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Kansas Department of Health and Environment

Integrated Removal Site Evaluation/Preliminary Assessment Report

Former Eagle-Picher Smelter Site
Galena, Kansas

FINAL

BER SCANNED
MAY 25 2011

Bureau of Environmental Remediation

REMOVAL SITE EVALUATION/PRELIMINARY ASSESSMENT

Former Eagle-Picher Smelter Site
Galena, Kansas

Prepared by:
Kansas Department of Health and Environment
Bureau of Environmental Remediation
Remedial Section
Site Assessment Program

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TABLE OF CONTENTS

1.0 INTRODUCTION..... 1

2.0 SITE LOCATION AND DESCRIPTION..... 1

3.0 SITE BACKGROUND..... 1
3.1 HISTORY..... 1
3.2 PREVIOUS INVESTIGATIONS..... 2

4.0 PHYSICAL SETTING..... 2
4.1 LAND USE..... 2
4.2 SOILS AND GEOLOGY..... 3
4.3 HYDROGEOLOGY..... 3

5.0 RECEPTORS..... 3
5.1 GROUND WATER PATHWAY..... 3
5.2 SOIL AND AIR PATHWAYS..... 3
5.3 SURFACE WATER PATHWAY..... 4

6.0 ASSESSMENT ACTIVITIES..... 4

6.1 DESCRIPTION OF FIELD ACTIVITIES..... 4
6.2 SURFACE SOIL SAMPLING..... 4
6.3 SUBSURFACE SOIL/WASTE PROFILES..... 5
6.4 SURFACE WATER SAMPLES..... 5
6.5 SAMPLING PLAN DEVIATIONS..... 5

7.0 ASSESSMENT RESULTS..... 5

7.1 SURFACE SOIL SAMPLES..... 5
7.2 SUBSURFACE SOIL SAMPLES..... 7
7.3 SURFACE WATER AND SEDIMENT SAMPLES..... 7
7.4 COMPARISON OF XRF AND LAB DATA..... 7
7.5 QUALITY CONTROL SAMPLES..... 8
7.6 SUBSURFACE WASTE BORINGS..... 8

8.0 REMOVAL CONSIDERATIONS..... 8

9.0 CONCLUSIONS..... 9

10.0 REFERENCES..... 9

11.0 APPENDICES..... 11

1.0 Introduction

The Kansas Department of Health and Environment (KDHE) has an ongoing cooperative agreement with the United States Environmental Protection Agency (USEPA) to conduct assessments of sites pursuant to the Comprehensive Environmental Response, Compensation, and Liabilities Act (CERCLA) consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This integrated Removal Site Evaluation/Preliminary Assessment (RSE/PA) was conducted under this agreement to assess a release or threat of release of hazardous substances, pollutants, or contaminants at the former Eagle-Picher (E-P) Smelter site in Galena, Cherokee County, Kansas.

Assessment of the E-P Smelter site was initiated in response to continued concerns of potential off-site impacts from the former smelter, as well as the potential for abandonment of the site by E-P due to corporate bankruptcy.

2.0 Site Description and Location

The E-P Smelter site is located north of Galena in Sections 13 and 14, Township 34 South, Range 25 East. Eagle Picher owns approximately 135 total acres including the former smelter works, which is approximately 60 acres, more or less. Several of the production buildings remain as well as extensive piles of smelter waste and slag as well as other demolition debris. Short Creek bisects the site; the majority of the production areas were located on the south side of Short Creek. The frontage of the former E-P Smelter is along Clark Street. The site is within the former Tri-State mining district, and is also located within the Cherokee County Superfund Site, Galena Subsite, KSD980741862. In general the site area is highly disturbed from historical mining activity, with mine waste piles ("chat") widespread and subsurface subsidence into abandoned mining areas common. Land use around the 135-acre area owned by E-P includes industrial areas to the east and west, residential areas to the south, southwest, and northwest. A municipal construction/demolition debris (C/D) landfill is present directly south of th esite

3.0 Site Background

3.1 History

The former E-P Smelter site began production in the early 1900s. Sanborn Fire Insurance maps of 1897 indicate the facility under construction, while the 1900 map shows the site as the "Galena-Empire Smelter". The 1905 map shows the site as the "Galena Smelting and Manufacturing Company". The 1918 Sanborn map labels the facility as the "Eagle-Picher Smelting Works". The E-P Smelter was a lead and zinc smelter which processed ores from the adjacent zinc mining district.

The smelter site became inactive in the 1960s, and was partially dismantled in 1983. The site was used for other purposes, including the production of manganese dioxide and ferrous sulfate.

Historically, smelter sites in Kansas have resulted in impacts to soils, air, and surface and ground water by heavy metals from the smelting process and disposal of smelter wastes.

There have been extensive assessment and remedial activities conducted in the Galena area by the USEPA. These activities are associated with the Galena Subsite of the Cherokee County Superfund site (KSD980741862) and have not included the E-P Smelter site. Numerous investigation reports have been completed regarding the mining district, mine waste areas and subsidence within the Galena Subsite surrounding the E-P site; those reports can be consulted and information regarding the mining waste areas will not be repeated in this report.

3.2 Previous Investigations

In January 2006, ENVIRON International Corporation conducted a Phase I Environmental Site Assessment for the E-P Smelter site. The Phase I report identified potential environmental impacts at the site from the extensive past operational history of the E-P Smelter site. The Phase I report also identified other concerns at the site, such as asbestos or older transformers that may contain polychlorinated biphenyls (PCBs). The site was most recently used by E-P as an agricultural chemical storage facility.

In the 2001 filing to the U.S. Securities and Exchange Commission, the Eagle-Picher Industries (EPI) annual report stated the following:

> EPI owned and operated a lead and zinc smelting facility, which was dismantled in 1982, on the Galena property. The Galena property is located within the Tri-State mining district, formerly one of the largest lead and zinc fields in the world. The Tri-State mining district was actively worked from the mid-1800s until the 1960s and, as a result, soil, groundwater and surface waters have been significantly and adversely impacted. In the 1980s and early 1990s, the EPA addressed both surface contamination (including residential soil contamination) and groundwater contamination issues in the Tri-State mining district in the immediate vicinity of the Galena property. Under the Environmental Settlement, while EPI resolved all of its other liability under the Comprehensive Environmental Response, Compensation, and Liability Act associated with the Tri-State mining district, it specifically retained liability for the Galena property. Environmental impacts are likely at the Galena property as a result of the former smelter operation and from historic materials management practices on the Galena property. The EPA has not required remediation of the Galena property, and EPI has no current expenses in connection with remedial activities at this property. EPI, however, anticipates that certain investigations and remediation may be required at some point in the future. EPI does not believe that it will be assessed any penalty in connection with the remediation of this site, although there can be no assurance that one will not be imposed. *(Reference 6).*

4.0 Physical Setting

4.1 Land Use

The site is located north and east of the city limit of Galena in a mixed residential, commercial, and heavy industrial area. The site is located in the Ozark region in the relatively narrow valley of Short Creek. Bedrock is typically shallow in the area, occurring within 20-30 feet of the

surface in most places within the site area. Soils often thinly mantle the bedrock surface, consisting of cherty clay residuum and often containing "chat" or mine wastes that have been widely disposed in the site area.

4.2 Soils and Geology

Generally little native soil remains at the site because of operations at the former smelter, including disposal of large piles of smelter waste slag. Native soils, where present, consist of the Clarksville very cherty silt loam that can be over 60 inches deep. Bedrock at the site consists of the chert and cherty limestone of the Mississippian Warsaw Formation and the Burlington-Keokuk Formation. Recent Quaternary alluvium is present in the valley of Short Creek and consists of cherty gravels and clay; some Quaternary terraces also are present along the flanks of the alluvium west of the site.

4.3 Hydrogeology

Ground water at the site is encountered in two basic aquifer zones, shallow and deep. The shallow aquifer in the site area consists of limited alluvium near the Short Creek valley and associated terraces. The shallow aquifer also includes shallow Mississippian bedrock of the Warsaw, Burlington-Keokuk and Fern Glen Limestone formations. The deeper aquifer may be over 1,000 feet below surface and consists of Cambrian-Ordovician dolomites, such as the Roubidoux Formation. Shale layers form an aquitard between the shallow and deeper zones, including the Chattanooga Shale. The alluvium is not a significant aquifer zone in the site area; because of the localized karst and mine subsidence some reaches of Short Creek may be losing in the site area.

5.0 Receptors

5.1 Ground Water Pathway

Information obtained from EPI indicates that abandoned industrial wells may still be present at the site. The location of these wells has not been verified. From information obtained by KDHE for this RSE/PA, the former plant production wells may have been plugged in the early 1990s during the dismantling of the facility. Most wells within one mile of the site were plugged during response actions for the Galena Subsite Superfund site. A newer Galena public water supply (PWS) well installed in 1979 is located in an anticipated upgradient direction; this well produces water from the deeper zone, and is cased through the shallower zones historically impacted in the site area by former mining activities. The Galena PWS well is tested on a regular basis and has not indicated any impacts from heavy metals. The ground water pathway is of lesser concern at the site than the soil, air, and surface water pathways.

5.2 Soil and Air Pathways

No residents are present on or within ¼ mile of the site. Residential yards in the area of the site are being addressed through response actions for the Galena Subsite, and sampling for this report was limited to the 60 acres formerly containing the smelter and surrounding areas. In many

areas the native soils have been either removed or covered over with chat piles. Population within four miles of the site includes the entire city of Galena and surrounding areas; according to the 2000 census this is approximately 4,000 persons (Reference census).

Past air emissions from the smelter appear to have impacted areas north of Short Creek; elevated levels of lead continue to be found above 1,000 mg/Kg in areas north of the creek which have seen little operational activity. Again, since a larger residential yard project is underway for the Galena Subsite, this assessment focused on the E-P Smelter site and areas directly adjacent. An observed release to soils and a potential and inferred historical release to air appear to be present from the data collected for this RSE/PA.

5.3 Surface Water Pathway

Short Creek bisects the site generally trending east to west. The creek begins in Missouri, and the upgradient sampling point was located near the state line. Short Creek is not used for drinking water or other commercial purposes within 15 miles of the site. Some intermittent recreation and cattle watering may occur on Short Creek downstream of the site. Short Creek has been impacted greatly by historic mining activities in the site area, affecting both diversity and populations of many aquatic organisms. Again, substantial investigation of Short Creek has been conducted through the Galena Subsite response actions; this investigation is focused only on the area immediately upstream, at, and immediately downstream of the former E-P Smelter site. From the data collected for this RSE/PA, an observed release to surface water and sediments was identified by heavy metals above limited observed background concentrations.

6.0 Assessment Activities

6.1 Description of Field Activities

The RSE/PA was conducted in three simultaneous phases based on the media to be sampled. The first focused on the surface soil pathway, the second on estimating the extent and volume of subsurface wastes, and the third on a limited surface water sampling. The field work was conducted in an expedited manner to provide data for the bankruptcy settlement case; field work was completed in March and April, 2006. This RSE/PA expands on the original Preliminary Removal Site Evaluation trip memorandum of April 2006 to complete the CERCLA documentation requirements.

6.2 Surface Soil Sampling

For the soil investigation, the side was divided into a roughly 100 by 100 foot grid, and samples collected at each 100-foot grid point. Samples were collected with a stainless steel trowel into a one-quart ziplock bag, marked with location, date, time, and initials of sampler, and then double-bagged and placed in a cooler. The majority of the sampling was conducted south of Short Creek. Five samples were collected north of Short Creek, and two west of the unnamed tributary on the western edge of the E-P Smelter site. A total of 251 surficial soil samples were obtained across the site. All samples were analyzed by either a Niton 733 or Innov-X X-ray fluorescence analyzer in KDHE's Topeka laboratory before selection of samples for laboratory analysis.

Background samples were collected at ten locations in the prevailing upwind direction (south) of the site area, the nearest approximately ½ mile away to approximately four miles away. These were collected similarly to the on-site samples but were only submitted for laboratory analysis.

6.3 Subsurface Soil/Waste Profiles

Nineteen borings were drilled with KDHE's B-3300 drill rig to provide subsurface soil and waste profiles across the site. Samples were obtained at various intervals selected by the field geologist based on lithology, visible waste, and other considerations. Samples were obtained by stopping the auger advancement, and taking samples from the discrete auger cuttings into bags similar to the procedure used for surface soil samples. Locations were selected within and outside of the visible slag piles and operational areas. Several hand auger locations were also visually sampled north of Short Creek along the former railroad embankment to determine the thickness of the slag used for constructing the embankments to include in the waste volume estimates.

6.4 Surface Water Samples

A limited surface sampling event was conducted by obtaining three surface water and sediment samples from Short Creek upstream, at, and downstream of the former E-P Smelter site.

6.5 Sampling Plan Deviations

Several additional surface soil and subsurface boring locations were added from the original Field Sampling Plan based on the site conditions.

7.0 Assessment Results

7.1 Surface Soil Samples

Multiple heavy metals were detected significantly elevated above background concentrations at the site as well as above their respective residential and non-residential Risk Based Standard for Kansas (RSK) levels. The maximum detected surficial soil concentration at the site by XRF analysis was 270,065 mg/Kg at location 3300,100 (laboratory detection 190,000 mg/Kg). The maximum laboratory lead detection was 220,000 mg/Kg at location 1800,200 (XRF detection at that location 206,127 mg/Kg). The general distribution of XRF samples is as follows: 0-1,000 mg/Kg, 12 samples; 1,000-5,000 mg.Kg, 71 samples; 5,000-50,000 mg/Kg, 136 samples; greater than 50,000 mg/Kg, 31 samples. A histogram of the XRF lead detections is included with the tables. The RSK levels for lead in soils are 400 mg/Kg residential, and 1,000 mg/Kg non-residential.

The Toxicity Characteristic Leachate Procedure (TCLP) levels generally were also elevated in the same samples; the maximum TCLP detection was 950 mg/L with an associated laboratory total lead detection of 130,000 mg/Kg at location 1700,600. The lowest total lead detection associated with a TCLP concentration over 5.0 mg/L was 7,800 mg/Kg and an associated TCLP detection of 39 mg/L. A sample with a total lead detection of 720 mg/Kg indicated a TCLP concentration of 1.1 mg/L. Samples south of Short Creek immediately downwind of the former

Eagle Picher smelter also indicated lead above 1,000 mg/Kg. The Resource Conservation and Recovery Act (RCRA) limit, which determines if a waste is hazardous based on toxicity characteristics, is 5.0 mg/L for lead.

Cadmium was detected at a maximum concentration of 5,230 mg/Kg by XRF analysis at location 1600,400. Cadmium was detected at a maximum concentration of 3,400 mg/Kg by laboratory analysis at the same location 1600,400; this also coincided with the maximum TCLP concentration of 46 mg/L. The residential RSK level for cadmium is 39 mg/Kg and the non-residential 1,000 mg/Kg. The lowest cadmium concentration associated with a TCLP failure of 1.0 mg/L was 75 mg/Kg at location 400,100. All cadmium TCLP exceedences coincided with a TCLP exceedence over 5.0 mg/L for lead.

Chromium was detected over its residential RSK level of 390 mg/Kg in one sample (2500,300) at 530 mg/Kg. The TCLP detection was 0.011, below the 5.0 mg/L level established for failure. Lead also failed TCLP at this location and the total lead detection was 47,000 mg/Kg.

Arsenic was detected at a maximum of 510 mg/Kg at 3300,100. This exceeds the residential RSK of 11 mg/Kg and the non-residential RSK of 38 mg/Kg. No TCLP detections of arsenic were indicated. The maximum arsenic levels generally corresponded with the maximum lead detections. The lowest arsenic detection of 8.1 mg/Kg corresponded with a lead laboratory detection of 720 mg/Kg; the lowest corresponding lead detection to an arsenic detection of 11 mg/Kg was 7,800 mg/Kg at location 1600,400.

Zinc was elevated above residential RSK levels but was detected below non-residential RSK levels. The maximum zinc detection was 280,000 mg/Kg at location 2500,300; this corresponds with a total lead detection of 47,000 mg/Kg and a TCLP lead detection of 7.8 mg/L. The residential RSK level for zinc is 23,000 and the non-residential is 610,000 mg/Kg.

Copper was detected at a maximum of 15,000 mg/Kg at location 3300,100; this is above the residential RSK level of 2,900 mg/Kg but less than the non-residential RSK level of 76,000 mg/Kg.

Mercury was detected in three samples above its non-residential RSK level of 20 mg/Kg; the maximum detection was 2,300 mg/Kg at location 2700,10. This location coincided with the maximum TCLP detection 0.0021 mg/L, below the TCLP threshold of 0.2 mg/L. This location coincided with a lead detection of 12,000 mg/Kg and a lead TCLP detection of 18 mg/L. Mercury was not detected in background samples.

7.2 Subsurface Soil Samples

The same metals of concern identified in surficial samples were also elevated in subsurface/waste screening samples. The maximum XRF lead detection was 360,807 at location BH-7 from 2-5 feet below surface. The corresponding laboratory lead detection for this sample was 180,000 mg/Kg and a TCLP detection of 240 mg/L. The maximum TCLP detection was 320 mg/L in BH-9 0-2 feet below surface.

Zinc was detected at a maximum of 110,000 mg/Kg by laboratory analysis in BH-9 0-2 feet below surface; the maximum XRF detection was 239,487 mg/Kg in BH-17 0-2 feet below surface. Cadmium, copper and mercury were detected above residential but not detected above non-residential RSK levels in subsurface samples. Cadmium did exceed its TCLP threshold of 1.0 mg/L in samples BH-9 2-5 feet (1.5 mg/L) and BH-9 5-8 feet (1.2 mg/L). Chromium did not exceed residential RSK levels in laboratory analyses.

7.3 Surface Water and Sediment Samples

Cadmium and zinc were detected in the surface water samples. Zinc was detected above a three times background concentration in both downstream samples. The three times background concentration of 2.67 mg/L was exceeded in SW-2 (3.3 mg/L) and SW-3 (3.7 mg/L). Cadmium was detected above its three times background concentration of 0.017 mg/L in both SW-2 (0.049 mg/L) and SW-3 (0.050 mg/L).

In sediment samples, copper exceeded its three times background concentration of 150 mg/Kg in both downstream samples (SED-2 at 1,400 mg/Kg; SED-3 at 850 mg/Kg). Lead exceeded its three times background concentration of 930 mg/Kg in both downstream samples (SED-2 at 1,600 mg/Kg; SED-3 at 3,600 mg/Kg). Mercury was not detected in the upstream sample but was detected at 0.22 mg/L in SED-2.

7.4 Comparison of XRF and Laboratory Data

A linear regression was calculated for the XRF vs. laboratory arsenic data obtained at this site. According to EPA Method 6200, a coefficient of correlation of $0.9 > \mathbf{r}^2 > 0.7$ can be considered ***quantitative screening level data,*** or consistent with OA2 level data as established in EPA's *Quality Assurance/Quality Control Guidance for Removal Activities*, EPA 540/G-90/004 of April, 1990. For surficial soils the $\mathbf{r}^2$ value was calculated using both the average and maximum values of the three successive XRF analyses per sample; in general the maximum value yielded a higher $\mathbf{r}^2$ value but the difference between the two values in every case was less than 10%. For this data comparison discussion, the maximum values will be cited although both are included in the data tables.

An overall coefficient of correlation of $\mathbf{r}^2 = 0.7790844$ was calculated for lead analytical results in surficial soil samples, and $\mathbf{r}^2 = 0.767882$ for subsurface samples. An overall coefficient of correlation of $\mathbf{r}^2 = 0.869504$ was calculated for cadmium analytical results in surficial soil samples. Because of multiple non-detections, the $\mathbf{r}^2$ was not calculated for subsurface samples. An overall coefficient of correlation of $\mathbf{r}^2 = 0.807683$ was calculated for zinc analytical results in surficial soil samples, and $\mathbf{r}^2 = 0.806666$ for subsurface samples. Copper indicated a high $\mathbf{r}^2$ value (above 0.9 for both surface and subsurface samples); arsenic indicated a very low $\mathbf{r}^2$ (generally less than 0.3).

In general, the lead and zinc results appear to be diagnostic of other collocated elevated metals, in that where levels of lead and zinc are elevated, the other metals of concern are also elevated. It should be noted that bagged samples were analyzed with the only sample processing being homogenization and drying. Even with the simplified preparation techniques used for this

investigation, the lead and zinc XRF results, generally indicative of the other metals of concern, are of a quantitative screening level.

7.5 Quality Control Samples

A total of 23 samples were analyzed during this RSE to determine the percent difference (PD) between the National Institute of Standards and Testing (NIST) certified lead standards and the XRF analyzed value. A maximum PD of 5.7 % was calculated for NIST standard analyses. The EPA method allows up to a 20% difference before corrective action is necessary. Two analyses of the lead blank sample were inconsistent; one indicated no detection and the other a slight detection (72 mg/Kg). Considering the general agreement of the NIST standards as well as the large population used to calculate the correlation, this does not appear to be a major quality control concern.

The acceptable PD proposed by EPA Method 6200 is 20%, and therefore the average PD values measured are within EPA Method 6200 acceptance criteria. All XRF analyses conducted for this RSE/PA appear to be at quantitative screening level data for lead and zinc, the two primary screening metals of interest. A rinsate sample collected during decontamination activities did not indicate any detections of metals except trace levels of zinc (0.031 mg/L) which compared to observed levels at the site does not appear to be of concern as a cross-contaminant.

7.6 Subsurface Waste Borings

Subsurface borings were advanced at 19 locations across the site. Cuttings were visually logged for physical waste characteristics, and selected samples were obtained for XRF analysis. Waste thickness varies from an apparent observed thickness of 0 to more than 15 feet in some areas. In general the thickest areas were observed in the large slag piles to the west-southwest of the former production buildings. Waste boring logs are included in the appendices. The waste thickness information was provided to a KDHE contractor who has calculated an estimated volume of waste present at the site. Utilizing Autodesk Land Desktop 2005 the estimated total volume of waste exceeding the non-residential RSK standard is approximately 112,000 cubic yards. In addition, an estimated 4,000 cubic yards of waste is estimated to be present on the north side of Short Creek (Reference 17). An initial estimate by KDHE of all slag and waste across the site (irrespective of concentrations) using RockWorks including both visual observations and boring logs was over 400,000 cubic yards (see Figures 5 and 6).

8.0 Removal Considerations

An estimated 116,000 cubic yards of waste exceeding KDHE non-residential RSK levels remains at the site; waste piles will continue to act as sources for contamination to soils, surface water and sediment, air, and potentially ground water at the site. The total volume of waste at the site may exceed 400,000 cubic yards. Removal response actions may include in-situ stabilization, properly capping in an on-site repository, and off-site disposal. Considering the probable cost for off-site disposal, and the very large volumes which appear to be present at the site, on-site response option may be the most optimal considering the waste characteristics and site considerations.

A detailed review of specific removal response options is beyond the scope of this report. From the data, the entire site appears to be impacted by surficial contamination from smelter activities. Waste at the site basically extends to the edge of Short Creek. Any waste removal or stabilization actions should be conducted in order to reduce ongoing releases from waste piles into the creek. This assessment did not fully delineate the extent of contamination at the site; additional sampling may be appropriate north of Short Creek and in areas to the east and west of the site.

9.0 Conclusions

Based upon the sampling conducted at the site, it appears that a release of heavy metals to surface and subsurface soils as well as surface water and sediment has occurred at the site above the observed background concentrations. Lead, zinc, arsenic, cadmium, copper and mercury are among the metals of concern at the site detected above observed background concentrations.

Conditions were identified at the E-P Smelter site that would qualify for future removal and/or remedial response consideration under § 300 of the NCP. Removal considerations from the NCP include: *an actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants, or contaminants (§ 300.415(b)(2)(i));* and *high levels of hazardous substances, pollutants, or contaminants in soils largely at or near the surface, that may migrate (§ 300.415(b)(2)(iv)).*

KDHE and Eagle-Picher have finalized a Custorial Trust Agreement and a Kansas Settlement regarding future response actions at the site. If the custodial trustee conducts response actions at the site in accordance with the Settlement Agreement, further integrated site assessment consistent with the NCP will not be necessary at the site.

