	960.8	76	<LOD	11
4286550.107	242177.348	R4	211	Pine Lake Road	back	6	2	227	229.6	<LOD	<LOD	12
4286549.928	242201.657	R5	211	Pine Lake Road	back	surface	1	228	211.2	<LOD	566.8	13
4286549.928	242201.657	R5	211	Pine Lake Road	back	4	2	229	221.6	<LOD	595.6	14
4286600.282	242161.842	R101	213	Pine Lake Road	front	surface	1	97	745.6	<LOD	<LOD	318
4286600.282	242161.842	R101	213	Pine Lake Road	front	6	2	98	1100	<LOD	<LOD	319
4286600.282	242161.842	R101	213	Pine Lake Road	front	12	4	99	129	<LOD	<LOD	320
4286600.282	242161.842	R101	213	Pine Lake Road	front	24	5	100	30	<LOD	617.2	321
4286552.192	242144.497	R102	213	Pine Lake Road	back	surface	1	101	52	<LOD	<LOD	322
4286552.192	242144.497	R102	213	Pine Lake Road	back	6	2	102	54.7	<LOD	<LOD	323
4286552.192	242144.497	R102	213	Pine Lake Road	back	12	4	103	375.4	<LOD	<LOD	324
4286552.192	242144.497	R102	213	Pine Lake Road	back	24	5	104	148.5	<LOD	<LOD	325
4286829.972	242234.384	R22	214	Pine Lake Road	front	surace	1	274	174.4	<LOD	<LOD	59
4286829.972	242234.384	R22	214	Pine Lake Road	front	4	2	275	204.1	<LOD	<LOD	60
4286829.972	242234.384	R22	214	Pine Lake Road	front	8	3	276	268.6	<LOD	<LOD	61
4286803.875	242229.803	R23	214	Pine Lake Road	side	surface	1	277	151.4	<LOD	<LOD	62
4286803.875	242229.803	R23	214	Pine Lake Road	side	4	2	278	190.8	<LOD	<LOD	63
4286553.473	242106.204	R1	215	Pine Lake Road	back	surface	1	216	331.8	<LOD	<LOD	1
4286553.473	242106.204	R1	215	Pine Lake Road	back	4	2	217	517.2	<LOD	<LOD	2
4286553.473	242106.204	R1	215	Pine Lake Road	back	6	2	218	496	<LOD	<LOD	3
4286553.473	242106.204	R1	215	Pine Lake Road	back	10	3	219	445.6	<LOD	<LOD	4
4286543.869	242127.789	R2	215	Pine Lake Road	back	surface	1	220	324.6	<LOD	<LOD	5
4286543.869	242127.789	R2	215	Pine Lake Road	back	8	3	221	281.2	<LOD	<LOD	6
4286717.974	242078.535	R184	222	Pine Lake Road	front	surface	1	186	1979.2	<LOD	<LOD	736
4286717.974	242078.535	R184	222	Pine Lake Road	front	6	2	187	2148.8	<LOD	<LOD	737

Table 2

St. Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286717.974	242078.535	R184	222	Pine Lake Road	front	12	4	188	750	<LOD	<LOD	738
4286717.974	242078.535	R184	222	Pine Lake Road	front	24	5	189	151.6	28.2	<LOD	739
4286755.725	242138.128	R185	222	Pine Lake Road	east side yard	surface	1	190	200.2	<LOD	754.4	740
4286755.725	242138.128	R185	222	Pine Lake Road	east side yard	6	2	191	374.2	<LOD	<LOD	741
4286755.725	242138.128	R185	222	Pine Lake Road	east side yard	12	4	192	174.7	<LOD	<LOD	742
4286755.725	242138.128	R185	222	Pine Lake Road	east side yard	24	5	193	42.6	<LOD	<LOD	743
4286831.562	242171.738	R186	222	Pine Lake Road	back	surface	1	194	238.8	<LOD	<LOD	744
4286831.562	242171.738	R186	222	Pine Lake Road	back	6	2	195	286	<LOD	<LOD	745
4286831.562	242171.738	R186	222	Pine Lake Road	back	12	4	196	84.5	<LOD	<LOD	746
4286831.562	242171.738	R186	222	Pine Lake Road	back	24	5	197	48.7	<LOD	<LOD	747
4286545.113	242583.628	R137	1002	Pine Lake Road	front	surface	1	10	714	<LOD	<LOD	461
4286545.113	242583.628	R137	1002	Pine Lake Road	front	6	2	11	2859.2	<LOD	<LOD	462
4286545.113	242583.628	R137	1002	Pine Lake Road	front	12	4	12	1840	<LOD	<LOD	463
4286545.113	242583.628	R137	1002	Pine Lake Road	front	24	5	14	476.8	<LOD	739.6	464
4286519.345	242571.561	R138	1002	Pine Lake Road	back	surface	1	15	1189.6	<LOD	<LOD	465
4286519.345	242571.561	R138	1002	Pine Lake Road	back	6	2	16	1560	<LOD	<LOD	466
4286519.345	242571.561	R138	1002	Pine Lake Road	back	12	4	17	774.4	39.1	<LOD	467
4286519.345	242571.561	R138	1002	Pine Lake Road	back	24	5	18	1549.6	<LOD	<LOD	468
4286478.456	242607.983	X102	1004	Pine Lake Road		surface	1		23000			478
4286484.732	242605.810	X103	1004	Pine Lake Road		surface	1		11000			479
4286529.060	242630.935	R81	1006	Pine Lake Road	front	surface	1	27	126.9	<LOD	<LOD	218
4286529.060	242630.935	R81	1006	Pine Lake Road	front	6	2	28	103.4	<LOD	<LOD	219
4286529.060	242630.935	R81	1006	Pine Lake Road	front	8 - 10 inches	3	29	626	<LOD	<LOD	220
4286506.579	242629.987	R82	1006	Pine Lake Road	back	surface	1	30	691.6	<LOD	<LOD	221
4286506.579	242629.987	R82	1006	Pine Lake Road	back	6	2	31	1409.6	<LOD	<LOD	222
4286506.579	242629.987	R82	1006	Pine Lake Road	back	12	4	32	629.2	<LOD	<LOD	223
4286477.23	242623.67	01704	1006	Pine Lake Road			1		7944			540
4286469.81	242624.09	01703	1006	Pine Lake Road			1		4258			541
4286489.20	242661.62	01706	1008	Pine Lake Road			1		1736			538
4286523.43	242658.73	01705	1008	Pine Lake Road			1		156			539
4286502.31	242678.02	00615	1010	Pine Lake Road			1		740			504
4286502.70	242693.76	00614	1010	Pine Lake Road			1		1220			505
4286484.83	242676.44	00616	1010	Pine Lake Road			1		12			506
4286525.41	242675.64	00617	1010	Pine Lake Road			1		110			507

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St Louis Smelting and Refining Company

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Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286507.81	242676.53	S7	1010	Pine Lake Road			1		2700			505
4286531.84	242723.45	00618	1012	Pine Lake Road			1		118			508
4286484.03	242731.08	00619	1012	Pine Lake Road			1		2600			509
4286512.96	242715.01	00620	1012	Pine Lake Road			1	.	430			510
4286493.65	242686.53	00340	1012	Pine Lake Road			1		1454			511
4286494.57	242716.81	00341	1012	Pine Lake Road			1		162			512
4286488.016	242703.875	R190	1012	Pine Lake Road	back	surface	1	210	4467.2	<LOD	<LOD	760
4286488.016	242703.875	R190	1012	Pine Lake Road	back	6	2	211	10899.2	343	<LOD	761
4286532.527	242751.988	R191	1016	Pine Lake Road	front	surface	1	212	323	<LOD	<LOD	762
4286532.527	242751.988	R191	1016	Pine Lake Road	front	6	2	213	157.5	<LOD	<LOD	763
4286532.527	242751.988	R191	1016	Pine Lake Road	front	12	4	214	668.8	<LOD	<LOD	764
4286590.25	242745.35	01708	1017	Pine Lake Road			1		1128			536
4286587.98	242764.32	01707	1017	Pine Lake Road			1		31			537
4286526.92	242814.92	X101	1018	Pine Lake Road			1		1700			480
4286514.97	242797.54	X102	1018	Pine Lake Road			1		730			481
4286538.86	242776.91	X103	1018	Pine Lake Road			1		1200			482
4286612.11	242779.17	01710	1019	Pine Lake Road			1		125			534
4286585.30	242785.77	01709	1019	Pine Lake Road			1		1969			535
4286556.619	242796.511	R37	1020	Pine Lake Road	front	surface	1	331	157.6	<LOD	<LOD	110
4286556.619	242796.511	R37	1020	Pine Lake Road	front	4	2	332	217.2	<LOD	<LOD	111
4286556.619	242796.511	R37	1020	Pine Lake Road	front	8	3	333	171.6	<LOD	<LOD	112
4286582.355	242827.958	R38	1020	Pine Lake Road	back	surface	1	334	1389.6	<LOD	<LOD	113
4286582.355	242827.958	R38	1020	Pine Lake Road	back	0 - 1	1	335	1760	<LOD	<LOD	114
4286564.637	242818.466	R46	1020	Pine Lake Road	back	surface	1	343	50.4	<LOD	<LOD	122
4286564.637	242818.466	R46	1020	Pine Lake Road	back	6	2	344	42	<LOD	<LOD	123
4286564.637	242818.466	R46	1020	Pine Lake Road	back	12	4	345	39.1	<LOD	<LOD	124
4286564.637	242818.466	R46	1020	Pine Lake Road	back	24	5	346	0	<LOD	<LOD	125
4286562.227	242794.744	GP3	1020	Pine Lake Road	front	surface	1	48	172.1	<LOD	<LOD	275
4286562.227	242794.744	GP3	1020	Pine Lake Road	front	6	2	49	1089.6	<LOD	<LOD	276
4286562.227	242794.744	GP3	1020	Pine Lake Road	front	12	4	50	2849.6	<LOD	<LOD	277
4286562.227	242794.744	GP3	1020	Pine Lake Road	front	24	5	51	1280	<LOD	382.2	278
4286562.227	242794.744	GP3	1020	Pine Lake Road	front	36	36	52	15898	504.4	0	279
4286562.227	242794.744	GP3	1020	Pine Lake Road	front	48	48	53	139	<LOD	0	280
4286562.227	242794.744	GP3	1020	Pine Lake Road	front	120	120	54	40	<LOD	0	281

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St. Louis Smelting and Refining Company

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UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4287340.496	243590.351	R192	22	Pine Valley Drive	front	surface	1	218	30	<LOD	<LOD	765
4287340.496	243590.351	R192	22	Pine Valley Drive	front	6	2	219	21.3	<LOD	<LOD	766
4287340.496	243590.351	R192	22	Pine Valley Drive	front	24	5	220	34.5	<LOD	<LOD	767
4287340.496	243590.351	R192	22	Pine Valley Drive	front	12	4	221	30	<LOD	<LOD	768
4286667.491	242859.089	R193	1901	Pinehurst Court	back	surface	1	222	30	<LOD	<LOD	769
4286667.491	242859.089	R193	1901	Pinehurst Court	back	6	2	223	30	<LOD	<LOD	770
4286667.491	242859.089	R193	1901	Pinehurst Court	back	12	4	224	30	<LOD	<LOD	771
4286667.491	242859.089	R193	1901	Pinehurst Court	back	24	5	225	23.6	<LOD	<LOD	772
4286659.140	242888.415	R194	1902	Pinehurst Court	north side yard	surface	1	226	142.6	<LOD	<LOD	773
4286659.140	242888.415	R194	1902	Pinehurst Court	north side yard	6	2	227	73.1	<LOD	<LOD	774
4286659.140	242888.415	R194	1902	Pinehurst Court	north side yard	12	4	228	56.7	<LOD	<LOD	775
4286659.140	242888.415	R194	1902	Pinehurst Court	north side yard	24	5	229	30	<LOD	<LOD	776
4286623.990	242902.249	R195	1902	Pinehurst Court	back	surface	1	230	794.4	<LOD	<LOD	777
4286623.990	242902.249	R195	1902	Pinehurst Court	back	6	2	231	1609.6	<LOD	<LOD	778
4286623.990	242902.249	R195	1902	Pinehurst Court	back	12	4	232	509.2	50.5	<LOD	779
4286623.990	242902.249	R195	1902	Pinehurst Court	back	24	5	233	969.6	<LOD	<LOD	780
4286658.614	242947.597	R196	1904	Pinehurst Court	front	surface	1	234	30	<LOD	<LOD	781
4286658.614	242947.597	R196	1904	Pinehurst Court	front	6	2	235	30	<LOD	<LOD	782
4286658.614	242947.597	R196	1904	Pinehurst Court	front	12	4	236	30	<LOD	<LOD	783
4286658.614	242947.597	R196	1904	Pinehurst Court	front	24	5	237	30	<LOD	<LOD	784
4286628.209	242963.221	R197	1907	Pinehurst Court	front	surface	1	238	56.7	<LOD	<LOD	785
4286628.209	242963.221	R197	1907	Pinehurst Court	front	6	2	239	42.9	<LOD	<LOD	786
4286628.209	242963.221	R197	1907	Pinehurst Court	front	12	4	240	30.9	<LOD	<LOD	787
4286628.209	242963.221	R197	1907	Pinehurst Court	front	24	5	241	25.6	<LOD	<LOD	788
4286630.684	242999.436	R198	1908	Pinehurst Court	front	surface	1	242	20.8	<LOD	<LOD	789
4286630.684	242999.436	R198	1908	Pinehurst Court	front	6	2	243	25.8	<LOD	<LOD	790
4286630.684	242999.436	R198	1908	Pinehurst Court	front	12	4	244	30	<LOD	<LOD	791
4286630.684	242999.436	R198	1908	Pinehurst Court	front	24	5	245	27.9	<LOD	<LOD	792
4286571.198	242956.752	R62	1909	Pinehurst Court	back	surface	1	399	79.7	<LOD	<LOD	169
4286571.198	242956.752	R62	1909	Pinehurst Court	back	surface	1	400	254.2	<LOD	426.4	170
4286571.198	242956.752	R62	1909	Pinehurst Court	back	4	2	401	203.1	42.4	<LOD	171
4286593.038	242970.588	R63	1909	Pinehurst Court	back	1	1	402	40.6	<LOD	<LOD	172
4286593.038	242970.588	R63	1909	Pinehurst Court	back	6	2	403	39	<LOD	<LOD	173
4286593.038	242970.588	R63	1909	Pinehurst Court	back	24	5	404	29	<LOD	<LOD	174