10.0 References

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11.0 Appendices

Tables

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
0,0	03/15/06	1355	37.08364	-94.63280	22-Mar-06	<LOD		39.4		2849.8		47.0		<LOD		<LOD		917.4		
0,0					22-Mar-06	<LOD		<LOD		3820.2		<LOD		<LOD		<LOD		1139.8		
0,0					22-Mar-06	<LOD		50.6		3968.4		<LOD		<LOD		<LOD		861.3		
Average/Max						ND	0.0	45.0	50.6	3546.1	3968.4	47.0	47.0	ND	0.0	ND	0.0	972.8	1139.8	
0,100	03/15/06	1400	37.08390	-94.63293	22-Mar-06	<LOD		274.5		10570.0		155.3		<LOD		<LOD		2338.6		
0,100					22-Mar-06	<LOD		<LOD		4634.7		69.7		<LOD		<LOD		2119.6		
0,100					22-Mar-06	<LOD		167.4		7436.0		105.1		<LOD		<LOD		2415.9		
Average/Max						ND	0.0	220.9	274.5	7546.9	10570.0	110.0	155.3	ND	0.0	ND	0.0	2291.4	2415.9	
0,200	03/15/06	1405	37.08415	-94.63304	22-Mar-06	<LOD		1997.6		23683.6		175.0		<LOD		<LOD		5103.8		
0,200					22-Mar-06	<LOD		1161.7		21173.0		<LOD		<LOD		<LOD		3227.4		
0,200					22-Mar-06	<LOD		1614.5		23013.3		178.6		<LOD		<LOD		4693.3		
Average/Max						ND	0.0	1591.3	1997.6	22623.3	23683.6	176.8	178.6	ND	0.0	ND	0.0	4341.5	5103.8	
0,300	03/15/06	1407	37.08440	-94.63313	22-Mar-06	<LOD		<LOD		9343.1		1134.1		228.7		<LOD		49171.6		
0,300					22-Mar-06	<LOD		<LOD		14710.7		1571.0		235.5		<LOD		39499.2		
0,300					22-Mar-06	<LOD		<LOD		14624.2		1155.6		334.8		<LOD		53601.0		
Average/Max						ND	0.0	ND	0.0	12892.7	14710.7	1286.9	1571.0	266.3	334.8	ND	0.0	47423.9	53601.0	
0,400	03/15/06	1410	37.08464	-94.63329	22-Mar-06	<LOD		29.9		636.6		<LOD		<LOD		<LOD		776.7		
0,400					22-Mar-06	<LOD		<LOD		1234.9		<LOD		<LOD		<LOD		868.6		
0,400					22-Mar-06	<LOD		<LOD		645.7		42.9		<LOD		<LOD		530.7		
Average/Max						ND	0.0	29.9	29.9	839.1	1234.9	42.9	42.9	ND	0.0	ND	0.0	725.3	868.6	
0,500	03/15/06	1410	37.08488	-94.63340	22-Mar-06	<LOD		231.1		3566.9		157.1		<LOD		<LOD		3692.8		
0,500					22-Mar-06	<LOD		159.6		4882.9		207.4		<LOD		<LOD		3325.8		
0,500					22-Mar-06	<LOD		373.1		11136.6		368.7		<LOD		<LOD		5860.2		
Average/Max						ND	0.0	254.6	373.1	6528.8	11136.6	244.4	368.7	ND	0.0	ND	0.0	4292.9	5860.2	
100,0	03/15/06	1355	37.08373	-94.63249	22-Mar-06	<LOD		402.3		9544.0		<LOD		<LOD		<LOD		941.6		
100,0					22-Mar-06	<LOD		333.0		7891.3		<LOD		<LOD		<LOD		852.4		
100,0					22-Mar-06	<LOD		711.3		13432.7		<LOD		110.8		<LOD		1235.2		
Average/Max						ND	0.0	482.2	711.3	10289.3	13432.7	ND	0.0	110.8	110.8	ND	0.0	1009.7	1235.2	
100,100	03/15/06	1359	37.08397	-94.63263	22-Mar-06	365.0		670.3		27635.0		<LOD		<LOD		<LOD		3782.3		
100,100					22-Mar-06	438.4		1309.9		39889.8		188.0		<LOD		<LOD		4216.3		
100,100					22-Mar-06	<LOD		1288.2		36549.2		161.6		173.9		<LOD		3827.5		
Average/Max						401.7	438.4	1089.5	1309.9	34691.3	39889.8	174.8	188.0	173.9	173.9	ND	0.0	3942.0	4216.3	
100,200	03/15/06	1402	37.08425	-94.63275	22-Mar-06	<LOD		57.4		15638.0		66.5		<LOD		<LOD		1414.2		
100,200					22-Mar-06	<LOD		<LOD		17841.0		<LOD		<LOD		<LOD		1334.3		
100,200					22-Mar-06	<LOD		51.6		15701.7		68.3		<LOD		<LOD		1384.0		
Average/Max						ND	0.0	54.5	57.4	16393.5	17841.0	67.4	68.3	ND	0.0	ND	0.0	1377.5	1414.2	
100,300	03/15/06	1406	37.08449	-94.63287	22-Mar-06	<LOD		<LOD		1945.1		<LOD		<LOD		<LOD		400.4		
100,300					22-Mar-06	<LOD		<LOD		990.6		<LOD		<LOD		<LOD		206.9		
100,300					22-Mar-06	<LOD		<LOD		1182.1		<LOD		<LOD		<LOD		206.5		
Average/Max						ND	0.0	ND	0.0	1372.6	1945.1	ND	0.0	ND	0.0	ND	0.0	271.3	400.4	
100,400	03/15/06	1409	37.08476	-94.63300	22-Mar-06	<LOD		126.1		5186.3		141.1		<LOD		<LOD		6529.6		
100,400					22-Mar-06	<LOD		125.9		7545.2		169.7		<LOD		<LOD		4993.7		
100,400					22-Mar-06	<LOD		<LOD		21684.9		136.8		<LOD		<LOD		2510.5		
Average/Max						ND	0.0	126.0	126.1	11472.1	21684.9	149.2	169.7	ND	0.0	ND	0.0	4677.9	6529.6	
100,463	03/15/06	1411	37.08498	-94.63309	22-Mar-06	<LOD		100.3		4367.0		<LOD		<LOD		<LOD		2268.3		
100,463					22-Mar-06	<LOD		106.1		5675.5		73.4		128.1		<LOD		2358.4		
100,463					22-Mar-06	<LOD		90.9		4210.4		65.5		<LOD		<LOD		1637.7		
Average/Max						ND	0.0	99.1	106.1	4751.0	5675.5	69.4	73.4	128.1	128.1	ND	0.0	2088.1	2358.4	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper mg/Kg		Zinc mg/Kg		Arsenic mg/Kg		Cadmium mg/Kg		Mercury mg/Kg		Lead mg/Kg		%Difference for Standards:
1000,0	03/15/06	1610	37.08479	-94.62978	21-Mar-06	<LOD		20397.0		114403.3		8737.6		422.0		<LOD		161004.3		
1000,0					21-Mar-06	3031.1		29373.0		166678.5		12006.1		<LOD		<LOD		186072.9		
1000,0					21-Mar-06	<LOD		26552.5		111146.2		9659.2		531.0		<LOD		142781.0		
Average/Max						3031.1	3031.1	25440.8	29373.0	130742.7	166678.5	10134.3	12006.1	476.5	531.0	ND	0.0	163286.0	186072.9	
1000,100	03/15/06	1655	37.08499	-94.62997	21-Mar-06	<LOD		672.5		18131.8		176.9		<LOD		<LOD		2739.3		
1000,100					21-Mar-06	<LOD		827.6		23549.6		167.2		<LOD		<LOD		3488.7		
1000,100					21-Mar-06	<LOD		960.1		16071.7		182.5		<LOD		<LOD		2920.3		
Average/Max						ND	0.0	820.1	960.1	19251.0	23549.6	175.6	182.5	ND	0.0	ND	0.0	3049.4	3488.7	
1000,200	03/15/06	1620	37.08526	-94.63016	21-Mar-06	<LOD		2028.0		26212.0		157.9		<LOD		<LOD		3521.6		
1000,200					21-Mar-06	<LOD		1828.0		26443.3		207.2		<LOD		<LOD		3229.8		
1000,200					21-Mar-06	<LOD		1742.7		34477.5		155.1		<LOD		<LOD		3682.9		
Average/Max						ND	0.0	1866.2	2028.0	29044.3	34477.5	173.4	207.2	ND	0.0	ND	0.0	3478.1	3682.9	
1000,300	03/15/06	1627	37.08546	-94.63027	21-Mar-06	<LOD		3779.9		41863.3		1599.3		<LOD		<LOD		25876.8		
1000,300					21-Mar-06	1262.7		4331.6		54892.5		1731.4		157.5		<LOD		32917.9		
1000,300					21-Mar-06	1133.1		5655.7		75142.2		2258.7		<LOD		<LOD		48223.0		
Average/Max						1197.9	1262.7	4589.0	5655.7	57299.3	75142.2	1863.1	2258.7	157.5	157.5	ND	0.0	35672.6	48223.0	
1000,400	03/15/06	1628	37.08573	-94.63046	21-Mar-06	1947.8		6403.9		131136.6		586.1		<LOD		<LOD		12776.9		
1000,400					21-Mar-06	<LOD		3142.1		46037.9		321.7		<LOD		<LOD		6289.2		
1000,400					21-Mar-06	1532.1		7163.8		120657.3		592.7		<LOD		<LOD		12271.0		
Average/Max						1739.9	1947.8	5569.9	7163.8	99277.2	131136.6	500.1	592.7	ND	0.0	ND	0.0	10445.7	12776.9	
1000,487	03/15/06	1630	37.08593	-94.63058	21-Mar-06	<LOD		1349.2		24397.5		904.5		140.5		<LOD		18269.8		
1000,487					21-Mar-06	<LOD		1029.9		21787.7		715.9		185.2		<LOD		17928.9		
1000,487					21-Mar-06	<LOD		1499.8		31232.1		1075.9		151.0		<LOD		26087.6		
Average/Max						ND	0.0	1293.0	1499.8	25805.7	31232.1	898.8	1075.9	158.9	185.2	ND	0.0	20762.1	26087.6	
1100,0	03/15/06	1639	37.08492	-94.62952	21-Mar-06	2180.5		13129.2		89913.9		8246.8		<LOD		<LOD		149259.8		
1100,0					21-Mar-06	2838.6		9176.0		164035.1		8647.1		350.2		<LOD		154823.1		
1100,0					21-Mar-06	2505.3		21656.1		126697.7		8319.3		563.2		<LOD		165868.3		
Average/Max						2508.1	2838.6	14653.8	21656.1	126882.2	164035.1	8404.4	8647.1	456.7	563.2	ND	0.0	156650.4	165868.3	
1100,100	03/15/06	1642	37.08514	-94.62970	21-Mar-06	<LOD		565.1		23592.9		177.9		<LOD		<LOD		2737.2		
1100,100					21-Mar-06	<LOD		843.9		29269.3		332.1		<LOD		<LOD		5049.0		
1100,100					21-Mar-06	<LOD		1632.9		36650.7		390.1		<LOD		<LOD		8739.3		
Average/Max						ND	0.0	1014.0	1632.9	29837.6	36650.7	300.0	390.1	ND	0.0	ND	0.0	5508.5	8739.3	
1100,200	03/15/06	1644	37.08539	-94.62994	21-Mar-06	<LOD		14631.9		126547.9		5358.1		<LOD		<LOD		109542.0		
1100,200					21-Mar-06	3093.8		19776.6		147597.2		6483.0		<LOD		<LOD		134936.3		
1100,200					21-Mar-06	<LOD		17278.5		148843.3		5000.1		271.4		<LOD		107250.3		
Average/Max						3093.8	3093.8	17229.0	19776.6	140996.1	148843.3	5613.8	6483.0	271.4	271.4	ND	0.0	117242.9	134936.3	
1100,300	03/15/06	1645	37.08565	-94.63004	21-Mar-06	<LOD		1363.0		25721.6		277.4		<LOD		<LOD		3328.4		
1100,300					21-Mar-06	<LOD		1274.7		29322.0		110.9		<LOD		<LOD		2721.9		
1100,300					21-Mar-06	<LOD		1444.4		33820.5		191.9		<LOD		<LOD		3547.3		
Average/Max						ND	0.0	1360.7	1444.4	29621.3	33820.5	193.4	277.4	ND	0.0	ND	0.0	3199.2	3547.3	
1100,400	03/15/06	1647	37.08588	-94.63020	21-Mar-06	1906.1		3687.7		113467.9		1139.8		<LOD		<LOD		19892.1		
1100,400					21-Mar-06	<LOD		4065.7		124031.6		1314.2		<LOD		<LOD		24045.9		
1100,400					21-Mar-06	<LOD		3262.8		98394.5		867.6		<LOD		<LOD		14304.5		
Average/Max						1906.1	1906.1	3672.1	4065.7	111964.6	124031.6	1107.2	1314.2	ND	0.0	ND	0.0	19414.2	24045.9	
1100,514	03/15/06	1650	37.08588	-94.63020	21-Mar-06	<LOD		268.9		10236.5		253.7		<LOD		<LOD		6162.8		
1100,514					21-Mar-06	<LOD		357.7		7688.1		292.2		<LOD		<LOD		4889.0		
1100,514					21-Mar-06	<LOD		384.5		9533.1		260.2		<LOD		<LOD		6124.7		
Average/Max						ND	0.0	337.0	384.5	9152.6	10236.5	268.7	292.2	ND	0.0	ND	0.0	5725.5	6162.8	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
1200,0	03/15/06	1640	37.08509	-94.62926	21-Mar-06	2251.6		2629.0		209237.3		1925.1		<LOD		<LOD		41262.8		
1200,0					21-Mar-06	1939.4		2539.8		203207.5		1871.0		<LOD		<LOD		39963.0		
1200,0					21-Mar-06	2009.6		2510.0		210150.6		1728.5		<LOD		<LOD		41654.8		
Average/Max						2066.8	2251.6	2559.6	2629.0	207531.8	210150.6	1841.5	1925.1	ND	0.0	ND	0.0	40960.2	41654.8	
1200,300	03/15/06	1645	37.08579	-94.62975	21-Mar-06	1145.5		8173.0		198976.5		877.6		<LOD		<LOD		24312.5		
1200,300					21-Mar-06	1708.2		8496.0		224773.4		1126.5		<LOD		<LOD		35818.5		
1200,300					21-Mar-06	1585.3		5902.6		155204.4		989.7		<LOD		<LOD		20356.8		
Average/Max						1479.7	1708.2	7523.9	8496.0	192984.8	224773.4	998.0	1126.5	ND	0.0	ND	0.0	26829.3	35818.5	
1200,400	03/15/06	1650	37.08602	-94.62991	21-Mar-06	1759.4		4064.8		135090.0		1087.0		<LOD		<LOD		22495.6		
1200,400					21-Mar-06	1323.6		2951.7		116235.9		1071.6		<LOD		<LOD		20052.9		
1200,400					21-Mar-06	<LOD		2912.5		108131.2		626.8		<LOD		<LOD		17356.3		
Average/Max						1541.5	1759.4	3309.7	4064.8	119819.0	135090.0	928.5	1087.0	ND	0.0	ND	0.0	19968.3	22495.6	
1200,500	03/15/06	1653	37.08625	-94.63007	21-Mar-06	<LOD		1664.2		31647.2		748.5		<LOD		<LOD		19731.7		
1200,500					21-Mar-06	785.9		2174.0		29499.7		1206.9		<LOD		<LOD		19911.8		
1200,500					21-Mar-06	<LOD		1776.7		29745.8		840.0		<LOD		<LOD		20872.3		
Average/Max						785.9	785.9	1871.6	2174.0	30297.5	31647.2	931.8	1206.9	ND	0.0	ND	0.0	20171.9	20872.3	
1200,572	03/15/06	1658	37.08640	-94.63016	21-Mar-06	<LOD		647.1		12599.0		303.3		<LOD		<LOD		8714.7		
1200,572					21-Mar-06	<LOD		590.8		11931.2		246.8		111.2		<LOD		4986.0		
1200,572					21-Mar-06	<LOD		357.1		8257.2		184.5		<LOD		<LOD		3660.4		
Average/Max						ND	0.0	531.7	647.1	10929.1	12599.0	244.9	303.3	111.2	111.2	ND	0.0	5787.0	8714.7	
1300,0	03/15/06	1708	37.08526	-94.62897	21-Mar-06	1368.2		2415.2		193621.4		1481.0		331.8		<LOD		40192.8		
1300,0					21-Mar-06	3003.2		3121.4		268380.2		3775.9		1616.4		<LOD		87483.3		
1300,0					21-Mar-06	1661.2		2203.7		165661.9		2507.6		1757.6		<LOD		73811.3		
Average/Max						2010.8	3003.2	2580.1	3121.4	209221.1	268380.2	2588.1	3775.9	1235.3	1757.6	ND	0.0	67162.4	87483.3	
1300,100	03/15/06	1710	37.08548	-94.62915	21-Mar-06	4582.6		11649.6		301725.2		919.8		<LOD		<LOD		22303.3		
1300,100					21-Mar-06	2762.9		10298.6		281831.8		883.9		<LOD		<LOD		18385.1		
1300,100					21-Mar-06	3605.4		11446.6		312767.7		1221.5		<LOD		<LOD		21091.3		
Average/Max						3650.3	4582.6	11131.6	11649.6	298774.9	312767.7	1008.4	1221.5	ND	0.0	ND	0.0	20593.2	22303.3	
1300,200	03/15/06	1712	37.08573	-94.62930	21-Mar-06	<LOD		1946.1		316310.5		2941.8		569.3		<LOD		96945.2		
1300,200					21-Mar-06	3501.0		9458.0		291006.5		4810.0		408.9		<LOD		140275.5		
1300,200					21-Mar-06	2500.5		4676.6		305440.3		4534.2		486.2		<LOD		115508.5		
Average/Max						3000.7	3501.0	5360.2	9458.0	304252.4	316310.5	4095.3	4810.0	488.1	569.3	ND	0.0	117576.4	140275.5	
1300,300	03/15/06	1714	37.08596	-94.62947	21-Mar-06	2969.6		44106.4		370501.4		<LOD		<LOD		<LOD		26115.5		
1300,300					21-Mar-06	4225.6		46941.8		394923.2		799.0		<LOD		<LOD		29376.0		
1300,300					21-Mar-06	4272.7		47210.6		414115.8		957.0		359.8		<LOD		31566.5		
Average/Max						3822.7	4272.7	46086.3	47210.6	393180.2	414115.8	878.0	957.0	359.8	359.8	ND	0.0	29019.3	31566.5	
1300,400	03/15/06	1717	37.08620	-94.62960	21-Mar-06	<LOD		753.4		35896.2		142.6		<LOD		<LOD		3888.8		
1300,400					21-Mar-06	<LOD		603.7		22366.9		149.9		<LOD		<LOD		3532.9		
1300,400					21-Mar-06	<LOD		564.9		19192.5		201.1		<LOD		<LOD		3069.8		
Average/Max						ND	0.0	640.7	753.4	25818.5	35896.2	164.5	201.1	ND	0.0	ND	0.0	3497.2	3888.8	
1300,500	03/15/06	1720	37.08641	-94.62976	21-Mar-06	<LOD		2066.6		37619.0		608.9		270.5		<LOD		27242.2		
1300,500					21-Mar-06	<LOD		1348.0		31652.2		1106.0		694.6		<LOD		26242.4		
1300,500					21-Mar-06	<LOD		957.0		19375.9		955.9		229.7		<LOD		18914.6		
Average/Max						ND	0.0	1457.2	2066.6	29549.0	37619.0	890.3	1106.0	398.3	694.6	ND	0.0	24133.1	27242.2	
1300,608	03/15/06	1724	37.08665	-94.62993	21-Mar-06	<LOD		185.7		7174.7		179.2		97.0		<LOD		3035.7		
1300,608					21-Mar-06	<LOD		223.0		5149.6		86.2		<LOD		<LOD		3448.1		
1300,608					21-Mar-06	<LOD		327.8		11319.9		407.0		146.7		<LOD		6686.0		
Average/Max						ND	0.0	245.5	327.8	7881.4	11319.9	224.2	407.0	121.9	146.7	ND	0.0	4389.9	6686.0	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
1400,0	03/15/06	1705	37.08548	-94.62879	21-Mar-06	982.5		1267.8		113668.9		651.1		<LOD		<LOD		10339.9		
1400,0					21-Mar-06	552.0		498.3		69353.1		275.0		<LOD		<LOD		7460.7		
1400,0					21-Mar-06	799.6		1076.6		114552.9		357.1		157.0		<LOD		16194.6		
Average/Max						778.0	982.5	947.5	1267.8	99191.6	114552.9	427.7	651.1	157.0	157.0	ND	0.0	11331.7	16194.6	
1400,100	03/15/06	1709	37.08566	-94.62887	21-Mar-06	<LOD		3912.7		59308.8		485.0		<LOD		<LOD		8146.2		
1400,100					21-Mar-06	<LOD		4024.5		67932.2		438.0		138.8		<LOD		9688.9		
1400,100					21-Mar-06	683.1		3450.0		61311.5		353.2		<LOD		<LOD		8934.9		
Average/Max						683.1	683.1	3795.7	4024.5	62850.8	67932.2	425.4	485.0	138.8	138.8	ND	0.0	8923.3	9688.9	
1400,300	03/15/06	1712	37.08610	-94.62921	21-Mar-06	737.6		2719.0		92590.7		<LOD		513.8		<LOD		13091.6		
1400,300					21-Mar-06	972.0		2420.2		90855.7		<LOD		624.8		<LOD		15124.0		
1400,300					21-Mar-06	944.3		2159.4		77640.0		<LOD		636.1		<LOD		13134.0		
Average/Max						884.6	972.0	2432.9	2719.0	87028.8	92590.7	ND	0.0	591.6	636.1	ND	0.0	13783.2	15124.0	
1400,400	03/15/06	1715	37.08634	-94.62937	21-Mar-06	<LOD		336.1		16511.9		<LOD		<LOD		<LOD		5180.9		
1400,400					21-Mar-06	<LOD		351.2		17041.4		109.0		183.3		<LOD		5441.9		
1400,400					21-Mar-06	<LOD		328.3		15624.2		<LOD		130.9		<LOD		5524.0		
Average/Max						ND	0.0	338.5	351.2	16392.5	17041.4	109.0	109.0	157.1	183.3	ND	0.0	5382.3	5524.0	
1400,500	03/15/06	1717	37.08655	-94.62950	21-Mar-06	<LOD		506.6		36857.6		4955.7		288.1		<LOD		77579.6		
1400,500					21-Mar-06	<LOD		720.0		41016.8		4868.1		273.8		<LOD		77950.0		
1400,500					21-Mar-06	<LOD		<LOD		47009.1		16073.4		562.0		<LOD		217359.7		
Average/Max						ND	0.0	613.3	720.0	41627.8	47009.1	8632.4	16073.4	374.6	562.0	ND	0.0	124296.4	217359.7	
1400,600	03/15/06	1721	37.08679	-94.62970	21-Mar-06	<LOD		1060.3		17179.4		327.7		<LOD		<LOD		8633.6		
1400,600					21-Mar-06	460.0		1123.6		17440.7		480.0		<LOD		<LOD		11511.7		
1400,600					21-Mar-06	<LOD		1073.3		20726.3		333.2		<LOD		<LOD		15363.0		
Average/Max						460.0	460.0	1085.7	1123.6	18448.8	20726.3	380.3	480.0	ND	0.0	ND	0.0	11836.1	15363.0	
1500,0	03/16/06	817	37.08556	-94.62839	22-Mar-06	<LOD		191.7		11222.3		<LOD		128.9		<LOD		4362.9		
1500,0					22-Mar-06	<LOD		279.3		14695.1		<LOD		111.7		<LOD		5689.9		
1500,0					22-Mar-06	387.6		272.3		19492.9		143.8		<LOD		<LOD		6463.3		
Average/Max						387.6	387.6	247.7	279.3	15136.8	19492.9	143.8	143.8	120.3	128.9	ND	0.0	5505.4	6463.3	
1500,100	03/16/06	819	37.08580	-94.62863	22-Mar-06	932.1		2361.5		100026.1		238.6		<LOD		<LOD		7867.0		
1500,100					22-Mar-06	979.2		2696.4		114240.1		<LOD		345.1		<LOD		9322.3		
1500,100					22-Mar-06	987.1		2775.6		107605.8		<LOD		207.1		<LOD		9014.0		
Average/Max						966.1	987.1	2611.2	2775.6	107290.7	114240.1	238.6	238.6	276.1	345.1	ND	0.0	8734.4	9322.3	
1500,200	03/16/06	822	37.08602	-94.62885	22-Mar-06	1746.3		3972.1		108248.6		734.1		253.6		<LOD		13956.4		
1500,200					22-Mar-06	3881.3		8702.4		232856.0		908.7		487.8		<LOD		26919.4		
1500,200					22-Mar-06	2778.8		6809.6		185181.0		845.2		507.3		<LOD		20424.6		
Average/Max						2802.1	3881.3	6494.7	8702.4	175428.5	232856.0	829.3	908.7	416.2	507.3	ND	0.0	20433.5	26919.4	
1500,300	03/16/06	829	37.08625	-94.62904	22-Mar-06	1935.3		8210.7		166912.3		318.5		276.8		<LOD		14724.5		
1500,300					22-Mar-06	2017.6		13149.5		242724.4		486.4		<LOD		<LOD		21807.5		
1500,300					22-Mar-06	1073.8		5399.2		132827.1		424.8		<LOD		<LOD		14867.7		
Average/Max						1675.6	2017.6	8919.8	13149.5	180821.3	242724.4	409.9	486.4	276.8	276.8	ND	0.0	17133.2	21807.5	
1500,400	03/16/06	827	37.08641	-94.62924	22-Mar-06	<LOD		<LOD		2079.6		55.4		<LOD		<LOD		1177.5		
1500,400					22-Mar-06	<LOD		47.3		4820.9		103.9		236.4		<LOD		1642.8		
1500,400					22-Mar-06	<LOD		<LOD		1857.6		46.7		<LOD		<LOD		805.5		
Average/Max						ND	0.0	47.3	47.3	2919.4	4820.9	68.7	103.9	236.4	236.4	ND	0.0	1208.6	1642.8	
1500,500	03/16/06	1020	37.08660	-94.62934	21-Mar-06	<LOD		819.2		37209.7		4035.8		401.7		<LOD		53410.1		
1500,500					21-Mar-06	959.8		2438.5		53462.5		3004.7		378.2		<LOD		48078.0		
1500,500					21-Mar-06	936.3		548.8		31940.5		2859.7		572.2		<LOD		38715.9		
Average/Max						948.1	959.8	1268.8	2438.5	40870.9	53462.5	3300.0	4035.8	450.7	572.2	ND	0.0	46734.7	53410.1	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
1500,600	03/16/06	1035	37.08678	-94.62950	21-Mar-06	<LOD		1605.5		13051.5		646.9		145.5		<LOD		10340.7		
1500,600					21-Mar-06	<LOD		1466.0		24176.0		586.9		<LOD		<LOD		15633.2		
1500,600					21-Mar-06	<LOD		1554.9		21597.4		238.3		<LOD		<LOD		14052.4		
Average/Max						ND	0.0	1542.1	1605.5	19608.3	24176.0	490.7	646.9	145.5	145.5	ND	0.0	13342.1	15633.2	
1500,660	03/16/06	1038	37.08694	-94.62966	21-Mar-06	<LOD		771.2		9875.1		590.3		<LOD		<LOD		9117.8		
1500,660					21-Mar-06	<LOD		678.9		18223.3		890.9		<LOD		<LOD		11912.0		
1500,660					21-Mar-06	<LOD		303.3		7008.3		279.4		<LOD		<LOD		4650.4		
Average/Max						ND	0.0	584.4	771.2	11702.2	18223.3	586.8	890.9	ND	0.0	ND	0.0	8560.1	11912.0	
1600,0	03/16/06	815	37.08572	-94.62812	22-Mar-06	<LOD		433.4		23571.8		138.4		122.0		<LOD		3317.5		
1600,0					22-Mar-06	<LOD		601.1		32964.1		121.7		199.0		<LOD		4571.8		
1600,0					22-Mar-06	<LOD		478.1		24860.8		171.9		<LOD		<LOD		3336.1		
Average/Max						ND	0.0	504.2	601.1	27132.2	32964.1	144.0	171.9	160.5	199.0	ND	0.0	3741.8	4571.8	
1600,100	03/16/06	820	37.08595	-94.62836	22-Mar-06	<LOD		967.7		45010.7		304.3		255.8		<LOD		9202.3		
1600,100					22-Mar-06	<LOD		483.2		27564.2		313.7		200.2		<LOD		5276.6		
1600,100					22-Mar-06	654.5		459.9		27735.3		281.9		<LOD		<LOD		5254.0		
Average/Max						654.5	654.5	636.9	967.7	33436.7	45010.7	300.0	313.7	228.0	255.8	ND	0.0	6577.6	9202.3	
1600,200	03/16/06	825	37.08620	-94.62861	22-Mar-06	<LOD		570.7		7320.1		107.5		<LOD		<LOD		2568.8		
1600,200					22-Mar-06	<LOD		195.6		10024.1		182.8		<LOD		<LOD		2797.3		
1600,200					22-Mar-06	<LOD		223.9		10123.0		<LOD		<LOD		<LOD		3203.0		
Average/Max						ND	0.0	330.0	570.7	9155.8	10123.0	145.1	182.8	ND	0.0	ND	0.0	2856.3	3203.0	
1600,400	03/16/06	828	37.08657	-94.62900	22-Mar-06	<LOD		411.4		30148.1		<LOD		2847.1		<LOD		9691.7		
1600,400					22-Mar-06	<LOD		90.0		15346.5		177.4		2174.6		<LOD		2338.3		
1600,400					22-Mar-06	<LOD		142.9		15298.5		93.6		5230.3		<LOD		2637.1		
Average/Max						ND	0.0	214.8	411.4	20264.3	30148.1	135.5	177.4	3417.3	5230.3	ND	0.0	4889.0	9691.7	
1600,500	03/16/06	1025	37.08678	-94.62909	21-Mar-06	<LOD		<LOD		31046.8		4296.1		429.8		<LOD		79415.1		
1600,500					21-Mar-06	<LOD		218.8		37489.3		1445.7		285.4		<LOD		28229.6		
1600,500					21-Mar-06	<LOD		124.7		24887.5		2563.1		361.3		<LOD		41166.3		
Average/Max						ND	0.0	171.7	218.8	31141.2	37489.3	2768.3	4296.1	358.9	429.8	ND	0.0	49603.7	79415.1	
1600,600	03/16/06	1030	37.08696	-94.62925	21-Mar-06	<LOD		2347.8		111962.3		1141.8		<LOD		<LOD		20242.5		
1600,600					21-Mar-06	<LOD		1645.2		71114.3		976.2		<LOD		<LOD		15615.3		
1600,600					21-Mar-06	775.4		1743.9		84126.2		775.8		<LOD		<LOD		15911.3		
Average/Max						775.4	775.4	1912.3	2347.8	89067.6	111962.3	964.6	1141.8	ND	0.0	ND	0.0	17256.4	20242.5	
1600,675	03/16/06	1040	37.08714	-94.62943	20-Mar-06	<LOD		1047.0		13403.6		309.0		<LOD		<LOD		12705.7		
1600,675					20-Mar-06	<LOD		1816.2		18491.5		1194.5		<LOD		<LOD		26144.9		
1600,675					20-Mar-06	<LOD		1076.4		9535.0		<LOD		<LOD		<LOD		18982.7		
Average/Max						ND	0.0	1313.2	1816.2	13810.0	18491.5	751.7	1194.5	0.0	0.0	ND	0.0	19277.8	26144.9	
1700,0	03/16/06	840	37.08595	-94.62791	22-Mar-06	1239.7		4163.7		138666.8		301.3		<LOD		<LOD		12393.7		
1700,0					22-Mar-06	<LOD		2159.1		84017.3		233.4		152.9		<LOD		9453.4		
1700,0					22-Mar-06	987.7		2171.4		85412.2		226.9		<LOD		<LOD		9011.9		
Average/Max						1113.7	1239.7	2831.4	4163.7	102698.8	138666.8	253.9	301.3	152.9	152.9	ND	0.0	10286.3	12393.7	
1700,400	03/16/06	844	37.08669	-94.62872	22-Mar-06	1948.7		5891.0		142030.7		848.9		<LOD		<LOD		34321.8		
1700,400					22-Mar-06	1327.1		4489.7		119398.4		1243.8		<LOD		<LOD		33868.7		
1700,400					22-Mar-06	1070.2		4087.8		103089.9		1131.8		<LOD		<LOD		29855.4		
Average/Max						1448.6	1948.7	4822.8	5891.0	121506.3	142030.7	1074.8	1243.8	ND	0.0	ND	0.0	32682.0	34321.8	
1700,500	03/16/06	1045	37.08694	-94.62880	20-Mar-06	<LOD		2490.3		82768.6		2423.3		<LOD		<LOD		66919.4		
1700,500					20-Mar-06	<LOD		2259.2		84819.4		2476.0		215.2		<LOD		58322.3		
1700,500					20-Mar-06	1556.0		2421.5		122210.0		2572.6		272.4		<LOD		66505.3		
Average/Max						1556.0	1556.0	2390.3	2490.3	96599.3	122210.0	2490.6	2572.6	243.8	272.4	ND	0.0	63915.7	66919.4	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
1700,600	03/16/06	1050	37.08713	-94.62901	21-Mar-06	2357.8		12917.8		103013.8		12077.8		792.2		<LOD		156843.1		
1700,600					21-Mar-06	<LOD		18605.4		105433.5		16877.8		939.4		<LOD		222919.1		
1700,600					21-Mar-06	2522.0		16730.7		94658.8		15389.3		657.5		<LOD		216890.5		
Average/Max						2439.9	2522.0	16084.6	18605.4	101035.4	105433.5	14781.6	16877.8	796.4	939.4	ND	0.0	198884.2	222919.1	
1700,625	03/16/06	1045	37.08720	-94.62907	21-Mar-06	<LOD		994.5		13388.1		380.7		<LOD		<LOD		13874.2		
1700,625					21-Mar-06	<LOD		428.7		9472.9		104.4		140.0		<LOD		6904.5		
1700,625					21-Mar-06	<LOD		178.6		5863.9		114.8		<LOD		<LOD		2528.4		
Average/Max						ND	0.0	533.9	994.5	9575.0	13388.1	199.9	380.7	140.0	140.0	ND	0.0	7769.0	13874.2	
1800,0	03/16/06	845	37.08603	-94.62757	22-Mar-06	<LOD		760.7		53891.1		<LOD		<LOD		<LOD		14512.2		
1800,0					22-Mar-06	476.7		467.0		42611.9		277.4		<LOD		<LOD		14366.8		
1800,0					22-Mar-06	<LOD		492.7		38101.5		299.0		<LOD		<LOD		7269.3		
Average/Max						476.7	476.7	573.5	760.7	44868.1	53891.1	288.2	299.0	ND	0.0	ND	0.0	12049.4	14512.2	
1800,100	03/16/06	840	37.08623	-94.62779	22-Mar-06	<LOD		396.5		31722.6		<LOD		<LOD		<LOD		16465.6		
1800,100					22-Mar-06	<LOD		344.2		25784.7		183.3		<LOD		<LOD		11453.0		
1800,100					22-Mar-06	<LOD		384.9		22953.4		<LOD		<LOD		<LOD		8287.5		
Average/Max						ND	0.0	375.2	396.5	26820.2	31722.6	183.3	183.3	ND	0.0	ND	0.0	12068.7	16465.6	
1800,200	03/16/06	837	37.08645	-94.62799	22-Mar-06	<LOD		<LOD		72224.0		12088.3		538.9		<LOD		206126.6		
1800,200					22-Mar-06	<LOD		<LOD		72175.0		10716.8		699.9		<LOD		183927.0		
1800,200					22-Mar-06	<LOD		<LOD		30146.1		3053.5		<LOD		<LOD		53371.0		
Average/Max						ND	0.0	ND	0.0	58181.7	72224.0	8619.5	12088.3	619.4	699.9	ND	0.0	147808.2	206126.6	
1800,300	03/16/06	835	37.08668	-94.62818	22-Mar-06	<LOD		186.3		31638.9		434.5		<LOD		<LOD		13838.8		
1800,300					22-Mar-06	<LOD		158.7		28076.2		383.5		<LOD		<LOD		10680.3		
1800,300					22-Mar-06	<LOD		349.9		58251.1		846.9		178.8		<LOD		25013.0		
Average/Max						ND	0.0	231.6	349.9	39322.1	58251.1	555.0	846.9	178.8	178.8	ND	0.0	16510.7	25013.0	
1800,400	03/16/06	830	37.08689	-94.62845	22-Mar-06	591.4		528.5		78371.1		810.2		296.8		<LOD		15739.5		
1800,400					22-Mar-06	697.2		547.6		88707.6		1177.9		<LOD		<LOD		19618.3		
1800,400					22-Mar-06	848.4		547.5		83546.9		972.3		212.6		<LOD		23707.4		
Average/Max						712.3	848.4	541.2	547.6	83541.8	88707.6	986.8	1177.9	254.7	296.8	ND	0.0	19688.4	23707.4	
1800,500	03/16/06	1049	37.08712	-94.62849	20-Mar-06	<LOD		3767.4		45635.3		1652.5		<LOD		<LOD		36375.4		
1800,500					20-Mar-06	<LOD		3527.1		46220.7		889.5		<LOD		<LOD		35718.3		
1800,500					20-Mar-06	1150.9		4354.1		53785.2		1397.1		<LOD		<LOD		44041.3		
Average/Max						1150.9	1150.9	3882.8	4354.1	48547.1	53785.2	1313.0	1652.5	ND	0.0	ND	0.0	38711.7	44041.3	
1800,600	03/16/06	1051	37.08732	-94.62873	20-Mar-06	<LOD		2090.0		34456.5		1153.6		<LOD		<LOD		35616.0		
1800,600					20-Mar-06	<LOD		732.9		17343.1		669.2		<LOD		<LOD		13131.6		
1800,600					20-Mar-06	<LOD		1410.6		29313.5		1416.6		<LOD		<LOD		32451.9		
Average/Max						ND	0.0	1411.2	2090.0	27037.7	34456.5	1079.8	1416.6	ND	0.0	ND	0.0	27068.5	35616.0	
1800,620	03/16/06	1053	37.08733	-94.62878	20-Mar-06	<LOD		3829.7		21542.2		4793.7		182.8		<LOD		60184.2		
1800,620					20-Mar-06	621.0		2239.2		20838.3		1777.8		144.8		<LOD		29771.3		
1800,620					20-Mar-06	<LOD		3839.2		26338.7		2663.7		303.3		<LOD		50623.7		
Average/Max						621.0	621.0	3302.7	3839.2	22906.4	26338.7	3078.4	4793.7	210.3	303.3	ND	0.0	46859.7	60184.2	
1900,0	03/16/06	858	37.08615	-94.62729	22-Mar-06	<LOD		604.7		28252.7		2556.1		265.0		<LOD		69763.0		
1900,0					22-Mar-06	<LOD		784.7		39378.5		5545.6		270.5		<LOD		123113.2		
1900,0					22-Mar-06	521.1		762.0		30900.8		1094.3		<LOD		<LOD		17791.2		
Average/Max						521.1	521.1	717.1	784.7	32844.0	39378.5	3065.3	5545.6	267.7	270.5	ND	0.0	70222.5	123113.2	
1900,100	03/16/06	853	37.08635	-94.62746	22-Mar-06	<LOD		<LOD		4028.9		<LOD		<LOD		<LOD		480.3		
1900,100					22-Mar-06	<LOD		<LOD		6716.6		58.2		<LOD		<LOD		1204.8		
1900,100					22-Mar-06	<LOD		<LOD		4957.2		66.6		159.3		<LOD		876.1		
Average/Max						ND	0.0	ND	0.0	5234.2	6716.6	62.4	66.6	159.3	159.3	ND	0.0	853.8	1204.8	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
1900,300	03/16/06	850	37.08680	-94.62794	22-Mar-06	<LOD		550.3		51313.4		335.3		<LOD		<LOD		9765.1		
1900,300					22-Mar-06	738.9		732.9		83741.3		580.8		237.2		<LOD		13094.8		
1900,300					22-Mar-06	775.8		640.2		52380.8		455.5		175.8		<LOD		13471.5		
Average/Max						757.4	775.8	641.1	732.9	62478.5	83741.3	457.2	580.8	206.5	237.2	ND	0.0	12110.5	13471.5	
1900,400	03/16/06	847	37.08704	-94.62820	22-Mar-06	1114.1		4286.3		188734.0		1058.2		291.2		<LOD		22067.6		
1900,400					22-Mar-06	<LOD		3729.0		115139.8		1585.1		<LOD		<LOD		29044.2		
1900,400					22-Mar-06	<LOD		3028.7		121408.0		1397.1		<LOD		<LOD		23744.9		
Average/Max						1114.1	1114.1	3681.3	4286.3	141760.6	188734.0	1346.8	1585.1	291.2	291.2	ND	0.0	24952.2	29044.2	
1900,500	03/16/06	1100	37.08728	-94.62829	20-Mar-06	967.0		4383.0		60258.0		1056.0		<LOD		<LOD		24229.8		
1900,500					20-Mar-06	854.4		5278.3		66821.2		1364.4		<LOD		<LOD		26367.1		
1900,500					20-Mar-06	1372.5		6012.8		67634.2		1654.8		<LOD		<LOD		31256.4		
1900,595	03/16/06	1057	37.08740	-94.62846	20-Mar-06	312.5		1017.9		12739.8		704.8		176.4		<LOD		10859.5		
1900,595					20-Mar-06	<LOD		10329.7		77147.6		5316.4		303.4		<LOD		83375.0		
1900,595					20-Mar-06	<LOD		1199.4		15703.3		355.7		125.2		<LOD		10787.3		
Average/Max						312.5	312.5	4182.3	10329.7	35196.9	77147.6	2125.6	5316.4	201.7	303.4	ND	0.0	35007.2	83375.0	
200,0	03/15/06	1430	37.08385	-94.63217	22-Mar-06	<LOD		687.0		21993.4		<LOD		<LOD		<LOD		1219.3		
200,0					22-Mar-06	<LOD		530.9		15163.2		<LOD		<LOD		<LOD		1080.9		
200,0					22-Mar-06	<LOD		526.1		15809.7		<LOD		<LOD		<LOD		958.8		
Average/Max						ND	0.0	581.3	687.0	17655.4	21993.4	ND	0.0	ND	0.0	ND	0.0	1086.3	1219.3	
200,100	03/15/06	1435	37.08410	-94.63230	22-Mar-06	971.3		6130.1		123738.1		225.0		<LOD		<LOD		4575.5		
200,100					22-Mar-06	<LOD		5666.1		122338.5		156.7		<LOD		<LOD		4893.4		
200,100					22-Mar-06	1147.1		6508.5		140567.1		293.8		173.2		<LOD		4675.5		
Average/Max						1059.2	1147.1	6101.5	6508.5	128881.2	140567.1	225.1	293.8	173.2	173.2	ND	0.0	4714.8	4893.4	
200,200	03/15/06	1440	37.08434	-94.63245	22-Mar-06	<LOD		<LOD		10370.5		43.9		<LOD		<LOD		988.6		
200,200					22-Mar-06	<LOD		55.6		10148.0		59.5		<LOD		<LOD		1381.1		
200,200					22-Mar-06	<LOD		48.3		9338.7		64.3		<LOD		<LOD		1208.5		
Average/Max						ND	0.0	51.9	55.6	9952.4	10370.5	55.9	64.3	ND	0.0	ND	0.0	1192.7	1381.1	
200,300	03/15/06	1443	37.08459	-94.63256	22-Mar-06	226.5		113.9		10128.4		91.4		<LOD		<LOD		2255.6		
200,300					22-Mar-06	<LOD		133.0		12520.6		91.8		<LOD		<LOD		2668.0		
200,300					22-Mar-06	<LOD		90.4		12190.4		<LOD		<LOD		<LOD		2087.0		
Average/Max						226.5	226.5	112.4	133.0	11613.1	12520.6	91.6	91.8	ND	0.0	ND	0.0	2336.9	2668.0	
200,400	03/15/06	1445	37.08484	-94.63268	22-Mar-06	<LOD		145.1		13195.3		91.1		<LOD		<LOD		2993.9		
200,400					22-Mar-06	<LOD		180.6		13691.7		98.8		<LOD		<LOD		3586.0		
200,400					22-Mar-06	<LOD		129.4		10543.1		116.5		<LOD		<LOD		2548.7		
Average/Max						ND	0.0	151.7	180.6	12476.7	13691.7	102.1	116.5	ND	0.0	ND	0.0	3042.8	3586.0	
200,500	03/15/06	1449	37.08508	-94.63280	22-Mar-06	<LOD		<LOD		17004.1		228.2		<LOD		<LOD		4813.8		
200,500					22-Mar-06	<LOD		<LOD		15235.5		317.4		<LOD		<LOD		5731.1		
200,500					22-Mar-06	<LOD		<LOD		15031.7		314.1		<LOD		<LOD		5034.9		
Average/Max						ND	0.0	ND	0.0	15757.1	17004.1	286.5	317.4	ND	0.0	ND	0.0	5193.3	5731.1	
2000,0	03/16/06	854	37.08635	-94.62702	22-Mar-06	<LOD		<LOD		18064.3		113.5		<LOD		<LOD		4611.0		
2000,0					22-Mar-06	<LOD		<LOD		22051.0		201.9		130.6		<LOD		4552.6		
2000,0					22-Mar-06	<LOD		<LOD		15089.3		180.5		<LOD		<LOD		5163.5		
Average/Max						ND	0.0	ND	0.0	18401.5	22051.0	165.3	201.9	130.6	130.6	ND	0.0	4775.7	5163.5	
2000,100	03/16/06	850	37.08654	-94.62721	22-Mar-06	<LOD		<LOD		12784.1		<LOD		<LOD		<LOD		4076.6		
2000,100					22-Mar-06	<LOD		<LOD		10777.6		103.0		<LOD		<LOD		2978.2		
2000,100					22-Mar-06	<LOD		109.0		13300.6		118.3		<LOD		<LOD		3751.6		
Average/Max						ND	0.0	109.0	109.0	12287.4	13300.6	110.6	118.3	ND	0.0	ND	0.0	3602.1	4076.6	
2000,200	03/16/06	900	37.08675	-94.62750	22-Mar-06	<LOD		204.2		30432.4		144.3		224.2		<LOD		5335.1		

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
2000,200					22-Mar-06	<LOD		286.7		37374.2		325.5		508.7		<LOD		8868.1		
2000,200					22-Mar-06	595.4		248.3		28216.7		156.2		376.6		<LOD		6483.5		
Average/Max						595.4	595.4	246.4	286.7	32007.8	37374.2	208.6	325.5	369.8	508.7	ND	0.0	6895.5	8868.1	
2000,300	03/16/06	904	37.08693	-94.62770	21-Mar-06	623.7		386.3		69219.2		322.5		196.5		<LOD		11398.7		
2000,300					21-Mar-06	851.5		491.6		56323.5		397.1		245.4		<LOD		14308.1		
2000,300					21-Mar-06	841.5		466.1		59475.8		444.9		274.7		<LOD		12682.0		
Average/Max						772.2	851.5	448.0	491.6	61672.8	69219.2	388.2	444.9	238.9	274.7	ND	0.0	12796.2	14308.1	
2000,402	03/16/06	905	37.08720	-94.62794	21-Mar-06	1036.3		3808.1		88621.4		683.0		<LOD		<LOD		27755.9		
2000,402					21-Mar-06	1188.6		2998.0		73944.6		647.0		171.0		<LOD		23106.7		
2000,402					21-Mar-06	1032.7		3256.5		79578.3		748.5		<LOD		<LOD		27013.4		
Average/Max						1085.9	1188.6	3354.2	3808.1	80714.8	88621.4	692.8	748.5	171.0	171.0	ND	0.0	25958.6	27755.9	
2000,500	03/16/06	1102	37.08743	-94.62801	20-Mar-06	1366.0		14448.8		77345.0		2804.2		<LOD		<LOD		27007.1		
2000,500					20-Mar-06	<LOD		11890.8		62475.8		1342.7		<LOD		133.7		14046.2		
2000,500					20-Mar-06	<LOD		13913.5		67921.3		2027.4		<LOD		<LOD		23691.9		
Average/Max						1366.0	1366.0	13417.7	14448.8	69247.4	77345.0	2058.1	2804.2	ND	0.0	133.7	133.7	21581.7	27007.1	
2000,610	03/16/06	1105	37.08760	-94.62827	20-Mar-06	<LOD		356.8		19289.1		123.7		157.5		<LOD		4876.9		
2000,610					20-Mar-06	<LOD		264.2		11701.9		70.1		151.3		<LOD		2508.3		
2000,610					20-Mar-06	<LOD		330.2		15525.7		<LOD		205.4		<LOD		3777.8		
Average/Max						ND	0.0	317.1	356.8	15505.6	19289.1	96.9	123.7	171.4	205.4	ND	0.0	3721.0	4876.9	
2100,0	03/16/06	921	37.08649	-94.62675	21-Mar-06	<LOD		<LOD		8677.2		<LOD		127.7		<LOD		1241.3		
2100,0					21-Mar-06	<LOD		<LOD		6023.3		47.9		<LOD		<LOD		807.8		
2100,0					21-Mar-06	<LOD		<LOD		7649.9		<LOD		<LOD		<LOD		1107.5		
Average/Max						ND	0.0	ND	0.0	7450.1	8677.2	47.9	47.9	127.7	127.7	ND	0.0	1052.2	1241.3	
2100,100	03/16/06	926	37.08671	-94.62693	21-Mar-06	<LOD		<LOD		7043.7		47.5		<LOD		<LOD		630.9		
2100,100					21-Mar-06	<LOD		67.2		7047.7		61.6		<LOD		<LOD		717.5		
2100,100					21-Mar-06	<LOD		<LOD		7233.8		<LOD		<LOD		<LOD		682.2		
Average/Max						ND	0.0	67.2	67.2	7108.4	7233.8	54.5	61.6	ND	0.0	ND	0.0	676.9	717.5	
2100,200	03/16/06	1015	37.08716	-94.62708	21-Mar-06	<LOD		117.1		12288.5		175.8		<LOD		<LOD		2757.5		
2100,200					21-Mar-06	380.0		95.6		14795.3		134.0		<LOD		<LOD		3603.5		
2100,200					21-Mar-06	<LOD		90.8		11965.9		105.0		<LOD		<LOD		2439.0		
Average/Max						380.0	380.0	101.2	117.1	13016.6	14795.3	138.2	175.8	ND	0.0	ND	0.0	2933.4	3603.5	
2100,300	03/16/06	935	37.08717	-94.62744	21-Mar-06	2274.2		3343.8		173510.8		283.1		239.9		<LOD		12821.3		
2100,300					21-Mar-06	1787.6		3897.8		200719.3		<LOD		216.3		<LOD		15539.9		
2100,300					21-Mar-06	1336.6		2344.7		138688.1		422.7		287.4		<LOD		9554.7		
Average/Max						1799.4	2274.2	3195.4	3897.8	170972.7	200719.3	352.9	422.7	247.9	287.4	ND	0.0	12638.6	15539.9	
2100,400	03/16/06	937	37.08733	-94.62768	21-Mar-06	1499.4		1550.9		119368.1		229.4		<LOD		<LOD		9260.9		
2100,400					21-Mar-06	2294.4		1161.3		242934.5		<LOD		<LOD		<LOD		11318.6		
2100,400					21-Mar-06	701.5		1018.0		73361.3		266.7		<LOD		<LOD		6313.8		
Average/Max						1498.4	2294.4	1243.4	1550.9	145221.3	242934.5	248.0	266.7	ND	0.0	ND	0.0	8964.4	11318.6	
2100,500	03/16/06	1105	37.08756	-94.62771	20-Mar-06	729.5		691.1		49517.9		242.1		<LOD		<LOD		6558.7		
2100,500					20-Mar-06	1074.1		1735.1		101266.0		<LOD		<LOD		<LOD		9308.1		
2100,500					20-Mar-06	711.2		866.6		49730.7		156.0		<LOD		<LOD		5063.0		
Average/Max						838.3	1074.1	1097.6	1735.1	66838.2	101266.0	199.0	242.1	ND	0.0	ND	0.0	6976.6	9308.1	
2100,600	03/16/06	1110	37.08773	-94.62795	20-Mar-06	<LOD		1018.0		39338.0		482.3		<LOD		<LOD		12417.0		
2100,600					20-Mar-06	<LOD		962.9		37529.5		281.6		137.9		<LOD		10927.8		
2100,600					20-Mar-06	<LOD		710.5		38253.0		288.7		177.3		<LOD		11549.9		
Average/Max						ND	0.0	897.1	1018.0	38373.5	39338.0	350.9	482.3	157.6	177.3	ND	0.0	11631.5	12417.0	
2100,635	03/16/06	1108	37.08781	-94.62804	20-Mar-06	<LOD		208.3		17158.7		94.2		<LOD		<LOD		3439.1		

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
2100,635					20-Mar-06	<LOD		419.7		16856.5		137.9		237.2		<LOD		2683.0		
2100,635					20-Mar-06	<LOD		316.6		18828.3		119.9		<LOD		<LOD		3146.8		
Average/Max						ND	0.0	314.9	419.7	17614.5	18828.3	117.3	137.9	237.2	237.2	ND	0.0	3089.6	3439.1	
2200,0	03/16/06	925	37.08656	-94.62651	21-Mar-06	<LOD		71.3		6841.9		<LOD		<LOD		<LOD		1268.6		
2200,0					21-Mar-06	<LOD		39.6		7848.6		<LOD		<LOD		<LOD		1169.6		
2200,0					21-Mar-06	<LOD		104.1		9507.9		58.6		<LOD		<LOD		1624.7		
Average/Max						ND	0.0	71.7	104.1	8066.1	9507.9	58.6	58.6	ND	0.0	ND	0.0	1354.3	1624.7	
2200,100 NW	03/16/06	919	37.08693	-94.62672	21-Mar-06	727.2		586.7		96248.7		<LOD		<LOD		<LOD		3409.0		
2200,100					21-Mar-06	905.4		830.4		107072.7		<LOD		<LOD		<LOD		3648.1		
2200,100					21-Mar-06	1166.7		843.5		103039.1		<LOD		<LOD		<LOD		4420.4		
Average/Max						933.1	1166.7	753.5	843.5	102120.1	107072.7	ND	0.0	ND	0.0	ND	0.0	3825.8	4420.4	
2200,100 SE	03/16/06	920	37.08686	-94.62669	21-Mar-06	1102.6		716.5		129121.5		149.8		242.4		<LOD		5336.9		
2200,100					21-Mar-06	759.6		660.1		110329.8		<LOD		<LOD		<LOD		4589.8		
2200,100					21-Mar-06	968.9		478.3		97293.5		122.2		151.6		<LOD		4383.6		
Average/Max						943.7	1102.6	618.3	716.5	112248.2	129121.5	136.0	149.8	197.0	242.4	ND	0.0	4770.1	5336.9	
2200,198	03/16/06	916	37.08702	-94.62699	21-Mar-06	711.5		297.5		44798.6		<LOD		271.7		<LOD		2708.2		
2200,198					21-Mar-06	411.0		238.5		30316.2		<LOD		123.5		<LOD		1810.6		
2200,198					21-Mar-06	628.3		261.2		43778.8		95.4		<LOD		<LOD		2424.1		
Average/Max						583.6	711.5	265.7	297.5	39631.2	44798.6	95.4	95.4	197.6	271.7	ND	0.0	2314.3	2708.2	
2200,300	03/16/06	913	37.08728	-94.62720	21-Mar-06	894.3		<LOD		94703.2		<LOD		267.8		<LOD		1763.3		
2200,300					21-Mar-06	755.9		306.9		85850.6		<LOD		278.4		<LOD		3130.9		
2200,300					21-Mar-06	<LOD		235.7		82141.0		<LOD		262.1		<LOD		1858.4		
Average/Max						825.1	894.3	271.3	306.9	87584.9	94703.2	ND	0.0	269.4	278.4	ND	0.0	2250.8	3130.9	
2200,400	03/16/06	908	37.08744	-94.62733	21-Mar-06	<LOD		2099.4		54024.0		542.3		<LOD		<LOD		9164.3		
2200,400					21-Mar-06	688.0		1374.8		45504.2		586.7		<LOD		<LOD		9809.3		
2200,400					21-Mar-06	<LOD		1473.2		44652.4		478.7		160.4		<LOD		9226.4		
Average/Max						688.0	688.0	1649.1	2099.4	48060.2	54024.0	535.9	586.7	160.4	160.4	ND	0.0	9400.0	9809.3	
2200,500	03/16/06	1118	37.08773	-94.62743	20-Mar-06	1480.1		2395.0		155217.4		364.9		295.9		<LOD		10588.9		
2200,500			37.08773	-94.62743	20-Mar-06	1663.6		2569.2		181687.3		404.0		348.8		<LOD		11213.4		
2200,500					20-Mar-06	1780.7		3010.2		194718.6		361.0		398.4		<LOD		11713.1		
Average/Max						1641.4	1780.7	2658.1	3010.2	177207.7	194718.6	376.7	404.0	347.7	398.4	ND	0.0	11171.8	11713.1	
2200,600	03/16/06	1115	37.08790	-94.62769	20-Mar-06	410.9		3123.1		23958.8		<LOD		<LOD		<LOD		6895.1		
2200,600					20-Mar-06	<LOD		2110.5		14274.9		158.0		124.6		<LOD		6749.8		
2200,600					20-Mar-06	<LOD		1783.6		14383.4		<LOD		<LOD		<LOD		7376.5		
Average/Max						410.9	410.9	2339.1	3123.1	17539.0	23958.8	158.0	158.0	124.6	124.6	ND	0.0	7007.1	7376.5	
2200,625	03/16/06	1110	37.08797	-94.62772	20-Mar-06	1098.1		1609.2		142494.1		692.7		355.2		<LOD		12798.9		
2200,625					20-Mar-06	1253.9		1562.7		116855.9		383.4		297.0		<LOD		12170.7		
2200,625					20-Mar-06	1870.9		1725.0		152141.3		393.7		360.0		<LOD		15573.4		
Average/Max						1407.6	1870.9	1632.3	1725.0	137163.8	152141.3	489.9	692.7	337.4	360.0	ND	0.0	13514.3	15573.4	
2300,0	03/16/06	951	37.08681	-94.62622	21-Mar-06	<LOD		<LOD		25149.7		<LOD		<LOD		<LOD		2023.5		
2300,0					21-Mar-06	<LOD		<LOD		21832.0		<LOD		<LOD		<LOD		1559.7		
2300,0					21-Mar-06	<LOD		<LOD		36551.0		77.8		<LOD		<LOD		2395.3		
Average/Max						ND	0.0	ND	0.0	29191.5	36551.0	77.8	77.8	ND	0.0	ND	0.0	1977.5	2395.3	
2300,100	03/16/06	950	37.08703	-94.62639	21-Mar-06	1171.7		<LOD		152561.9		145.7		181.4		<LOD		3388.7		
2300,100					21-Mar-06	<LOD		<LOD		196096.4		217.2		197.1		<LOD		3511.9		
2300,100					21-Mar-06	794.3		<LOD		110459.2		<LOD		<LOD		<LOD		2283.6		
Average/Max						983.0	1171.7	ND	0.0	153039.2	196096.4	181.4	217.2	189.2	197.1	ND	0.0	3061.4	3511.9	
2300,400	03/16/06	943	37.08759	-94.62710	21-Mar-06	321.3		83.2		24450.9		68.9		<LOD		<LOD		1032.7		

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
2300,400					21-Mar-06	358.8		123.0		24045.7		80.4		<LOD		<LOD		1160.8		
2300,400					21-Mar-06	<LOD		79.5		21105.2		<LOD		<LOD		<LOD		1156.8		
Average/Max						340.0	358.8	95.3	123.0	23200.6	24450.9	74.7	80.4	ND	0.0	ND	0.0	1116.8	1160.8	
2300,500	03/16/06	1120	37.08788	-94.62717	20-Mar-06	1887.9		854.1		197079.7		247.7		848.2		<LOD		7459.2		
2300,500					20-Mar-06	2410.9		953.1		234348.8		339.8		847.6		<LOD		7758.5		
2300,500					20-Mar-06	2235.6		707.4		182414.9		305.7		1428.8		<LOD		7631.7		
Average/Max						2178.1	2410.9	838.2	953.1	204814.5	234348.8	297.7	339.8	1041.5	1428.8	ND	0.0	7616.5	7758.5	
2300,600	03/16/06	1125	37.08805	-94.62741	20-Mar-06	<LOD		612.2		36019.8		332.4		<LOD		<LOD		14950.5		
2300,600					20-Mar-06	<LOD		310.4		30641.2		<LOD		<LOD		<LOD		19214.0		
2300,600					20-Mar-06	614.1		580.6		36889.4		381.8		<LOD		<LOD		21130.5		
Average/Max						614.1	614.1	501.1	612.2	34516.8	36889.4	357.1	381.8	ND	0.0	ND	0.0	18431.6	21130.5	
2300,665	03/16/06	1128	37.08820	-94.62756	20-Mar-06	<LOD		165.5		2411.4		86.0		<LOD		<LOD		1862.4		
2300,665					20-Mar-06	<LOD		214.9		3081.8		119.1		<LOD		<LOD		2200.5		
2300,665					20-Mar-06	<LOD		198.8		2487.6		148.9		<LOD		<LOD		2043.2		
Average/Max						ND	0.0	193.1	214.9	2660.3	3081.8	118.0	148.9	ND	0.0	ND	0.0	2035.3	2200.5	
2400,0	03/16/06	940	37.08694	-94.62596	21-Mar-06	<LOD		<LOD		41605.0		<LOD		<LOD		<LOD		1581.5		
2400,0					21-Mar-06	996.0		<LOD		131783.2		84.6		<LOD		<LOD		2120.1		
2400,0					21-Mar-06	1903.0		582.2		260880.0		<LOD		189.7		<LOD		4929.0		
Average/Max						1449.5	1903.0	582.2	582.2	144756.1	260880.0	84.6	84.6	189.7	189.7	ND	0.0	2876.8	4929.0	
2400,100	03/16/06	945	37.08717	-94.62613	21-Mar-06	2073.6		2784.4		228630.3		405.7		322.2		<LOD		8695.9		
2400,100					21-Mar-06	2295.0		3963.9		233628.9		<LOD		<LOD		<LOD		9845.8		
2400,100					21-Mar-06	2509.9		3891.0		207448.5		<LOD		<LOD		<LOD		9568.2		
Average/Max						2292.8	2509.9	3546.4	3963.9	223235.9	233628.9	405.7	405.7	322.2	322.2	ND	0.0	9369.9	9845.8	
2400,200	03/16/06	948	37.08743	-94.62624	21-Mar-06	<LOD		367.0		38290.2		<LOD		183.9		<LOD		2099.6		
2400,200					21-Mar-06	637.4		496.2		42009.4		104.9		<LOD		<LOD		2357.0		
2400,200					21-Mar-06	<LOD		444.0		41668.4		<LOD		<LOD		<LOD		2286.2		
Average/Max						637.4	637.4	435.8	496.2	40656.0	42009.4	104.9	104.9	183.9	183.9	ND	0.0	2247.6	2357.0	
2400,300	03/16/06	952	37.08765	-94.62654	21-Mar-06	1540.1		1376.1		184850.8		453.6		223.4		<LOD		15915.7		
2400,300					21-Mar-06	1761.2		650.6		166498.2		221.2		<LOD		<LOD		10374.1		
2400,300					21-Mar-06	2118.1		2405.5		241419.3		388.5		231.5		<LOD		16018.9		
Average/Max						1806.4	2118.1	1477.4	2405.5	197589.4	241419.3	354.5	453.6	227.4	231.5	ND	0.0	14102.9	16018.9	
2400,400	03/16/06	955	37.08776	-94.62678	21-Mar-06	403.4		223.2		54595.5		<LOD		134.5		<LOD		3337.0		
2400,400					21-Mar-06	485.3		145.7		49912.4		156.0		<LOD		<LOD		2971.4		
2400,400					21-Mar-06	558.4		264.9		57261.0		112.5		<LOD		<LOD		3089.7		
Average/Max						482.4	558.4	211.3	264.9	53923.0	57261.0	134.2	156.0	134.5	134.5	ND	0.0	3132.7	3337.0	
2400,500	03/15/06	1126	37.08804	-94.62688	21-Mar-06	<LOD		172.6		32913.2		135.3		220.7		<LOD		4016.2		
2400,500					21-Mar-06	<LOD		108.9		12354.6		<LOD		133.3		<LOD		2293.9		
2400,500					21-Mar-06	<LOD		99.6		24165.5		<LOD		159.8		<LOD		2669.0		
Average/Max						ND	0.0	127.1	172.6	23144.4	32913.2	135.3	135.3	171.3	220.7	ND	0.0	2993.0	4016.2	
2400,600	03/15/06	1129	37.08821	-94.62714	21-Mar-06	<LOD		302.7		3438.0		107.9		<LOD		<LOD		2400.8		
2400,600					21-Mar-06	<LOD		274.5		3092.5		100.3		<LOD		<LOD		2003.1		
2400,600					21-Mar-06	<LOD		259.1		3162.8		81.1		<LOD		<LOD		1805.9		
Average/Max						ND	0.0	278.8	302.7	3231.1	3438.0	96.4	107.9	ND	0.0	ND	0.0	2069.9	2400.8	
2400,700	03/16/06	1135	37.08843	-94.62737	22-Mar-06	<LOD		917.9		6038.0		622.4		<LOD		<LOD		7355.9		
2400,700					22-Mar-06	<LOD		1091.9		7621.1		891.6		<LOD		<LOD		7957.6		
2400,700					22-Mar-06	<LOD		736.6		4253.9		713.7		<LOD		<LOD		5388.2		
Average/Max						ND	0.0	915.5	1091.9	5971.0	7621.1	742.6	891.6	ND	0.0	ND	0.0	6900.6	7957.6	
2500,0	03/16/06	1010	37.08712	-94.62565	20-Mar-06	<LOD		<LOD		5048.4		<LOD		<LOD		<LOD		2219.0		