Table 2

St Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286555.977	242968.260	R64	1909	Pinehurst Court	creek in back	3	1	405	200.3	<LOD	<LOD	175
4286619.947	243034.127	R199	1910	Pinehurst Court	back	surface	1	246	30	<LOD	<LOD	793
4286619.947	243034.127	R199	1910	Pinehurst Court	back	6	2	247	30	<LOD	<LOD	794
4286619.947	243034.127	R199	1910	Pinehurst Court	back	12	4	248	30	<LOD	<LOD	795
4286619.947	243034.127	R199	1910	Pinehurst Court	back	24	5	249	30	<LOD	<LOD	796
4286558.551	242984.592	R65	1911	Pinehurst Court	back	surface	1	406	93	<LOD	<LOD	176
4286558.551	242984.592	R65	1911	Pinehurst Court	back	6	2	407	36.6	<LOD	<LOD	177
4286558.551	242984.592	R65	1911	Pinehurst Court	back	12	4	408	103.6	<LOD	<LOD	178
4286558.551	242984.592	R65	1911	Pinehurst Court	back	14	4	409	93	<LOD	508	179
4286558.551	242984.592	R65	1911	Pinehurst Court	back	24	5	410	98	<LOD	<LOD	180
4286596.550	243040.100	R200	1912	Pinehurst Court	front	surface	1	250	30	<LOD	<LOD	797
4286596.550	243040.100	R200	1912	Pinehurst Court	front	6	2	251	25.1	<LOD	<LOD	798
4286596.550	243040.100	R200	1912	Pinehurst Court	front	12	4	253	23.8	<LOD	<LOD	799
4286596.550	243040.100	R200	1912	Pinehurst Court	front	24	5	254	30	<LOD	<LOD	800
4286586.67	242931.94	S8		Pinehurst Court			1		981			564
4286493.746	242501.607	R201	1865	Rain Tree Trail	front	surface	1	255	684.4	<LOD	<LOD	801
4286493.746	242501.607	R201	1865	Rain Tree Trail	front	6	2	256	1469.6	<LOD	<LOD	802
4286493.746	242501.607	R201	1865	Rain Tree Trail	front	12	4	257	1520	<LOD	<LOD	803
4286493.746	242501.607	R201	1865	Rain Tree Trail	front	24	5	258	640.8	<LOD	<LOD	804
4286497.143	242465.987	R202	1865	Rain Tree Trail	back	surface	1	259	6739.2	<LOD	<LOD	805
4286497.143	242465.987	R202	1865	Rain Tree Trail	back	6	2	260	7545.6	177.5	<LOD	806
4286497.143	242465.987	R202	1865	Rain Tree Trail	back	12	4	261	8608	<LOD	692.4	807
4286410.151	242496.459	R34	1871	Rain Tree Trail	front	2	1	319	73.9	<LOD	290.2	101
4286410.151	242496.459	R34	1871	Rain Tree Trail	front	4	2	320	102.6	<LOD	398.2	102
4286410.151	242496.459	R34	1871	Rain Tree Trail	front	24	5	321	1610	<LOD	<LOD	103
4286413.755	242456.161	R35	1871	Rain Tree Trail	back	2	1	322	70.4	<LOD	<LOD	104
4286413.755	242456.161	R35	1871	Rain Tree Trail	back	24	5	323	182	<LOD	<LOD	105
4286413.755	242456.161	R35	1871	Rain Tree Trail	back	30	30	324	65	<LOD	0	106
4286394.011	242550.608	R110	1872	Rain Tree Trail	back	surface	1	135	182.9	34.5	528.8	355
4286394.011	242550.608	R110	1872	Rain Tree Trail	back	6	2	136	90.1	<LOD	<LOD	356
4286394.011	242550.608	R110	1872	Rain Tree Trail	back	12	4	137	432	<LOD	348.6	357
4286394.011	242550.608	R110	1872	Rain Tree Trail	back	24	5	138	54	<LOD	560.4	358
4286401.960	242551.120	R110 a	1872	Rain Tree Trail	back	surface	1	139	52.8	<LOD	<LOD	359
4286631.125	242518.462	R203	1964	Rain Tree Trail	front	surface	1	262	4067.2	<LOD	<LOD	808

Table 2

St. Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286631.125	242518.462	R203	1964	Rain Tree Trail	front	6	2	263	4028.8	<LOD	<LOD	809
4286631.125	242518.462	R203	1964	Rain Tree Trail	front	12	4	264	5459.2	<LOD	<LOD	810
4286631.125	242518.462	R203	1964	Rain Tree Trail	front	24	5	265	11200	<LOD	<LOD	811
4286609.576	242548.124	R204	1964	Rain Tree Trail	back	surface	1	266	3179.2	<LOD	<LOD	812
4286609.576	242548.124	R204	1964	Rain Tree Trail	back	6	2	267	4537.6	<LOD	<LOD	813
4286609.576	242548.124	R204	1964	Rain Tree Trail	back	12	4	268	1840	<LOD	<LOD	814
4286609.576	242548.124	R204	1964	Rain Tree Trail	back	22	5	269	7436.8	<LOD	<LOD	815
4286619.488	242499.040	R58	1965	Rain Tree Trail	front	1	1	383	28800	768.4	<LOD	153
4286619.488	242499.040	R58	1965	Rain Tree Trail	front	4	2	384	90572.8	4579.2	<LOD	154
4286619.488	242499.040	R58	1965	Rain Tree Trail	front	8	3	385	46182.4	2108.8	<LOD	155
4286619.488	242499.040	R58	1965	Rain Tree Trail	front	16	4	386	48179	1680	0	156
4286649.044	242519.366	R205	1966	Rain Tree Trail	front	surface	1	270	7065.6	278.2	<LOD	816
4286649.044	242519.366	R205	1966	Rain Tree Trail	front	6	2	271	5987.2	<LOD	<LOD	817
4286649.044	242519.366	R205	1966	Rain Tree Trail	front	12	4	272	6707.2	<LOD	<LOD	818
4286649.044	242519.366	R205	1966	Rain Tree Trail	front	24	5	273	8384	<LOD	<LOD	819
4286643.463	242548.778	R206	1966	Rain Tree Trail	back	surface	1	274	1500	<LOD	<LOD	820
4286643.463	242548.778	R206	1966	Rain Tree Trail	back	6	2	275	5289.6	<LOD	<LOD	821
4286670.53	242554.39	01851	1968	Rain Tree Trail			1		7168			515
4286684.47	242525.30	01850	1968	Rain Tree Trail			1		3083			516
4286680.426	242522.517	R188	1968	Rain Tree Trail	front	surface	1	202	289.4	<LOD	<LOD	752
4286680.426	242522.517	R188	1968	Rain Tree Trail	front	6	2	203	104.8	<LOD	<LOD	753
4286680.426	242522.517	R188	1968	Rain Tree Trail	front	12	4	204	970.4	<LOD	<LOD	754
4286680.426	242522.517	R188	1968	Rain Tree Trail	front	24	5	205	40.6	<LOD	<LOD	755
4286666.167	242552.048	R189	1968	Rain Tree Trail	back	surface	1	206	1788.8	<LOD	<LOD	756
4286666.167	242552.048	R189	1968	Rain Tree Trail	back	6	2	207	108.3	<LOD	<LOD	757
4286666.167	242552.048	R189	1968	Rain Tree Trail	back	12	4	208	2348.8	<LOD	<LOD	758
4286666.167	242552.048	R189	1968	Rain Tree Trail	back	24	5	209	5548.8	<LOD	<LOD	759
4286664.308	242500.681	R209	1969	Rain Tree Trail	front	surface	1	284	765.2	<LOD	<LOD	830
4286664.308	242500.681	R209	1969	Rain Tree Trail	front	6	2	285	2988.8	<LOD	<LOD	831
4286664.308	242500.681	R209	1969	Rain Tree Trail	front	12	4	286	4108.8	<LOD	<LOD	832
4286664.308	242500.681	R209	1969	Rain Tree Trail	front	24	5	287	1280	<LOD	<LOD	833
4286704.291	242507.675	R207	1971	Rain Tree Trail	front	surface	1	276	537.2	<LOD	<LOD	822
4286704.291	242507.675	R207	1971	Rain Tree Trail	front	6	2	277	1889.6	<LOD	<LOD	823
4286704.291	242507.675	R207	1971	Rain Tree Trail	front	12	4	278	6000	<LOD	<LOD	824

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UTM - Y	UTM-X	Sample Number	House No	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286704.291	242507.675	R207	1971	Rain Tree Trail	front	24	5	279	114	<LOD	<LOD	825
4286710.117	242477.450	R208	1971	Rain Tree Trail	back	surface	1	280	1140	<LOD	<LOD	826
4286710.117	242477.450	R208	1971	Rain Tree Trail	back	6	2	281	1589.6	<LOD	<LOD	827
4286710.117	242477.450	R208	1971	Rain Tree Trail	back	12	4	282	15897.6	416.8	<LOD	828
4286710.117	242477.450	R208	1971	Rain Tree Trail	back	20	5	283	17497.6	399	<LOD	829
4286725.268	242570.773	R210	1972	Rain Tree Trail	back	surface	1	288	2160	102.6	<LOD	834
4286725.268	242570.773	R210	1972	Rain Tree Trail	back	6	2	289	3337.6	153.9	<LOD	835
4286725.268	242570.773	R210	1972	Rain Tree Trail	back	12	4	290	2419.2	<LOD	<LOD	836
4286725.268	242570.773	R210	1972	Rain Tree Trail	back	20	5	291	1800	<LOD	<LOD	837
4286726.589	242493.037	R111	1973	Rain Tree Trail	back	surface	1	140	8345.6	416.8	<LOD	360
4286726.589	242493.037	R111	1973	Rain Tree Trail	back	6	2	141	6057.6	178.4	<LOD	361
4286726.589	242493.037	R111	1973	Rain Tree Trail	back	12	4	142	3948.8	284.4	<LOD	362
4286726.589	242493.037	R111	1973	Rain Tree Trail	back	24	5	143	798	<LOD	<LOD	363
4286726.589	242493.037	R111	1973	Rain Tree Trail	back	8	3	144	11200	792	2979.2	364
4286746.884	242497.909	R112	1973	Rain Tree Trail	back	surface	1	145	2948.8	137.8	426.8	365
4286746.070	242493.000	R112 a	1973	Rain Tree Trail	back	surface	1	146	6579.2	<LOD	<LOD	366
4286763.273	242552.882	R211	1974	Rain Tree Trail	front	surface	1	292	930.4	<LOD	<LOD	838
4286763.273	242552.882	R211	1974	Rain Tree Trail	front	6	2	293	2960	<LOD	<LOD	839
4286763.273	242552.882	R211	1974	Rain Tree Trail	front	12	4	294	500	37.2	<LOD	840
4286763.273	242552.882	R211	1974	Rain Tree Trail	front	20	5	295	2449.6	129.5	<LOD	841
4286781.718	242558.951	R113	1976	Rain Tree Trail	front	surface	1	147	189.1	<LOD	<LOD	367
4286781.718	242558.951	R113	1976	Rain Tree Trail	front	6	2	148	143	<LOD	<LOD	368
4286781.718	242558.951	R113	1976	Rain Tree Trail	front	12	4	149	268.4	<LOD	<LOD	369
4286781.718	242558.951	R113	1976	Rain Tree Trail	front	14	4	150	4227.2	<LOD	1220	370
4286762.982	242589.343	R213	1976	Rain Tree Trail	back	surface	1	296	159.5	<LOD	<LOD	842
4286762.982	242589.343	R213	1976	Rain Tree Trail	back	6	2	297	497.6	<LOD	<LOD	843
4286762.982	242589.343	R213	1976	Rain Tree Trail	back	12	4	298	295	35.1	648.8	844
4286762.982	242589.343	R213	1976	Rain Tree Trail	back	24	5	299	993.6	<LOD	<LOD	845
4286805.633	242608.219	R114	1978	Rain Tree Trail	back	surface	1	158	1649.6	<LOD	<LOD	371
4286805.633	242608.219	R114	1978	Rain Tree Trail	back	6	2	159	1939.2	<LOD	<LOD	372
4286805.633	242608.219	R114	1978	Rain Tree Trail	back	12	4	160	874.4	<LOD	<LOD	373
4286805.633	242608.219	R114	1978	Rain Tree Trail	back	24	5	161	244	<LOD	<LOD	374
4286828.654	242579.756	R115	1978	Rain Tree Trail	(spare lot)	surface	1	162	157.5	<LOD	<LOD	375
4286828.654	242579.756	R115	1978	Rain Tree Trail	(spare lot)	6	2	163	59.2	<LOD	<LOD	376