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
2500,0					20-Mar-06	<LOD		<LOD		7170.1		83.4		<LOD		<LOD		2192.5		
2500,0					20-Mar-06	<LOD		<LOD		35474.3		116.5		<LOD		<LOD		3582.5		
Average/Max						ND	0.0	ND	0.0	15897.6	35474.3	99.9	116.5	ND	0.0	ND	0.0	2664.7	3582.5	
2500,100	03/16/06	1012	37.08730	-94.62581	21-Mar-06	1406.6		540.7		186264.0		<LOD		299.0		<LOD		5782.1		
2500,100					21-Mar-06	1966.6		867.4		227122.1		216.8		210.0		<LOD		7622.4		
2500,100					21-Mar-06	1707.2		558.3		216186.7		<LOD		<LOD		<LOD		6953.6		
Average/Max						1693.5	1966.6	655.5	867.4	209857.6	227122.1	216.8	216.8	254.5	299.0	ND	0.0	6786.0	7622.4	
2500,200	03/16/06	1015	37.08757	-94.62608	21-Mar-06	<LOD		4437.1		253238.8		1612.0		741.9		<LOD		22348.0		
2500,200					21-Mar-06	4698.0		4320.0		260759.6		875.6		575.4		<LOD		25453.5		
2500,200					21-Mar-06	3662.6		4723.1		241618.1		1072.2		382.3		<LOD		23044.3		
Average/Max						4180.3	4698.0	4493.4	4723.1	251872.2	260759.6	1186.6	1612.0	566.5	741.9	ND	0.0	23615.3	25453.5	
2500,300	03/16/06	1017	37.08782	-94.62636	21-Mar-06	6691.3		11372.6		630147.6		1274.6		786.8		<LOD		45222.3		
2500,300					21-Mar-06	6136.0		9073.2		544013.1		<LOD		687.3		<LOD		42605.8		
2500,300					21-Mar-06	5584.2		5816.5		405857.2		<LOD		819.3		<LOD		28319.1		
Average/Max						6137.2	6691.3	8754.1	11372.6	526672.7	630147.6	1274.6	1274.6	764.5	819.3	ND	0.0	38715.8	45222.3	
2500,400	03/16/06	1021	37.08795	-94.62658	20-Mar-06	3552.0		5145.4		271877.2		690.3		<LOD		<LOD		27872.7		
2500,400					20-Mar-06	2928.9		5261.1		277110.8		896.1		<LOD		<LOD		29812.5		
2500,400					20-Mar-06	2924.6		5730.1		321719.3		632.8		384.0		<LOD		32396.0		
Average/Max						3135.2	3552.0	5378.9	5730.1	290235.8	321719.3	739.7	896.1	384.0	384.0	ND	0.0	30027.1	32396.0	
2500,500	03/16/06	1140	37.08820	-94.62663	20-Mar-06	<LOD		1785.3		8207.0		<LOD		<LOD		<LOD		2645.8		
2500,500					20-Mar-06	<LOD		2450.7		10863.9		181.2		<LOD		<LOD		4024.4		
2500,500					20-Mar-06	<LOD		2577.6		18688.5		170.2		<LOD		<LOD		3958.0		
Average/Max						ND	0.0	2271.2	2577.6	12586.4	18688.5	175.7	181.2	ND	0.0	ND	0.0	3542.7	4024.4	
2500,600	03/16/06	1135	37.08840	-94.62690	20-Mar-06	533.4		405.8		58312.8		<LOD		<LOD		<LOD		6634.9		
2500,600					20-Mar-06	637.7		512.2		66842.9		<LOD		145.3		<LOD		8008.1		
2500,600					20-Mar-06	<LOD		236.4		47947.4		<LOD		<LOD		<LOD		5776.1		
Average/Max						585.6	637.7	384.8	512.2	57701.0	66842.9	ND	0.0	145.3	145.3	ND	0.0	6806.3	8008.1	
2500,700	03/16/06	1132	37.08855	-94.62715	20-Mar-06	<LOD		333.2		2412.2		174.7		<LOD		35.7		3914.4		
2500,700					20-Mar-06	<LOD		680.8		6466.1		417.7		<LOD		48.5		6615.2		
2500,700					20-Mar-06	<LOD		623.8		6198.8		471.5		<LOD		54.1		6486.1		
Average/Max						ND	0.0	546.0	680.8	5025.7	6466.1	354.6	471.5	ND	0.0	46.1	54.1	5671.9	6615.2	
2600,0	03/16/06	1010	37.08718	-94.62537	21-Mar-06	1130.4		246.0		108953.5		121.1		<LOD		<LOD		3342.6		
2600,0					21-Mar-06	1787.2		<LOD		231511.7		<LOD		<LOD		<LOD		4248.5		
2600,0					21-Mar-06	1073.9		<LOD		196576.6		<LOD		<LOD		<LOD		3831.4		
Average/Max						1330.5	1787.2	246.0	246.0	179014.0	231511.7	121.1	121.1	ND	0.0	ND	0.0	3807.5	4248.5	
2600,100	03/16/06	1008	37.08749	-94.62560	21-Mar-06	6375.8		2769.2		534180.5		<LOD		463.7		<LOD		17304.4		
2600,100					21-Mar-06	4699.3		3050.0		472496.3		<LOD		402.2		<LOD		15737.9		
2600,100					21-Mar-06	4165.0		2561.5		425691.8		582.3		404.7		<LOD		13663.9		
Average/Max						5080.0	6375.8	2793.6	3050.0	477456.2	534180.5	582.3	582.3	423.5	463.7	ND	0.0	15568.7	17304.4	
2600,200E	03/16/06	1005	37.08766	-94.62576	21-Mar-06	2925.1		697.2		401115.3		<LOD		366.0		<LOD		10100.7		
2600,200E					21-Mar-06	2261.4		<LOD		271113.6		308.1		<LOD		<LOD		8899.6		
2600,200E					21-Mar-06	3373.9		<LOD		379669.6		<LOD		679.9		<LOD		9261.3		
Average/Max						2853.5	3373.9	697.2	697.2	350632.8	401115.3	308.1	308.1	522.9	679.9	ND	0.0	9420.5	10100.7	
2600,200W	03/15/06	1152	37.08819	-94.62673	21-Mar-06	3083.6		1740.8		304026.0		<LOD		352.1		<LOD		9321.3		
2600,200W					21-Mar-06	3808.6		1730.4		467944.5		466.5		1531.9		<LOD		8756.0		
2600,200W					21-Mar-06	2473.9		1779.4		349035.0		<LOD		391.2		<LOD		16850.7		
Average/Max						3122.0	3808.6	1750.2	1779.4	373668.5	467944.5	466.5	466.5	758.4	1531.9	ND	0.0	11642.7	16850.7	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
2600,300W	03/16/06	1003	37.08791	-94.62618	21-Mar-06	4474.5		7765.4		439155.3		547.4		704.2		<LOD		22645.3		
2600,300					21-Mar-06	4151.6		6217.7		378901.6		<LOD		460.1		<LOD		19591.5		
2600,300					21-Mar-06	3658.6		6305.0		372188.9		595.7		399.8		<LOD		19512.9		
Average/Max						4094.9	4474.5	6762.7	7765.4	396748.6	439155.3	571.5	595.7	521.4	704.2	ND	0.0	20583.2	22645.3	
2600,300 E	03/16/06	1150	37.08796	-94.62589	22-Mar-06	1889.2		2354.3		181721.7		518.5		<LOD		226.0		14880.0		
2600,300 E					22-Mar-06	1946.9		3411.7		222447.5		489.2		<LOD		<LOD		18624.6		
2600,300 E					22-Mar-06	1704.2		2416.3		158367.2		534.7		<LOD		<LOD		13725.2		
Average/Max						1846.8	1946.9	2727.5	3411.7	187512.1	222447.5	514.1	534.7	ND	0.0	226.0	226.0	15743.3	18624.6	
2600,400					21-Mar-06	1535.1		5188.7		187034.3		768.9		261.0		<LOD		21519.8		
2600,400					21-Mar-06	2861.1		3736.5		213468.6		615.3		227.7		<LOD		16414.7		
Average/Max						2081.0	2861.1	3884.2	5188.7	196005.0	213468.6	632.8	768.9	244.4	261.0	ND	226.0	17892.6	21519.8	
2600,400 E	03/16/06	1148	37.08814	-94.62614	22-Mar-06	2079.3		1164.1		208882.7		366.4		239.5		<LOD		9604.7		
2600,400 E					22-Mar-06	2960.9		1886.9		322464.8		466.3		<LOD		<LOD		14718.1		
2600,400 E					22-Mar-06	2481.1		1717.7		275678.6		<LOD		388.9		<LOD		13275.0		
Average/Max						2507.1	2960.9	1589.6	1886.9	269008.7	322464.8	416.3	466.3	314.2	388.9	ND	0.0	12532.6	14718.1	
2600,400W	03/16/06	1000	37.08810	-94.62637	21-Mar-06	2092.7		6477.6		191153.8		1043.0		246.3		<LOD		23386.2		
2600,500	03/16/06	1145	37.08836	-94.62639	22-Mar-06	<LOD		3411.5		22528.9		396.3		<LOD		<LOD		5977.9		
2600,500					22-Mar-06	<LOD		3037.8		27749.9		484.5		<LOD		<LOD		6724.3		
2600,500					22-Mar-06	<LOD		2506.5		16301.7		270.1		<LOD		<LOD		4888.2		
Average/Max						ND	0.0	2985.2	3411.5	22193.5	27749.9	383.6	484.5	ND	0.0	ND	0.0	5863.5	6724.3	
2600,600	03/16/06	1143	37.08854	-94.62663	22-Mar-06	<LOD		1942.4		38799.4		<LOD		<LOD		<LOD		7284.5		
2600,600					22-Mar-06	<LOD		138.7		2788.5		161.3		<LOD		<LOD		4723.2		
2600,600					22-Mar-06	<LOD		239.2		3352.7		232.0		<LOD		79.0		5864.9		
Average/Max						ND	0.0	773.4	1942.4	14980.2	38799.4	196.6	232.0	ND	0.0	79.0	79.0	5957.5	7284.5	
2600,700	03/16/06	1140	37.08877	-94.62680	22-Mar-06	<LOD		67.4		1145.5		172.3		<LOD		<LOD		1842.1		
2600,700					22-Mar-06	<LOD		88.5		1040.5		274.0		<LOD		46.1		2626.4		
2600,700					22-Mar-06	<LOD		77.0		1457.9		143.1		<LOD		<LOD		2780.2		
Average/Max						ND	0.0	77.6	88.5	1214.6	1457.9	196.5	274.0	ND	0.0	46.1	46.1	2416.2	2780.2	
2700,0	03/16/06	1310	37.08743	-94.62515	23-Mar-06	<LOD		<LOD		2546.0		<LOD		<LOD		<LOD		436.1		
2700,0					23-Mar-06	<LOD		<LOD		2509.3		<LOD		<LOD		<LOD		332.6		
2700,0					23-Mar-06	<LOD		<LOD		2404.3		<LOD		<LOD		<LOD		423.4		
Average/Max						ND	0.0	ND	0.0	2486.5	2546.0	ND	0.0	ND	0.0	ND	0.0	397.4	436.1	
2700,100	03/16/06	1314	37.08764	-94.62534	23-Mar-06	857.3		222.3		83140.6		267.5		645.6		5365.8		8641.4		
2700,100					23-Mar-06	648.2		422.3		78076.8		305.4		177.8		2594.8		7104.2		
2700,100					23-Mar-06	557.1		238.5		63794.3		303.9		283.6		4046.4		6823.1		
Average/Max						687.5	857.3	294.4	422.3	75003.9	83140.6	292.3	305.4	369.0	645.6	4002.3	5365.8	7522.9	8641.4	
2700,200	03/16/06	1317	37.08788	-94.62552	22-Mar-06	<LOD		161.8		2771.9		189.6		<LOD		<LOD		5759.3		
2700,200					22-Mar-06	<LOD		161.3		2582.9		271.3		<LOD		96.6		5622.3		
2700,200					22-Mar-06	<LOD		173.9		2959.7		274.7		<LOD		122.6		7027.5		
Average/Max						ND	0.0	165.7	173.9	2771.5	2959.7	245.2	274.7	ND	0.0	109.6	122.6	6136.4	7027.5	
2700,300	03/16/06	1320	37.08810	-94.62571	23-Mar-06	<LOD		2110.1		46007.0		574.9		<LOD		197.5		19853.3		
2700,300					23-Mar-06	<LOD		1790.4		38718.1		<LOD		<LOD		<LOD		10057.8		
2700,300					23-Mar-06	808.4		2045.9		38845.9		670.3		158.6		270.2		20395.1		
Average/Max						808.4	808.4	1982.1	2110.1	41190.3	46007.0	622.6	670.3	158.6	158.6	233.9	270.2	16768.7	20395.1	
2700,400	03/16/06	1322	37.08832	-94.62592	23-Mar-06	1724.1		<LOD		158316.3		197.0		183.3		<LOD		4685.7		
2700,400					23-Mar-06	1654.2		<LOD		210574.8		<LOD		336.0		<LOD		4520.9		
2700,400					23-Mar-06	743.1		<LOD		102827.8		144.9		<LOD		<LOD		3464.0		
Average/Max						1373.8	1724.1	ND	0.0	157239.6	210574.8	170.9	197.0	259.6	336.0	ND	0.0	4223.5	4685.7	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
2700,500	03/16/06	1325	37.08853	-94.62611	23-Mar-06	<LOD		1478.4		18427.8		721.0		<LOD		98.2		11558.1		
2700,500					23-Mar-06	<LOD		2716.6		32046.3		2043.8		<LOD		<LOD		21332.6		
2700,500					23-Mar-06	<LOD		1223.4		15917.2		469.1		<LOD		68.5		7537.9		
Average/Max						ND	0.0	1806.2	2716.6	22130.4	32046.3	1078.0	2043.8	ND	0.0	83.3	98.2	13476.2	21332.6	
2700,600	03/16/06	1327	37.08876	-94.62630	23-Mar-06	<LOD		273.2		17153.6		149.1		<LOD		50.0		3529.4		
2700,600					23-Mar-06	<LOD		217.5		23923.4		229.1		<LOD		<LOD		3564.9		
2700,600					23-Mar-06	<LOD		345.2		21229.7		165.2		<LOD		83.7		3900.9		
Average/Max						ND	0.0	278.6	345.2	20768.9	23923.4	181.1	229.1	ND	0.0	66.9	83.7	3665.1	3900.9	
2700,700	03/16/06	1330	37.08896	-94.62652	23-Mar-06	<LOD		77.5		3966.5		92.3		<LOD		<LOD		913.9		
2700,700					23-Mar-06	<LOD		82.3		2959.4		<LOD		<LOD		<LOD		923.7		
2700,700					23-Mar-06	<LOD		74.1		2907.4		83.5		<LOD		<LOD		776.2		
Average/Max						ND	0.0	78.0	82.3	3277.8	3966.5	87.9	92.3	ND	0.0	ND	0.0	871.3	923.7	
2700,750	03/16/06	1335	37.08905	-94.62659	23-Mar-06	<LOD		58.9		1956.4		<LOD		<LOD		<LOD		917.8		
2700,750					23-Mar-06	<LOD		84.5		2151.3		48.1		<LOD		<LOD		753.7		
2700,750					23-Mar-06	<LOD		100.3		1773.6		<LOD		<LOD		<LOD		977.7		
Average/Max						ND	0.0	81.2	100.3	1960.4	2151.3	48.1	48.1	ND	0.0	ND	0.0	883.1	977.7	
2800,0	03/16/06	1310	37.08760	-94.62488	23-Mar-06	<LOD		141.0		8938.2		64.8		<LOD		<LOD		1978.4		
2800,0					23-Mar-06	<LOD		101.9		9360.2		85.3		<LOD		<LOD		2149.4		
2800,0					23-Mar-06	<LOD		67.8		11236.2		89.0		<LOD		96.6		1880.5		
Average/Max						ND	0.0	103.6	141.0	9844.9	11236.2	79.7	89.0	ND	0.0	96.6	96.6	2002.8	2149.4	
2800,100	03/16/06	1315	37.08782	-94.62508	23-Mar-06	<LOD		1522.0		31383.8		310.0		<LOD		245.8		17522.8		
2800,100					23-Mar-06	<LOD		1767.3		28646.4		901.7		<LOD		198.6		19979.4		
2800,100					23-Mar-06	<LOD		1695.6		29404.7		523.2		<LOD		172.3		20388.6		
Average/Max						ND	0.0	1661.6	1767.3	29811.6	31383.8	578.3	901.7	ND	0.0	205.5	245.8	19296.9	20388.6	
2800,200	03/16/06	1320	37.08805	-94.62526	23-Mar-06	<LOD		320.6		4455.2		286.2		<LOD		164.1		9942.5		
2800,200					23-Mar-06	<LOD		291.6		3222.6		189.0		<LOD		159.4		8838.5		
2800,200					23-Mar-06	<LOD		341.5		4923.4		354.6		<LOD		175.8		13373.1		
Average/Max						ND	0.0	317.9	341.5	4200.4	4923.4	276.6	354.6	ND	0.0	166.4	175.8	10718.0	13373.1	
2800,300	03/16/06	1323	37.08828	-94.62545	23-Mar-06	769.9		1592.3		49323.4		449.1		<LOD		<LOD		14192.3		
2800,300					23-Mar-06	650.0		548.3		17615.2		402.2		<LOD		112.8		8597.8		
2800,300					23-Mar-06	1010.3		1021.5		30123.0		<LOD		169.1		153.2		10781.0		
Average/Max						810.0	1010.3	1054.0	1592.3	32353.9	49323.4	425.7	449.1	169.1	169.1	133.0	153.2	11190.4	14192.3	
2800,400	03/16/06	1325	37.08850	-94.62566	23-Mar-06	<LOD		977.2		41388.3		242.8		133.2		<LOD		5937.9		
2800,400					23-Mar-06	577.9		1170.6		68697.2		337.2		<LOD		<LOD		7346.1		
2800,400					23-Mar-06	<LOD		420.8		45259.4		144.9		<LOD		<LOD		3349.7		
Average/Max						577.9	577.9	856.2	1170.6	51781.6	68697.2	241.6	337.2	133.2	133.2	ND	0.0	5544.6	7346.1	
2800,500	03/16/06	1327	37.08872	-94.62586	23-Mar-06	<LOD		2867.1		17000.4		819.4		<LOD		<LOD		21314.7		
2800,500					23-Mar-06	<LOD		2024.3		9517.6		420.0		<LOD		<LOD		14971.9		
2800,500					23-Mar-06	691.7		3610.2		20429.1		1098.5		<LOD		<LOD		24204.4		
Average/Max						691.7	691.7	2833.9	3610.2	15649.0	20429.1	779.3	1098.5	ND	0.0	ND	0.0	20163.7	24204.4	
2800,600	03/16/06	1330	37.08894	-94.62607	23-Mar-06	3689.6		26090.3		313672.0		1373.3		372.7		<LOD		53081.3		
2800,600					23-Mar-06	2820.5		38220.6		292065.6		1777.0		<LOD		<LOD		42458.4		
2800,600					23-Mar-06	2696.1		27802.4		374083.4		1476.5		<LOD		<LOD		42142.1		
Average/Max						3068.7	3689.6	30704.4	38220.6	326607.0	374083.4	1542.3	1777.0	372.7	372.7	ND	0.0	45893.9	53081.3	
2800,720	03/16/06	1335	37.08921	-94.62630	23-Mar-06	<LOD		3127.2		25027.1		774.8		176.4		<LOD		25044.6		
2800,720					23-Mar-06	<LOD		2867.5		21975.3		620.1		<LOD		<LOD		24631.5		
2800,720					23-Mar-06	<LOD		2178.6		19716.6		516.6		<LOD		84.9		21308.6		
Average/Max						ND	0.0	2724.4	3127.2	22239.7	25027.1	637.2	774.8	176.4	176.4	84.9	84.9	23661.6	25044.6	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
2900,0	03/16/06	1349	37.08779	-94.62461	23-Mar-06	<LOD		41.5		7031.8		<LOD		<LOD		<LOD		1271.6		
2900,0					23-Mar-06	<LOD		83.1		12897.7		80.8		<LOD		<LOD		1500.9		
2900,0					23-Mar-06	<LOD		46.4		11371.9		60.1		<LOD		<LOD		1332.4		
Average/Max						ND	0.0	57.0	83.1	10433.8	12897.7	70.4	80.8	ND	0.0	ND	0.0	1368.3	1500.9	
2900,100	03/16/06	1352	37.08797	-94.62482	23-Mar-06	<LOD		<LOD		12516.5		<LOD		<LOD		81.5		1353.8		
2900,100					23-Mar-06	421.9		414.4		27833.2		243.1		131.8		69.8		6567.9		
2900,100					23-Mar-06	345.3		241.6		20232.2		123.2		<LOD		94.5		4207.4		
Average/Max						383.6	421.9	328.0	414.4	20194.0	27833.2	183.2	243.1	131.8	131.8	81.9	94.5	4043.0	6567.9	
2900,200	03/16/06	1354	37.08820	-94.62501	23-Mar-06	<LOD		264.8		4947.0		298.8		<LOD		182.5		8213.1		
2900,200					23-Mar-06	<LOD		273.5		6410.2		231.1		<LOD		187.6		7033.4		
2900,200					23-Mar-06	<LOD		346.4		5595.9		221.7		<LOD		176.6		7895.7		
Average/Max						ND	0.0	294.9	346.4	5651.0	6410.2	250.5	298.8	ND	0.0	182.2	187.6	7714.1	8213.1	
2900,300	03/16/06	1359	37.08842	-94.62518	23-Mar-06	<LOD		103.0		3439.1		217.3		<LOD		108.1		5032.3		
2900,300					23-Mar-06	<LOD		118.1		4055.2		169.3		<LOD		125.8		5016.8		
2900,300					23-Mar-06	<LOD		141.2		3772.7		180.3		<LOD		118.5		5371.8		
Average/Max						ND	0.0	120.8	141.2	3755.7	4055.2	188.9	217.3	ND	0.0	117.5	125.8	5140.3	5371.8	
2900,400	03/16/06	1400	37.08864	-94.62538	23-Mar-06	1633.5		842.6		143521.9		330.3		307.9		<LOD		6129.5		
2900,400					23-Mar-06	540.6		291.4		79124.3		186.7		<LOD		<LOD		2510.2		
2900,400					23-Mar-06	758.0		884.3		101192.2		408.5		225.1		<LOD		6260.3		
Average/Max						977.4	1633.5	672.8	884.3	107946.1	143521.9	308.5	408.5	266.5	307.9	ND	0.0	4966.7	6260.3	
2900,500	03/16/06	1404	37.08886	-94.62559	23-Mar-06	1584.5		6847.6		81176.5		1019.2		<LOD		<LOD		24686.1		
2900,500					23-Mar-06	<LOD		4687.0		46241.1		1577.8		<LOD		<LOD		18837.3		
2900,500					23-Mar-06	3506.0		5896.8		159988.3		847.3		<LOD		<LOD		21524.4		
Average/Max						2545.3	3506.0	5810.5	6847.6	95802.0	159988.3	1148.1	1577.8	ND	0.0	ND	0.0	21682.6	24686.1	
2900,600	03/16/06	1406	37.08908	-94.62577	23-Mar-06	1592.8		8229.8		177071.9		355.6		208.6		<LOD		14802.3		
2900,600					23-Mar-06	2312.3		9646.0		199235.2		634.0		<LOD		<LOD		17294.9		
2900,600					23-Mar-06	2045.7		8661.3		175422.5		568.8		<LOD		<LOD		16581.3		
Average/Max						1983.6	2312.3	8845.7	9646.0	183909.8	199235.2	519.5	634.0	208.6	208.6	ND	0.0	16226.2	17294.9	
2900,710	03/16/06	1409	37.08933	-94.62602	22-Mar-06	<LOD		513.0		6066.5		301.7		<LOD		<LOD		6015.0		
2900,710					22-Mar-06	<LOD		420.2		5593.4		272.1		<LOD		<LOD		4857.0		
2900,710					22-Mar-06	<LOD		548.5		5170.1		272.0		<LOD		<LOD		5427.3		
Average/Max						ND	0.0	493.9	548.5	5610.0	6066.5	281.9	301.7	ND	0.0	ND	0.0	5433.1	6015.0	
300,0	03/15/06	1430	37.08395	-94.63186	22-Mar-06	568.9		1145.8		29673.1		185.2		<LOD		<LOD		4321.2		
300,0					22-Mar-06	<LOD		622.9		20047.6		130.0		<LOD		<LOD		2829.7		
300,0					22-Mar-06	<LOD		1144.6		27979.0		173.2		<LOD		<LOD		2430.3		
Average/Max						568.9	568.9	971.1	1145.8	25899.9	29673.1	162.8	185.2	ND	0.0	ND	0.0	3193.7	4321.2	
300,100	03/15/06	1433	37.08422	-94.63200	22-Mar-06	1240.7		10623.6		122630.6		292.6		<LOD		<LOD		8699.1		
300,100					22-Mar-06	1055.0		10057.3		135954.0		379.2		<LOD		<LOD		9141.9		
300,100					22-Mar-06	1229.5		10439.9		136505.0		400.6		<LOD		<LOD		9356.6		
Average/Max						1175.1	1240.7	10373.6	10623.6	131696.5	136505.0	357.4	400.6	ND	0.0	ND	0.0	9065.8	9356.6	
300,200	03/15/06	1436	37.08445	-94.63212	22-Mar-06	370.3		2017.0		50554.1		223.7		<LOD		<LOD		5377.5		
300,200					22-Mar-06	527.7		1652.4		53508.2		148.6		<LOD		<LOD		5714.8		
300,200					22-Mar-06	595.5		2200.5		56630.7		202.2		<LOD		<LOD		5742.3		
Average/Max						497.8	595.5	1956.6	2200.5	53564.3	56630.7	191.5	223.7	ND	0.0	ND	0.0	5611.5	5742.3	
300,300	03/15/06	1438	37.08468	-94.63227	22-Mar-06	<LOD		66.7		12681.7		<LOD		<LOD		<LOD		1521.1		
300,300					22-Mar-06	<LOD		81.0		9804.3		58.2		<LOD		<LOD		1047.5		
300,300					22-Mar-06	<LOD		116.3		13006.4		<LOD		<LOD		<LOD		1602.1		
Average/Max						ND	0.0	88.0	116.3	11830.8	13006.4	58.2	58.2	ND	0.0	ND	0.0	1390.2	1602.1	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
300,400	03/15/06	1441	37.08493	-94.63239	22-Mar-06	968.6		4158.9		75148.6		281.2		<LOD		<LOD		8193.2		
300,400					22-Mar-06	<LOD		5319.7		88982.7		474.7		<LOD		<LOD		10298.7		
300,400					22-Mar-06	1038.7		5901.1		83875.9		385.2		<LOD		<LOD		10322.6		
Average/Max						1003.7	1038.7	5126.6	5901.1	82669.1	88982.7	380.4	474.7	ND	0.0	ND	0.0	9604.9	10322.6	
300,500	03/15/06	1445	37.08517	-94.63251	22-Mar-06	<LOD		45.2		5277.3		109.1		<LOD		<LOD		1282.5		
300,500					22-Mar-06	<LOD		121.4		10305.3		78.5		<LOD		<LOD		2156.2		
300,500					22-Mar-06	<LOD		149.7		5087.2		92.0		<LOD		<LOD		2641.6		
Average/Max						ND	0.0	105.4	149.7	6889.9	10305.3	93.2	109.1	ND	0.0	ND	0.0	2026.8	2641.6	
3000,0	03/16/06	1345	37.08796	-94.62436	23-Mar-06	<LOD		1055.0		4703.6		528.9		<LOD		<LOD		9291.4		
3000,0					23-Mar-06	<LOD		1571.6		6150.9		972.9		<LOD		<LOD		15166.8		
3000,0					23-Mar-06	<LOD		2476.5		9905.8		902.1		131.8		<LOD		21928.5		
Average/Max						ND	0.0	1701.0	2476.5	6920.1	9905.8	801.3	972.9	131.8	131.8	ND	0.0	15462.2	21928.5	
3000,100	03/16/06	1348	37.08816	-94.62456	23-Mar-06	3665.3		20413.2		136146.1		13819.7		747.9		<LOD		200196.4		
3000,100					23-Mar-06	2656.8		17188.4		108599.3		13331.9		573.8		<LOD		185918.8		
3000,100					23-Mar-06	3665.8		19017.3		144716.9		14186.7		1003.9		<LOD		236220.0		
Average/Max						3329.3	3665.8	18873.0	20413.2	129820.8	144716.9	13779.4	14186.7	775.2	1003.9	ND	0.0	207445.0	236220.0	
3000,200	03/16/06	1350	37.08839	-94.62473	23-Mar-06	4100.6		25931.9		176203.3		11473.8		824.5		<LOD		199767.7		
3000,200					23-Mar-06	3402.2		26347.6		182535.3		13166.4		1140.0		<LOD		223227.7		
3000,200					23-Mar-06	4713.9		29538.0		193886.8		13598.0		829.4		<LOD		215391.7		
Average/Max						4072.2	4713.9	27272.5	29538.0	184208.5	193886.8	12746.1	13598.0	931.3	1140.0	ND	0.0	212795.7	223227.7	
3000,300	03/16/06	1353	37.08861	-94.62493	23-Mar-06	3101.4		16256.2		139800.8		6220.8		396.2		<LOD		108242.9		
3000,300					23-Mar-06	<LOD		16127.5		151200.9		5685.0		<LOD		<LOD		108936.7		
3000,300					23-Mar-06	4070.6		17965.8		165013.0		6266.1		652.6		<LOD		123589.5		
Average/Max						3586.0	4070.6	16783.2	17965.8	152004.9	165013.0	6057.3	6266.1	524.4	652.6	ND	0.0	113589.7	123589.5	
3000,400	03/16/06	1355	37.08883	-94.62514	23-Mar-06	<LOD		2464.6		19458.3		1100.2		<LOD		360.9		16977.7		
3000,400					23-Mar-06	<LOD		1765.2		12496.2		845.7		<LOD		262.8		11386.2		
3000,400					23-Mar-06	<LOD		4702.1		26218.9		724.1		<LOD		124.4		8785.8		
Average/Max						ND	0.0	2977.3	4702.1	19391.2	26218.9	890.0	1100.2	ND	0.0	249.4	360.9	12383.2	16977.7	
3000,500	03/16/06	1358	37.08905	-94.62533	23-Mar-06	439.9		674.7		34728.4		87.2		<LOD		<LOD		3053.1		
3000,500					23-Mar-06	<LOD		900.6		28455.7		<LOD		<LOD		<LOD		3555.1		
3000,500					23-Mar-06	<LOD		628.7		33293.2		<LOD		<LOD		66.3		3013.6		
Average/Max						439.9	439.9	734.7	900.6	32159.1	34728.4	87.2	87.2	ND	0.0	66.3	66.3	3207.3	3555.1	
3000,600	03/16/06	1400	37.08926	-94.62553	23-Mar-06	<LOD		11016.3		225224.2		740.6		<LOD		<LOD		20971.3		
3000,600					23-Mar-06	2136.1		11375.5		225353.4		921.3		<LOD		<LOD		23041.5		
3000,600					23-Mar-06	2699.3		10267.3		201522.3		722.8		<LOD		<LOD		20051.5		
Average/Max						2417.7	2699.3	10886.4	11375.5	217366.6	225353.4	794.9	921.3	ND	0.0	ND	0.0	21354.8	23041.5	
3000,700	03/15/06	1645	37.08947	-94.62572	23-Mar-06	<LOD		921.5		7230.9		437.5		<LOD		<LOD		9402.0		
3000,700					23-Mar-06	<LOD		1620.8		11891.4		675.9		<LOD		<LOD		16181.8		
3000,700					23-Mar-06	<LOD		1657.2		12671.9		891.0		<LOD		<LOD		14895.7		
Average/Max						ND	0.0	1399.8	1657.2	10598.1	12671.9	668.1	891.0	ND	0.0	ND	0.0	13493.2	16181.8	
3100,0	03/16/06	1430	37.08808	-94.62404	23-Mar-06	<LOD		16251.6		42461.6		9216.7		<LOD		<LOD		156529.8		
3100,0					23-Mar-06	2162.6		20221.2		51964.1		13148.2		655.4		<LOD		192669.2		
3100,0					23-Mar-06	<LOD		15511.7		37942.6		9053.8		526.4		<LOD		150706.1		
Average/Max						2162.6	2162.6	17328.2	20221.2	44122.8	51964.1	10472.9	13148.2	590.9	655.4	ND	0.0	166635.0	192669.2	
3100,100	03/16/06	1433	37.08844	-94.62399	23-Mar-06	4424.4		22959.2		158587.1		14670.5		779.3		<LOD		234502.6		
3100,100					23-Mar-06	<LOD		1620.4		9134.6		2091.5		<LOD		<LOD		10598.8		
3100,100					23-Mar-06	3158.2		25134.0		145792.3		15663.9		772.7		<LOD		222177.8		
Average/Max						3791.3	4424.4	16571.2	25134.0	104504.6	158587.1	10808.6	15663.9	776.0	779.3	ND	0.0	155759.7	234502.6	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
3100,200	03/16/06	1435	37.08852	-94.62446	22-Mar-06	1240.9		9741.2		74802.4		3587.5		445.4		<LOD		64415.2		
3100,200					22-Mar-06	1556.1		11964.6		92212.3		6046.4		534.8		<LOD		83485.8		
3100,200					22-Mar-06	<LOD		9937.8		83728.6		4424.5		401.7		<LOD		66745.2		
Average/Max						1398.5	1556.1	10547.9	11964.6	83581.1	92212.3	4686.1	6046.4	460.6	534.8	ND	0.0	71548.7	83485.8	
3100,300	03/16/06	1445	37.08872	-94.62462	23-Mar-06	<LOD		2743.2		24976.3		408.1		<LOD		<LOD		11355.9		
3100,300					23-Mar-06	<LOD		1104.9		15535.7		617.0		<LOD		<LOD		6825.3		
3100,300					23-Mar-06	<LOD		3471.4		43032.8		1160.3		<LOD		134.1		21929.0		
Average/Max						ND	0.0	2439.9	3471.4	27848.3	43032.8	728.5	1160.3	ND	0.0	134.1	134.1	13370.1	21929.0	
3100,400	03/16/06	1449	37.08912	-94.62460	23-Mar-06	<LOD		78.3		10620.3		<LOD		<LOD		<LOD		1370.7		
3100,400					23-Mar-06	<LOD		<LOD		2375.2		<LOD		<LOD		<LOD		422.7		
3100,400					23-Mar-06	<LOD		<LOD		5176.1		<LOD		<LOD		<LOD		658.4		
Average/Max						ND	0.0	78.3	78.3	6057.2	10620.3	ND	0.0	ND	0.0	ND	0.0	817.3	1370.7	
3100,500	03/15/06	1640	37.08912	-94.62502	23-Mar-06	<LOD		153.6		6401.1		78.1		<LOD		<LOD		1577.2		
3100,500					23-Mar-06	<LOD		262.8		18471.6		<LOD		<LOD		<LOD		2422.5		
3100,500					23-Mar-06	<LOD		212.8		7938.3		141.5		<LOD		<LOD		1945.5		
Average/Max						ND	0.0	209.7	262.8	10937.0	18471.6	109.8	141.5	ND	0.0	ND	0.0	1981.7	2422.5	
3100,600	03/15/06	1630	37.08938	-94.62525	23-Mar-06	1728.4		7800.1		153644.5		<LOD		<LOD		<LOD		19813.9		
3100,600					23-Mar-06	1350.8		5719.3		98757.8		752.6		<LOD		<LOD		16350.6		
3100,600					23-Mar-06	1136.9		5713.1		114357.1		571.5		<LOD		<LOD		17756.6		
Average/Max						1405.4	1728.4	6410.8	7800.1	122253.1	153644.5	662.1	752.6	ND	0.0	ND	0.0	17973.7	19813.9	
3100,700	03/15/06	1625	37.08961	-94.62539	23-Mar-06	<LOD		<LOD		1268.2		36.6		<LOD		<LOD		333.9		
3100,700					23-Mar-06	<LOD		69.1		3874.3		<LOD		<LOD		<LOD		765.8		
3100,700					23-Mar-06	<LOD		56.1		2426.5		46.8		<LOD		<LOD		586.2		
Average/Max						ND	0.0	62.6	69.1	2523.0	3874.3	41.7	46.8	ND	0.0	ND	0.0	562.0	765.8	
3200,0	03/16/06	1405	37.08826	-94.62378	23-Mar-06	<LOD		4336.5		18965.4		686.7		<LOD		108.7		18932.8		
3200,0					23-Mar-06	426.9		2444.1		13340.8		552.2		132.4		<LOD		21273.5		
3200,0					23-Mar-06	<LOD		4508.9		28408.1		1473.6		170.7		<LOD		35894.7		
Average/Max						426.9	426.9	3763.2	4508.9	20238.1	28408.1	904.2	1473.6	151.5	170.7	108.7	108.7	25367.0	35894.7	
3200,100	03/16/06	1410	37.08844	-94.62399	23-Mar-06	4088.3		27562.7		220689.3		14385.9		999.5		<LOD		211856.1		
3200,100					23-Mar-06	<LOD		30664.2		185315.2		14862.6		689.5		<LOD		213951.6		
3200,100					23-Mar-06	4906.3		28831.1		248754.1		14734.9		1059.1		<LOD		222500.0		
Average/Max						4497.3	4906.3	29019.4	30664.2	218252.9	248754.1	14861.1	14862.6	916.0	1059.1	ND	0.0	216102.6	222500.0	
3200,200	03/16/06	1415	37.08867	-94.62417	23-Mar-06	3947.4		20186.6		286774.2		3898.7		488.8		<LOD		81543.6		
3200,200					23-Mar-06	2886.2		17335.1		179899.7		2900.6		320.6		<LOD		58017.2		
3200,200					23-Mar-06	2963.8		24868.1		205804.2		4706.0		<LOD		<LOD		92419.4		
Average/Max						3265.8	3947.4	20796.6	24868.1	224159.3	286774.2	3835.1	4706.0	404.7	488.8	ND	0.0	77326.7	92419.4	
3200,300	03/16/06	1420	37.08890	-94.62438	23-Mar-06	2539.5		17045.5		143239.1		8293.0		489.2		<LOD		126458.1		
3200,300					23-Mar-06	4037.4		20931.8		191000.0		8506.7		842.4		<LOD		148724.9		
3200,300					23-Mar-06	3357.5		17337.7		156227.1		9340.7		594.7		<LOD		134122.8		
Average/Max						3311.5	4037.4	18438.3	20931.8	163488.8	191000.0	8713.5	9340.7	642.1	842.4	ND	0.0	136435.3	148724.9	
3200,400	03/15/06	1635	37.08912	-94.62460	23-Mar-06	<LOD		45.4		7064.8		73.1		<LOD		<LOD		918.2		
3200,400					23-Mar-06	<LOD		69.9		5049.0		<LOD		<LOD		<LOD		894.4		
3200,400					23-Mar-06	<LOD		126.2		11268.4		69.7		<LOD		55.8		2161.8		
Average/Max						ND	0.0	80.5	126.2	7794.0	11268.4	71.4	73.1	ND	0.0	55.8	55.8	1324.8	2161.8	
3200,500	03/15/06	1620	37.08927	-94.62482	23-Mar-06	722.0		3986.5		24552.2		1882.6		199.1		<LOD		47369.1		
3200,500					23-Mar-06	1053.2		7648.8		41152.0		2141.8		222.3		<LOD		59544.1		
3200,500					23-Mar-06	<LOD		3970.8		23166.7		1520.3		226.4		169.0		52582.2		
Average/Max						887.6	1053.2	5202.0	7648.8	29623.6	41152.0	1848.2	2141.8	215.9	226.4	169.0	169.0	53165.1	59544.1	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
3300,0	03/16/06	1445	37.08838	-94.62349	22-Mar-06	<LOD		175.3		8329.9		113.5		<LOD		<LOD		1330.5		
3300,0					22-Mar-06	<LOD		<LOD		4519.5		<LOD		<LOD		<LOD		425.2		
3300,0					22-Mar-06	<LOD		177.7		12802.7		<LOD		<LOD		<LOD		1620.7		
Average/Max						ND	0.0	176.5	177.7	8550.7	12802.7	113.5	113.5	ND	0.0	ND	0.0	1125.5	1620.7	
3300,100	03/16/06	1450	37.08858	-94.62370	22-Mar-06	3453.2		36169.8		137706.9		15355.1		710.3		<LOD		235899.3		
3300,100					22-Mar-06	4069.7		38633.3		130825.0		17183.6		944.8		<LOD		270065.4		
3300,100					22-Mar-06	3497.4		35385.5		164504.0		19278.9		935.5		<LOD		244932.9		
Average/Max						3673.4	4069.7	36729.5	38633.3	144345.3	164504.0	17272.5	19278.9	863.5	944.8	ND	0.0	250299.2	270065.4	
3300,200	03/16/06	1451	37.08881	-94.62391	22-Mar-06	<LOD		4497.2		100289.1		651.7		<LOD		<LOD		16706.8		
3300,200					22-Mar-06	1013.0		3477.2		102454.1		538.0		<LOD		<LOD		8447.8		
3300,200					22-Mar-06	1396.6		4141.3		97018.2		778.4		<LOD		155.9		11204.8		
Average/Max						1204.8	1396.6	4038.6	4497.2	99920.4	102454.1	656.0	778.4	ND	0.0	155.9	155.9	12119.8	16706.8	
3300,300	03/16/06	1455	37.08906	-94.62409	23-Mar-06	<LOD		8192.6		79630.5		3994.2		<LOD		<LOD		96108.4		
3300,300					23-Mar-06	715.3		3216.8		29010.5		<LOD		<LOD		<LOD		45403.2		
3300,300					23-Mar-06	<LOD		9222.7		100910.1		4898.7		416.9		<LOD		109164.6		
Average/Max						715.3	715.3	6877.4	9222.7	69850.3	100910.1	4446.4	4898.7	416.9	416.9	ND	0.0	83558.7	109164.6	
3300,300	03/15/06	1610	37.08919	-94.62383	23-Mar-06	<LOD		68.6		1543.3		<LOD		<LOD		<LOD		1155.5		
3300,300					23-Mar-06	<LOD		47.7		1401.5		<LOD		<LOD		<LOD		620.1		
3300,300					23-Mar-06	<LOD		63.1		1743.9		<LOD		<LOD		<LOD		1243.2		
Average/Max						ND	0.0	59.8	68.6	1562.9	1743.9	ND	0.0	ND	0.0	ND	0.0	1006.3	1243.2	
3300,400	03/15/06	1615	37.08927	-94.62437	23-Mar-06	498.0		960.4		12403.5		472.6		142.3		<LOD		15592.2		
3300,400					23-Mar-06	674.1		1780.6		23549.8		909.4		<LOD		<LOD		27491.8		
3300,400					23-Mar-06	<LOD		657.0		10012.3		367.5		<LOD		<LOD		13759.0		
Average/Max						586.0	674.1	1132.6	1780.6	15321.8	23549.8	583.1	909.4	142.3	142.3	ND	0.0	18947.7	27491.8	
3400,0	03/16/06	1430	37.08855	-94.62321	23-Mar-06	<LOD		289.5		3184.1		370.7		<LOD		<LOD		3866.6		
3400,0					23-Mar-06	<LOD		445.8		4256.2		514.8		<LOD		<LOD		5986.1		
3400,0					23-Mar-06	<LOD		219.7		2108.5		431.5		<LOD		<LOD		3434.7		
Average/Max						ND	0.0	318.3	445.8	3182.9	4256.2	439.0	514.8	ND	0.0	ND	0.0	4429.2	5986.1	
3400,100	03/16/06	1435	37.08875	-94.62344	23-Mar-06	<LOD		401.1		17643.2		415.1		<LOD		<LOD		6516.9		
3400,100					23-Mar-06	<LOD		159.2		18565.7		220.0		<LOD		<LOD		4281.1		
3400,100					23-Mar-06	<LOD		538.4		24450.5		279.1		<LOD		<LOD		7513.2		
Average/Max						ND	0.0	366.2	538.4	20219.8	24450.5	304.8	415.1	ND	0.0	ND	0.0	6103.7	7513.2	
3400,200	03/16/06	1440	37.08895	-94.62368	23-Mar-06	<LOD		494.4		15374.1		<LOD		<LOD		<LOD		6899.8		
3400,200					23-Mar-06	<LOD		503.0		10070.5		232.7		<LOD		<LOD		4007.7		
3400,200					23-Mar-06	<LOD		549.4		12669.3		157.3		<LOD		<LOD		5678.6		
Average/Max						ND	0.0	515.6	549.4	12704.7	15374.1	195.0	232.7	ND	0.0	ND	0.0	5462.0	6899.8	
3500,0	03/15/06	1555	37.08873	-94.62303	23-Mar-06	<LOD		<LOD		200.7		15.9		<LOD		<LOD		108.7		
3500,0					23-Mar-06	<LOD		<LOD		90.0		<LOD		<LOD		<LOD		88.4		
3500,0					23-Mar-06	<LOD		<LOD		190.0		<LOD		<LOD		<LOD		140.3		
Average/Max						ND	0.0	ND	0.0	160.2	200.7	15.9	15.9	ND	0.0	ND	0.0	112.4	140.3	
3500,100	03/15/06	1600	37.08892	-94.62321	23-Mar-06	<LOD		<LOD		373.8		31.0		<LOD		<LOD		410.0		
3500,100					23-Mar-06	<LOD		<LOD		389.9		30.9		<LOD		<LOD		424.3		
3500,100					23-Mar-06	<LOD		31.2		409.1		35.3		<LOD		<LOD		445.8		
Average/Max						ND	0.0	31.2	31.2	390.9	409.1	32.4	35.3	ND	0.0	ND	0.0	426.7	445.8	
3500,200	03/15/06	1605	38.08916	-94.62347	23-Mar-06	<LOD		<LOD		456.7		18.7		<LOD		<LOD		93.7		
3500,200					23-Mar-06	<LOD		<LOD		429.4		<LOD		<LOD		<LOD		160.8		
3500,200					23-Mar-06	<LOD		<LOD		373.4		<LOD		<LOD		<LOD		141.1		
Average/Max						ND	0.0	ND	0.0	419.8	456.7	18.7	18.7	ND	0.0	ND	0.0	131.9	160.8	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
400,0	03/15/06	1455	37.08408	-94.63158	22-Mar-06	<LOD		<LOD		2387.2		18.6		<LOD		<LOD		127.2		
400,0					22-Mar-06	<LOD		<LOD		2599.7		<LOD		<LOD		<LOD		102.5		
400,0					22-Mar-06	<LOD		<LOD		2286.9		20.8		<LOD		<LOD		104.9		
Average/Max						ND	0.0	ND	0.0	2424.6	2599.7	19.7	20.8	ND	0.0	ND	0.0	111.5	127.2	
400,100	03/15/06	1500	37.08431	-94.63171	22-Mar-06	732.1		5787.1		76875.8		192.6		<LOD		<LOD		6173.6		
400,100					22-Mar-06	1069.3		5240.7		96704.5		<LOD		<LOD		<LOD		6145.0		
400,100					22-Mar-06	607.7		5182.6		87580.0		192.3		<LOD		<LOD		6390.0		
Average/Max						803.0	1069.3	5403.4	5787.1	87053.4	96704.5	192.5	192.6	ND	0.0	ND	0.0	6236.2	6390.0	
400,200	03/15/06	1505	37.08457	-94.63184	22-Mar-06	944.7		1509.1		85378.6		337.4		<LOD		<LOD		9643.7		
400,200					22-Mar-06	691.6		2052.0		74229.1		378.0		<LOD		<LOD		8293.6		
400,200					22-Mar-06	<LOD		2312.3		110602.8		494.7		<LOD		<LOD		13193.7		
Average/Max						818.1	944.7	1957.8	2312.3	90070.2	110602.8	403.4	494.7	ND	0.0	ND	0.0	10377.0	13193.7	
400,300	03/15/06	1510	37.08480	-94.63196	22-Mar-06	<LOD		8128.6		99293.4		207.5		<LOD		<LOD		5262.4		
400,300					22-Mar-06	<LOD		7467.1		120214.0		304.2		<LOD		<LOD		5846.0		
400,300					22-Mar-06	915.9		4931.6		91423.3		238.5		<LOD		<LOD		3417.5		
Average/Max						915.9	915.9	6842.4	8128.6	103643.5	120214.0	250.1	304.2	ND	0.0	ND	0.0	4842.0	5846.0	
400,400	03/15/06	1513	37.08505	-94.63210	22-Mar-06	841.4		7167.0		93208.5		459.0		<LOD		<LOD		7444.9		
400,400					22-Mar-06	<LOD		8660.9		95349.8		447.5		<LOD		<LOD		8785.8		
400,400					22-Mar-06	<LOD		7983.6		100166.9		307.2		<LOD		<LOD		8281.8		
Average/Max						841.4	841.4	7937.1	8660.9	96241.7	100166.9	404.6	459.0	ND	0.0	ND	0.0	8170.8	8785.8	
400,500	03/15/06	1516	37.08530	-94.63225	22-Mar-06	<LOD		627.2		19559.3		328.2		<LOD		<LOD		3950.4		
400,500					22-Mar-06	<LOD		679.8		18518.4		317.0		<LOD		<LOD		4810.3		
400,500					22-Mar-06	<LOD		933.6		11714.3		240.0		<LOD		<LOD		2017.3		
Average/Max						ND	0.0	746.9	933.6	16597.3	19559.3	295.0	328.2	ND	0.0	ND	0.0	3592.7	4810.3	
500,0	03/15/06	1505	37.08414	-94.63129	22-Mar-06	<LOD		580.5		20907.7		113.0		<LOD		<LOD		2276.9		
500,0					22-Mar-06	<LOD		590.6		19115.7		103.7		<LOD		<LOD		2450.8		
500,0					22-Mar-06	<LOD		502.1		16616.1		99.2		<LOD		<LOD		2125.8		
Average/Max						ND	0.0	557.7	590.6	18879.8	20907.7	105.3	113.0	ND	0.0	ND	0.0	2284.5	2450.8	
500,100	03/15/06	1509	37.08438	-94.63140	22-Mar-06	1360.3		10249.4		130042.0		214.8		<LOD		<LOD		5914.1		
500,100					22-Mar-06	1484.5		12476.9		149784.2		196.9		<LOD		<LOD		8251.0		
500,100					22-Mar-06	1110.4		14828.8		164798.8		275.6		<LOD		<LOD		8797.1		
Average/Max						1318.4	1484.5	12518.4	14828.8	148208.3	164798.8	229.1	275.6	ND	0.0	ND	0.0	7654.1	8797.1	
500,200	03/15/06	1511	37.08464	-94.63154	22-Mar-06	1804.3		6894.4		234502.2		245.5		<LOD		<LOD		5461.1		
500,200					22-Mar-06	1953.7		6528.0		192885.4		389.2		<LOD		<LOD		4961.7		
500,200					22-Mar-06	1887.0		6991.0		211473.4		266.1		<LOD		<LOD		5059.4		
Average/Max						1881.7	1953.7	6804.4	6991.0	212953.6	234502.2	300.3	389.2	ND	0.0	ND	0.0	5160.8	5461.1	
500,300	03/15/06	1514	37.08489	-94.63166	22-Mar-06	<LOD		8665.8		205845.2		496.0		<LOD		<LOD		17491.8		
500,300					22-Mar-06	1368.2		7285.7		163653.7		823.9		<LOD		<LOD		14525.8		
500,300					22-Mar-06	1793.5		9555.3		252898.0		577.2		<LOD		<LOD		16976.9		
Average/Max						1580.8	1793.5	8502.3	9555.3	207465.6	252898.0	632.4	823.9	ND	0.0	ND	0.0	16331.5	17491.8	
500,400	03/15/06	1516	37.08513	-94.63178	22-Mar-06	<LOD		6694.6		105761.6		247.2		163.6		<LOD		6704.5		
500,400					22-Mar-06	<LOD		7499.8		121499.8		490.4		<LOD		<LOD		8924.7		
500,400					22-Mar-06	1076.1		6618.5		102330.4		279.6		<LOD		<LOD		6611.5		
Average/Max						1076.1	1076.1	6937.6	7499.8	109863.9	121499.8	339.1	490.4	163.6	163.6	ND	0.0	7413.6	8924.7	
500,500	03/15/06	1518	37.08537	-94.63194	22-Mar-06	527.9		6928.8		56761.3		79.7		<LOD		<LOD		1245.0		
500,500					22-Mar-06	604.5		6161.1		61028.3		82.3		<LOD		<LOD		1313.3		
500,500					22-Mar-06	<LOD		6760.9		74579.2		110.9		<LOD		<LOD		2110.5		
Average/Max						566.2	604.5	6616.9	6928.8	64122.9	74579.2	90.9	110.9	ND	0.0	ND	0.0	1556.3	2110.5	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
500,557	03/15/06	1521	37.08551	-94.63197	22-Mar-06	<LOD		240.7		11130.4		304.9		<LOD		<LOD		3937.3		
500,557					22-Mar-06	<LOD		127.4		6164.9		171.9		<LOD		<LOD		1231.0		
500,557					22-Mar-06	<LOD		214.8		8136.6		198.6		<LOD		<LOD		3756.9		
Average/Max						ND	0.0	194.3	240.7	8477.3	11130.4	225.1	304.9	ND	0.0	ND	0.0	2975.0	3937.3	
600,0	3/15/2006	1525	37.08428	-94.63097	22-Mar-06	<LOD		343.3		13402.9		<LOD		<LOD		<LOD		2633.9		
600,0					22-Mar-06	<LOD		933.1		19860.6		85.6		<LOD		<LOD		3033.8		
600,0					22-Mar-06	<LOD		1727.2		32796.3		163.2		<LOD		<LOD		4769.3		
Average/Max						ND	0.0	1001.2	1727.2	22019.9	32796.3	124.4	163.2	ND	0.0	ND	0.0	3479.0	4769.3	
600,100	03/15/06	1530	37.08454	-94.63111	22-Mar-06	2042.8		7315.5		174417.2		483.1		<LOD		296.2		12630.5		
600,100					22-Mar-06	2257.5		7513.2		221118.0		383.7		<LOD		971.6		13499.2		
600,100					22-Mar-06	1487.0		5814.9		184175.0		337.6		<LOD		1087.3		14649.0		
Average/Max						1929.1	2257.5	6881.2	7513.2	193236.7	221118.0	401.4	483.1	ND	0.0	785.0	1087.3	13592.9	14649.0	
600,100 D	03/15/06	1530	37.08454	-94.63111	22-Mar-06	1751.0		7004.3		160541.6		392.2		<LOD		274.4		11652.1		7.7 Duplicate
600,100 D					22-Mar-06	2053.3		5408.4		186318.7		<LOD		<LOD		890.2		13840.0		2.5 Duplicate
600,100 D					22-Mar-06	2094.5		5996.8		232754.8		494.6		<LOD		835.7		13643.7		7.3 Duplicate
Average/Max						1966.3	2094.5	6136.5	7004.3	193205.0	232754.8	443.4	494.6	ND	0.0	666.8	890.2	13045.3	13840.0	
600,200	03/15/06	1535	37.08479	-94.63125	21-Mar-06	<LOD		1283.1		47766.2		<LOD		<LOD		80.7		988.2		
600,200					21-Mar-06	<LOD		1519.4		62693.0		<LOD		<LOD		<LOD		2419.3		
600,200					21-Mar-06	589.1		1722.7		66041.1		150.5		117.2		<LOD		4317.1		
Average/Max						589.1	589.1	1508.4	1722.7	58833.4	66041.1	150.5	150.5	117.2	117.2	80.7	80.7	2574.9	4317.1	
600,300	03/15/06	1542	37.08503	-94.63138	22-Mar-06	879.5		9634.7		143849.6		371.2		<LOD		<LOD		8579.8		
600,300					22-Mar-06	1162.7		10802.6		103158.7		<LOD		<LOD		<LOD		7485.8		
600,300					22-Mar-06	1271.5		9910.4		163089.7		256.1		<LOD		<LOD		9213.3		
Average/Max						1104.6	1271.5	10115.9	10802.6	136699.3	163089.7	313.7	371.2	ND	0.0	ND	0.0	8426.3	9213.3	
600,400	03/15/06	1542	37.08527	-94.63152	22-Mar-06	<LOD		5631.5		68959.1		<LOD		<LOD		<LOD		1617.8		
600,400					22-Mar-06	922.3		5910.0		76908.9		94.4		<LOD		<LOD		2332.9		
600,400					22-Mar-06	<LOD		4907.5		59073.3		<LOD		<LOD		<LOD		1021.0		
Average/Max						922.3	922.3	5483.0	5910.0	68313.8	76908.9	94.4	94.4	ND	0.0	ND	0.0	1657.2	2332.9	
600,500	03/15/06	1545	37.08548	-94.63164	22-Mar-06	<LOD		11770.8		118769.1		1389.6		<LOD		<LOD		34199.2		
600,500					22-Mar-06	1262.7		11159.3		137590.6		774.8		<LOD		<LOD		17270.5		
600,500					22-Mar-06	1113.3		13157.7		101428.3		1284.9		<LOD		<LOD		25512.4		
Average/Max						1188.0	1262.7	12029.2	13157.7	119262.7	137590.6	1149.8	1389.6	ND	0.0	ND	0.0	25660.7	34199.2	
600,535	03/15/06	1520	37.08559	-94.63168	22-Mar-06	<LOD		178.1		6466.0		204.4		<LOD		<LOD		2046.7		
600,535					22-Mar-06	<LOD		254.2		7155.7		188.1		<LOD		<LOD		2431.6		
600,535					22-Mar-06	<LOD		191.4		12621.6		183.3		<LOD		<LOD		3401.6		
Average/Max						ND	0.0	207.9	254.2	8747.8	12621.6	191.9	204.4	ND	0.0	ND	0.0	2626.6	3401.6	
700,0	03/15/06	1535	37.08442	-94.63071	22-Mar-06	444.4		815.1		27619.9		113.5		<LOD		<LOD		3684.6		
700,0					22-Mar-06	<LOD		1073.6		38291.8		103.9		128.4		<LOD		4211.0		
700,0					22-Mar-06	<LOD		759.1		26829.6		<LOD		<LOD		<LOD		4284.0		
Average/Max						444.4	444.4	882.6	1073.6	30913.8	38291.8	108.7	113.5	128.4	128.4	ND	0.0	4059.9	4284.0	
700,100	03/15/06	1538	37.08464	-94.63084	22-Mar-06	505.3		<LOD		53135.0		<LOD		<LOD		<LOD		1161.9		
700,100					22-Mar-06	457.4		<LOD		55667.2		66.0		149.4		<LOD		956.2		
700,100					22-Mar-06	359.1		<LOD		31503.9		54.6		120.3		<LOD		956.7		
Average/Max						440.6	505.3	ND	0.0	46768.7	55667.2	60.3	66.0	134.8	149.4	ND	0.0	1024.9	1161.9	
700,200	03/15/06	1541	37.08488	-94.63098	22-Mar-06	926.4		<LOD		141865.5		<LOD		<LOD		<LOD		1149.2		
700,200					22-Mar-06	814.4		<LOD		137808.8		<LOD		240.5		<LOD		1019.2		
700,200					22-Mar-06	1691.2		<LOD		264539.6		<LOD		201.0		<LOD		2098.7		
Average/Max						1144.0	1691.2	ND	0.0	181411.3	264539.6	ND	0.0	220.8	240.5	ND	0.0	1422.3	2098.7	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
700,300	03/15/06	1542	37.08512	-94.63112	22-Mar-06	1069.5		5437.0		133528.7		664.9		<LOD		<LOD		10440.8		
700,300					22-Mar-06	<LOD		6575.1		117355.4		475.6		<LOD		<LOD		10684.1		
700,300					22-Mar-06	961.6		5121.3		101738.6		535.8		<LOD		<LOD		10448.1		
Average/Max						1015.5	1069.5	5711.1	6575.1	117540.9	133528.7	558.8	664.9	ND	0.0	ND	0.0	10524.3	10684.1	
700,400	03/15/06	1545	37.08537	-94.63126	22-Mar-06	<LOD		5157.8		47338.8		<LOD		<LOD		<LOD		521.8		
700,400					22-Mar-06	<LOD		5744.4		53314.3		<LOD		<LOD		<LOD		352.0		
700,400					22-Mar-06	<LOD		4834.2		48028.4		107.7		<LOD		<LOD		1149.2		
Average/Max						ND	0.0	5245.5	5744.4	49560.5	53314.3	107.7	107.7	ND	0.0	ND	0.0	674.3	1149.2	
700,474	03/15/06	1548	37.08557	-94.63137	22-Mar-06	593.2		4099.4		51327.2		230.5		<LOD		<LOD		6842.6		
700,474					22-Mar-06	<LOD		6236.5		79395.6		772.8		<LOD		<LOD		7868.2		
700,474					22-Mar-06	<LOD		964.3		16058.8		<LOD		<LOD		<LOD		3092.9		
Average/Max						593.2	593.2	3766.7	6236.5	48927.2	79395.6	501.6	772.8	ND	0.0	ND	0.0	5934.6	7868.2	
800,0	03/15/06	1530	37.08458	-94.63039	21-Mar-06	<LOD		4182.2		96006.6		503.4		<LOD		<LOD		16719.6		
800,0					21-Mar-06	781.2		2459.0		74771.6		617.3		<LOD		<LOD		17645.3		
800,0					21-Mar-06	<LOD		3889.0		96136.1		639.4		<LOD		<LOD		17861.5		
Average/Max						781.2	781.2	3510.0	4182.2	88971.4	96136.1	586.7	639.4	ND	0.0	ND	0.0	17408.8	17861.5	
800,100	03/15/06	1453	37.08477	-94.63055	21-Mar-06	503.2		1512.1		54426.5		227.9		<LOD		<LOD		5776.2		
800,100					21-Mar-06	<LOD		1618.3		54308.0		256.1		<LOD		<LOD		5811.8		
800,100					21-Mar-06	<LOD		1526.2		53720.2		323.2		<LOD		<LOD		5507.0		
Average/Max						503.2	503.2	1552.2	1618.3	54151.6	54426.5	269.1	323.2	ND	0.0	ND	0.0	5698.3	5811.8	
800,200	03/15/06	1555	37.08501	-94.63069	21-Mar-06	1143.4		1781.3		109322.3		422.8		<LOD		<LOD		13881.2		
800,200					21-Mar-06	1249.0		1476.1		109382.3		812.2		<LOD		<LOD		16553.7		
800,200					21-Mar-06	1115.2		1629.7		92279.7		330.0		<LOD		<LOD		12696.4		
Average/Max						1169.2	1249.0	1629.0	1781.3	103661.5	109382.3	521.7	812.2	ND	0.0	ND	0.0	14377.1	16553.7	
800,300	03/15/06	1600	37.08525	-94.63086	21-Mar-06	972.4		5083.6		114721.0		1270.7		170.3		<LOD		31268.1		
800,300					21-Mar-06	1988.3		5037.2		111860.0		2348.5		<LOD		<LOD		41731.2		
800,300					21-Mar-06	974.9		2645.8		60313.5		861.5		<LOD		85.0		14150.7		
Average/Max						1311.9	1988.3	4255.5	5083.6	95631.5	114721.0	1493.6	2348.5	170.3	170.3	85.0	85.0	29050.0	41731.2	
800,400	03/15/06	1403	37.08549	-94.63100	21-Mar-06	<LOD		9761.1		96677.6		6255.9		303.8		<LOD		117544.7		
800,400					21-Mar-06	<LOD		7739.6		86375.9		4424.5		<LOD		<LOD		79037.2		
800,400					21-Mar-06	<LOD		8568.9		82460.7		4669.9		<LOD		<LOD		91298.5		
Average/Max						ND	0.0	8689.9	9761.1	88504.7	96677.6	5116.8	6255.9	303.8	303.8	ND	0.0	95960.1	117544.7	
800,472	03/15/06	1605	37.08568	-94.63112	21-Mar-06	<LOD		330.9		7077.2		259.9		<LOD		<LOD		4794.8		
800,472					21-Mar-06	<LOD		389.9		10136.6		195.0		108.5		<LOD		6697.1		
800,472					21-Mar-06	<LOD		293.1		7942.6		123.7		135.4		<LOD		5366.9		
Average/Max						ND	0.0	338.0	389.9	8385.5	10136.6	192.9	259.9	122.0	135.4	ND	0.0	5619.6	6697.1	
900,0	03/15/06	1600	37.08464	-94.63007	22-Mar-06	2729.3		7844.2		201833.7		2130.3		397.0		<LOD		133654.5		
900,0					22-Mar-06	1416.8		9832.8		128819.5		1185.5		<LOD		<LOD		49836.3		
900,0					22-Mar-06	1043.6		13846.4		132309.6		817.3		228.4		<LOD		46990.4		
Average/Max						1729.9	2729.3	10507.8	13846.4	154320.9	201833.7	1377.7	2130.3	312.7	397.0	ND	0.0	76827.1	133654.5	
900,100	03/15/06	1603	37.08486	-94.63024	22-Mar-06	1014.0		2538.0		98359.9		387.6		<LOD		<LOD		10931.5		
900,100					22-Mar-06	962.0		1837.7		93411.7		394.3		<LOD		<LOD		8647.5		
900,100					22-Mar-06	<LOD		2523.2		105208.0		257.1		<LOD		<LOD		9367.4		
Average/Max						988.0	1014.0	2299.6	2538.0	98993.2	105208.0	346.3	394.3	ND	0.0	ND	0.0	9648.8	10931.5	
900,200	03/15/06	1405	37.08513	-94.63040	22-Mar-06	842.2		2147.4		94106.8		<LOD		<LOD		<LOD		11371.6		
900,200					22-Mar-06	1088.0		1155.4		65899.5		327.0		<LOD		<LOD		9976.6		
900,200					22-Mar-06	689.3		1090.8		73194.2		226.2		<LOD		<LOD		9328.1		
Average/Max						873.2	1088.0	1464.6	2147.4	77733.5	94106.8	276.6	327.0	ND	0.0	ND	0.0	10225.4	11371.6	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.2 Average and Max XRF Values for Surficial Soils

Sample ID	Sample Date Time		Lat	Long	Analysis Date	Chromiumm g/Kg		Copper	mg/Kg	Zinc mg/Kg		Arsenic	mg/Kg	Cadmium	mg/Kg	Mercury	mg/Kg	Lead	mg/Kg	%Difference for Standards:
900,300	03/15/06	1407	37.08535	-94.63058	22-Mar-06	715.1		2377.2		69015.5		421.7		<LOD		<LOD		8735.0		
900,300					22-Mar-06	<LOD		1675.2		63490.8		341.6		<LOD		<LOD		6669.0		
900,300					22-Mar-06	544.6		1756.8		53130.0		367.8		<LOD		<LOD		6516.3		
Average/Max						629.8	715.1	1936.4	2377.2	61878.8	69015.5	377.1	421.7	ND	0.0	ND	0.0	7306.8	8735.0	
900,400	03/15/06	1609	37.08560	-94.63072	21-Mar-06	2044.4		12458.2		249540.7		1594.4		267.3		<LOD		62411.6		
900,400					21-Mar-06	2583.5		12118.5		230302.5		2432.7		<LOD		<LOD		69648.4		
900,400					21-Mar-06	2891.6		11621.2		276420.1		2347.1		<LOD		<LOD		54676.5		
Average/Max						2506.5	2891.6	12066.0	12458.2	252087.8	276420.1	2124.8	2432.7	267.3	267.3	ND	0.0	62245.5	69648.4	
900,475	03/15/06	1611	37.08578	-94.63084	21-Mar-06	<LOD		643.1		9292.5		386.9		<LOD		33.1		5189.9		
900,475					21-Mar-06	<LOD		1701.9		23873.3		395.8		<LOD		<LOD		7994.2		
900,475					21-Mar-06	<LOD		2722.3		38856.5		648.6		<LOD		<LOD		11641.6		
Average/Max						ND	0.0	1689.1	2722.3	24007.4	38856.5	477.1	648.6	ND	0.0	33.1	33.1	8275.2	11641.6	
NS-1	03/16/06	1330	37.08727	-94.63027	20-Mar-06	<LOD		75.0		5388.0		<LOD		<LOD		<LOD		3174.9		
NS-1					20-Mar-06	<LOD		68.9		5450.2		<LOD		<LOD		<LOD		2608.9		
NS-1					20-Mar-06	<LOD		132.4		6422.1		73.3		<LOD		<LOD		2538.2		
Average/Max						ND	0.0	92.1	132.4	5753.4	6422.1	73.3	73.3	ND	0.0	ND	0.0	2774.0	3174.9	
NS-2	03/16/06	1400	37.08887	94.62853	20-Mar-06	<LOD		350.4		11522.9		<LOD		<LOD		<LOD		3317.4		
NS-2					20-Mar-06	<LOD		350.6		11922.1		89.3		<LOD		<LOD		2250.1		
NS-2					20-Mar-06	<LOD		364.9		10996.6		98.4		<LOD		<LOD		2487.1		
Average/Max						ND	0.0	355.3	364.9	11480.5	11922.1	93.9	98.4	ND	0.0	ND	0.0	2684.9	3317.4	
NS-3	03/16/06	1415	37.08889	-94.63261	20-Mar-06	<LOD		109.2		1542.5		<LOD		<LOD		<LOD		1274.3		
NS-3					20-Mar-06	<LOD		59.6		1304.4		<LOD		<LOD		<LOD		1161.7		
NS-3					20-Mar-06	<LOD		69.5		1560.7		<LOD		<LOD		<LOD		1443.3		
Average/Max						ND	0.0	79.4	109.2	1469.2	1560.7	ND	0.0	ND	0.0	ND	0.0	1293.1	1443.3	
NS-4	03/17/06	830	37.08625	-94.63502	20-Mar-06	<LOD		<LOD		833.3		<LOD		<LOD		<LOD		724.5		
NS-4					20-Mar-06	<LOD		<LOD		864.7		<LOD		<LOD		<LOD		628.8		
NS-4					20-Mar-06	<LOD		<LOD		629.3		<LOD		<LOD		<LOD		630.2		
Average/Max						ND	0.0	ND	0.0	775.7	864.7	ND	0.0	ND	0.0	ND	0.0	661.2	724.5	
NS-5	03/17.06	845	37.08722	-94.63206	20-Mar-06	<LOD		49.2		7396.2		197.1		<LOD		<LOD		6692.1		
NS-5					20-Mar-06	<LOD		145.5		4975.6		141.3		<LOD		<LOD		3600.8		
NS-5					20-Mar-06	<LOD		86.6		5668.5		183.5		<LOD		<LOD		5668.6		
Average/Max						ND	0.0	93.8	145.5	6013.4	7396.2	174.0	197.1	ND	0.0	ND	0.0	4634.7	6692.1	
W-1	03/16/06	1415	37.08379	-94.63304	20-Mar-06	<LOD		<LOD		3339.4		<LOD		<LOD		<LOD		1760.9		
W-1					20-Mar-06	<LOD		<LOD		3464.5		<LOD		<LOD		<LOD		2792.2		
W-1					20-Mar-06	<LOD		<LOD		4372.3		<LOD		<LOD		<LOD		1681.1		
Average/Max						ND	0.0	ND	0.0	3725.4	4372.3	ND	0.0	ND	0.0	ND	0.0	2078.0	2792.2	
W-2	03/16/06	1430	37.08447	-94.63390	20-Mar-06	<LOD		<LOD		4022.3		<LOD		<LOD		<LOD		1104.9		
W-2					20-Mar-06	<LOD		<LOD		3872.9		66.0		<LOD		<LOD		1430.2		
W-2					20-Mar-06	<LOD		<LOD		3106.8		<LOD		<LOD		<LOD		772.0		
Average/Max						ND	0.0	ND	0.0	3667.3	4022.3	66.0	66.0	ND	0.0	ND	0.0	1102.4	1430.2	