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UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286828.654	242579.756	R115	1978	Rain Tree Trail	(spare lot)	12	4	164	49.6	<LOD	<LOD	377
4286828.654	242579.756	R115	1978	Rain Tree Trail	(spare lot)	24	5	165	30	<LOD	<LOD	378
4286814.921	242518.673	R116	1979	Rain Tree Trail	back	surface	1	166	4848	<LOD	<LOD	379
4286814.921	242518.673	R116	1979	Rain Tree Trail	back	6	2	167	7616	556	<LOD	380
4286814.921	242518.673	R116	1979	Rain Tree Trail	back	12	4	168	4438.4	<LOD	<LOD	381
4286832.93	242605.31	01836	1980	Rain Tree Trail			1		1571			530
4286834.58	242580.15	01835	1980	Rain Tree Trail			1		2603			531
4286760.21	242505.25	01834	1980	Rain Tree Trail			1		1924			532
4286755.67	242530.82	01833	1980	Rain Tree Trail			1		4023			533
4286818.91	242556.64	01837	1981	Rain Tree Trail			1		1769			529
4286836.622	242520.745	R214	1981	Rain Tree Trail	back	surface	1	300	1920	<LOD	<LOD	846
4286836.622	242520.745	R214	1981	Rain Tree Trail	back	6	2	301	11097.6	487.6	<LOD	847
4286836.622	242520.745	R214	1981	Rain Tree Trail	back	12	4	302	8627.2	499.2	<LOD	848
4286885.563	242560.224	R125	1985	Rain Tree Trail	front	surface	1	50	420.8	<LOD	<LOD	414
4286885.563	242560.224	R125	1985	Rain Tree Trail	front	6	2	51	2240	82.2	802.4	415
4286885.563	242560.224	R125	1985	Rain Tree Trail	front	12	4	52	1748.8	<LOD	<LOD	416
4286885.563	242560.224	R125	1985	Rain Tree Trail	front	24	5	53	1669	<LOD	<LOD	417
4286887.918	242529.605	R126	1985	Rain Tree Trail	back	surface	1	54	502.8	<LOD	277.2	418
4286887.918	242529.605	R126	1985	Rain Tree Trail	back	6	2	55	542.8	<LOD	<LOD	419
4286887.918	242529.605	R126	1985	Rain Tree Trail	back	24	5	56	2579	122.6	375.4	420
4286910.101	242555.698	R127	1987	Rain Tree Trail	front	surface	1	57	339.8	<LOD	<LOD	421
4286910.101	242555.698	R127	1987	Rain Tree Trail	front	6	2	58	417.2	<LOD	191.6	422
4286910.101	242555.698	R127	1987	Rain Tree Trail	front	12	4	59	478.4	<LOD	294.6	423
4286910.101	242555.698	R127	1987	Rain Tree Trail	front	12	4	59	478	<LOD	295	423
4286910.101	242555.698	R127	1987	Rain Tree Trail	front	24	5	60	429	<LOD	<LOD	424
4286919.468	242534.656	R215	1987	Rain Tree Trail	back	surface	1	303	2068.8	86.2	<LOD	849
4286919.468	242534.656	R215	1987	Rain Tree Trail	back	6	2	304	1729.6	117.6	<LOD	850
4286919.468	242534.656	R215	1987	Rain Tree Trail	back	12	4	305	3398.4	124.1	<LOD	851
4286919.468	242534.656	R215	1987	Rain Tree Trail	back	24	5	306	7545.6	393.4	<LOD	852
4286930.742	242600.043	R216	1988	Rain Tree Trail	back	surface	1	307	227.6	<LOD	<LOD	853
4286930.742	242600.043	R216	1988	Rain Tree Trail	back	6	2	308	123	<LOD	<LOD	854
4286930.742	242600.043	R216	1988	Rain Tree Trail	back	12	4	309	744.4	<LOD	<LOD	855
4286930.742	242600.043	R216	1988	Rain Tree Trail	back	24	5	310	97.7	<LOD	<LOD	856
4286942.65	242535.60	01839	1989	Rain Tree Trail			1		1549			527

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UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286939.76	242563.65	01838	1989	Rain Tree Trail			1		762			528
4287001.82	242564.71	08141	1993	Rain Tree Trail			1		479			525
4286983.68	242580.98	01840	1993	Rain Tree Trail			1		133			526
4286981.18	242675.44	01845	1994	Rain Tree Trail			1		77			521
4286963.66	242689.83	01844	1994	Rain Tree Trail			1		92			522
4287029.347	242704.197	R117	1998	Rain Tree Trail	back	surface	1	169	61.1	<LOD	<LOD	382
4287029.347	242704.197	R117	1998	Rain Tree Trail	back	6	2	170	70.8	<LOD	<LOD	383
4287029.347	242704.197	R117	1998	Rain Tree Trail	back	12	4	171	303.2	<LOD	318.8	384
4287029.347	242704.197	R117	1998	Rain Tree Trail	back	24	5	172	22	<LOD	<LOD	385
4287040.426	242672.937	R118	2000	Rain Tree Trail	front	surface	1	173	110.4	<LOD	<LOD	386
4287040.426	242672.937	R118	2000	Rain Tree Trail	front	6	2	174	21.3	<LOD	<LOD	387
4287040.426	242672.937	R118	2000	Rain Tree Trail	front	12	4	175	26.5	<LOD	315.6	388
4287040.426	242672.937	R118	2000	Rain Tree Trail	front	24	5	176	0	<LOD	<LOD	389
4287043.86	242699.83	X119	2000	Rain Tree Trail			1		59			497
4287043.86	242699.83	X120	2000	Rain Tree Trail			1		53			498
4287038.92	242695.39	X121	2000	Rain Tree Trail			1		3000			499
4287036.618	242693.394	R217	2000	Rain Tree Trail	south side yard	surface	1	311	95.5	<LOD	<LOD	857
4287036.618	242693.394	R217	2000	Rain Tree Trail	south side yard	6	2	312	118.9	<LOD	<LOD	858
4287036.618	242693.394	R217	2000	Rain Tree Trail	south side yard	12	4	313	139.8	23.2	<LOD	859
4287044.540	242632.360	R119	2001	Rain Tree Trail	back	surface	1	177	98.8	<LOD	<LOD	390
4287044.540	242632.360	R119	2001	Rain Tree Trail	back	6	2	178	163.8	<LOD	325.8	391
4287044.540	242632.360	R119	2001	Rain Tree Trail	back	12	4	179	156.7	<LOD	<LOD	392
4287044.540	242632.360	R119	2001	Rain Tree Trail	back	24	5	180	121	<LOD	<LOD	393
4287083.641	242676.465	R59	2002	Rain Tree Trail	front	surface	1	387	40.6	<LOD	<LOD	157
4287083.641	242676.465	R59	2002	Rain Tree Trail	front	6	2	388	66	<LOD	<LOD	158
4287083.641	242676.465	R59	2002	Rain Tree Trail	front	12	4	389	116.8	<LOD	<LOD	159
4287083.641	242676.465	R59	2002	Rain Tree Trail	front	24	5	390	0	<LOD	<LOD	160
4287188.995	242637.832	R218	2009	Rain Tree Trail	back	surface	1	314	57	<LOD	<LOD	860
4287188.995	242637.832	R218	2009	Rain Tree Trail	back	6	2	315	48.6	20	<LOD	861
4287188.995	242637.832	R218	2009	Rain Tree Trail	back	12	4	316	41.6	<LOD	<LOD	862
4287188.995	242637.832	R218	2009	Rain Tree Trail	back	24	5	317	20.1	<LOD	<LOD	863
4287220.716	242680.564	R219	2013	Rain Tree Trail	front	surface	1	318	111.3	<LOD	<LOD	864
4287220.716	242680.564	R219	2013	Rain Tree Trail	front	6	2	319	117.7	<LOD	<LOD	865
4287220.716	242680.564	R219	2013	Rain Tree Trail	front	12	4	320	111.9	<LOD	<LOD	866

Table 2

St. Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4287220.716	242680.564	R219	2013	Rain Tree Trail	front	24	5	321	117.7	<LOD	<LOD	867
4287247.395	242668.871	R220	2013	Rain Tree Trail	back	surface	1	322	57.1	<LOD	<LOD	868
4287247.395	242668.871	R220	2013	Rain Tree Trail	back	6	2	323	40.7	<LOD	<LOD	869
4287247.395	242668.871	R220	2013	Rain Tree Trail	back	12	4	324	29.5	<LOD	<LOD	870
4287247.395	242668.871	R220	2013	Rain Tree Trail	back	24	5	325	30	<LOD	<LOD	871
4287226.607	242743.894	R128	2017	Rain Tree Trail	front	surface	1	61	43.4	<LOD	<LOD	425
4287226.607	242743.894	R128	2017	Rain Tree Trail	front	6	2	62	83.1	<LOD	<LOD	426
4287226.607	242743.894	R128	2017	Rain Tree Trail	front	12	4	63	78.3	<LOD	<LOD	427
4287226.607	242743.894	R128	2017	Rain Tree Trail	front	24	5	64	108	<LOD	827.2	428
4286573.93	242505.28	01843		Rain Tree Trail			1		9130			523
4286573.93	242510.91	01842		Rain Tree Trail			1		2021			524
4287055.644	242556.551	R131	2001	Ravenwood Drive	front	surface	1	69	46.5	<LOD	<LOD	433
4287055.644	242556.551	R131	2001	Ravenwood Drive	front	6	2	70	79.4	<LOD	<LOD	434
4287055.644	242556.551	R131	2001	Ravenwood Drive	front	12	4	71	76.4	<LOD	<LOD	435
4287055.644	242556.551	R131	2001	Ravenwood Drive	front	24	5	72	52	<LOD	<LOD	436
4287058.520	242519.789	R132	2001	Ravenwood Drive	back	surface	1	73	261.2	<LOD	<LOD	437
4287058.520	242519.789	R132	2001	Ravenwood Drive	back	6	2	74	337.4	<LOD	<LOD	438
4287058.520	242519.789	R132	2001	Ravenwood Drive	back	12	4	75	249.4	<LOD	171.3	439
4287058.520	242519.789	R132	2001	Ravenwood Drive	back	24	5	76	42	<LOD	<LOD	440
4287036.705	242537.309	R229	2001	Ravenwood Drive	back	surface	1	337	115.8	<LOD	1009.6	880
4287036.705	242537.309	R229	2001	Ravenwood Drive	back	6	2	338	88.1	<LOD	<LOD	881
4287036.705	242537.309	R229	2001	Ravenwood Drive	back	12	4	339	247.8	<LOD	<LOD	882
4287036.705	242537.309	R229	2001	Ravenwood Drive	back	24	5	340	16089.6	780.8	<LOD	883
4287029.662	242609.613	R221	2002	Ravenwood Drive	back	surface	1	329	111.8	<LOD	<LOD	872
4287029.662	242609.613	R221	2002	Ravenwood Drive	back	6	2	330	113.8	<LOD	<LOD	873
4287029.662	242609.613	R221	2002	Ravenwood Drive	back	12	4	331	146.5	<LOD	<LOD	874
4287029.662	242609.613	R221	2002	Ravenwood Drive	back	24	5	332	123.5	<LOD	<LOD	875
4287109.106	242532.512	R222	2005	Ravenwood Drive	back	surface	1	333	198.8	<LOD	<LOD	876
4287109.106	242532.512	R222	2005	Ravenwood Drive	back	6	2	334	396	<LOD	<LOD	877
4287109.106	242532.512	R222	2005	Ravenwood Drive	back	12	4	335	239.2	<LOD	<LOD	878
4287109.106	242532.512	R222	2005	Ravenwood Drive	back	24	5	336	213.8	<LOD	<LOD	879
4287184.625	242571.210	R223	2011	Ravenwood Drive	front	surface	1	341	26.8	18.6	<LOD	884
4287184.625	242571.210	R223	2011	Ravenwood Drive	front	6	2	342	39	<LOD	<LOD	885
4287184.625	242571.210	R223	2011	Ravenwood Drive	front	12	4	344	30	<LOD	<LOD	886

Table 2

St. Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in milligrams per kiligram or parts per million

UTM - Y	UTM-X	Sample Number	House No	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4287184.625	242571.210	R223	2011	Ravenwood Drive	front	24	5	345	24.2	<LOD	<LOD	887
4287219.338	242540.844	R224	2013	Ravenwood Drive	back	surface	1	346	198.8	<LOD	<LOD	888
4287219.338	242540.844	R224	2013	Ravenwood Drive	back	6	2	347	216	<LOD	<LOD	889
4287219.338	242540.844	R224	2013	Ravenwood Drive	back	12	4	348	308.6	<LOD	542	890
4287219.338	242540.844	R224	2013	Ravenwood Drive	back	24	5	349	132	<LOD	<LOD	891
4287254.558	242543.617	R225	2015	Ravenwood Drive	back	surface	1	350	134.3	<LOD	<LOD	892
4287254.558	242543.617	R225	2015	Ravenwood Drive	back	6	2	351	134.6	<LOD	<LOD	893
4287254.558	242543.617	R225	2015	Ravenwood Drive	back	12	4	352	103.4	<LOD	606	894
4287254.558	242543.617	R225	2015	Ravenwood Drive	back	24	5	353	30	<LOD	<LOD	895
4287310.995	242579.502	R226	2019	Ravenwood Drive	front	surface	1	354	46.6	<LOD	<LOD	896
4287310.995	242579.502	R226	2019	Ravenwood Drive	front	6	2	355	56.6	<LOD	<LOD	897
4287310.995	242579.502	R226	2019	Ravenwood Drive	front	12	4	356	41	<LOD	<LOD	898
4287310.995	242579.502	R226	2019	Ravenwood Drive	front	24	5	357	56.3	<LOD	<LOD	899
4286479.836	242352.658	R32	100	Tessy Lane	south ravine	surface	1	309	988.8	<LOD	<LOD	91
4286479.836	242352.658	R32	100	Tessy Lane	south ravine	4	2	310	1920	<LOD	<LOD	92
4286479.836	242352.658	R32	100	Tessy Lane	south ravine	8	3	311	1540	<LOD	<LOD	93
4286479.836	242352.658	R32	100	Tessy Lane	south ravine	12	4	312	10195.2	268.6	<LOD	94
4286479.836	242352.658	R32	100	Tessy Lane	south ravine	18	5	313	3690	126.6	<LOD	95
4286501.957	242337.465	R33	100	Tessy Lane	back	2	1	314	75.3	<LOD	<LOD	96
4286501.957	242337.465	R33	100	Tessy Lane	back	4	2	315	395	<LOD	<LOD	97
4286501.957	242337.465	R33	100	Tessy Lane	back	8	3	316	1020	<LOD	<LOD	98
4286501.957	242337.465	R33	100	Tessy Lane	back	12	4	317	988	<LOD	<LOD	99
4286501.957	242337.465	R33	100	Tessy Lane	back	24	5	318	597	52.9	<LOD	100
4286594.614	242835.207	R39		Unnamed Pond - shore		surface	1	336	6080	<LOD	<LOD	115
4286589.437	242845.598	R40		Unnamed Pond - shore		surface	1	337	5868.8	<LOD	<LOD	116
4286573.596	242848.283	R41		Unnamed Pond - shore		surface	1	338	2809.6	<LOD	<LOD	117
4286574.205	242862.476	R42		Unnamed Pond - shore		surface	1	339	1329.6	<LOD	<LOD	118
4286552.284	242844.842	R43		Unnamed Pond - shore		surface	1	340	5897.6	<LOD	<LOD	119
4286564.572	242832.279	R44		Unnamed Pond - shore		surface	1	341	830.4	<LOD	<LOD	120
4286556.125	242829.726	R45		Unnamed Pond - shore		surface	1	342	30	<LOD	<LOD	121
4286494.266	242100.785	R71		Woodland Park		surface	1	7	29.9	<LOD	<LOD	198
4286494.266	242100.785	R71		Woodland Park		6	2	8	30	<LOD	<LOD	199
4286435.541	242110.961	R72		Woodland Park		surface	1	9	93.1	<LOD	<LOD	200
4286435.541	242110.961	R72		Woodland Park		6	2	10	82	<LOD	<LOD	201

Table 2

St. Louis Smelting and Refining Company

Residential Sampling Locations and XRF Data including Historical Laboratory Data Analyzed by State Programs [1,2]

Concnetrations shown in miiligrams per kiligram or parts per miilion

UTM - Y	UTM-X	Sample Number	House No.	Street	Location in yard	Sample Depth (inches)	Depth Category	XRF Reading Number	Lead	Arsenic	Chromium	Sort
4286396.188	242030.651	R73		Woodland Park		surface	1	11	74.9	<LOD	<LOD	202
4286396.188	242030.651	R73		Woodland Park		6	2	12	148.5	<LOD	<LOD	203
4286398.286	242007.040	R74		Woodland Park		surface	1	13	47.5	<LOD	<LOD	204
4286398.286	242007.040	R74		Woodland Park		6	2	14	45.1	<LOD	<LOD	205
4286618.063	242080.166	R75		Woodland Park		surface	1	15	192.1	<LOD	<LOD	206
4286618.063	242080.166	R75		Woodland Park		6	2	16	245.8	<LOD	<LOD	207
4286620.218	241991.618	R76		Woodland Park		surface	1	17	180.8	<LOD	<LOD	208
4286620.218	241991.618	R76		Woodland Park		6	2	18	284	<LOD	<LOD	209
4286545.187	241905.310	R77		Woodland Park		surface	1	19	55.8	<LOD	<LOD	210
4286545.187	241905.310	R77		Woodland Park		6	2	20	78.9	<LOD	<LOD	211
4286611.500	241843.946	R78		Woodland Park		surface	1	21	54	<LOD	<LOD	212
4286611.500	241843.946	R78		Woodland Park		6	2	22	30	<LOD	<LOD	213
4286483.377	241809.697	R79		Woodland Park		surface	1	23	29.4	<LOD	<LOD	214
4286483.377	241809.697	R79		Woodland Park		6	2	24	38	<LOD	<LOD	215
4286370.363	241920.650	R80		Woodland Park		surface	1	25	43.1	<LOD	<LOD	216
4286370.363	241920.650	R80		Woodland Park		6	2	26	79.1	<LOD	<LOD	217

Notes 1 Data collected during the CERCLA Investigations and Analyzed under Federal Contract Laboratory Program not included

2 Data includes soil samples obtained in common grounds near Unnamed Pond and in Woodland Park

3 <LOD indicates below level of detection for XRF Data

Table 3
CERCLA Reassessment Laboratory Analysis Results for Residential Soils [1]

Sample Number :	ME00Q8		ME00Q9		ME00R0		ME00R1		ME00R2		ME00R3		ME01G2	
Address	6 Pine Lake Dr		4 Pine Lake Dr		4 Pine Lake Dr		1020 Pine Lake Rd		6 Cedar Point		1911 Pinehurst Ct.		6800 Fedder Ln Background	
Sampling Location :	X101		X102		X103		X104		X105		X106		X115	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	03/07/2002		03/07/2002		03/07/2002		03/08/2002		03/08/2002		03/08/2002		10/18/2002	
Time Sampled :	10:37		14:50		14:50		08:15		11:55		13:55		12:45	
%Solids :	71.1		72.7		72.6		79.6		75.7		60.9		88	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	4610		7970		6180		8050		6050		6940		5360	
ANTIMONY	55.0	J	4.9	J	5.3	J	6.8	J	1.3	J	1.0	UJ	0.27	J
ARSENIC	28.8		12.9		12.4		11.5		9.9		11.6		4.4	
BARIUM	250		359		349		317		110		150		246	J
BERYLLIUM	0.52		0.84		0.68		0.75		0.53		0.92		0.4	J
CADMIUM	30.6		16.0		16.2		1.1		17.4		9.0		1.2	J
CALCIUM	17700		15200		23500		32000		55900		37000		3010	
CHROMIUM	10.5		13.4		9.9		13.4		10.7		17.3		9.2	J
COBALT	44.1	J	14.9	J	70.6	J	225	J	33.8	J	11.2	J	7.3	
COPPER	526		270.0		299		321		58.6		80.8		11.6	
IRON	30700		29400		28700		63100		16800		29500		9650	
LEAD	36700	J	6730	J	6550	J	6680	J	2730	J	389		122	J
MAGNESIUM	2170		4700		4280		8350		3720		4350		1440	
MANGANESE	1220		616		592		780		1100		2030		747	
MERCURY	0.64		0.28		0.23		0.070		0.57		0.090		0.08	
NICKEL	211		32.6		36.1		163		32.5		460		12.3	J
POTASSIUM	1180		1700		1330		2480		720		1210		795	J
SELENIUM	3.5		0.85		0.94		1.3		0.66	U	2.4		1.5	J
SILVER	10.9		0.37	J	0.48	J	0.28	U	0.29	U	0.36	U	0.17	UJ
SODIUM	924		2490		2560		5850	J	1160		1620		99.5	
THALLIUM	1.5	J	1.2	U	1.2	U	2.6	J	1.1	U	1.4	U	0.52	UJ
VANADIUM	16.8		23.0		19.3		17.4		22.0		28.1		17	
ZINC	775	J	3390	J	3970	J	10000	J	698	J	1460	J	82.6	J
CYANIDE	0.40	J	0.060	UJ	0.060	UJ	0.050	UJ	0.050	UJ	0.070	UJ	0.13	

Notes: 1 Results for Background Location, X115, was collected during ESI

2 J - Indicates estimated value

3 U - Indicates analyte was not detected above reported sample quantitation limits

4 UJ - Indicates analyte was not detected above reported sample quantitation limits (SQL) but SQL is approximate

5 **16400** Indicates value above Illinois EPA TACO Residential Soil Corrective Action Objective

6 **55** Indicates value is 3x background concentration (10x for estimated values)

Table 4
Metal Concentrations in Beach Sediment as Identified by X-Ray Fluorescence

Sample Number	Sample Depth in inches	Sample Location Notes	XRF Reading Number	Metal Concentrations in mg/kg as Identified by X-Ray Fluorescence											
				Lead	Arsenic	Mercury	Zinc	Copper	Nickel	Cobalt	Iron	Manganese	Chromium	Cadmium	Silver
				Ontario Sediment Screening Benchmarks											
				31	6	0.2	120	16	16	50	20000	460		0.6	0.5
X232	Surface	Beach	54	77.5	<LOD	<LOD	83.2	<LOD	<LOD	<LOD	6489.6	<LOD	<LOD	NA	NA
X232	6	Beach	55	46.5	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	15193.6	<LOD	<LOD	NA	NA
X232	12	Beach	56	<LOD	<LOD	<LOD	92.2	<LOD	<LOD	<LOD	18291.2	<LOD	<LOD	NA	NA
X233	Surface	Beach	57	41.8	<LOD	<LOD	78.2	<LOD	<LOD	<LOD	4579.2	<LOD	<LOD	NA	NA
X233	6	Beach	58	1269.6	<LOD	<LOD	392.8	<LOD	<LOD	<LOD	9977.6	<LOD	<LOD	NA	NA
X233	12	Beach	59	196.9	<LOD	<LOD	135.4	<LOD	<LOD	<LOD	13196.8	<LOD	<LOD	NA	NA
X234	Surface	Beach	60	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	3148.8	<LOD	<LOD	NA	NA
X234	6	Beach	61	45.2	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	3379.2	<LOD	<LOD	NA	NA
X234	12	Beach	62	84.4	<LOD	<LOD	116.2	<LOD	<LOD	<LOD	9676.8	<LOD	<LOD	NA	NA
X235	Surface	Beach	63	42.2	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	3788.8	<LOD	<LOD	NA	NA
X235	6	Beach	64	49.7	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	3099.2	<LOD	<LOD	NA	NA
X235	12	Beach	65	<LOD	40.5	<LOD	<LOD	<LOD	<LOD	<LOD	3788.8	<LOD	<LOD	NA	NA
X236	Surface	Beach	66	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	3120	<LOD	<LOD	NA	NA
X236	6	Beach	67	48.7	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	3568	<LOD	<LOD	NA	NA
X236	12	Beach	68	125.9	<LOD	<LOD	114.1	<LOD	<LOD	<LOD	15296	<LOD	<LOD	NA	NA
X237	Surface	Beach	69	47.8	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	4019.2	<LOD	<LOD	NA	NA
X237	6	Beach	70	299.6	<LOD	<LOD	101.2	<LOD	<LOD	<LOD	12294.4	<LOD	<LOD	NA	NA
X237	12	Beach	71	58	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	16000	<LOD	<LOD	NA	NA
X238	Surface	Beach	72	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	3089.6	<LOD	<LOD	NA	NA
X238	6	Beach	73	2040	<LOD	<LOD	237.4	<LOD	<LOD	<LOD	11097.6	<LOD	<LOD	NA	NA
X238	12	Beach	74	280.4	<LOD	<LOD	142.7	<LOD	<LOD	<LOD	14195.2	<LOD	<LOD	NA	NA
X239	Surface	Beach	75	90.1	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	2659.2	<LOD	<LOD	NA	NA
X239	6	Beach	76	4988.8	<LOD	<LOD	693.6	<LOD	<LOD	<LOD	10400	<LOD	<LOD	NA	NA
X239	12	Beach	77	342	<LOD	<LOD	167.3	<LOD	<LOD	<LOD	11897.6	<LOD	<LOD	NA	NA
X240	Surface	Beach	78	47.2	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	2760	<LOD	<LOD	NA	NA
X240	6	Beach	79	1300	<LOD	<LOD	426.4	<LOD	<LOD	<LOD	10400	<LOD	<LOD	NA	NA
X240	12	Beach	80	79.8	<LOD	<LOD	95.5	<LOD	<LOD	<LOD	11795.2	<LOD	<LOD	NA	NA
X241	Surface	Beach	81	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	2360	<LOD	<LOD	NA	NA
X241	6	Beach	82	2809.6	<LOD	<LOD	608	<LOD	<LOD	<LOD	8524.8	<LOD	<LOD	NA	NA
X241	12	Beach	83	106.2	<LOD	<LOD	86.4	<LOD	<LOD	<LOD	11398.4	<LOD	<LOD	NA	NA
X242	Surface	Beach	84	47	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	2609.6	<LOD	<LOD	NA	NA
X242	6	Beach	85	53.5	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	10899.2	<LOD	<LOD	NA	NA
X242	12	Beach	86	63.1	<LOD	<LOD	95.7	<LOD	<LOD	<LOD	13094.4	<LOD	<LOD	NA	NA