Yellow - Average Values **Green - Maximum Values**
<LOD - Not Detected

Table 1.1: XRF Analyses of Surficial Soil Samples

Sample ID	Sample Date Time	Time	Latitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
0,0	03/15/06	1355	37.08364	-94.63280	20	22-Mar-06	<LOD	170.9	14.19	39.4	10.0	2849.8	44.5	47.0	12.4	<LOD	89.4	<LOD	20.6	917.4	19.4	
0,0						22-Mar-06	<LOD	171.3	39.54	<LOD	30.2	3820.2	56.2	<LOD	42.2	<LOD	92.7	<LOD	23.3	1139.8	22.7	
0,0						22-Mar-06	<LOD	177.8	37.69	50.6	10.6	3968.4	55.8	<LOD	35.9	<LOD	90.3	<LOD	20.7	861.3	18.7	
0,100	03/15/06	1400	37.08390	-94.63293	17	22-Mar-06	<LOD	223.3	49.75	274.5	19.8	10570.0	129.6	155.3	21.9	<LOD	97.2	<LOD	27.7	2338.6	38.2	
0,100						22-Mar-06	<LOD	209.0	43.58	<LOD	36.4	4634.7	70.6	69.7	21.0	<LOD	95.9	<LOD	25.6	2119.6	36.7	
0,100						22-Mar-06	<LOD	227.4	46.7	167.4	16.4	7436.0	96.5	105.1	21.7	<LOD	95.2	<LOD	27.9	2415.9	38.5	
0,200	03/15/06	1405	37.08415	-94.63304	16	22-Mar-06	<LOD	276.4	61.57	1997.6	49.3	23683.6	267.9	175.0	32.7	<LOD	101.1	<LOD	42.7	5103.8	69.4	
0,200						22-Mar-06	<LOD	250.1	61.11	1161.7	37.1	21173.0	239.2	<LOD	76.5	<LOD	99.9	<LOD	40.6	3227.4	48.7	
0,200						22-Mar-06	<LOD	270.6	61.98	1614.5	45.1	23013.3	266.7	178.6	32.0	<LOD	102.2	<LOD	45.1	4693.3	66.4	
0,300	03/15/06	1407	37.08440	-94.63313	16	22-Mar-06	<LOD	450.3	108.99	<LOD	85.2	9343.1	178.5	1134.1	146.7	228.7	49.5	<LOD	114.1	49171.6	765.5	
0,300						22-Mar-06	<LOD	440.9	110.81	<LOD	80.7	14710.7	249.8	1571.0	128.8	235.5	49.0	<LOD	101.0	39499.2	595.8	
0,300						22-Mar-06	<LOD	566.5	125.3	<LOD	101.1	14624.2	280.6	1155.6	164.8	334.8	56.0	<LOD	122.7	53601.0	903.0	
0,400	03/15/06	1410	37.08464	-94.63329	15	22-Mar-06	<LOD	165.1	34.58	29.9	9.0	636.6	18.8	<LOD	33.1	<LOD	89.1	<LOD	17.1	776.7	17.7	
0,400						22-Mar-06	<LOD	177.5	35.29	<LOD	27.2	1234.9	27.3	<LOD	36.8	<LOD	90.9	<LOD	19.8	868.6	19.2	
0,400						22-Mar-06	<LOD	165.3	35.18	<LOD	26.2	645.7	18.6	42.9	9.6	<LOD	87.9	<LOD	18.3	530.7	14.2	
0,500	03/15/06	1410	37.08488	-94.63340	15	22-Mar-06	<LOD	231.1	45.91	231.1	17.1	3566.9	55.7	157.1	26.3	<LOD	95.1	<LOD	28.9	3692.8	51.2	
0,500						22-Mar-06	<LOD	209.5	46.22	159.6	15.5	4882.9	69.2	207.4	25.3	<LOD	95.0	<LOD	27.7	3325.8	47.4	
0,500						22-Mar-06	<LOD	262.8	58.62	373.1	24.2	11136.6	144.6	368.7	36.9	<LOD	105.5	<LOD	40.1	5860.2	80.1	
100,0	03/15/06	1355	37.08373	-94.63249	14	22-Mar-06	<LOD	220.8	48.04	402.3	21.0	9544.0	113.4	<LOD	39.0	<LOD	93.8	<LOD	26.6	941.6	20.7	
100,0						22-Mar-06	<LOD	207.8	49.98	333.0	19.2	7891.3	96.2	<LOD	36.3	<LOD	92.0	<LOD	25.7	852.4	19.3	
100,0						22-Mar-06	<LOD	233.2	55.81	711.3	27.4	13432.7	152.1	<LOD	44.8	110.8	31.3	<LOD	31.5	1235.2	24.5	
100,100	03/15/06	1359	37.08397	-94.63263	14	22-Mar-06	365.0	97.1	63.12	670.3	30.7	27635.0	306.3	<LOD	82.9	<LOD	103.2	<LOD	42.9	3782.3	55.0	
100,100						22-Mar-06	438.4	116.5	82.72	1309.9	45.7	39889.8	473.8	188.0	32.7	<LOD	114.0	<LOD	54.4	4216.3	65.7	
100,100						22-Mar-06	<LOD	317.3	28.8	1288.2	43.2	36549.2	418.3	161.6	29.8	173.9	36.1	<LOD	51.6	3827.5	58.5	
100,200	03/15/06	1402	37.08425	-94.63275	14	22-Mar-06	<LOD	215.4	50.39	57.4	15.4	15638.0	179.3	66.5	16.8	<LOD	98.5	<LOD	30.5	1414.2	27.5	
100,200						22-Mar-06	<LOD	227.7	52.3	<LOD	46.1	17841.0	201.9	<LOD	48.6	<LOD	99.2	<LOD	34.4	1334.3	26.6	
100,200						22-Mar-06	<LOD	206.9	49.94	51.6	15.2	15701.7	179.9	68.3	16.7	<LOD	99.5	<LOD	32.5	1384.0	27.1	
100,300	03/15/06	1406	37.08449	-94.63287	14	22-Mar-06	<LOD	183.4	35.33	<LOD	25.2	1945.1	35.1	<LOD	24.3	<LOD	89.6	<LOD	18.1	400.4	12.5	
100,300						22-Mar-06	<LOD	186.6	38.7	<LOD	24.1	990.6	25.7	<LOD	20.6	<LOD	97.5	<LOD	18.0	206.9	9.9	
100,300						22-Mar-06	<LOD	188.5	37.85	<LOD	26.1	1182.1	26.4	<LOD	18.8	<LOD	90.6	<LOD	17.3	206.5	9.3	
100,400	03/15/06	1409	37.08476	-94.63300	15	22-Mar-06	<LOD	226.1	49.32	126.1	16.9	5186.3	79.2	141.1	37.6	<LOD	104.4	<LOD	37.6	6529.6	86.7	
100,400						22-Mar-06	<LOD	242.5	47.6	125.9	16.8	7545.2	102.8	169.7	32.5	<LOD	101.5	<LOD	36.2	4993.7	68.7	
100,400						22-Mar-06	<LOD	270.0	56.71	<LOD	52.7	21684.9	251.5	136.8	23.6	<LOD	104.4	<LOD	38.4	2510.5	42.0	
100,463	03/15/06	1411	37.08498	-94.63309	16	22-Mar-06	<LOD	164.9	41.36	100.3	12.4	4367.0	58.8	<LOD	56.0	<LOD	87.5	<LOD	22.7	2268.3	33.4	
100,463						22-Mar-06	<LOD	187.7	45.02	106.1	13.6	5675.5	74.3	73.4	20.1	128.1	30.4	<LOD	25.0	2358.4	35.9	
100,463						22-Mar-06	<LOD	182.2	40.11	90.9	12.0	4210.4	57.0	65.5	16.1	<LOD	86.7	<LOD	23.2	1637.7	26.9	
1000,0	03/15/06	1610	37.08479	-94.62978	14	21-Mar-06	<LOD	1776.5	445.89	20397.0	705.9	114403.3	3394.8	8737.6	564.4	422.0	104.2	<LOD	414.3	161004.3	4721.3	
1000,0						21-Mar-06	3031.1	790.9	548.11	29373.0	1074.3	166678.5	5460.8	12006.1	715.2	<LOD	351.6	<LOD	486.0	186072.9	6059.2	
1000,0						21-Mar-06	<LOD	1677.6	413.88	26552.5	846.3	111146.2	3160.6	9659.2	533.0	531.0	102.1	<LOD	381.5	142781.0	4014.7	
1000,100	03/15/06	1655	37.08499	-94.62997	14	21-Mar-06	<LOD	278.5	60.98	672.5	30.2	18131.8	217.0	176.9	25.0	<LOD	104.5	<LOD	35.8	2739.3	45.1	
1000,100						21-Mar-06	<LOD	288.4	63.05	827.6	32.8	23549.6	267.1	167.2	27.3	<LOD	101.8	<LOD	39.5	3488.7	52.2	
1000,100						21-Mar-06	<LOD	240.3	59.15	960.1	33.3	16071.7	186.9	182.5	24.7	<LOD	100.2	<LOD	34.5	2920.3	45.1	
1000,200	03/15/06	1620	37.08526	-94.63016	15	21-Mar-06	<LOD	281.0	24.77	2028.0	50.8	26212.0	299.3	157.9	27.8	<LOD	105.6	<LOD	44.7	3521.6	53.5	
1000,200						21-Mar-06	<LOD	264.4	27.13	1828.0	46.9	26443.3	293.2	207.2	26.3	<LOD	102.5	<LOD	42.2	3229.8	48.9	
1000,200						21-Mar-06	<LOD	289.8	29.07	1742.7	47.7	34477.5	383.1	155.1	28.3	<LOD	103.4	<LOD	47.3	3682.9	55.0	
1000,300	03/15/06	1627	37.08546	-94.63027	15	21-Mar-06	<LOD	529.1	139.37	3779.9	98.7	41863.3	613.9	1599.3	102.2	<LOD	139.5	<LOD	92.6	25876.8	382.1	
1000,300						21-Mar-06	1262.7	226.1	56.66	4331.6	116.2	54892.5	851.4	1731.4	122.5	157.5	50.0	<LOD	118.2	32917.9	514.1	
1000,300						21-Mar-06	1133.1	269.3	72.45	5655.7	154.8	75142.2	1286.5	2258.7	164.5	<LOD	174.6	<LOD	148.0	48223.0	827.7	
1000,400	03/15/06	1628	37.08573	-94.63046	14	21-Mar-06	1947.8	313.8	87.54	6403.9	162.6	131136.6	2119.1	586.1	79.9	<LOD	159.0	<LOD	119.3	12776.9	231.1	
1000,400						21-Mar-06	<LOD	435.2	41.44	3142.1	76.9	46037.9	586.1	321.7	43.1	<LOD	119.9	<LOD	60.5	6289.2	96.7	

<LOD - not detected

Table 1.1: XRF Analyses of Surficial Soil Samples

Sample ID	Sample Date Time	Time	Latitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
1000,400						21-Mar-06	1532.1	295.6	87.77	7163.8	176.4	120657.3	1981.9	592.7	79.3	<LOD	158.7	<LOD	115.3	12271.0	226.1	
1000,487	03/15/06	1630	37.08593	-94.63058	15	21-Mar-06	<LOD	423.2	96.71	1349.2	52.1	24397.5	342.5	904.5	77.5	140.5	42.3	<LOD	74.3	18269.8	254.5	
1000,487						21-Mar-06	<LOD	389.2	96.35	1029.9	45.6	21787.7	305.1	715.9	74.9	185.2	42.0	<LOD	70.8	17928.9	246.7	
1000,487						21-Mar-06	<LOD	535.8	122.65	1499.8	63.7	31232.1	487.6	1075.9	103.9	151.0	48.9	<LOD	92.7	26087.6	401.6	
1100,0	03/15/06	1639	37.08492	-94.62952	14	21-Mar-06	2180.5	607.5	431.46	13129.2	472.4	89913.9	2559.3	8246.8	518.1	<LOD	294.4	<LOD	368.3	149259.8	4175.6	
1100,0						21-Mar-06	2838.6	724.3	522.94	9176.0	398.9	164035.1	4981.0	8647.1	570.2	350.2	105.5	<LOD	397.0	154823.1	4681.0	
1100,0						21-Mar-06	2505.3	702.7	484.61	21656.1	766.0	126697.7	3870.8	8319.3	581.3	563.2	106.3	<LOD	418.6	165868.3	5017.5	
1100,100	03/15/06	1642	37.08514	-94.62970	13	21-Mar-06	<LOD	280.8	67.37	565.1	29.4	23592.9	276.0	177.9	25.2	<LOD	106.8	<LOD	39.7	2737.2	45.3	
1100,100						21-Mar-06	<LOD	397.4	90	843.9	43.3	29269.3	418.4	332.1	42.1	<LOD	128.2	<LOD	56.7	5049.0	88.2	
1100,100						21-Mar-06	<LOD	369.6	87.84	1632.9	54.0	36650.7	470.1	390.1	50.3	<LOD	119.6	<LOD	57.9	8739.3	125.9	
1100,200	03/15/06	1644	37.08539	-94.62994	14	21-Mar-06	<LOD	1703.7	433.96	14631.9	494.9	126547.9	3446.6	5358.1	407.2	<LOD	266.4	<LOD	311.7	109542.0	2970.7	
1100,200						21-Mar-06	3093.8	704.6	475.16	19776.6	688.4	147597.2	4373.7	6483.0	492.6	<LOD	301.5	<LOD	366.1	134936.3	3981.2	
1100,200						21-Mar-06	<LOD	1653.8	404.2	17278.5	560.9	148843.3	4003.9	5000.1	396.5	271.4	89.1	<LOD	321.4	107250.3	2882.6	
1100,300	03/15/06	1645	37.08565	-94.63004		21-Mar-06	<LOD	289.2	33.42	1363.0	45.2	25721.6	318.4	277.4	29.9	<LOD	112.6	<LOD	43.5	3328.4	55.5	
1100,300						21-Mar-06	<LOD	293.8	34.27	1274.7	42.9	29322.0	347.5	110.9	25.5	<LOD	108.0	<LOD	41.9	2721.9	46.6	
1100,300						21-Mar-06	<LOD	331.2	36.73	1444.4	46.2	33820.5	398.6	191.9	29.5	<LOD	106.7	<LOD	51.1	3547.3	56.6	
1100,400	03/15/06	1647	37.08588	-94.63020	14	21-Mar-06	1906.1	404.4	307.78	3687.7	135.6	113467.9	2138.4	1139.8	115.8	<LOD	180.6	<LOD	141.1	19892.1	399.5	
1100,400						21-Mar-06	<LOD	1183.0	109.52	4065.7	150.0	124031.6	2437.1	1314.2	132.3	<LOD	190.2	<LOD	148.6	24045.9	497.2	
1100,400						21-Mar-06	<LOD	1290.9	332.72	3262.8	130.3	98394.5	1934.4	867.6	101.4	<LOD	189.0	<LOD	125.1	14304.5	307.6	
1100,514	03/15/06	1650	37.08588	-94.63020	14	21-Mar-06	<LOD	254.5	60	268.9	20.8	10236.5	128.3	253.7	35.5	<LOD	102.0	<LOD	37.6	6162.8	79.3	
1100,514						21-Mar-06	<LOD	233.0	55.47	357.7	21.5	7688.1	100.2	292.2	31.4	<LOD	100.3	<LOD	34.5	4889.0	64.9	
1100,514						21-Mar-06	<LOD	256.6	59.72	384.5	23.6	9533.1	124.7	260.2	36.4	<LOD	103.5	<LOD	38.4	6124.7	81.3	
1200,0	03/15/06	1640	37.08509	-94.62926	14	21-Mar-06	2251.6	480.8	348.28	2629.0	155.1	209237.3	4732.0	1925.1	203.8	<LOD	225.8	<LOD	223.5	41262.8	963.0	
1200,0						21-Mar-06	1939.4	456.2	329.76	2539.8	149.6	203207.5	4516.7	1871.0	197.2	<LOD	219.1	<LOD	215.5	39963.0	917.6	
1200,0						21-Mar-06	2009.6	472.2	363.76	2510.0	153.1	210150.6	4760.4	1728.5	203.5	<LOD	226.6	<LOD	226.6	41654.8	973.4	
1200,300	03/15/06	1645	37.08579	-94.62975	18	21-Mar-06	1145.5	360.5	293.43	8173.0	226.4	198976.5	3733.4	877.6	126.7	<LOD	182.0	<LOD	171.6	24312.5	484.0	
1200,300						21-Mar-06	1708.2	492.7	399.19	8496.0	295.2	224773.4	5307.7	1126.5	193.1	<LOD	235.6	<LOD	222.6	35818.5	878.9	
1200,300						21-Mar-06	1585.3	307.8	225.84	5902.6	165.8	155204.4	2663.0	989.7	107.6	<LOD	167.5	<LOD	139.2	20356.8	374.4	
1200,400	03/15/06	1650	37.08602	-94.62991	14	21-Mar-06	1759.4	454.7	325.16	4064.8	154.2	135090.0	2709.7	1087.0	129.8	<LOD	202.0	<LOD	162.9	22495.6	477.9	
1200,400						21-Mar-06	1323.6	438.1	309.03	2951.7	127.4	116235.9	2295.5	1071.6	120.9	<LOD	195.7	<LOD	152.1	20052.9	421.8	
1200,400						21-Mar-06	<LOD	1100.1	273.01	2912.5	114.4	108131.2	1936.7	626.8	101.1	<LOD	175.2	<LOD	134.6	17356.3	335.1	
1200,500	03/15/06	1653	37.08625	-94.63007	13	21-Mar-06	<LOD	508.5	117.14	1664.2	61.8	31647.2	461.0	748.5	84.3	<LOD	135.2	<LOD	85.4	19731.7	289.7	
1200,500						21-Mar-06	785.9	228.6	156.08	2174.0	91.4	29499.7	577.5	1206.9	112.5	<LOD	173.4	<LOD	107.8	19911.8	390.4	
1200,500						21-Mar-06	<LOD	484.5	122.68	1776.7	63.0	29745.8	431.1	840.0	86.2	<LOD	133.2	<LOD	77.3	20872.3	302.0	
1200,572	03/15/06	1658	37.08640	-94.63016	13	21-Mar-06	<LOD	280.9	64.78	647.1	29.2	12599.0	155.6	303.3	42.9	<LOD	102.8	<LOD	42.4	8714.7	107.6	
1200,572						21-Mar-06	<LOD	260.0	62.5	590.8	28.5	11931.2	154.2	246.8	33.9	111.2	33.6	<LOD	37.1	4986.0	71.1	
1200,572						21-Mar-06	<LOD	230.8	49.36	357.1	20.9	8257.2	104.2	184.5	26.6	<LOD	96.0	<LOD	31.6	3660.4	51.4	
1300,0	03/15/06	1708	37.08526	-94.62897	14	21-Mar-06	1368.2	366.8	284.57	2415.2	126.8	193621.4	3764.6	1481.0	169.5	331.8	67.7	<LOD	188.9	40192.8	806.3	
1300,0						21-Mar-06	3003.2	678.1	499.89	3121.4	218.5	268380.2	7607.1	3775.9	370.4	1616.4	119.7	<LOD	336.1	87483.3	2506.4	
1300,0						21-Mar-06	1661.2	520.3	399.33	2203.7	169.9	165661.9	4459.0	2507.6	318.2	1757.6	115.6	<LOD	278.4	73811.3	2004.1	
1300,100	03/15/06	1710	37.08548	-94.62915	16	21-Mar-06	4582.6	657.5	145.48	11649.6	347.0	301725.2	6675.6	919.8	141.8	<LOD	220.6	<LOD	231.2	22303.3	527.9	
1300,100						21-Mar-06	2762.9	582.7	132.57	10298.6	313.8	281831.8	6180.9	883.9	128.2	<LOD	213.9	<LOD	202.5	18385.1	437.6	
1300,100						21-Mar-06	3605.4	648.7	151.5	11446.6	353.8	312767.7	7137.5	1221.5	144.5	<LOD	229.8	<LOD	231.1	21091.3	517.0	
1300,200	03/15/06	1712	37.08573	-94.62930	14	21-Mar-06	<LOD	2077.5	498.56	1946.1	205.5	316310.5	9268.6	2941.8	395.0	569.3	102.4	<LOD	341.8	96945.2	2870.1	
1300,200						21-Mar-06	3501.0	861.0	594.9	9458.0	446.9	291006.5	9512.8	4810.0	532.1	408.9	114.7	<LOD	430.4	140275.5	4602.6	
1300,200						21-Mar-06	2500.5	766.1	545.46	4676.6	284.2	305440.3	9283.8	4534.2	457.8	486.2	102.1	<LOD	388.3	115508.5	3535.5	
1300,300	03/15/06	1714	37.08596	-94.62947	14	21-Mar-06	2969.6	635.5	502.39	44106.4	1233.1	370501.4	9545.3	<LOD	534.3	<LOD	250.1	<LOD	258.5	26115.5	714.9	
1300,300						21-Mar-06	4225.6	709.6	521.25	46941.8	1347.3	394923.2	10495.9	799.0	196.7	<LOD	268.9	<LOD	286.9	29376.0	823.9	
1300,300						21-Mar-06	4272.7	754.0	588.82	47210.6	1410.0	414115.8	11459.2	957.0	212.0	359.8	96.0	<LOD	290.4	31566.5	918.0	
1300,400	03/15/06	1717	37.08620	-94.62960	15	21-Mar-06	<LOD	348.3	32.68	753.4	37.6	35896.2	441.2	142.6	32.0	<LOD	116.4	<LOD	50.7	3888.8	63.4	

<LOD - not detected

Table 1.1: XRF Analyses of Surficial Soil Samples

Sample ID	Sample Date Time	Time	Latitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
1300,400						21-Mar-06	<LOD	281.5	28.01	603.7	30.4	22366.9	264.8	149.9	28.4	<LOD	107.3	<LOD	42.9	3532.9	54.7	
1300,400						21-Mar-06	<LOD	275.4	25.58	564.9	28.6	19192.5	227.4	201.1	26.4	<LOD	105.0	<LOD	38.7	3069.8	48.7	
1300,500	03/15/06	1720	37.08641	-94.62976	22	21-Mar-06	<LOD	500.1	130.26	2066.6	72.1	37619.0	560.0	608.9	101.1	270.5	46.8	<LOD	98.3	27242.2	404.2	
1300,500						21-Mar-06	<LOD	492.7	118.62	1348.0	57.8	31652.2	465.4	1106.0	98.9	694.6	49.6	<LOD	90.5	26242.4	380.8	
1300,500						21-Mar-06	<LOD	359.5	88.6	957.0	42.5	19375.9	264.2	955.9	75.0	229.7	40.3	<LOD	70.0	18914.6	248.8	
1300,608	03/15/06	1724	37.08665	-94.62993	15	21-Mar-06	<LOD	209.8	49.56	185.7	15.9	7174.7	88.4	179.2	23.1	97.0	30.6	<LOD	28.0	3035.7	42.6	
1300,608						21-Mar-06	<LOD	175.6	38.96	223.0	15.1	5149.6	64.0	86.2	22.4	<LOD	82.6	<LOD	25.6	3448.1	43.2	
1300,608						21-Mar-06	<LOD	265.3	58	327.8	22.5	11319.9	141.4	407.0	38.1	146.7	34.5	<LOD	39.3	6686.0	85.9	
1400,0	03/15/06	1705	37.08548	-94.62879	15	21-Mar-06	982.5	208.0	156.34	1267.8	68.0	113668.9	1661.8	651.1	66.0	<LOD	143.8	<LOD	101.1	10339.9	173.5	
1400,0						21-Mar-06	552.0	159.8	114.68	498.3	43.7	69353.1	940.2	275.0	50.2	<LOD	129.0	<LOD	73.1	7460.7	120.4	
1400,0						21-Mar-06	799.6	224.8	167.54	1076.6	71.7	114552.9	1847.3	357.1	87.4	157.0	52.1	<LOD	109.7	16194.6	283.9	
1400,100	03/15/06	1709	37.08566	-94.62887	15	21-Mar-06	<LOD	505.9	110.54	3912.7	93.0	59308.8	787.5	485.0	52.1	<LOD	130.8	<LOD	71.4	8146.2	126.2	
1400,100						21-Mar-06	<LOD	546.0	131.72	4024.5	98.4	67932.2	926.3	438.0	58.1	138.8	45.8	<LOD	81.8	9688.9	150.8	
1400,100						21-Mar-06	683.1	171.1	117.26	3450.0	85.7	61311.5	802.8	353.2	53.1	<LOD	130.1	<LOD	72.3	8934.9	134.7	
1400,300	03/15/06	1712	37.08610	-94.62921	16	21-Mar-06	737.6	208.1	142.11	2719.0	90.0	92590.7	1380.4	<LOD	216.7	513.8	51.9	<LOD	95.7	13091.6	216.1	
1400,300						21-Mar-06	972.0	216.8	140.75	2420.2	86.9	90855.7	1383.9	<LOD	236.9	624.8	54.9	<LOD	101.6	15124.0	250.9	
1400,300						21-Mar-06	944.3	195.5	126.6	2159.4	76.6	77640.0	1119.2	<LOD	209.1	636.1	51.3	<LOD	87.1	13134.0	208.5	
1400,400	03/15/06	1715	37.08634	-94.62937	16	21-Mar-06	<LOD	280.1	67.43	336.1	23.8	16511.9	196.6	<LOD	98.2	<LOD	106.7	<LOD	42.5	5180.9	70.9	
1400,400						21-Mar-06	<LOD	290.1	69.17	351.2	24.5	17041.4	204.2	109.0	34.0	183.3	35.3	<LOD	41.7	5441.9	74.4	
1400,400						21-Mar-06	<LOD	289.8	67.51	328.3	23.9	15624.2	189.9	<LOD	102.9	130.9	35.7	<LOD	40.5	5524.0	75.5	
1400,500	03/15/06	1717	37.08655	-94.62950	15	21-Mar-06	<LOD	891.7	205.19	506.6	74.5	36857.6	791.4	4955.7	267.8	288.1	71.1	<LOD	200.1	77579.6	1588.4	
1400,500						21-Mar-06	<LOD	901.6	220.69	720.0	81.7	41016.8	886.1	4868.1	270.8	273.8	72.7	<LOD	199.1	77950.0	1616.8	
1400,500						21-Mar-06	<LOD	1768.2	428.44	<LOD	410.5	47009.1	1536.9	16073.4	802.9	562.0	115.5	<LOD	483.7	217359.7	6782.6	
1400,600	03/15/06	1721	37.08679	-94.62970	15	21-Mar-06	<LOD	317.3	76.74	1060.3	40.9	17179.4	228.7	327.7	48.0	<LOD	113.4	<LOD	49.4	8633.6	120.2	
1400,600						21-Mar-06	460.0	137.6	89.7	1123.6	44.4	17440.7	242.4	480.0	58.1	<LOD	118.3	<LOD	57.3	11511.7	160.9	
1400,600						21-Mar-06	<LOD	402.3	94.22	1073.3	45.7	20726.3	290.7	333.2	68.1	<LOD	126.5	<LOD	62.6	15363.0	213.8	
1500,0	03/16/06	817	37.08556	-94.62839	15	22-Mar-06	<LOD	269.2	60.43	191.7	19.7	11222.3	143.5	<LOD	91.5	128.9	35.3	<LOD	36.6	4362.9	62.9	
1500,0						22-Mar-06	<LOD	278.0	62.79	279.3	23.7	14695.1	189.5	<LOD	109.0	111.7	37.1	<LOD	41.6	5689.9	81.3	
1500,0						22-Mar-06	387.6	109.9	71.38	272.3	25.4	19492.9	248.4	143.8	40.0	<LOD	114.9	<LOD	46.6	6463.3	92.2	
1500,100	03/16/06	819	37.08580	-94.62863	15	22-Mar-06	932.1	238.8	166.35	2361.5	90.0	100026.1	1583.9	238.6	60.2	<LOD	155.1	<LOD	96.2	7867.0	148.3	
1500,100						22-Mar-06	979.2	247.9	181.02	2696.4	97.8	114240.1	1816.1	<LOD	195.6	345.1	55.0	<LOD	111.1	9322.3	172.4	
1500,100						22-Mar-06	987.1	257.7	182.66	2775.6	100.9	107605.8	1756.7	<LOD	197.7	207.1	55.3	<LOD	106.4	9014.0	171.7	
1500,200	03/16/06	822	37.08602	-94.62885	17	22-Mar-06	1746.3	281.0	184.39	3972.1	117.0	108248.6	1694.4	734.1	81.3	253.6	52.9	<LOD	119.9	13956.4	241.1	
1500,200						22-Mar-06	3881.3	570.5	125.28	8702.4	277.5	232856.0	5110.1	908.7	154.0	487.8	81.6	<LOD	206.8	26919.4	623.1	
1500,200						22-Mar-06	2778.8	419.6	284.32	6809.6	200.3	185181.0	3473.7	845.2	116.6	507.3	67.4	<LOD	168.8	20424.6	411.4	
1500,300	03/16/06	829	37.08625	-94.62904	15	22-Mar-06	1935.3	357.1	239.85	8210.7	211.1	166912.3	2942.9	318.5	91.6	276.8	59.4	<LOD	141.9	14724.5	286.9	
1500,300						22-Mar-06	2017.6	510.2	389.01	13149.5	389.6	242724.4	5533.5	486.4	144.4	<LOD	240.2	<LOD	204.5	21807.5	533.0	
1500,300						22-Mar-06	1073.8	304.1	219.43	5399.2	155.1	132827.1	2283.8	424.8	89.9	<LOD	175.9	<LOD	125.4	14867.7	281.1	
1500,400	03/16/06	827	37.08641	-94.62924	15	22-Mar-06	<LOD	147.0	28.82	<LOD	27.2	2079.6	37.3	55.4	14.3	<LOD	91.8	<LOD	20.6	1177.5	22.9	
1500,400						22-Mar-06	<LOD	191.1	41.2	47.3	11.9	4820.9	69.9	103.9	18.1	236.4	34.0	<LOD	24.5	1642.8	30.0	
1500,400						22-Mar-06	<LOD	161.0	31.65	<LOD	25.6	1857.6	34.7	46.7	12.0	<LOD	91.6	<LOD	19.1	805.5	18.4	
1500,500	03/16/06	1020	37.08660	-94.62934	18	21-Mar-06	<LOD	649.5	143.92	819.2	63.0	37209.7	650.7	4035.8	181.6	401.7	57.8	<LOD	137.3	53410.1	901.0	
1500,500						21-Mar-06	959.8	239.2	170.68	2438.5	95.6	53462.5	920.1	3004.7	167.4	378.2	57.8	<LOD	140.9	48078.0	818.0	
1500,500						21-Mar-06	936.3	197.7	124.07	548.8	48.9	31940.5	510.6	2859.7	137.5	572.2	53.7	<LOD	112.0	38715.9	598.0	
1500,600	03/16/06	1035	37.08678	-94.62950	20	21-Mar-06	<LOD	349.0	78.42	1605.5	49.8	13051.5	182.4	646.9	54.1	145.5	39.7	<LOD	50.5	10340.7	141.5	
1500,600						21-Mar-06	<LOD	407.8	99.87	1466.0	53.8	24176.0	340.1	586.9	70.8	<LOD	130.5	<LOD	71.4	15633.2	221.3	
1500,600						21-Mar-06	<LOD	377.4	86.82	1554.9	51.8	21597.4	290.9	238.3	62.6	<LOD	119.6	<LOD	63.6	14052.4	190.5	
1500,660	03/16/06	1038	37.08694	-94.62966	20	21-Mar-06	<LOD	360.2	84.89	771.2	35.8	9875.1	146.5	590.3	51.4	<LOD	118.7	<LOD	48.9	9117.8	128.7	
1500,660						21-Mar-06	<LOD	416.7	91.74	678.9	37.0	18223.3	254.5	890.9	61.5	<LOD	125.9	<LOD	58.4	11912.0	167.5	
1500,660						21-Mar-06	<LOD	237.7	58.49	303.3	20.9	7008.3	96.8	279.4	31.8	<LOD	102.5	<LOD	34.0	4650.4	64.8	