Notes

1 NA - Soil not analyzed for metal
2 < LOD - Metal is below level of detection

Table 5
Description of Pine Lake Surface Water Samples Submitted for Lab Analysis

Sample Location	Sample Depth in Feet [1]	Sample Description	Sample Location Description	Total Water Depth at Location in Feet [2]	Laboratory Analysis
S201 A	0.5	clear, slight tan color	south end of lake, 60 feet north of dam	14	Total metals, semivolatiles, pesticide, PCBs
S201 B	7	clear, slight tan color			
S201 C	13	clear, dark brown, sulfur odor			
S202 A	0.5	clear, slight tan color	south side of swimming dock	7.4	Total metals, semivolatiles, pesticide, PCBs
S202 B	3.4	clear, slight tan color			
S202 C	6.4	clear, slight tan color			
S202 CD	6.4	clear, slight tan color	south side of swimming dock	7.4	Dissolved TAL Metals
S203 A	0.5	clear, slight tan color	south end of west finger of lake	5.08	Total metals, semivolatiles, pesticide, PCBs
S203 B	4	clear, slight tan color			
S204 A	0.5	clear, slight tan color	north end of west finger of lake	2.83	Total metals, semivolatiles, pesticide, PCBs
S204 B	1.5	clear, slight tan color			
S205 A	0.5	clear, slight tan color	middle finger of lake	3.75	Total metals, semivolatiles, pesticide, PCBs
S205 B	2.5	clear, slight tan color			
S206 A	0.5	clear, slight tan color	east finger of lake, near historic discharge	2.25	Total metals, semivolatiles, pesticide, PCBs
S206 B	1.5	clear, slight tan color			
S206 BD	1.5	clear, slight tan color	east finger of lake, near historic discharge	2.25	Dissolved TAL Metals
S207	0.5	clear, slight tan color	Duplicate of S206 A	2.25	Total metals, semivolatiles, pesticide, PCBs

Notes: 1 Depth in feet below water's surface
2 Depth in feet below water's surface at sample location

Table 6
Pine Lake Surface Water Samples
Expanded Site Investigation
TCL Total and Dissolved Metal Analysis

Sample Number :	ME01C5		ME01C6		ME01C7		ME01C8		ME01C9		ME01D0		ME01D1		ME01D2		ME01D3		ME01D4		ME01D5		ME01D6		ME01D7		ME01D8		ME01D9		ME01E0		ME01E2		ME01E1	
Sampling Location :	S201A		S201B		S201C		S202A		S202B		S202C		S202CD		S203A		S203B		S204B		S204A		FIELD BLANK		S205A		S205B		S206A		S206B		S206BD		S207	
Matrix :	Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water	
Analysis:	Total Metals		Total Metals		Total Metals		Total Metals		Total Metals		Total Metals		Dissolved Met		Total Metals		Total Metals		Total Metals		Total Metals		Total Metals		Total Metals		Total Metals		Total Metals		Total Metals		Dissolved Met		Total Metals	
Units :	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :	07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/28/2002	
Time Sampled :	10:00		10:30		10:54		11:35		11:40		12:00		12:00		12:45		12:55		13:25		13:15		14:30		14:15		14:20		15:05		15:20		15:20		15:10	
%Solids :	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	40.0	U	77.7		55.4		40.0	U	88.7	J	58.5	J	40.0	U	40.0	U	70.0	J	49.8	J	40.0	U	40.0	U	40.0	U	40.0	U	65.3	J	105	J	40.0	U	40.0	U
ANTIMONY	28.7	U	28.7	U	28.7	U	28.7	U	32.2		28.7	U	28.7	U	28.7	U	33.7		34.2		28.7	U	28.7	U	28.7	U	28.7	U	28.7	U	28.7	U	28.7	U	28.7	U
ARSENIC	2.5		3.5		2.6		2.0	U	3.4		2.0	U	3.4		2.0	U	4.0		2.0	U	2.0	U	2.0	U	3.2		2.2		2.7		2.0	U	2.0	U	2.7	
BARIUM	71.1	J	76.3	J	171	J	71.6	J	73.5	J	74.9	J	63.9	J	71.4	J	71.1	J	70.2	J	70.2	J	1.0	UJ	69.7	J	69.1	J	72.4	J	74.0	J	63.4	J	73.6	J
BERYLLIUM	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
CADMIUM	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
CALCIUM	65600		66200		69700		65800		65900		66300		63600		65600		64400		64600		65000		23.6	U	64600		64200		63300		66900		65700		64900	
CHROMIUM	2.6	U	2.6	U	2.6	U	2.6	U	2.6	U	2.6	U	2.6	U	2.6	U	2.6	U	2.6	U	2.6	U	3.6		2.6	U	2.6	U	2.6	U	2.6	U	2.6	U	2.6	U
COBALT	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U	5.1	U
COPPER	6.0		6.7		8.7		3.1	U	8.0		7.3		3.1	U	3.1	U	6.7		8.0		5.3		3.1	U	3.1	U	8.0		6.0		7.3		3.1	U	4.7	
IRON	14.2	U	68.2	J	67.2	J	38.9	J	44.2	J	76.4	J	14.2	U	162		56.9	J	116	J	47.0	J	14.2	U	42.1	J	147	J	65.1	J	86.6	J	22.3	J	29.3	J
LEAD	14.4		12.7		16.0		10.4		12.3		14.4		1.5	U	9.3		13.1		11.0		9.2		1.5	U	13.5		18.8		27.2		30.3		1.5	U	30.5	
MAGNESIUM	28100		28300		29100		28200		28300		28400		27300		28100		27600		27700		27900		32.4	U	27800		27600		27200		28800		28200		28000	
MANGANESE	281		522		5840		250		275		434		62.5		263		311		273		262		1.1	U	260		278		259		274		13.2		265	
MERCURY	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
NICKEL	11.5	U	11.5	U	11.5	U	11.5	U	11.5	U	11.5	U	11.5	U	11.5	U	16.5		11.5	U	11.5	U	11.5	U	11.5	U	11.5	U	11.5	U	11.5	U	11.5	U	11.5	U
POTASSIUM	3730		4030		4070		3980		3880		3710		3750		4000		3570		3760		3720		385	U	3610		4000		3800		3790		3670		3770	
SELENIUM	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	2.0		1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U
SILVER	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U
SODIUM	26800	J	26800	J	27800	J	27100	J	27000	J	27200	J	26100	J	26900	J	26300	J	26500	J	26500	J	53.7	J	26700	J	26500	J	26100	J	27800	J	27000	J	26900	J
THALLIUM	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U
VANADIUM	3.6	U	3.6	U	3.6	U	3.6	U	5.6		3.6	U	3.6	U	4.1		4.1		5.2		3.6	U	3.6	U	3.6	U	4.1		3.6	U	5.6		4.4		3.6	U
ZINC	2.2	U	2.2	U	2.2	U	9.4		2.2	U	6.4		2.2	U	2.2	U	7.7		2.2	U	2.2	U	6.6		2.2	U	2.2	U	2.2	U	2.6		2.2	U	2.2	U
CYANIDE	1.7	J	2.0	J	1.4	J	2.0	J	1.6	J	2.2	J			2.3	J	2.0	J	1.8	J	2.5	J	1.2	J	1.6	J	3.5	J	2.4	J	2.6	J			2.2	J

Notes: 1 J - Indicates estimated value
2 U - Indicates analyte was not detected above reported sample quantitation limits
3 UJ - Indicates analyte was not detected above reported sample quantitation limits (SQL) but SQL is approximate

Pine Lake Analytical Surface Water Samples
Semivolatile Organic Compaounds

Sample Number :	E01C5		E01C6		E01C7		E01C8		E01C9		E01D0		E01D2		E01D3		E01D4		E01D5		E01D6		E01D7		E01D8		E01D9		E01E0		E01E1	
Sampling Location :	S201A		S201B		S201C		S202A		S202B		S202C		S203A		S203B		S204B		S204A		FIELD BLANK		S205A		S205B		S206A		S206B		S207	
Matrix	Water		water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water	
Units .	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled	07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/28/2002	
Time Sampled	10 00		10 30		10 54		11 35		11 40		12 00		12 45		12 55		13:25		13:15		14:30		14:15		14:20		15:05		15:20		15:10	
%Moisture :	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
pH	0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
Dilution Factor :	1 0		1 0		1 0		1 0		1 0		1 0		1 0		1 0		1 0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Phenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
bis-(2-Chloroethyl) ether	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Methylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,2'-oxybis(1-Chloropropane)	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Acetophenone	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Methylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
N-Nitroso-di-n-propylamine	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachloroethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Nitrobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Isophorone	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Nitrophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dimethylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
bis(2-Chloroethoxy)methane	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dichlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Naphthalene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chloroaniline	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorobutadiene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Caprolactam	10	U	10	U	10	U	10	U	2	J	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chloro-3-methylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Methylnaphthalene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4,6-Trichlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U
1,1'-Biphenyl	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chloronaphthalene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Nitroaniline	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U
Dimethylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Acenaphthylene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
3-Nitroaniline	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U
Acenaphthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrophenol	25	UJ	25	UJ	25	UJ	25	UJ	25	UJ	25	UJ	25	UJ	25	UJ	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U
4-Nitrophenol	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U
Dibenzofuran	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrotoluene	10	U	10	U	.0	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Diethylphthalate	10	U	10	U	10	U	10	U	1	J	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Fluorene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorophenyl-phenyl ether	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Nitroaniline	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U
4,6-Dinitro-2-methylphenol	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U
N-Nitrosodiphenylamine	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Bromophenyl-phenylether	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Atrazine	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Pentachlorophenol	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U
Phenanthrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbazole	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Di-n-butylphthalate	10	U	10	UJ	10	UJ	10	U	10	UJ	10	UJ	10	U	10	UJ	10	U	10	U	10	UJ	10	UJ	10	U	10	UJ	10	UJ	10	UJ

Table 7
Pine Lake Analystical Surface Water Samples
Semivolatile Organic Compaounds

Sample Number	E01C6		E01C6		E01C7		E01C8		E01C9		E01D0		E01D2		E01D3		E01D4		E01D5		E01D6		E01D7		E01D8		E01D9		E01E0		E01E1	
Sampling Location	S201A		S201B		S201C		S202A		S202B		S202C		S203A		S203B		S204B		S204A		FIELD BLANK		S206A		S206B		S206A		S206B		S207	
Matrix	Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water	
Units	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled	07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002	
Time Sampled	10 00		10 30		10 54		11 36		11 40		12 00		12 46		12 56		13 26		13 16		14 30		14 16		14 20		15 06		15 20		15 10	
%Moisture	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
pH	0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0	
Dilution Factor	1 0		1 0		1 0		1 0		1 0		1 0		1 0		1 0		1 0		1 0		1 0		1 0		1 0		1 0		1 0		1 0	
Semivolatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Pyrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Butylbenzylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(a)anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Chrysene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	6	J	2	J	2	J	1	J	1	J	1	J	1	J	2	J	2	J	2	J	2	J	1	J	1	J	10	U	1	J	1	J
Di-n-octylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(k)fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(a)pyrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Dibenzo(a,h)anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(g,h,i)perylene	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U

Notes 1 J - Indicates estimated value
2 U - Indicates analyte was not detected above reported sample quantitation limits
3 UJ - Indicates analyte was not detected above reported sample quantitation limits (SQL) but SQL is approximate

Table 8
Analytical Results for Pine Lake Surface Water Samples
Pesticide and PCB Analysis Results

Sample Number	E01C5		E01C6		E01C7		E01C8		E01C9		E01D0		E01D2		E01D3		E01D4		E01D5		E01D6		E01D7		E01D8		E01D9		E01E0		E01E1	
Sampling Location	S201A		S201B		S201C		S202A		S202B		S202C		S203A		S203B		S204B		S204A		FIELD BLANK		S205A		S205B		S206A		S206B		S207	
Matrix	Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water		Water	
Units	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled	07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/29/2002		07/28/2002	
Time Sampled	10 00		10 30		10 54		11 35		11.40		12 00		12 45		12:55		13:25		13:15		14:30		14:15		14:20		15:05		15:20		15:10	
%Moisture	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A	
pH	7 0		7.0		7 0		7.0		7 0		7 0		7 0		7.0		7.0		7.0		7.0		7.0		7.0		7.0		7.0		7.0	
Dilution Factor	1 0		1 0		1.0		1 0		1.0		1 0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
Pesticide/PCB Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	0.010	UJ	0 050	U	0.050	R	0.050	U	0.0050	UJ	0 0060	UJ	0 0070	UJ	0 012	UJ	0.0090	UJ	0.0060	UJ	0.034	UJ	0.013	UJ	0.0070	UJ	0.0070	UJ	0.0060	UJ	0.0070	UJ
beta-BHC	0 050	U	0 050	U	0.050	R	0.050	U	0 050	U	0 050	U	0.050	U	0.050	U	0.050	UJ	0.050	UJ	0.040	J	0.050	UJ	0.050	UJ	0.050	UJ	0.050	UJ	0.018	J
delta-BHC	0 013	J	0 050	U	0 050	R	0.050	U	0.0070	J	0 011	J	0 0090	J	0.013	J	0.012	J	0.015	J	0.064		0.032	J	0 024	J	0.031	J	0.024	J	0.028	J
gamma-BHC (Lindane)	0 017	J	0 0040	J	0 15	J	0 0040	J	0 010	J	0.012	J	0.016	J	0.019	J	0.018	J	0.015	J	0.0080	J	0.024	J	0.021	J	0.023	J	0.028	J	0.023	J
Heptachlor	0 034	J	0.0050	J	0 050	R	0 0080	J	0.011	J	0.028	J	0 019	J	0.031	J	0.031	J	0.042	J	0.13		0.079	J	0.064	J	0.081	J	0.059	J	0.077	J
Aldrin	0 0080	J	0 050	U	0 050	R	0 0040	J	0 050	U	0.050	U	0.0070	J	0.0070	J	0.0060	J	0 0060	J	0.018	J	0.013	J	0.0090	J	0.0070	J	0.0090	J	0.011	J
Heptachlor epoxide	0 0060	UJ	0 0020	UJ	0 050	R	0 0080	UJ	0 0020	UJ	0.0030	UJ	0 0060	UJ	0 0050	UJ	0.0060	UJ	0.0060	UJ	0.030	UJ	0.018	UJ	0.014	UJ	0.013	UJ	0.012	UJ	0.016	UJ
Endosulfan I	0 050	U	0 050	U	0 050	R	0 050	U	0 050	U	0 050	U	0.050	U	0 050	U	0 050	UJ	0.050	UJ	0.0080	J	0.050	UJ	0 050	UJ	0.050	UJ	0.050	UJ	0.050	UJ
Dieldrin	0 013	J	0 10	U	0 10	R	0 10	U	0 10	U	0 014	J	0 0070	J	0.012	J	0.012	J	0.011	J	0.041	J	0.028	J	0.020	J	0.022	J	0.017	J	0.023	J
4,4'-DDE	0 0040	J	0 10	U	0 10	R	0 10	U	0 10	U	0 0060	J	0 0040	J	0.0080	J	0 0050	J	0.0070	J	0.029	J	0.018	J	0 014	J	0.012	J	0.012	J	0.0090	J
Endrin	0 10	U	0 10	U	0 10	R	0 10	U	0.10	U	0 10	U	0.10	U	0.10	U	0.10	UJ	0.10	UJ	0.10	U	0.10	UJ	0.10	UJ	0.0030	J	0.10	UJ	0.0040	J
Endosulfan II	0 0040	J	0 10	U	0 10	R	0 10	U	0.10	U	0 10	U	0.10	U	0.0060	J	0 0040	J	0.0040	J	0.028	J	0.017	J	0.014	J	0.010	J	0.013	J	0.013	J
4,4'-DDD	0 0040	J	0 10	U	0 10	R	0 10	U	0 10	U	0 10	U	0.10	U	0.0050	J	0.0090	J	0.10	UJ	0.0090	J	0.012	J	0 010	J	0.0060	J	0.0080	J	0.0070	J
Endosulfan sulfate	0 10	U	0 10	U	0 10	R	0 10	U	0 10	U	0 10	U	0.10	U	0 10	U	0.10	UJ	0.10	UJ	0.014	J	0.017	J	0.013	J	0.0020	J	0.016	J	0.014	J
4,4'-DDT	0 0070	UJ	0 0050	UJ	0 10	R	0 10	U	0 10	U	0 10	U	0.10	U	0.0050	UJ	0 0040	UJ	0.0090	UJ	0.053	J	0.034	J	0 013	J	0.025	J	0.0090	UJ	0.0090	UJ
Methoxychlor	0 50	U	0 50	U	0 50	R	0.50	U	0 50	U	0 50	U	0.50	U	0.50	U	0.50	UJ	0.50	UJ	0.50	U	0.50	UJ	0.50	UJ	0.50	UJ	0.50	UJ	0.50	UJ
Endrin ketone	0 10	U	0 10	U	0 10	R	0 10	U	0 10	U	0 10	U	0 10	U	0.10	U	0.10	UJ	0.10	UJ	0.0020	J	0.10	UJ	0.10	UJ	0.10	UJ	0.10	UJ	0.10	UJ
Endrin aldehyde	0 017	UJ	0 010	UJ	0 10	R	0 0060	UJ	0 0050	UJ	0 020	UJ	0.0090	UJ	0 016	UJ	0.013	UJ	0.015	UJ	0.21		0.082	UJ	0.042	UJ	0.064	UJ	0.042	UJ	0.059	UJ
alpha-Chlordane	0.050	U	0 050	U	0 050	R	0.050	U	0 050	U	0.050	U	0.050	U	0.050	U	0.050	UJ	0.050	UJ	0.0090	J	0.0070	J	0.0070	J	0.0030	J	0.0050	J	0.0050	J
gamma-Chlordane	0 0080	UJ	0.013	UJ	0.050	R	0 015	UJ	0 0040	UJ	0 0040	UJ	0.010	UJ	0.041	J	0.0040	UJ	0.027	UJ	0.010	UJ	0.0060	UJ	0 050	UJ	0.0050	UJ	0.0040	UJ	0.0060	UJ
Toxaphene	5 0	U	5.0	U	5.0	R	5 0	U	5 0	U	5 0	U	5 0	U	5 0	U	5 0	UJ	5.0	UJ	5.0	U	5.0	UJ	5.0	UJ	5.0	UJ	5.0	UJ	5.0	UJ
Aroclor-1016	1 0	U	1 0	U	1.0	R	1.0	U	1 0	U	1 0	U	1.0	U	1 0	U	1.0	UJ	1.0	UJ	1.0	U	1 0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Aroclor-1221	2 0	U	2.0	U	2.0	R	2 0	U	2.0	U	2 0	U	2.0	U	2.0	U	2.0	UJ	2.0	UJ	2.0	U	2.0	UJ	2.0	UJ	2.0	UJ	2.0	UJ	2.0	UJ
Aroclor-1232	1 0	U	1.0	U	1 0	R	1 0	U	1.0	U	1 0	U	1.0	U	1.0	U	1.0	UJ	1.0	UJ	1.0	U	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Aroclor-1242	1 0	U	1.0	U	1 0	R	1.0	U	1 0	U	1 0	U	1.0	U	1.0	U	1.0	UJ	1.0	UJ	1.0	U	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Aroclor-1248	1 0	U	1.0	U	1.0	R	1.0	U	1.0	U	1 0	U	1.0	U	1.0	U	1.0	UJ	1.0	UJ	1.0	U	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Aroclor-1254	1 0	U	1.0	U	1.0	R	1.0	U	1.0	U	1 0	U	1.0	U	1.0	U	1.0	UJ	1.0	UJ	1.0	U	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Aroclor-1260	1 0	U	1.0	U	1 0	R	1 0	U	1.0	U	1 0	U	1.0	U	1.0	U	1.0	UJ	1.0	UJ	1.0	U	1 0	UJ	1.0	UJ	1 0	UJ	1.0	UJ	1.0	UJ

Notes 1 J - Indicates estimated value

2 U - Indicates analyte was not detected above reported sample quantitation limits

3 UJ - Indicates analyte was not detected above reported sample quantitation limits (SQL) but SQL is approximate

4 R - Indicates that data is unusable

Table 9

St. Louis Smelting and Refining

Expanded Site Inspection

Residential Soil Laboratory Analysis

Sample Number :	ME01F1		ME01F2		ME01F3		ME01F4		ME01F5		ME01F6		ME01F7		ME01G2	
Sampling Location :	X107		X108		X109		X110		X111		X112		X113		X115	
Address	102 Pine Lake Rd		102 Pine Lake Rd		210 Pine Lake Dr		1973 Raintree		1973 Raintree		2001 Raintree		1407 California		6800 Fedder Ln Background	
Matrix :	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	10/15/2002		10/15/2002		10/16/2002		10/16/2002		10/16/2002		10/17/2002		10/17/2002		10/18/2002	
Time Sampled :	15:00		15:00		11:45		17:35		17:35		11:00		13:30		12:45	
%Solids :	86.7		86.4		79.9		92.3		79.9		81.4		84.6		88.0	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	9420		9980		4830		1950		2700		9400		6700		5360	
ANTIMONY	13.9	J	13.8	J	0.29	UJ	4.6	J	18.7	J	0.43	J	0.39	J	0.27	J
ARSENIC	7.5		6.9		4.4		33.4		682		6.4		5.9		4.4	
BARIUM	495	J	445	J	489	J	92.1	J	139	J	173	J	153	J	246	J
BERYLLIUM	0.89	J	0.93	J	0.39	J	0.21	J	0.12	J	0.48	J	0.47	J	0.40	J
CADMIUM	7.9	J	6.2	J	2.3	J	7.3	J	10.0	J	0.43	J	1.3	J	1.2	J
CALCIUM	21100		23800		2370		2830		11600		2410		4840		3010	
CHROMIUM	8.4	J	7.8	J	7.9	J	5.8	J	14.6	J	12.5	J	11.8	J	9.2	J
COBALT	15.0		16.6		6.7		9.4		33.5		6.3		8.3		7.3	
COPPER	91.3		88.4		11.5		521		733		12.8		23.9		11.6	
IRON	64600		73400		8770		42400		68700		14700		15200		9650	
LEAD	16400	J	15700	J	500	J	1920	J	5260	J	100	J	463	J	122	J
MAGNESIUM	2050		2130		1350		236		1190		2130		3230		1440	
MANGANESE	620		597		871		28.4		162		608		481		747	
MERCURY	0.22		0.21		0.12		0.40		0.37		0.10		0.14		0.080	
NICKEL	19.3	J	16.9	J	11.2	J	21.3	J	134	J	13.8	J	16.5	J	12.3	J
POTASSIUM	1840	J	2040	J	522	J	567	J	537	J	651	J	640	J	795	J
SELENIUM	3.6	J	3.0	J	0.77	J	3.2	J	2.8	J	1.2	J	1.5	J	1.5	J
SILVER	0.40	J	0.38	J	0.19	UJ	2.4	J	67	J	0.19	UJ	0.18	UJ	0.17	UJ
SODIUM	351	U	1360		98.9		64.0	U	72.6	U	96.0		228		99.5	
THALLIUM	0.55	UJ	0.51	UJ	0.58	UJ	0.90	J	7.5	J	0.57	UJ	0.54	UJ	0.52	UJ
VANADIUM	25.8		24.8		15.5		13.3		37.8		23.3		21.7		17.0	
ZINC	22700	J	24500	J	110	J	1100	J	3710	J	50.9	J	116	J	82.6	J
CYANIDE	0.28		0.39		0.13		0.37		0.17		0.11		0.13		0.13	

Notes: 1 J - Indicates estimated value

2 U - Indicates analyte was not detected above reported sample quantitation limits

3 UJ - Indicates analyte was not detected above reported sample quantitation limits (SQL) but SQL is approximate

4 682 Indicates value above USEPA Removal Action Level

5 16400 Indicates value above Illinois EPA TACO Residential Soil Corrective Action Objective