<LOD - not detected

Table 1.1: XRF Analyses of Surficial Soil Samples

Sample ID	Sample Date Time	Time	Latitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
1600,0	03/16/06	815	37.08572	-94.62812	16	22-Mar-06	<LOD	301.2	72.27	433.4	28.5	23571.8	290.5	138.4	28.7	122.0	38.0	<LOD	43.2	3317.5	54.7	
1600,0						22-Mar-06	<LOD	380.1	87.21	601.1	35.6	32964.1	421.9	121.7	35.6	199.0	40.9	<LOD	51.6	4571.8	74.1	
1600,0						22-Mar-06	<LOD	304.6	69.31	478.1	29.3	24860.8	302.1	171.9	28.8	<LOD	113.4	<LOD	44.1	3336.1	54.4	
1600,100	03/16/06	820	37.08595	-94.62836	16	22-Mar-06	<LOD	470.9	118.95	967.7	50.1	45010.7	638.6	304.3	57.1	255.8	47.6	<LOD	72.3	9202.3	147.2	
1600,100						22-Mar-06	<LOD	343.1	76.26	483.2	31.1	27564.2	341.7	313.7	37.4	200.2	39.3	<LOD	47.8	5276.6	79.1	
1600,100						22-Mar-06	654.5	125.6	73.14	459.9	30.6	27735.3	343.7	281.9	37.2	<LOD	117.5	<LOD	49.5	5254.0	78.8	
1600,200	03/16/06	825	37.08620	-94.62861	20	22-Mar-06	<LOD	280.7	62.82	570.7	30.0	7320.1	115.7	107.5	26.9	<LOD	119.0	<LOD	33.9	2568.8	48.7	
1600,200						22-Mar-06	<LOD	409.0	94.04	195.6	29.8	10024.1	205.7	182.8	38.7	<LOD	159.2	<LOD	45.0	2797.3	71.1	
1600,200						22-Mar-06	<LOD	302.3	64.54	223.9	21.9	10123.0	145.7	<LOD	86.5	<LOD	117.4	<LOD	36.5	3203.0	55.3	
1600,400	03/16/06	828	37.08657	-94.62900	15	22-Mar-06	<LOD	352.5	84.27	411.4	33.2	30148.1	397.0	<LOD	156.9	2847.1	64.8	<LOD	58.1	9691.7	139.1	
1600,400						22-Mar-06	<LOD	257.3	56.23	90.0	17.8	15346.5	187.3	177.4	23.3	2174.6	50.1	<LOD	36.1	2338.3	40.4	
1600,400						22-Mar-06	<LOD	275.0	59.15	142.9	20.0	15298.5	191.5	93.6	24.7	5230.3	80.0	<LOD	39.2	2637.1	45.0	
1600,500	03/16/06	1025	37.08678	-94.62909	16	21-Mar-06	<LOD	806.1	188.54	<LOD	166.1	31046.8	599.3	4296.1	234.2	429.8	63.3	<LOD	173.9	79415.1	1443.3	
1600,500						21-Mar-06	<LOD	489.7	111.52	218.8	38.2	37489.3	552.0	1445.7	105.2	285.4	48.6	<LOD	94.7	28229.6	413.3	
1600,500						21-Mar-06	<LOD	557.0	127.19	124.7	38.9	24887.5	408.2	2563.1	139.9	361.3	52.2	<LOD	110.1	41166.3	636.9	
1600,600	03/16/06	1030	37.08696	-94.62925	20	21-Mar-06	<LOD	734.8	174.06	2347.8	96.1	111962.3	1849.4	1141.8	103.7	<LOD	161.4	<LOD	126.5	20242.5	356.3	
1600,600						21-Mar-06	<LOD	563.0	143.07	1645.2	71.8	71114.3	1092.5	976.2	83.9	<LOD	148.7	<LOD	92.9	15615.3	258.2	
1600,600						21-Mar-06	775.4	207.5	141.01	1743.9	73.2	84126.2	1248.7	775.8	81.6	<LOD	141.2	<LOD	98.4	15911.3	255.4	
1600,675	03/16/06	1040	37.08714	-94.62943	19	20-Mar-06	<LOD	294.1	68.11	1047.0	39.1	13403.6	177.6	309.0	55.6	<LOD	107.8	<LOD	49.7	12705.7	161.1	
1600,675						20-Mar-06	<LOD	404.4	96.5	1816.2	60.6	18491.5	271.0	1194.5	93.9	<LOD	128.4	<LOD	79.9	26144.9	358.5	
1600,675						20-Mar-06	<LOD	319.4	72.7	1076.4	43.4	9535.0	146.5	<LOD	219.0	<LOD	121.6	<LOD	58.4	18982.7	252.1	
1700,0	03/16/06	840	37.08595	-94.62791	20	22-Mar-06	1239.7	271.8	194.6	4163.7	129.0	138666.8	2288.6	301.3	78.8	<LOD	166.8	<LOD	124.6	12393.7	229.8	
1700,0						22-Mar-06	<LOD	559.5	136.78	2159.1	77.6	84017.3	1218.6	233.4	60.2	152.9	48.0	<LOD	92.3	9453.4	158.1	
1700,0						22-Mar-06	987.7	203.8	139.06	2171.4	77.5	85412.2	1231.6	226.9	58.6	<LOD	143.1	<LOD	85.9	9011.9	151.0	
1700,400	03/16/06	844	37.08669	-94.62872	23	22-Mar-06	1948.7	393.8	262.13	5891.0	186.6	142030.7	2761.2	848.9	153.7	<LOD	198.5	<LOD	166.8	34321.8	690.1	
1700,400						22-Mar-06	1327.1	351.1	241.69	4489.7	152.9	119398.4	2262.1	1243.8	149.9	<LOD	190.8	<LOD	151.4	33868.7	661.6	
1700,400						22-Mar-06	1070.2	301.1	214.93	4087.8	131.7	103089.9	1787.5	1131.8	129.6	<LOD	179.1	<LOD	133.4	29855.4	535.9	
1700,500	03/16/06	1045	37.08694	-94.62880	17	20-Mar-06	<LOD	963.0	224.1	2490.3	118.7	82768.6	1654.2	2423.3	221.8	<LOD	200.2	<LOD	179.8	66919.4	1331.2	
1700,500						20-Mar-06	<LOD	923.9	225.18	2259.2	107.9	84819.4	1600.8	2476.0	198.7	215.2	63.8	<LOD	170.5	58322.3	1100.8	
1700,500						20-Mar-06	1556.0	408.4	267.42	2421.5	129.9	122210.0	2579.2	2572.6	235.9	272.4	70.8	<LOD	209.1	66505.3	1411.5	
1700,600	03/16/06	1050	37.08713	-94.62901	17	21-Mar-06	2357.8	630.0	446.47	12917.8	446.4	103013.8	2815.8	12077.8	555.2	792.2	100.4	<LOD	347.7	156843.1	4230.3	
1700,600						21-Mar-06	<LOD	2465.1	665.29	18605.4	780.2	105433.5	3756.0	16877.8	910.9	939.4	131.0	<LOD	520.3	222919.1	7815.6	
1700,600						21-Mar-06	2522.0	838.3	575.94	16730.7	696.9	94658.8	3291.4	15389.3	850.0	657.5	124.1	<LOD	499.6	216890.5	7402.2	
1700,625	03/16/06	1045	37.08720	-94.62907	18	21-Mar-06	<LOD	314.0	73.22	994.5	44.6	13388.1	208.1	380.7	67.6	<LOD	125.5	<LOD	59.8	13874.2	204.4	
1700,625						21-Mar-06	<LOD	199.6	47.12	428.7	21.9	9472.9	110.9	104.4	34.1	140.0	29.6	<LOD	34.1	6904.5	79.9	
1700,625						21-Mar-06	<LOD	184.9	38.63	178.6	16.8	5863.9	84.7	114.8	23.3	<LOD	95.8	<LOD	25.6	2528.4	41.8	
1800,0	03/16/06	845	37.08603	-94.62757	16	22-Mar-06	<LOD	479.5	109.98	760.7	48.1	53891.1	756.9	<LOD	211.2	<LOD	136.1	<LOD	79.2	14512.2	218.8	
1800,0						22-Mar-06	476.7	146.9	102.86	467.0	38.9	42611.9	577.9	277.4	67.5	<LOD	131.1	<LOD	75.5	14366.8	206.8	
1800,0						22-Mar-06	<LOD	363.4	85.65	492.7	34.2	38101.5	474.2	299.0	44.6	<LOD	118.4	<LOD	59.0	7269.3	105.2	
1800,100	03/16/06	840	37.08623	-94.62779	16	22-Mar-06	<LOD	430.1	100.5	396.5	37.0	31722.6	452.2	<LOD	218.9	<LOD	132.0	<LOD	70.5	16465.6	240.6	
1800,100						22-Mar-06	<LOD	367.0	85.25	344.2	31.3	25784.7	345.8	183.3	57.3	<LOD	125.2	<LOD	59.7	11453.0	161.3	
1800,100						22-Mar-06	<LOD	315.0	76.47	384.9	29.9	22953.4	299.8	<LOD	140.7	<LOD	118.7	<LOD	53.1	8287.5	117.9	
1800,200	03/16/06	837	37.08645	-94.62799	16	22-Mar-06	<LOD	1800.4	424.63	<LOD	372.3	72224.0	2393.6	12088.3	732.2	538.9	118.5	<LOD	459.6	206126.6	6651.7	
1800,200						22-Mar-06	<LOD	1774.1	435.77	<LOD	382.8	72175.0	2295.4	10716.8	656.0	699.9	111.4	<LOD	417.0	183927.0	5699.4	
1800,200						22-Mar-06	<LOD	728.8	174.62	<LOD	141.7	30146.1	543.3	3053.5	177.3	<LOD	170.3	<LOD	137.1	53371.0	913.8	
1800,300	03/16/06	835	37.08668	-94.62818	17	22-Mar-06	<LOD	401.6	93.53	186.3	30.8	31638.9	437.1	434.5	66.6	<LOD	129.6	<LOD	64.1	13838.8	199.6	
1800,300						22-Mar-06	<LOD	364.1	78.51	158.7	26.9	28076.2	367.3	383.5	55.2	<LOD	120.3	<LOD	59.8	10680.3	149.3	
1800,300						22-Mar-06	<LOD	598.7	136.34	349.9	47.9	58251.1	911.3	846.9	104.9	178.8	51.1	<LOD	101.1	25013.0	401.8	
1800,400	03/16/06	830	37.08689	-94.62845	17	22-Mar-06	591.4	195.5	142.35	528.5	51.9	78371.1	1174.9	810.2	82.0	296.8	51.1	<LOD	94.4	15739.5	254.8	
1800,400						22-Mar-06	697.2	222.3	163.12	547.6	58.1	88707.6	1410.2	1177.9	98.5	<LOD	163.4	<LOD	116.3	19618.3	331.3	

<LOD - not detected

Table 1.1: XRF Analyses of Surficial Soil Samples

Sample ID	Sample Date Time	Time	Latitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
1800,400						22-Mar-06	848.4	228.5	157.94	547.5	57.2	83546.9	1320.7	972.3	105.3	212.6	53.4	<LOD	112.2	23707.4	391.5	
1800,500	03/16/06	1049	37.08712	-94.62849	23	20-Mar-06	<LOD	697.6	167.65	3767.4	117.8	45635.3	792.7	1652.5	140.8	<LOD	168.9	<LOD	126.6	36375.4	627.0	
1800,500						20-Mar-06	<LOD	665.5	173.87	3527.1	108.5	46220.7	765.7	889.5	130.1	<LOD	161.8	<LOD	119.3	35718.3	588.1	
1800,500						20-Mar-06	1150.9	272.5	194.15	4354.1	133.1	53785.2	955.4	1397.1	156.7	<LOD	168.3	<LOD	134.8	44041.3	776.3	
1800,600	03/16/06	1051	37.08732	-94.62873	21	20-Mar-06	<LOD	553.7	135.87	2090.0	78.6	34456.5	558.1	1153.6	126.0	<LOD	152.0	<LOD	107.8	35616.0	562.9	
1800,600						20-Mar-06	<LOD	310.8	72.21	732.9	35.4	17343.1	228.1	669.2	59.4	<LOD	115.5	<LOD	53.6	13131.6	170.7	
1800,600						20-Mar-06	<LOD	600.4	148.6	1410.6	67.1	29313.5	494.2	1416.6	124.7	<LOD	151.8	<LOD	100.0	32451.9	529.9	
1800,620	03/16/06	1053	37.08733	-94.62878	16	20-Mar-06	<LOD	671.9	156.8	3829.7	120.0	21542.2	401.6	4793.7	199.6	182.8	57.6	<LOD	147.3	60184.2	1028.1	
1800,620						20-Mar-06	621.0	171.5	110.38	2239.2	74.7	20838.3	332.7	1777.8	112.5	144.8	47.9	<LOD	89.5	29771.3	447.4	
1800,620						20-Mar-06	<LOD	597.3	146.16	3839.2	111.0	26338.7	444.6	2663.7	159.1	303.3	51.5	<LOD	124.7	50623.7	802.9	
1900,0	03/16/06	858	37.08615	-94.62729	17	22-Mar-06	<LOD	772.7	172.42	604.7	65.5	28252.7	558.7	2556.1	212.9	265.0	62.4	<LOD	159.2	69763.0	1294.2	
1900,0						22-Mar-06	<LOD	1236.7	283.55	784.7	110.4	39378.5	1055.5	5545.6	407.1	270.5	88.7	<LOD	288.1	123113.2	3136.6	
1900,0						22-Mar-06	521.1	154.2	100.74	762.0	43.9	30900.8	435.8	1094.3	79.3	<LOD	136.1	<LOD	74.7	17791.2	254.8	
1900,100	03/16/06	853	37.08635	-94.62746	17	22-Mar-06	<LOD	264.2	52.17	<LOD	39.7	4028.9	75.1	<LOD	38.2	<LOD	119.8	<LOD	26.8	480.3	18.2	
1900,100						22-Mar-06	<LOD	275.0	56.39	<LOD	44.7	6716.6	110.6	58.2	19.0	<LOD	122.5	<LOD	30.9	1204.8	30.5	
1900,100						22-Mar-06	<LOD	282.9	61.14	<LOD	44.0	4957.2	89.6	66.6	16.8	159.3	42.4	<LOD	31.1	876.1	25.8	
1900,300	03/16/06	850	37.08680	-94.62794	17	22-Mar-06	<LOD	506.6	117.35	550.3	44.4	51313.4	743.3	335.3	60.4	<LOD	139.8	<LOD	72.5	9765.1	159.2	
1900,300						22-Mar-06	738.9	239.6	159.62	732.9	61.5	83741.3	1383.8	580.8	81.1	237.2	54.9	<LOD	100.0	13094.8	238.4	
1900,300						22-Mar-06	775.8	206.1	133.59	640.2	49.6	52380.8	802.1	455.5	74.7	175.8	50.4	<LOD	82.3	13471.5	222.7	
1900,400	03/16/06	847	37.08704	-94.62820	16	22-Mar-06	1114.1	367.8	267.66	4286.3	156.4	188734.0	3582.3	1058.2	123.9	291.2	67.2	<LOD	179.2	22067.6	447.4	
1900,400						22-Mar-06	<LOD	1031.0	236.14	3729.0	134.2	115139.8	2122.0	1585.1	138.1	<LOD	185.4	<LOD	151.1	29044.2	556.2	
1900,400						22-Mar-06	<LOD	958.3	231.92	3028.7	120.6	121408.0	2225.4	1397.1	124.3	<LOD	181.9	<LOD	147.0	23744.9	458.6	
1900,500	03/16/06	1100	37.08728	-94.62829	19	20-Mar-06	967.0	235.8	159.01	4383.0	122.3	60258.0	979.5	1056.0	108.2	<LOD	156.4	<LOD	112.0	24229.8	405.8	
1900,500						20-Mar-06	854.4	261.3	186.61	5278.3	143.9	66821.2	1131.7	1364.4	119.0	<LOD	166.1	<LOD	120.7	26367.1	459.4	
1900,500						20-Mar-06	1372.5	287.1	209.13	6012.8	161.7	67634.2	1182.3	1654.8	134.1	<LOD	166.8	<LOD	128.5	31256.4	556.5	
1900,595	03/16/06	1057	37.08740	-94.62846	17	20-Mar-06	312.5	92.7	59.39	1017.9	35.0	12739.8	155.0	704.8	48.6	176.4	33.7	<LOD	46.2	10859.5	127.9	
1900,595						20-Mar-06	<LOD	1130.8	262.85	10329.7	291.7	77147.6	1649.0	5316.4	283.6	303.4	72.4	<LOD	221.4	83375.0	1760.2	
1900,595						20-Mar-06	<LOD	273.8	63.07	1199.4	39.0	15703.3	190.1	355.7	48.4	125.2	33.3	<LOD	48.0	10787.3	130.6	
200,0	03/15/06	1430	37.08385	-94.63217	12	22-Mar-06	<LOD	336.1	75.61	687.0	33.8	21993.4	281.2	<LOD	54.1	<LOD	114.7	<LOD	39.1	1219.3	29.1	
200,0						22-Mar-06	<LOD	289.9	67.51	530.9	27.7	15163.2	190.1	<LOD	47.1	<LOD	104.2	<LOD	33.0	1080.9	25.4	
200,0						22-Mar-06	<LOD	280.0	63.03	526.1	27.0	15809.7	191.4	<LOD	43.2	<LOD	104.6	<LOD	35.4	958.8	23.0	
200,100	03/15/06	1435	37.08410	-94.63230	13	22-Mar-06	971.3	262.0	75.09	6130.1	146.1	123738.1	1854.0	225.0	44.5	<LOD	144.1	<LOD	98.1	4575.5	91.5	
200,100						22-Mar-06	<LOD	790.1	79.3	5666.1	144.4	122338.5	1905.5	156.7	47.2	<LOD	153.2	<LOD	101.9	4893.4	100.2	
200,100						22-Mar-06	1147.1	270.6	75.4	6508.5	155.7	140567.1	2142.9	293.8	46.2	173.2	49.6	<LOD	109.5	4675.5	94.9	
200,200	03/15/06	1440	37.08434	-94.63245	12	22-Mar-06	<LOD	165.4	40.12	<LOD	35.1	10370.5	119.8	43.9	13.3	<LOD	91.7	<LOD	26.0	988.6	21.0	
200,200						22-Mar-06	<LOD	201.9	39.26	55.6	12.9	10148.0	117.5	59.5	15.7	<LOD	91.8	<LOD	24.6	1381.1	25.6	
200,200						22-Mar-06	<LOD	184.8	43.01	48.3	12.6	9338.7	110.4	64.3	14.8	<LOD	93.0	<LOD	24.8	1208.5	23.7	
200,300	03/15/06	1443	37.08459	-94.63256	13	22-Mar-06	226.5	75.3	43.74	113.9	15.6	10128.4	124.1	91.4	21.0	<LOD	98.8	<LOD	29.3	2255.6	37.0	
200,300						22-Mar-06	<LOD	222.1	48.15	133.0	17.0	12520.6	149.7	91.8	23.0	<LOD	99.8	<LOD	31.3	2668.0	42.0	
200,300						22-Mar-06	<LOD	216.0	44.13	90.4	15.6	12190.4	146.1	<LOD	60.5	<LOD	100.9	<LOD	30.6	2087.0	35.5	
200,400	03/15/06	1445	37.08484	-94.63268	15	22-Mar-06	<LOD	223.6	48.15	145.1	17.6	13195.3	156.9	91.1	24.4	<LOD	100.3	<LOD	34.3	2993.9	45.6	
200,400						22-Mar-06	<LOD	235.2	54.46	180.6	19.1	13691.7	165.0	98.8	27.1	<LOD	101.4	<LOD	35.6	3586.0	53.0	
200,400						22-Mar-06	<LOD	208.8	46.48	129.4	16.1	10543.1	127.6	116.5	22.3	<LOD	97.0	<LOD	29.6	2548.7	40.0	
200,500	03/15/06	1449	37.08508	-94.63280	13	22-Mar-06	<LOD	265.2	60.7	<LOD	50.6	17004.1	207.4	228.2	33.1	<LOD	106.0	<LOD	38.6	4813.8	68.8	
200,500						22-Mar-06	<LOD	269.8	54.67	<LOD	51.5	15235.5	191.1	317.4	36.8	<LOD	107.8	<LOD	41.8	5731.1	79.9	
200,500						22-Mar-06	<LOD	280.3	56.69	<LOD	49.8	15031.7	188.2	314.1	34.6	<LOD	106.9	<LOD	40.8	5034.9	72.0	
2000,0	03/16/06	854	37.08635	-94.62702	17	22-Mar-06	<LOD	293.6	64.24	<LOD	54.5	18064.3	228.4	113.5	33.3	<LOD	112.7	<LOD	40.3	4611.0	69.6	
2000,0						22-Mar-06	<LOD	308.8	67.37	<LOD	59.8	22051.0	277.5	201.9	34.1	130.6	38.5	<LOD	45.5	4552.6	70.1	
2000,0						22-Mar-06	<LOD	308.5	68.11	<LOD	54.7	15089.3	204.2	180.5	37.0	<LOD	116.8	<LOD	42.7	5163.5	79.3	
2000,100	03/16/06	850	37.08654	-94.62721	17	22-Mar-06	<LOD	307.4	67.12	<LOD	57.3	12784.1	188.3	<LOD	103.5	<LOD	124.5	<LOD	42.1	4076.6	70.2	

<LOD - not detected

Table 1.1: XRF Analyses of Surficial Soil Samples

Sample ID	Sample Date Time	Time	Latitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
2000,100						22-Mar-06	<LOD	305.2	70.72	<LOD	56.9	10777.6	170.8	103.0	31.1	<LOD	128.7	<LOD	38.6	2978.2	58.4	
2000,100						22-Mar-06	<LOD	327.3	66.5	109.0	20.6	13300.6	190.7	118.3	32.7	<LOD	121.2	<LOD	39.7	3751.6	64.7	
2000,200	03/16/06	900	37.08675	-94.62750	18	22-Mar-06	<LOD	387.1	84.66	204.2	29.0	30432.4	418.3	144.3	40.8	224.2	44.7	<LOD	54.4	5335.1	89.0	
2000,200						22-Mar-06	<LOD	452.9	93.82	286.7	35.0	37374.2	538.6	325.5	56.2	508.7	49.3	<LOD	65.4	8868.1	143.2	
2000,200						22-Mar-06	595.4	138.7	81.91	248.3	29.1	28216.7	381.0	156.2	43.9	376.6	44.0	<LOD	52.9	6483.5	101.5	
2000,300	03/16/06	904	37.08693	-94.62770	20	21-Mar-06	623.7	186.8	122.19	386.3	45.1	69219.2	1004.6	322.5	65.8	196.5	48.3	<LOD	85.0	11398.7	184.5	
2000,300						21-Mar-06	851.5	191.7	120.7	491.6	45.0	56323.5	814.6	397.1	72.9	245.4	48.7	<LOD	81.4	14308.1	222.8	
2000,300						21-Mar-06	841.5	198.9	129.62	466.1	45.0	59475.8	859.7	444.9	69.2	274.7	49.0	<LOD	81.3	12682.0	200.6	
2000,402	03/16/06	905	37.08720	-94.62794	18	21-Mar-06	1036.3	275.1	183.55	3808.1	120.7	88621.4	1489.2	683.0	118.9	<LOD	167.1	<LOD	129.6	27755.9	482.9	
2000,402						21-Mar-06	1188.6	255.4	167.25	2998.0	98.3	73944.6	1167.1	647.0	102.1	171.0	50.6	<LOD	107.1	23106.7	380.1	
2000,402						21-Mar-06	1032.7	275.2	188.45	3256.5	109.5	79578.3	1330.0	748.5	116.7	<LOD	166.5	<LOD	126.5	27013.4	466.7	
2000,500	03/16/06	1102	37.08743	-94.62801	21	20-Mar-06	1366.0	363.8	277.06	14448.8	342.7	77345.0	1510.6	2804.2	148.7	<LOD	190.5	<LOD	148.8	27007.1	544.0	
2000,500						20-Mar-06	<LOD	845.6	230.23	11890.8	258.3	62475.8	1081.2	1342.7	91.5	<LOD	164.9	133.7	39.4	14046.2	262.9	
2000,500						20-Mar-06	<LOD	909.3	255.61	13913.5	311.4	67921.3	1246.4	2027.4	126.9	<LOD	176.1	<LOD	130.5	23691.9	450.5	
2000,610	03/16/06	1105	37.08760	-94.62827	17	20-Mar-06	<LOD	278.6	67.46	356.8	26.0	19289.1	238.0	123.7	33.8	157.5	37.0	<LOD	43.5	4876.9	71.4	
2000,610						20-Mar-06	<LOD	229.7	48.27	264.2	19.2	11701.9	136.6	70.1	21.5	151.3	31.1	<LOD	30.5	2508.3	38.9	
2000,610						20-Mar-06	<LOD	244.6	53.55	330.2	22.8	15525.7	184.9	<LOD	83.4	205.4	33.3	<LOD	34.6	3777.8	55.4	
2100,0	03/16/06	921	37.08649	-94.62675	20	21-Mar-06	<LOD	212.9	44.28	<LOD	34.2	8677.2	105.0	<LOD	44.0	127.7	31.5	<LOD	26.5	1241.3	24.3	
2100,0						21-Mar-06	<LOD	197.9	42.02	<LOD	29.0	6023.3	77.2	47.9	12.0	<LOD	92.3	<LOD	23.3	807.8	18.5	
2100,0						21-Mar-06	<LOD	210.6	43.59	<LOD	31.8	7649.9	94.4	<LOD	41.6	<LOD	94.0	<LOD	25.6	1107.5	22.5	
2100,100	03/16/06	926	37.08671	-94.62693	19	21-Mar-06	<LOD	280.4	52.52	<LOD	42.2	7043.7	112.0	47.5	13.8	<LOD	120.5	<LOD	30.7	630.9	20.7	
2100,100						21-Mar-06	<LOD	253.0	52.61	67.2	16.1	7047.7	112.2	61.6	14.8	<LOD	120.1	<LOD	30.1	717.5	22.2	
2100,100						21-Mar-06	<LOD	263.3	51.3	<LOD	41.9	7233.8	110.3	<LOD	40.8	<LOD	114.6	<LOD	29.9	682.2	20.8	
2100,200	03/16/06	1015	37.08716	-94.62708	28	21-Mar-06	<LOD	288.4	55.8	117.1	17.4	12288.5	153.3	175.8	24.8	<LOD	104.8	<LOD	34.8	2757.5	44.7	
2100,200						21-Mar-06	380.0	100.2	52.6	95.6	17.7	14795.3	180.7	134.0	28.0	<LOD	105.1	<LOD	36.6	3603.5	54.5	
2100,200						21-Mar-06	<LOD	274.8	54.79	90.8	16.4	11965.9	148.5	105.0	22.8	<LOD	103.6	<LOD	34.3	2439.0	40.7	
2100,300	03/16/06	935	37.08717	-94.62744	33	21-Mar-06	2274.2	361.1	239.34	3343.8	126.7	173510.8	3057.2	283.1	85.3	239.9	59.7	<LOD	146.8	12821.3	253.5	
2100,300						21-Mar-06	1787.6	379.2	247.84	3897.8	143.6	200719.3	3661.9	<LOD	289.6	216.3	62.4	<LOD	163.6	15539.9	312.1	
2100,300						21-Mar-06	1336.6	309.3	203.23	2344.7	98.3	138688.1	2283.8	422.7	70.0	287.4	56.2	<LOD	129.0	9554.7	183.0	
2100,400	03/16/06	937	37.08733	-94.62768	19	21-Mar-06	1499.4	278.8	185.53	1550.9	80.3	119368.1	1924.1	229.4	66.3	<LOD	162.1	<LOD	113.1	9260.9	173.8	
2100,400						21-Mar-06	2294.4	472.5	317.69	1161.3	110.7	242934.5	4866.8	<LOD	268.2	<LOD	203.4	<LOD	185.4	11318.6	258.7	
2100,400						21-Mar-06	701.5	184.8	124.22	1018.0	54.8	73361.3	1026.0	266.7	47.8	<LOD	135.8	<LOD	78.1	6313.8	108.6	
2100,500	03/16/06	1105	37.08756	-94.62771	15	20-Mar-06	729.5	173.9	110.04	691.1	43.8	49517.9	677.2	242.1	46.8	<LOD	132.8	<LOD	66.1	6558.7	107.7	
2100,500						20-Mar-06	1074.1	251.8	179.96	1735.1	78.4	101266.0	1571.8	<LOD	191.6	<LOD	155.9	<LOD	106.1	9308.1	167.7	
2100,500						20-Mar-06	711.2	158.8	106.28	866.6	45.9	49730.7	666.2	156.0	40.3	<LOD	128.8	<LOD	64.1	5063.0	86.0	
2100,600	03/16/06	1110	37.08773	-94.62795	16	20-Mar-06	<LOD	472.1	109.04	1018.0	52.3	39338.0	584.8	482.3	68.9	<LOD	141.1	<LOD	73.7	12417.0	198.1	
2100,600						20-Mar-06	<LOD	502.4	112	962.9	49.0	37529.5	537.2	281.6	61.6	137.9	45.4	<LOD	70.4	10927.8	170.1	
2100,600						20-Mar-06	<LOD	470.0	105.2	710.5	44.1	38253.0	543.8	288.7	63.0	177.3	45.2	<LOD	71.5	11549.9	177.5	
2100,635	03/16/06	1108	37.08781	-94.62804	20	20-Mar-06	<LOD	300.0	61.71	208.3	22.2	17158.7	218.2	94.2	28.8	<LOD	109.2	<LOD	39.0	3439.1	55.9	
2100,635						20-Mar-06	<LOD	285.5	62.64	419.7	26.1	16856.5	210.0	137.9	25.3	237.2	37.0	<LOD	36.6	2683.0	45.8	
2100,635						20-Mar-06	<LOD	318.8	71.38	316.6	25.5	18828.3	241.0	119.9	28.3	<LOD	112.7	<LOD	38.5	3146.8	53.3	
2200,0	03/16/06	925	37.08656	-94.62651	20	21-Mar-06	<LOD	183.2	39.79	71.3	12.7	6841.9	87.9	<LOD	45.2	<LOD	94.9	<LOD	25.0	1268.6	24.8	
2200,0						21-Mar-06	<LOD	196.1	37	39.6	12.1	7848.6	98.5	<LOD	43.8	<LOD	95.4	<LOD	26.9	1169.6	23.8	
2200,0						21-Mar-06	<LOD	192.6	45.6	104.1	15.1	9507.9	118.5	58.6	17.9	<LOD	98.6	<LOD	27.6	1624.7	30.0	
2200,100						21-Mar-06	905.4	210.1	145.94	830.4	57.9	107072.7	1536.7	<LOD	111.7	<LOD	142.3	<LOD	89.2	3648.1	73.6	
2200,100						21-Mar-06	1166.7	219.4	142.48	843.5	59.2	103039.1	1522.4	<LOD	126.0	<LOD	148.0	<LOD	91.4	4420.4	87.4	
2200,100						21-Mar-06	759.6	201.3	140.05	660.1	55.0	110329.8	1561.8	<LOD	123.8	<LOD	144.4	<LOD	93.9	4589.8	86.5	
2200,100						21-Mar-06	968.9	197.3	134.37	478.3	49.4	97293.5	1364.8	122.2	40.0	151.6	47.2	<LOD	89.3	4383.6	82.5	
2200,100 NW	03/16/06	919	37.08693	-94.62672	20	21-Mar-06	727.2	195.6	135.99	586.7	51.8	96248.7	1375.4	<LOD	106.2	<LOD	144.2	<LOD	85.7	3409.0	69.5	
2200,100 SE	03/16/06	920	37.08686	-94.62669	21	21-Mar-06	1102.6	229.4	162.75	716.5	61.4	129121.5	1905.5	149.8	46.6	242.4	50.4	<LOD	109.9	5336.9	101.7	