6 55 Indicates value is 3x background concentration (10x for estimated values)

TABLE 10

Residential Soil Samples Analyzed for TCLP Metals [1]

Sampling Location : Matrix : Units :	TCLP Limit ug/L	X107T Soil ug/L		X110T Soil ug/L		X111T Soil ug/L		X113T Soil ug/L		X114T Soil ug/L	
ANALYTE		Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ARSENIC	5000.0	136	J	99.5	J	544		103	J	75.4	J
BARIUM	100000.0	1510		648		364		649		599.0	
CADMIUM	1000.0	88.6		99.7		219		7.59	J	14.1	
CHROMIUM	5000.0	3	U	3	U	3	U	3	U	3	U
LEAD	5000.0	20000		5520		29900		132		116	
MERCURY	200	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
SELENIUM	1000.0	73.0	U	73.0	U	73.0	U	85.5	J	73.0	U
SILVER	5000.0	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U

Notes 1. Toxicity Characteristic Leaching Procedure for determination of RCRA Hazardous Waste
2 20000 indicates concentration is above TCLP Regulatory Level

Table 11
Description of Residential Soil Samples Submitted for Lab Analysis

Sample Location	Sample Depth [1]	Sample Description	Sample Location Description	Laboratory Analysis
X107 & X108	3 - 6	Cinders and slag in brown loam	Back yard of 102 Pine Lake Road, 20 meters northeast of home	Total Metals
X107T	3 - 6	Cinders and slag in brown loam	Back yard, 20 meters northeast of home	TCLP Metals [2]
X109	12	Brown clayee silt	Front yard of 210 Pine Lake Road	Total Metals
X110	12 - 18	Cinders and slag mixture	Back yard of 1973 Raintree Trail	Total Metals
X110T	12 - 18	Cinders and slag mixture	Back yard of 1973 Raintree Trail	TCLP Metals
X111	6 - 8	Silt with burgandy staining	Back yard of 1973 Raintree Trail	Total Metals
X111T	6 - 8	Silt with burgandy staining	Back yard of 1973 Raintree Trail	TCLP Metals
X112	6	Brown clayee silt	Back yard of 2001 Raintree Trail	Total Metals
X113	12	Slag, cinders, brown loam	Back yard of 1407 California Avenue	Total Metals
X113T & X114T	18 - 24	Tan/brown loam with small slag pieces	Back yard of 1407 California Avenue	TCLP Metals
X115	0-2	Tan/brown silty loam	Wooded hillside east of Canteen creek approximately 1 mile east of site	Total Metals

Notes: 1 TCLP - Toxicity Characteristic Leaching Procedure
2 Depth in inches below ground surface

Table 12

Description of Sediment Samples Submitted for Lab Analysis

Sample Location	Sample Depth [1]	Sample Description	Sample Location Description	Laboratory Analysis
X225	6	grey black silt	Eastern shore of Pine Lake where drainage from facility entered Lake	Total Metals [2]
X226 & X227	3 - 5	black silt	Western shore of unnamed pond	Total Metals
X228	18 - 22	Medium grey clay	Middle of Canteen Creek, downstream of unnamed pond	Total Metals
X229	12	Black/grey clayee silt	Drainageway southwest of Pinehurst	Total Metals
X230	4 - 6	Brown/grey clayee silt	Drainageway northeast of Pinehurst	Total Metals
X231	18 - 20	Brown/grey clayee silt	Canteen Creek northeast (upgradient) of site	Total Metals

Notes: 1 Depth in inches below sediment surface
2 TCL Total Metals and cyanide

Table 13
St. Louis Smelting and Refining
Expanded Site Inspection
Sediment Laboratory Analysis Results

Sample Number :		ME01F8		ME01F9		ME01G0		ME01G1		ME01G3		ME01G4		ME01G5	
Sampling Location		X225		X226		X227		X228		X229		X230		X231	
Address		Pine Lake		1020 Pine Lake		1020 Pine Lake		700 Logsdon Ln		1913 Pinehurst		1908 Pinehust		6800 Fedder Ln	
Matrix :		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Units :		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	Ontario Benchmark for Lowest Effect Level in mg/kg	10/17/2002		10/17/2002		10/17/2002		10/18/2002		10/18/2002		10/18/2002		10/18/2002	
Time Sampled :		16:30		17:20		17:20		09:00		10:50		11:30		12:30	
%Solids :		*48.9*		*14.6*		*8.9*		*75.5*		*71.6*		*74.2*		*76.5*	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
ANALYTE		Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	NA	10700		6430		16200		4700		4460		6930		5830	
ANTIMONY	NA	3.3	J	16.5	J	23.8	J	0.30	UJ	0.70	J	0.52	J	0.31	UJ
ARSENIC	6	**6.8**		**68.6**		**116**		0.96		**4.9**		2.6		4.5	
BARIUM	NA	514	J	326	J	1420	J	67.7	J	302	J	149	J	241	J
BERYLLIUM	NA	0.73	J	0.50	J	2.5	J	0.32	J	0.64	J	0.44	J	0.42	J
CADMIUM	*0.6*	**90.1**	J	**107**	J	**31.6**	J	0.080	UJ	**0.95**	J	0.12	J	0.23	J
CALCIUM	NA	5010		**27100**		**48000**		1130		1920		2020		2290	
CHROMIUM	26	17.0	J	17.7	J	**32.3**	J	8.5	J	10.5	J	12.1	J	11.1	J
COBALT	50	22.7		**691**		**628**		4.0		11.1		4.7		11.6	
COPPER	16	**196**		**548**		**626**		7.3		**17.6**		11.0		9.8	
IRON	20000	**22900**		**73800**		**101000**		13400		14200		12900		13200	
LEAD	31	**35900**	J	**4550**	J	**5840**	J	6.2	J	**107**	J	**28.3**	J	7.4	J
MAGNESIUM	NA	3860		4240		5940		1470		1230		2420		2080	
MANGANESE	460	337		**1270**		**4000**		126		**614**		294		**1390**	
MERCURY	0.2	**0.54**		**0.31**		**0.54**	U	0.050	U	0.090		0.090		0.05	
NICKEL	16	**55.1**	J	**945**	J	**2280**	J	10.5	J	**33.3**	J	14.3	J	**20.6**	J
POTASSIUM	NA	886	J	962	J	1480	J	405	J	457	J	701	J	483	J
SELENIUM	NA	5.9	J	9.6	J	**16.1**	J	0.75	UJ	1.5	J	0.76	UJ	1.3	J
SILVER	0.5	**1.5**	J	1.0	UJ	1.7	UJ	0.20	UJ	0.21	UJ	0.20	UJ	0.2	UJ
SODIUM	NA	120	U	393	U	664	U	153		102		101		150	
THALLIUM	NA	0.94	UJ	3.1	UJ	5.2	UJ	0.60	UJ	0.62	UJ	0.61	UJ	0.62	UJ
VANADIUM	NA	30.1		16.9		**74.9**		10.2		46.8		16.5		20.8	
ZINC	120	**2170**	J	**18000**	J	**10800**	J	63.7	J	**139**	J	46.0	J	36.5	J
CYANIDE	0.1	**0.27**		**0.17**	U	**0.28**	U	0.030	U	0.070		**0.84**		0.05	

NOTES:

1 NA - No Benchmark Exits for Analyte

2 J — Indicates concentration is estimated

2 0.96 — Indicates concentration above benchmark

3 **2.3** — Bold text indicates concentration greater than 3x or 10x background as appropriate

4 U — Indicates analyte was not detected above reported sample quantitation limits

5 UJ — Indicates analyte was not detected above reported sample quantitation limits (SQL) but SQL is approximate

Table 14
Geoprobe Location and Boring Descriptions

Boring Identification	Location and Boring Description Depth Description Units in Feet Below Ground Surface and XRF Reading Results for Lead in parts per million
GP1	Location at 1973 Lemontree Lane in front yard. 0 - 1' brown tan clayee loam, XRF #26 at surface, Lead 101. XRF#27 at 0.5', Lead 40.1. At 1', soil turns to fine silt, continues to 5'. XRF#28 at 1', Lead 28.4. At 2' XRF#29, Lead 38.4. At 5', clay % in silt begins to increase. XRF#30 at 6', Lead 29. XRF#31 at 10', Lead BDL. XRF#32 at 15', Lead BDL. XRF#33 at 27', Lead BDL. Soil at 27' dark grey silty clay. Terminated boring at 32 feet, no water encountered.
GP2	Location at 102 Pine Lake in front/side yard. 0 - 2' brown loam with high % of slag and cinders, XRF #38 at surface, Lead 4,440. XRF#39 at 0.5', Lead 10,100. XRF#40 at 1', Lead 8,100. From 2' to 4', soil is dry brown clayee silt. At 2' XRF#41, Lead 4,000. XRF#42 at 3.5', Lead 46.2. From 4 - 10', soil becomes brown silt. XRF#43 at 6', Lead 61. XRF#44 at 10', Lead 65. Grey silt begins at 12' and continues through 16'. XRF#45 at 14', Lead 28. Grey silt continues from 16' to 20' but brown mottling increases with depth. At 18', XRF#46, Lead 18.3. Core from 20' - 24' all silt with a two inch wet seam at 22' XRF#47 at 22', BDL. From 24' - 28' soil is brown silt with low % clay, grey color increasing at 26'. Terminated boring at 32 feet.
GP3	Location at 1020 Pine Lake Road, front yard. Soil from 0 - 3', light brown clayee silt. XRF#48 at surface, Lead 172. XRF#49 at 0.5', Lead 1,090. XRF#50 at 1', Lead 2,850. XRF#51 at 2', Lead 1,280. At 3', hit 1' thick layer of slag with low % of gravel. XRF#52 at 3' in slag, Lead 15,900. Water was located within the slag bearing unit, and based on prevelance of slag in the area, possibly drained the top soil throughout a large area. At 4', olive grey clay encountered. XRF#53 at 4', Lead 39. At 5', low % of silt appearing in clay, fading to almost entirely brown silt at 8'. From 8 - 12', mottled brown/tan silt. XRF#54 at 10', Lead 39. Terminated boring at 12' to avoid contaminating unconsolidated aquifer with water from 3' strata.
GP4	Location at 1750 California Avenue, front yard down near unnamed pond and equipment parking area. Soil from 0 - 1', clayee silt with small % limestone road gravel. XRF#65 at surface, Lead 159. XRF#66 at 0.5', Lead 57.1. Closer examination of core shows what appears to be small bits of slag from 0.5' - 1.5', but XRF results not high in lead. XRF#67at 1', Lead 157. XRF#68 at 2', Lead 60.8. Soil from 2 - 7' brown clayee silt. At 7', hit clay with low % silt. XRF#69 at 4', Lead BDL. Brown clay continues 8 - 9'. At 9', clay becomes mottled with some tan silt. At 10', strata goes to mostly tan silt with low % of clay. XRF#72 at 10', Lead BDL. At 11', soil becomes brown and tan silt and occasional small gravel. At 12' encountered clay till continuing to 15' At 15', hit moist sand and gravel layer that continued to 16'. Soil from 16 - 18', grey and brown mottled clay. Boring terminated at 18'.

Notes 1 BDL - Below level of detection for X-Ray Flourescence detector

Appendix A
Target Compound List

TARGET COMPOUND LIST

Volatile Target Compounds

Chloromethane	1,2-Dichloropropane
Bromomethane	cis-1,3-Dichloropropene
Vinyl Chlorde	Trichloroethene
Chloroethane	Dibromochloromethane
Methylene Chloride	1,1,2-Trichloroethane
Acetone	Benzene
Carbon Disulfide	trans-1,3-Dichloropropene
1,1-Dichloroethene	Bromoform
1,1-Dichloroethane	4-Methyl-2-pentanone
1,2-Dichloroehtene (total)	2-Hexanone
Chloroform	Tetrachloroethene
1,2-Dichloroethane	1,1,2,2-Tetrachloroethane
2-Butanone	Toluene
1,1,1-Trichloroethane	Chlorobenzene
Carbon Tetrachloride	Ethylbenzene
Vinyl Acetate	Styrene
Bromodichloromethane	Xylenes (total)

Base/Neutral Target Compounds

Hexachloroethane	2,4-Dinitrotoluene
bis(2-Chloroethyl) Ether	Diethylphthalate
Benzyl Alcohol	N-Nitrosodiphenylamine
bis (2-Chloroisopropyl) Ether	Hexachlorobenzene
N-Nitroso-Di-n-Propylamine	Phenanthrene
Nitrobenzene	4-Bromophenyl-phenylether
Hexachlorobutadiene	Anthracene
2-Methylnaphthalene	Di-n-Butylphthalate

1,2,4-Trichlorobenzene	Fluoranthene
Isophorone	Pyrene
Naphthalene	Butylbenzylphthalate
4-Chloroaniline	bis(2-Ethylhexyl)Phthalate
bis(2-chloroethoxy)Methane	Chrysene
Hexachlorocyclopentadiene	Benzo(a)Anthracene
2-Chloronaphthalene	3-3'-Dichlorobenzidene
2-Nitroaniline	Di-n-Octyl Phthalate
Acenaphthylene	Benzo(b)Fluoranthene
3-Nitroaniline	Benzo(k)Fluoranthene
Acenaphthene	Benzo(a)Pyrene
Dibenzofuran	Ideno(1,2,3-cd)Pyrene
Dimethyl Phthalate	Dibenz(a,h)Anthracene
2,6-Dinitrotoluene	Benzo(g,h,i)Perylene
Fluorene	1,2-Dichlorobenzene
4-Nitroaniline	1,3-Dichlorobenzene
4-Chlorophenyl-phenylether	1,4-Dichlorobenzene

Acid Target Compounds

Benzoic Acid	2,4,6-Trichlorophenol
Phenol	2,4,5-Trichlorophenol
2-Chlorophenol	4-Chloro-3-methylphenol
2-Nitrophenol	2,4-Dinitrophenol
2-Methylphenol	2-Methyl-4,6-dinitrophenol
2,4-Dimethylphenol	Pentachlorophenol
4-Methylphenol	4-Nitrophenol
2,4-Dichlorophenol	

Pesticide/PCB Target Compounds

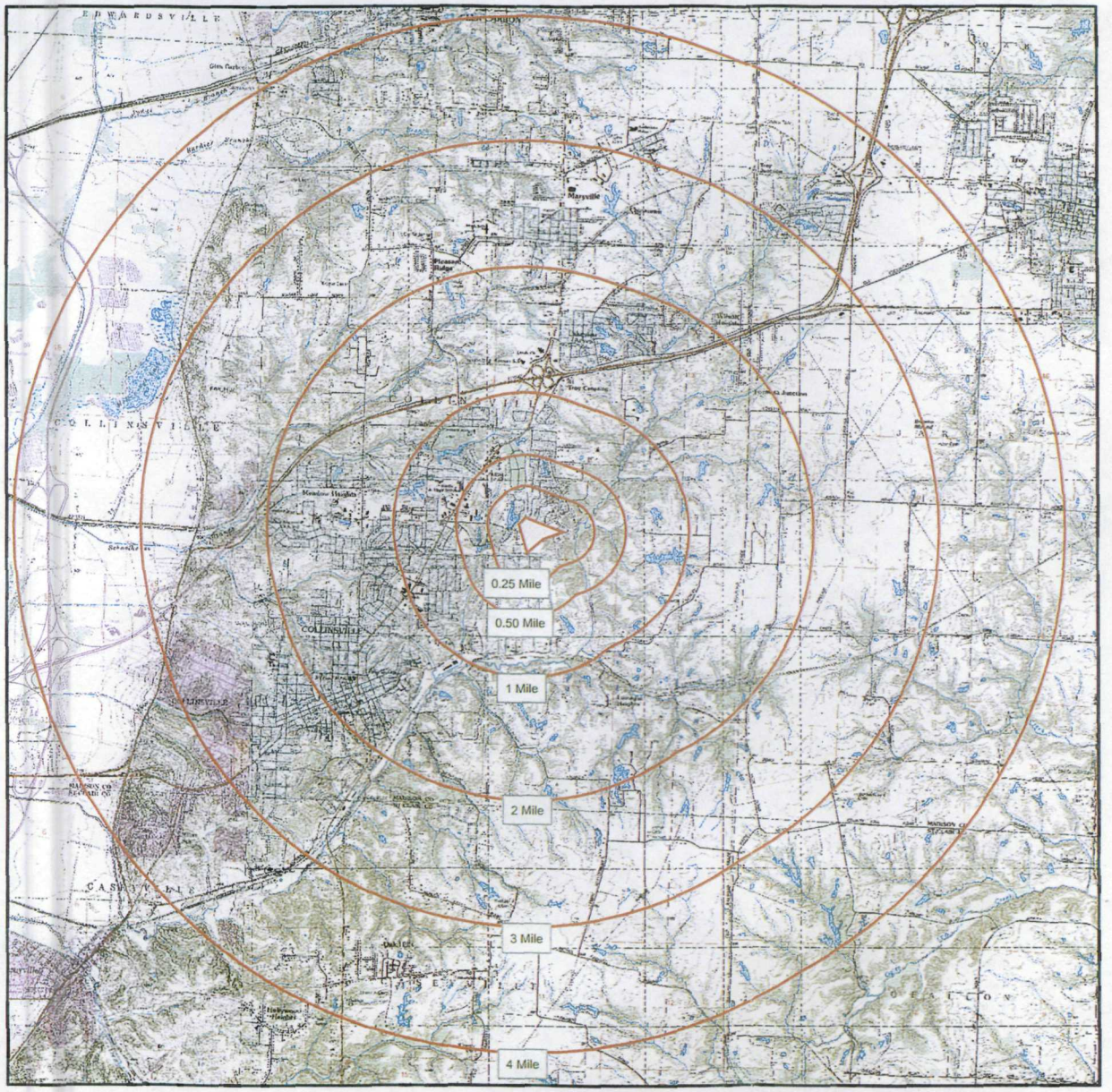
alpha-BHC	Endrin Ketone
beta-BHC	Endosulfan Sulfate
delta-BHC	Methoxychlor
gamma-BHC (Lindane)	alpha-Chlordane
Heptachlor	gamma-Chlordane
Aldrin	Toxaphene
Heptachlor epoxide	Aroclor-1016
Endosulfan I	Aroclor-1221
4,4'-DDE	Aroclor-1232
Dieldrin	Aroclor-1242
Endrin	Aroclor-1248
4,4'-DDD	Aroclor-1254
Endosulfan II	Aroclor-1260
4,4'-DDT	

Inorganic Target Compounds

Aluminum	Manganese
Antimony	Mercury
Arsenic	Nickel
Barium	Potassium
Beryllium	Selenium
Cadmium	Silver
Calcium	Sodium
Chromium	Thallium
Cobolt	Vanadium
Copper	Zinc
Iron	Cyanide
Lead	Sulfide
Magnesium	

Appendix B

4 – Mile Radius Map



Legend

1 Mile — Distance Ring from Site

N

St. Louis Smelting and Refining
4-Mile Radius Map

0 550 1,100 2,200 3,300 4,400 Meters

Appendix C
Illinois EPA Sample Photographs

SITE NAME:	St. Louis Smelting and Refining Company
CERCLIS ID:	ILD980607006 **COUNTY:** Madison

DATE: October15, 2002

TIME: 1500

PHOTO BY: J. Willman

DIRECTION: West

COMMENTS: Photo of soil sample location X107 and duplicate sample, X108. Also pictured is soil sample X107T. Address: 102 Pine Lake Drive

DATE: October 15, 2002

TIME: 1500

PHOTO BY: J. Willman

DIRECTION: South

COMMENTS: Photo of soil sample location X107 and duplicate sample, X108. Also pictured is soil sample X107T. Address: 102 Pine Lake Drive

SITE NAME: St. Louis Smelting and Refining Company	
CERCLIS ID: ILD980607006	**COUNTY:** Madison

DATE: October 16, 2002
TIME: 1145
PHOTO BY: J. Willman
DIRECTION: East
COMMENTS: Photo of soil sample location X109 at 210 Pine Lake Road

DATE: October 16, 2002
TIME: 1145
PHOTO BY: J. Willman
DIRECTION: North
COMMENTS: Photo of soil sample location X109 at 210 Pine Lake Road

SITE NAME:	St. Louis Smelting and Refining Company
CERCLIS ID:	ILD980607006 **COUNTY:** Madison

DATE: October 16, 2002
TIME: 1735
PHOTO BY: J. Willman
DIRECTION: east-northeast
COMMENTS: Photo of soil sampling location for X110, X111, X110T and X111T. Sample location at 1973 Raintree Trail.

DATE: October 16, 2002
TIME: 1735
PHOTO BY: J. Willman
DIRECTION: south
COMMENTS: Photo of soil sampling location for X110, X111, X110T and X111T. Sample location at 1973 Raintree Trail.

SITE NAME:	St. Louis Smelting and Refining Company
CERCLIS ID:	ILD980607006 **COUNTY:** Madison

DATE: October 17, 2002
TIME: 1100
PHOTO BY: J. Willman
DIRECTION: north-northeast
COMMENTS: Photo of soil sampling location X112 at 2001 Raintree Trail

DATE: October 17, 2002
TIME: 1100
PHOTO BY: J. Willman
DIRECTION: west
COMMENTS: Photo of soil sampling location X112 at 2001 Raintree Trail

SITE NAME:	St. Louis Smelting and Refining Company
CERCLIS ID:	ILD980607006 **COUNTY:** Madison

DATE: October 17, 2002
TIME: 1330
PHOTO BY: J. Willman
DIRECTION: south
COMMENTS: Photo of soil sampling location X113, X113T and X114T. (X114T is a duplicate of X113T). Sample location at 1407 California Avenue

DATE: October 17, 2002
TIME: 1330
PHOTO BY: J. Willman
DIRECTION: north
COMMENTS: Photo of soil sampling location X113, X113T and X114T. (X114T is a duplicate of X113T). Sample location at 1407 California Avenue

SITE NAME:	St. Louis Smelting and Refining Company
CERCLIS ID:	ILD980607006 **COUNTY:** Madison

DATE: October 17, 2002
TIME: 1630
PHOTO BY: J. Willman
DIRECTION: west
COMMENTS: Photo of sediment sampling location X225 from east side of Pine Lake. (Photo actually about 10 feet east of where sample obtained)

DATE: October 17, 2002
TIME: 1630
PHOTO BY: J. Willman
DIRECTION: southwest
COMMENTS: Photo of sediment sampling location X225 from east side of Pine Lake. (Photo actually about 10 feet east of where sample obtained)

SITE NAME: St. Louis Smelting and Refining Company	
CERCLIS ID: ILD980607006	**COUNTY:** Madison

DATE: October 17, 2002
TIME: 1720
PHOTO BY: J. Willman
DIRECTION: east
COMMENTS: Photo of sediment sampling location X226 and duplicate sample X227 from west side of Unnamed Pond. (Photo actually about 5 feet north of where sample obtained)

DATE: October 17, 2002
TIME: 1720
PHOTO BY: J. Willman
DIRECTION: southeast
COMMENTS: Photo of sediment sampling location X226 and duplicate sample X227 from west side of Unnamed Pond. (Photo actually about 5 feet north of where sample obtained)

SITE NAME:	St. Louis Smelting and Refining Company
CERCLIS ID:	ILD980607006 **COUNTY:** Madison

DATE: October 18, 2002
TIME: 0900
PHOTO BY: J. Willman
DIRECTION: northwest
COMMENTS: Photo of sediment sampling location X228, downstream of facility and unnamed pond (Photo actually about 15 feet east of where sample obtained)

DATE: October 18, 2002
TIME: 0900
PHOTO BY: J. Willman
DIRECTION: southwest
COMMENTS: Photo of sediment sampling location X228, downstream of facility and unnamed pond (Photo actually about 15 feet east of where sample obtained)

SITE NAME:	St. Louis Smelting and Refining Company
CERCLIS ID:	ILD980607006 **COUNTY:** Madison

DATE: October 18, 2002

TIME: 1050

PHOTO BY: J. Willman

DIRECTION: north

COMMENTS: Photo of sediment sampling location X229, drainage way west of Pinehurst Court

DATE: October 18, 2002

TIME: 1050

PHOTO BY: J. Willman

DIRECTION: south

COMMENTS: Photo of sediment sampling location X229, drainage way west of Pinehurst Court

SITE NAME:	St. Louis Smelting and Refining Company
CERCLIS ID:	ILD980607006 **COUNTY:** Madison

DATE: October 18, 2002
TIME: 1130
PHOTO BY: J. Willman
DIRECTION: north
COMMENTS: Photo of sediment sampling location X230, drainage way east of Pinehurst Court

DATE: October 18, 2002
TIME: 1130
PHOTO BY: J. Willman
DIRECTION: southwest
COMMENTS: Photo of sediment sampling location X230, drainage way east of Pinehurst Court

SITE NAME:	St. Louis Smelting and Refining Company
CERCLIS ID:	ILD980607006 **COUNTY:** Madison

DATE: October 18, 2002
TIME: 1230
PHOTO BY: J. Willman
DIRECTION: south
COMMENTS: Photo of sediment sampling location X231, Canteen Creek (background location).

DATE: October 18, 2002
TIME: 1230
PHOTO BY: J. Willman
DIRECTION: east-northeast
COMMENTS: Photo of sediment sampling location X231, Canteen Creek (background location).

SITE NAME:	St. Louis Smelting and Refining Company
CERCLIS ID:	ILD980607006 **COUNTY:** Madison

DATE: October 18, 2002
TIME: 1245
PHOTO BY: J. Willman
DIRECTION: south
COMMENTS: Photo of soil sampling location X115, soil background location

DATE: October 18, 2002
TIME: 1245
PHOTO BY: J. Willman
DIRECTION: northeast
COMMENTS: Photo of soil sampling location X115, soil background location