<LOD - not detected

Table 1.1: XRF Analyses of Surficial Soil Samples

Sample ID	Sample Date Time	Time	Latitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
2200,198	03/16/06	916	37.08702	-94.62699	29	21-Mar-06	711.5	171.1	102.22	297.5	33.9	44798.6	600.9	<LOD	87.0	271.7	44.5	<LOD	55.6	2708.2	53.9	
2200,198						21-Mar-06	411.0	124.7	77.34	238.5	25.7	30316.2	366.0	<LOD	62.8	123.5	38.6	<LOD	44.3	1810.6	36.2	
2200,198						21-Mar-06	628.3	164.9	99.91	261.2	32.6	43778.8	582.8	95.4	27.6	<LOD	131.9	<LOD	56.1	2424.1	49.5	
2200,300	03/16/06	913	37.08728	-94.62720	28	21-Mar-06	894.3	188.6	127.79	<LOD	119.6	94703.2	1297.0	<LOD	73.1	267.8	46.2	<LOD	78.5	1763.3	42.3	
2200,300						21-Mar-06	755.9	193.5	127.52	306.9	44.6	85850.6	1219.2	<LOD	98.1	278.4	48.4	<LOD	81.0	3130.9	64.8	
2200,300						21-Mar-06	<LOD	517.7	125.57	235.7	40.6	82141.0	1113.1	<LOD	74.9	262.1	45.2	<LOD	71.3	1858.4	43.2	
2200,400	03/16/06	908	37.08744	-94.62733	18	21-Mar-06	<LOD	673.9	160.02	2099.4	77.9	54024.0	847.9	542.3	64.2	<LOD	148.8	<LOD	80.6	9164.3	163.4	
2200,400						21-Mar-06	688.0	211.5	133.45	1374.8	60.9	45504.2	687.0	586.7	63.7	<LOD	142.8	<LOD	78.4	9809.3	165.3	
2200,400						21-Mar-06	<LOD	590.9	136.31	1473.2	60.8	44652.4	654.3	478.7	59.6	160.4	46.4	<LOD	72.3	9226.4	152.2	
2200,500	03/16/06	1118	37.08773	-94.62743	15	20-Mar-06	1480.1	341.4	253.98	2395.0	109.5	155217.4	2775.8	364.9	79.1	295.9	62.5	<LOD	148.3	10588.9	217.1	
2200,500	Duplicate					20-Mar-06	2023.3	420.1	306.27	3037.1	134.0	194479.3	3724.5	532.3	84.7	259.0	66.2	<LOD	166.2	10350.5	228.5	
2200,500			37.08773	-94.62743	15	20-Mar-06	1663.6	427.3	305.96	2569.2	125.6	181687.3	3537.1	404.0	88.2	348.8	67.1	<LOD	153.0	11213.4	248.6	
2200,500						20-Mar-06	1780.7	460.1	330.3	3010.2	140.8	194718.6	3948.7	361.0	93.2	398.4	70.8	<LOD	158.7	11713.1	269.0	
2200,600	03/16/06	1115	37.08790	-94.62769	15	20-Mar-06	410.9	120.3	76.87	3123.1	73.3	23958.8	314.4	<LOD	129.9	<LOD	119.9	<LOD	48.5	6895.1	102.2	
2200,600						20-Mar-06	<LOD	285.5	71.2	2110.5	54.6	14274.9	187.4	158.0	40.5	124.6	38.2	<LOD	45.1	6749.8	94.4	
2200,600						20-Mar-06	<LOD	312.7	73.85	1783.6	52.7	14383.4	198.6	<LOD	132.9	<LOD	119.2	<LOD	46.3	7376.5	106.8	
2200,625	03/16/06	1110	37.08797	-94.62772	20	20-Mar-06	1098.1	320.7	232.67	1609.2	92.4	142494.1	2508.4	692.7	87.1	355.2	61.0	<LOD	134.2	12798.9	252.1	
2200,625						20-Mar-06	1253.9	296.2	208.16	1562.7	82.7	116855.9	1927.5	383.4	78.2	297.0	57.1	<LOD	125.9	12170.7	225.3	
2200,625						20-Mar-06	1870.9	349.4	244.08	1725.0	98.3	152141.3	2743.1	393.7	96.1	360.0	62.1	<LOD	156.4	15573.4	307.9	
2300,0	03/16/06	951	37.08681	-94.62622	19	21-Mar-06	<LOD	270.9	60.76	<LOD	54.8	25149.7	292.7	<LOD	62.5	<LOD	106.9	<LOD	40.2	2023.5	37.0	
2300,0						21-Mar-06	<LOD	253.6	57.46	<LOD	44.5	21832.0	250.7	<LOD	53.5	<LOD	104.4	<LOD	34.6	1559.7	30.4	
2300,0						21-Mar-06	<LOD	310.1	69.15	<LOD	62.3	36551.0	423.3	77.8	23.7	<LOD	110.4	<LOD	48.2	2395.3	42.4	
2300,100	03/16/06	950	37.08703	-94.62639	24	21-Mar-06	1171.7	220.3	154.53	<LOD	160.9	152561.9	2186.8	145.7	36.6	181.4	48.7	<LOD	111.7	3388.7	70.2	
2300,100						21-Mar-06	<LOD	857.9	219.34	<LOD	225.0	196096.4	3484.7	217.2	46.8	197.1	59.8	<LOD	141.0	3511.9	89.4	
2300,100						21-Mar-06	794.3	171.7	121.8	<LOD	125.2	110459.2	1431.8	<LOD	81.1	<LOD	132.3	<LOD	86.0	2283.6	47.9	
2300,400	03/16/06	943	37.08759	-94.62710	17	21-Mar-06	321.3	98.3	68.28	83.2	19.3	24450.9	281.5	68.9	15.4	<LOD	105.5	<LOD	37.4	1032.7	24.0	
2300,400						21-Mar-06	358.8	95.0	61.31	123.0	19.6	24045.7	271.3	80.4	16.0	<LOD	100.7	<LOD	36.5	1160.8	25.2	
2300,400						21-Mar-06	<LOD	258.4	63.97	79.5	18.3	21105.2	244.7	<LOD	47.5	<LOD	103.5	<LOD	37.3	1156.8	25.5	
2300,500	03/16/06	1120	37.08788	-94.62717	15	20-Mar-06	1887.9	340.6	233.98	854.1	86.4	197079.7	3481.2	247.7	65.8	848.2	67.9	<LOD	152.6	7459.2	159.9	
2300,500						20-Mar-06	2410.9	384.1	274.58	953.1	98.8	234348.8	4396.7	339.8	71.6	847.6	72.3	<LOD	174.6	7758.5	175.5	
2300,500						20-Mar-06	2235.6	329.2	237.16	707.4	80.2	182414.9	3148.9	305.7	65.4	1428.8	72.1	<LOD	139.2	7631.7	159.2	
2300,600	03/16/06	1125	37.08805	-94.62741	16	20-Mar-06	<LOD	509.1	102.41	612.2	44.8	36019.8	546.1	332.4	75.8	<LOD	142.1	<LOD	76.2	14950.5	236.8	
2300,600						20-Mar-06	<LOD	456.1	103.29	310.4	36.1	30641.2	447.0	<LOD	243.5	<LOD	132.1	<LOD	75.4	19214.0	282.5	
2300,600						20-Mar-06	614.1	182.4	118.19	580.6	45.5	36889.4	559.0	381.8	90.0	<LOD	143.3	<LOD	84.0	21130.5	324.6	
2300,665	03/16/06	1128	37.08820	-94.62756	19	20-Mar-06	<LOD	219.9	50.02	165.5	15.3	2411.4	44.6	86.0	19.5	<LOD	99.8	<LOD	24.5	1862.4	33.2	
2300,665						20-Mar-06	<LOD	244.3	55.22	214.9	17.3	3081.8	53.4	119.1	21.7	<LOD	102.9	<LOD	26.7	2200.5	37.8	
2300,665						20-Mar-06	<LOD	225.6	49.58	198.8	16.3	2487.6	45.6	148.9	20.8	<LOD	100.4	<LOD	24.2	2043.2	35.3	
2400,0	03/16/06	940	37.08894	-94.62596	18	21-Mar-06	<LOD	329.3	75	<LOD	64.8	41605.0	492.5	<LOD	59.4	<LOD	111.9	<LOD	48.7	1581.5	33.2	
2400,0						21-Mar-06	996.0	201.5	141.65	<LOD	136.2	131783.2	1829.4	84.6	27.9	<LOD	141.6	<LOD	99.6	2120.1	48.6	
2400,0						21-Mar-06	1903.0	350.8	240.85	582.2	91.9	260880.0	4699.9	<LOD	161.5	189.7	60.9	<LOD	169.9	4929.0	116.8	
2400,100	03/16/06	945	37.08717	-94.62613	20	21-Mar-06	2073.6	399.2	286.46	2784.4	130.7	228630.3	4310.7	405.7	76.3	322.2	66.0	<LOD	167.5	8695.9	194.1	
2400,100						21-Mar-06	2295.0	404.5	298.11	3963.9	151.0	233628.9	4351.5	<LOD	236.7	<LOD	195.6	<LOD	170.6	9845.8	213.4	
2400,100						21-Mar-06	2509.9	585.2	415.17	3891.0	213.5	207448.5	5570.6	<LOD	341.7	<LOD	278.3	<LOD	218.5	9568.2	300.6	
2400,200	03/16/06	948	37.08743	-94.62624	18	21-Mar-06	<LOD	393.4	88.12	367.0	35.0	38290.2	542.3	<LOD	79.5	183.9	45.3	<LOD	55.3	2099.6	47.2	
2400,200						21-Mar-06	637.4	143.1	96.44	496.2	37.8	42009.4	579.9	104.9	28.1	<LOD	131.2	<LOD	54.0	2357.0	50.1	
2400,200						21-Mar-06	<LOD	420.7	92.72	444.0	38.1	41668.4	598.4	<LOD	85.6	<LOD	138.6	<LOD	61.2	2286.2	50.9	
2400,300	03/16/06	952	37.08765	-94.62654	18	21-Mar-06	1540.1	349.4	240.96	1376.1	97.8	184850.8	3390.5	453.6	99.1	223.4	64.3	<LOD	158.1	15915.7	320.2	
2400,300						21-Mar-06	1761.2	298.7	196.9	650.6	73.1	166498.2	2740.6	221.2	71.8	<LOD	167.7	<LOD	126.5	10374.1	196.8	
2400,300						21-Mar-06	2118.1	427.1	303.02	2405.5	131.6	241419.3	4763.0	388.5	106.3	231.5	68.8	<LOD	193.4	16018.9	347.3	
2400,400	03/16/06	955	37.08776	-94.62678	17	21-Mar-06	403.4	132.6	96.35	223.2	32.7	54595.5	693.2	<LOD	93.2	134.5	41.6	<LOD	62.6	3337.0	59.9	

<LOD - not detected

Table 1.1: XRF Analyses of Surficial Soil Samples

Sample ID	Sample Date Time	Time	Latitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
2400,400						21-Mar-06	485.3	129.5	84.26	145.7	29.3	49912.4	618.4	156.0	29.0	<LOD	121.0	<LOD	57.9	2971.4	53.6	
2400,400						21-Mar-06	558.4	140.2	86.41	264.9	34.0	57261.0	729.5	112.5	30.2	<LOD	124.3	<LOD	65.4	3089.7	57.0	
2400,500	03/15/06	1126	37.08804	-94.62688	15	21-Mar-06	<LOD	357.0	77.84	172.6	26.6	32913.2	415.3	135.3	33.0	220.7	40.4	<LOD	52.9	4016.2	66.2	
2400,500						21-Mar-06	<LOD	260.6	55.53	108.9	17.4	12354.6	155.6	<LOD	66.6	133.3	35.5	<LOD	31.2	2293.9	39.8	
2400,500						21-Mar-06	<LOD	300.4	64.81	99.6	21.3	24165.5	297.0	<LOD	76.5	159.8	38.0	<LOD	41.0	2689.0	46.8	
2400,600	03/15/06	1129	37.08821	-94.62714	15	21-Mar-06	<LOD	242.8	53.95	302.7	19.9	3438.0	58.2	107.9	22.8	<LOD	102.8	<LOD	24.5	2400.8	40.5	
2400,600						21-Mar-06	<LOD	227.3	44.53	274.5	17.9	3092.5	51.2	100.3	19.8	<LOD	97.6	<LOD	23.9	2003.1	34.0	
2400,600						21-Mar-06	<LOD	234.9	48.36	259.1	17.8	3162.8	52.7	81.1	19.0	<LOD	97.2	<LOD	23.9	1805.9	32.2	
2400,700	03/16/06	1135	37.08843	-94.62737	16	22-Mar-06	<LOD	288.0	61.36	917.9	34.6	6038.0	92.0	622.4	43.3	<LOD	110.1	<LOD	42.5	7355.9	99.0	
2400,700						22-Mar-06	<LOD	289.1	70.75	1091.9	38.6	7621.1	112.2	891.6	47.1	<LOD	113.0	<LOD	45.6	7957.6	107.9	
2400,700						22-Mar-06	<LOD	243.8	56.82	736.6	31.4	4253.9	73.0	713.7	39.2	<LOD	111.6	<LOD	39.3	5388.2	79.0	
2500,0	03/16/06	1010	37.08712	-94.62565	23	20-Mar-06	<LOD	251.1	48.37	<LOD	31.6	5048.4	75.1	<LOD	63.9	<LOD	101.6	<LOD	27.5	2219.0	37.9	
2500,0						20-Mar-06	<LOD	222.8	47.85	<LOD	34.0	7170.1	97.9	83.4	21.4	<LOD	100.4	<LOD	27.3	2192.5	37.7	
2500,0						20-Mar-06	<LOD	322.8	75.38	<LOD	68.9	35474.3	447.5	116.5	31.3	<LOD	118.6	<LOD	48.0	3582.5	61.2	
2500,100	03/16/06	1012	37.08730	-94.62581	30	21-Mar-06	1406.6	295.5	208.65	540.7	74.7	186264.0	3100.0	<LOD	161.5	299.0	56.6	<LOD	149.4	5782.1	122.5	
2500,100						21-Mar-06	1966.6	345.7	246.82	867.4	91.9	227122.1	4068.3	216.8	67.2	210.0	61.2	<LOD	166.1	7622.4	165.2	
2500,100						21-Mar-06	1707.2	330.1	228.37	558.3	83.4	216186.7	3794.8	<LOD	188.3	<LOD	179.1	<LOD	155.5	6953.6	150.0	
2500,200	03/16/06	1015	37.08757	-94.62608	22	21-Mar-06	<LOD	4241.9	931.39	4437.1	462.7	253238.8	13514.2	1612.0	357.9	741.9	197.6	<LOD	463.9	22348.0	1275.2	
2500,200						21-Mar-06	4698.0	740.1	473.65	4320.0	217.5	260759.6	6586.1	875.6	172.9	575.4	90.6	<LOD	236.7	25453.5	681.4	
2500,200						21-Mar-06	3662.6	662.4	433.2	4723.1	215.3	241618.1	5838.8	1072.2	160.0	382.3	84.6	<LOD	234.2	23044.3	594.1	
2500,300	03/16/06	1017	37.08782	-94.62636	19	21-Mar-06	6691.3	1219.5	878.61	11372.6	566.9	630147.6	22136.5	1274.6	312.4	786.8	131.3	<LOD	472.3	45222.3	1642.4	
2500,300						21-Mar-06	6136.0	1110.0	763.92	9073.2	458.5	544013.1	18029.4	<LOD	851.3	687.3	124.1	<LOD	393.1	42605.8	1462.6	
2500,300						21-Mar-06	5584.2	856.1	557.49	5816.5	295.1	405857.2	11371.6	<LOD	598.1	819.3	103.4	<LOD	304.9	28319.1	838.0	
2500,400	03/16/06	1021	37.08795	-94.62658	19	20-Mar-06	3552.0	603.0	398.93	5145.4	233.9	271877.2	6753.6	690.3	177.1	<LOD	259.2	<LOD	242.7	27872.7	730.3	
2500,400						20-Mar-06	2928.9	588.0	416.46	5261.1	233.8	277110.8	6768.5	896.1	181.2	<LOD	251.1	<LOD	244.6	29812.5	765.3	
2500,400						20-Mar-06	2924.6	671.1	458.93	5730.1	273.4	321719.3	8681.5	632.8	205.1	384.0	95.8	<LOD	276.0	32396.0	915.1	
2500,500	03/16/06	1140	37.08820	-94.62663	15	20-Mar-06	<LOD	261.6	60.89	1785.3	46.5	8207.0	113.1	<LOD	72.0	<LOD	103.2	<LOD	34.7	2645.8	44.4	
2500,500						20-Mar-06	<LOD	300.8	76.32	2450.7	59.6	10863.9	151.2	181.2	32.1	<LOD	113.5	<LOD	42.0	4024.4	64.0	
2500,500						20-Mar-06	<LOD	361.8	98.48	2577.6	68.3	18688.5	264.5	170.2	35.0	<LOD	121.8	<LOD	47.9	3958.0	69.6	
2500,600	03/16/06	1135	37.08840	-94.62690	15	20-Mar-06	533.4	156.4	101.79	405.8	40.0	58312.8	794.3	<LOD	137.6	<LOD	129.6	<LOD	70.5	6634.9	109.1	
2500,600						20-Mar-06	637.7	174.1	121.58	512.2	45.8	66842.9	948.9	<LOD	160.5	145.3	46.5	<LOD	86.6	8008.1	133.6	
2500,600						20-Mar-06	<LOD	400.9	93.13	236.4	33.0	47947.4	628.6	<LOD	124.1	<LOD	126.5	<LOD	62.5	5776.1	93.2	
2500,700	03/16/06	1132	37.08855	-94.62715	19	20-Mar-06	<LOD	263.1	54.2	333.2	21.4	2412.2	48.1	174.7	30.2	<LOD	107.4	35.7	11.4	3914.4	59.6	
2500,700						20-Mar-06	<LOD	287.8	65.08	680.8	30.5	6466.1	97.2	417.7	40.5	<LOD	111.6	48.5	14.5	6615.2	91.3	
2500,700						20-Mar-06	<LOD	293.0	66.12	623.8	29.9	6198.8	95.9	471.5	41.1	<LOD	111.9	54.1	14.8	6486.1	91.5	
2600,0	03/16/06	1010	37.08718	-94.62537	30	21-Mar-06	1130.4	194.5	128.83	246.0	46.6	108953.5	1515.1	121.1	34.9	<LOD	137.8	<LOD	91.1	3342.6	67.0	
2600,0						21-Mar-06	1787.2	361.3	243.5	<LOD	264.9	231511.7	4477.3	<LOD	164.6	<LOD	200.5	<LOD	155.7	4248.5	112.0	
2600,0						21-Mar-06	1073.9	268.1	187.35	<LOD	201.2	196576.6	3174.1	<LOD	128.7	<LOD	164.1	<LOD	131.0	3831.4	86.4	
2600,100	03/16/06	1008	37.08749	-94.62560	25	21-Mar-06	6375.8	1001.1	251.03	2769.2	259.3	534180.5	16469.0	<LOD	509.5	463.7	115.3	<LOD	365.1	17304.4	583.2	
2600,100						21-Mar-06	4699.3	857.9	222.84	3050.0	241.5	472496.3	13613.0	<LOD	456.0	402.2	99.8	<LOD	325.8	15737.9	500.2	
2600,100						21-Mar-06	4165.0	681.3	179.28	2561.5	187.7	425691.8	10380.3	582.3	120.8	404.7	84.8	<LOD	281.7	13663.9	371.8	
2600,200E	03/16/06	1005	37.08766	-94.62576	15	21-Mar-06	2925.1	630.5	443.03	697.2	156.3	401115.3	10150.4	<LOD	324.1	366.0	89.7	<LOD	279.3	10100.7	296.9	
2600,200E						21-Mar-06	2261.4	445.2	307.38	<LOD	311.6	271113.6	5669.2	308.1	85.5	<LOD	216.9	<LOD	199.7	8899.6	220.2	
2600,200E						21-Mar-06	3373.9	608.0	420.45	<LOD	417.8	379669.6	9376.6	<LOD	302.4	679.9	91.7	<LOD	259.2	9261.3	269.0	
2600,200W	03/15/06	1152	37.08819	-94.62673	26	21-Mar-06	3083.6	535.4	365.56	1740.8	147.1	304026.0	6949.7	<LOD	280.4	352.1	78.4	<LOD	222.4	9321.3	250.3	
2600,200W						21-Mar-06	3808.6	733.6	528.21	1730.4	200.2	467944.5	12829.3	466.5	111.1	1531.9	117.9	<LOD	284.5	8756.0	284.1	
2600,200W						21-Mar-06	2473.9	612.2	445.85	1779.4	169.6	349035.0	8796.2	<LOD	407.2	391.2	89.8	<LOD	258.0	16850.7	465.6	
2600,300						21-Mar-06	4151.6	695.5	511.92	6217.7	281.8	378901.6	9889.0	<LOD	460.5	460.1	94.3	<LOD	286.2	19591.5	553.7	
2600,300						21-Mar-06	3658.6	673.2	174.08	6305.0	282.3	372188.9	9662.2	595.7	155.3	399.8	90.7	<LOD	266.4	19512.9	548.8	
2600,300 E	03/16/06	1150	37.08796	-94.62589	17	22-Mar-06	1889.2	380.3	254.72	2354.3	116.4	181721.7	3359.4	518.5	97.6	<LOD	188.4	226.0	60.0	14880.0	304.1	

<LOD - not detected

Table 1.1: XRF Analyses of Surficial Soil Samples

Sample ID	Sample Date Time	Time	Latitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
2600,300 E						22-Mar-06	1946.9	423.0	300.62	3411.7	147.3	222447.5	4345.5	489.2	114.2	<LOD	204.1	<LOD	194.5	18624.6	394.4	
2600,300 E						22-Mar-06	1704.2	339.8	228.9	2416.3	107.9	158367.2	2760.0	534.7	88.6	<LOD	177.0	<LOD	142.9	13725.2	266.2	
2600,300W	03/16/06	1003	37.08791	-94.62618	18	21-Mar-06	4474.5	798.0	589.95	7765.4	347.1	439155.3	12279.1	547.4	178.3	704.2	100.0	<LOD	318.4	22645.3	678.5	
2600,400						21-Mar-06	1535.1	376.3	291.52	5188.7	173.9	187034.3	3586.1	768.9	121.0	261.0	65.7	<LOD	169.7	21519.8	441.0	
2600,400						21-Mar-06	2861.1	408.3	292.31	3736.5	149.2	213468.6	4099.2	615.3	105.9	227.7	66.1	<LOD	173.2	16414.7	345.2	
2600,400 E	03/16/06	1148	37.08814	-94.62614	15	22-Mar-06	2079.3	362.1	249.58	1164.1	94.8	208882.7	3735.8	366.4	76.1	239.5	60.5	<LOD	155.2	9604.7	200.6	
2600,400 E						22-Mar-06	2960.9	610.1	430.29	1886.9	167.0	322464.8	8048.7	466.3	130.1	<LOD	262.3	<LOD	249.3	14718.1	408.2	
2600,400 E						22-Mar-06	2481.1	539.8	368.15	1717.7	146.9	275678.6	6461.6	<LOD	344.4	388.9	80.3	<LOD	234.6	13275.0	349.4	
2600,400W	03/16/06	1000	37.08810	-94.62637	17	21-Mar-06	2092.7	421.4	311.61	6477.6	207.8	191153.8	3854.4	1043.0	133.0	246.3	68.6	<LOD	180.1	23386.2	500.7	
2600,500	03/16/06	1145	37.08836	-94.62639	15	22-Mar-06	<LOD	435.9	106.1	3411.5	81.5	22528.9	314.7	396.3	44.0	<LOD	122.2	<LOD	56.8	5977.9	96.3	
2600,500						22-Mar-06	<LOD	556.3	141.73	3037.8	97.7	27749.9	491.2	484.5	59.3	<LOD	155.0	<LOD	71.9	6724.3	136.1	
2600,500						22-Mar-06	<LOD	360.1	88.37	2506.5	65.2	16301.7	227.9	270.1	38.1	<LOD	122.6	<LOD	49.3	4888.2	79.3	
2600,600	03/16/06	1143	37.08854	-94.62663	15	22-Mar-06	<LOD	5847.0	1162.51	1942.4	467.0	38799.4	5812.0	<LOD	930.5	<LOD	1192.7	<LOD	492.7	7284.5	1143.8	
2600,600						22-Mar-06	<LOD	248.0	54.71	138.7	16.4	2788.5	51.5	161.3	32.2	<LOD	102.7	<LOD	34.2	4723.2	67.1	
2600,600						22-Mar-06	<LOD	246.7	57.31	239.2	19.2	3352.7	57.4	232.0	35.5	<LOD	104.0	79.0	13.6	5864.9	78.2	
2600,700	03/16/06	1140	37.08877	-94.62680	14	22-Mar-06	<LOD	216.6	47.43	67.4	11.7	1145.5	28.0	172.3	19.6	<LOD	97.7	<LOD	24.2	1842.1	32.3	
2600,700						22-Mar-06	<LOD	308.7	66.28	88.5	14.7	1040.5	30.3	274.0	26.6	<LOD	110.6	46.1	11.5	2626.4	46.4	
2600,700						22-Mar-06	<LOD	258.6	53.52	77.0	13.1	1457.9	33.7	143.1	24.5	<LOD	103.3	<LOD	28.7	2780.2	44.5	
2700,0	03/16/06	1310	37.08743	-94.62515	13	23-Mar-06	<LOD	210.3	44.58	<LOD	29.3	2546.0	45.4	<LOD	28.2	<LOD	97.0	<LOD	21.3	436.1	14.2	
2700,0						23-Mar-06	<LOD	233.6	44.19	<LOD	29.6	2509.3	46.2	<LOD	26.0	<LOD	97.3	<LOD	21.3	332.6	12.8	
2700,0						23-Mar-06	<LOD	207.6	44.3	<LOD	25.7	2404.3	42.3	<LOD	27.1	<LOD	93.5	<LOD	18.7	423.4	13.6	
2700,100	03/16/06	1314	37.08764	-94.62534	13	23-Mar-06	857.3	199.9	140.52	222.3	45.9	83140.6	1218.9	267.5	58.9	645.6	53.1	5365.8	120.7	8641.4	148.3	
2700,100						23-Mar-06	648.2	182.6	125.34	422.3	46.0	78076.8	1100.6	305.4	51.5	177.8	47.1	2594.8	74.4	7104.2	120.8	
2700,100						23-Mar-06	557.1	161.4	104.7	238.5	38.3	63794.3	862.8	303.9	48.3	283.6	45.1	4046.4	91.3	6823.1	111.5	
2700,200	03/16/06	1317	37.08788	-94.62552	13	22-Mar-06	<LOD	298.8	65.34	161.8	21.5	2771.9	64.1	189.6	44.0	<LOD	129.0	<LOD	47.3	5759.3	98.1	
2700,200						22-Mar-06	<LOD	287.0	63.55	161.3	17.9	2582.9	50.8	271.3	36.6	<LOD	110.0	96.6	14.7	5622.3	79.5	
2700,200						22-Mar-06	<LOD	336.0	67.72	173.9	20.8	2959.7	61.9	274.7	45.3	<LOD	120.8	122.6	17.9	7027.5	106.2	
2700,300	03/16/06	1320	37.08810	-94.62571	13	23-Mar-06	<LOD	601.2	143.34	2110.1	76.5	46007.0	709.0	574.9	90.6	<LOD	149.6	197.5	35.4	19853.3	315.9	
2700,300						23-Mar-06	<LOD	6310.0	1486.32	1790.4	552.1	38718.1	7540.2	<LOD	1274.6	<LOD	1517.2	<LOD	417.0	10057.8	2005.9	
2700,300						23-Mar-06	808.4	204.1	139.85	2045.9	73.9	38845.9	598.0	670.3	91.2	158.6	49.4	270.2	36.1	20395.1	320.3	
2700,400	03/16/06	1322	37.08832	-94.62592	14	23-Mar-06	1724.1	253.8	164.87	<LOD	163.0	158316.3	2393.9	197.0	45.3	183.3	52.9	<LOD	111.6	4685.7	94.4	
2700,400						23-Mar-06	1654.2	291.8	211.19	<LOD	196.1	210574.8	3478.5	<LOD	144.1	336.0	57.5	<LOD	143.0	4520.9	100.3	
2700,400						23-Mar-06	743.1	185.3	133.93	<LOD	125.3	102827.8	1442.5	144.9	36.0	<LOD	142.5	<LOD	91.6	3464.0	69.4	
2700,500	03/16/06	1325	37.08853	-94.62611	14	23-Mar-06	<LOD	445.6	109.1	1478.4	54.0	18427.8	272.1	721.0	63.2	<LOD	130.2	98.2	23.2	11558.1	172.7	
2700,500						23-Mar-06	<LOD	1080.7	212.56	2716.6	153.3	32046.3	971.4	2043.8	178.9	<LOD	247.9	<LOD	162.5	21332.6	648.0	
2700,500						23-Mar-06	<LOD	402.5	91.13	1223.4	45.8	15917.2	225.4	469.1	48.0	<LOD	122.7	68.5	18.9	7537.9	113.1	
2700,600	03/16/06	1327	37.08876	-94.62630	14	23-Mar-06	<LOD	304.9	70.16	273.2	23.5	17153.6	213.7	149.1	28.9	<LOD	113.3	50.0	14.6	3529.4	55.8	
2700,600						23-Mar-06	<LOD	350.4	80.93	217.5	25.9	23923.4	315.5	229.1	32.2	<LOD	114.5	<LOD	47.1	3564.9	61.6	
2700,600						23-Mar-06	<LOD	336.8	76.03	345.2	26.6	21229.7	265.0	165.2	31.2	<LOD	113.3	83.7	16.8	3900.9	61.7	
2700,700	03/16/06	1330	37.08896	-94.62652	14	23-Mar-06	<LOD	231.0	52.13	77.5	12.8	3966.5	61.4	92.3	14.1	<LOD	100.0	<LOD	24.7	913.9	21.3	
2700,700						23-Mar-06	<LOD	222.8	48.83	82.3	12.6	2959.4	50.2	<LOD	40.8	<LOD	98.5	<LOD	24.1	923.7	21.4	
2700,700						23-Mar-06	<LOD	223.1	46.83	74.1	12.0	2907.4	49.2	83.5	12.9	<LOD	97.4	<LOD	23.6	776.2	19.2	
2700,750	03/16/06	1335	37.08905	-94.62659	15	23-Mar-06	<LOD	214.3	42.88	58.9	11.1	1956.4	37.8	<LOD	38.2	<LOD	96.2	<LOD	19.8	917.8	20.9	
2700,750						23-Mar-06	<LOD	206.1	42.74	84.5	12.3	2151.3	41.3	48.1	12.6	<LOD	100.4	<LOD	20.8	753.7	19.3	
2700,750						23-Mar-06	<LOD	193.8	42.47	100.3	12.5	1773.6	36.1	<LOD	41.7	<LOD	96.7	<LOD	20.8	977.7	21.9	
2800,0	03/16/06	1310	37.08760	-94.62488	13	23-Mar-06	<LOD	248.1	53.53	141.0	17.1	8938.2	118.6	64.8	20.7	<LOD	104.0	<LOD	33.1	1978.4	35.9	
2800,0						23-Mar-06	<LOD	236.2	48.58	101.9	15.8	9380.2	121.0	85.3	21.3	<LOD	101.9	<LOD	31.9	2149.4	37.2	
2800,0						23-Mar-06	<LOD	246.8	56.41	67.8	16.1	11236.2	146.3	89.0	20.9	<LOD	109.0	96.6	13.9	1880.5	35.6	
2800,100	03/16/06	1315	37.08782	-94.62508	13	23-Mar-06	<LOD	445.3	101.83	1522.0	58.1	31383.8	449.8	310.0	76.9	<LOD	135.2	245.8	30.7	17522.8	255.7	
2800,100						23-Mar-06	<LOD	468.8	110.29	1767.3	63.2	28646.4	419.9	901.7	85.3	<LOD	136.6	198.6	30.9	19979.4	292.5	

<LOD - not detected

Table 1.1: XRF Analyses of Surficial Soil Samples

Sample ID	Sample Date Time	Time	Latitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
2800,100						23-Mar-06	<LOD	469.3	109.55	1695.6	62.3	29404.7	432.2	523.2	85.1	<LOD	138.6	172.3	30.5	20388.6	299.5	
2800,200	03/16/06	1320	37.08805	-94.62526	12	23-Mar-06	<LOD	321.9	72.23	320.6	24.5	4455.2	77.0	286.2	50.3	<LOD	115.4	164.1	19.3	9942.5	133.1	
2800,200						23-Mar-06	<LOD	301.4	66.19	291.6	22.6	3222.6	59.9	189.0	46.0	<LOD	111.0	159.4	18.0	8838.5	117.2	
2800,200						23-Mar-06	<LOD	346.9	74.25	341.5	26.6	4923.4	85.8	354.6	60.4	<LOD	118.4	175.8	21.7	13373.1	178.7	
2800,300	03/16/06	1323	37.08828	-94.62545	12	23-Mar-06	769.9	238.8	163.14	1592.3	70.6	49323.4	793.9	449.1	80.0	<LOD	159.4	<LOD	90.2	14192.3	244.4	
2800,300						23-Mar-06	650.0	147.0	88.1	548.3	34.1	17615.2	249.3	402.2	51.3	<LOD	122.5	112.8	21.0	8597.8	127.8	
2800,300						23-Mar-06	1010.3	191.0	117.54	1021.5	49.8	30123.0	443.7	<LOD	185.0	169.1	46.6	153.2	26.9	10781.0	170.3	
2800,400	03/16/06	1325	37.08850	-94.62566	14	23-Mar-06	<LOD	384.1	92.85	977.2	44.3	41388.3	530.0	242.8	41.6	133.2	41.2	<LOD	59.6	5937.9	92.3	
2800,400						23-Mar-06	577.9	168.6	114.38	1170.6	55.6	68697.2	940.7	337.2	50.7	<LOD	135.9	<LOD	81.7	7346.1	120.1	
2800,400						23-Mar-06	<LOD	357.8	82.61	420.8	33.8	45259.4	560.0	144.9	30.4	<LOD	119.6	<LOD	58.9	3349.7	58.0	
2800,500	03/16/06	1327	37.08872	-94.62586	15	23-Mar-06	<LOD	470.3	107.41	2867.1	82.3	17000.4	272.7	819.4	90.4	<LOD	138.9	<LOD	78.3	21314.7	321.5	
2800,500						23-Mar-06	<LOD	352.5	77.94	2024.3	60.4	9517.6	151.2	420.0	68.0	<LOD	125.8	<LOD	58.5	14971.9	210.4	
2800,500						23-Mar-06	691.7	179.9	121.39	3610.2	96.5	20429.1	326.8	1098.5	99.0	<LOD	142.1	<LOD	88.1	24204.4	368.5	
2800,600	03/16/06	1330	37.08894	-94.62607	12	23-Mar-06	3689.6	743.5	546.67	26090.3	843.4	313672.0	8842.0	1373.3	278.2	372.7	101.0	<LOD	331.7	53081.3	1534.8	
2800,600						23-Mar-06	2820.5	656.9	503.57	38220.6	1129.0	292065.6	7880.5	1777.0	243.4	<LOD	285.7	<LOD	305.2	42458.4	1184.2	
2800,600						23-Mar-06	2696.1	755.4	584.18	27802.4	920.9	374083.4	10877.6	1476.5	257.2	<LOD	297.7	<LOD	319.1	42142.1	1268.9	
2800,720	03/16/06	1335	37.08921	-94.62630	13	23-Mar-06	<LOD	492.5	114.5	3127.2	87.6	25027.1	384.0	774.8	97.4	176.4	47.4	<LOD	90.0	25044.6	372.6	
2800,720						23-Mar-06	<LOD	456.0	108.33	2867.5	84.0	21975.3	345.4	620.1	97.2	<LOD	142.3	<LOD	87.5	24631.5	371.0	
2800,720						23-Mar-06	<LOD	424.0	106.13	2178.6	68.1	19716.6	295.3	516.6	85.3	<LOD	135.2	84.9	27.1	21308.6	305.4	
2900,0	03/16/06	1349	37.08779	-94.62461	16	23-Mar-06	<LOD	213.7	47.19	41.5	13.4	7031.8	98.6	<LOD	49.3	<LOD	103.6	<LOD	27.1	1271.6	27.2	
2900,0						23-Mar-06	<LOD	352.7	63.63	83.1	21.2	12897.7	208.7	80.8	23.5	<LOD	134.3	<LOD	41.9	1500.9	38.8	
2900,0						23-Mar-06	<LOD	241.7	51.4	46.4	14.9	11371.9	144.0	60.1	17.1	<LOD	103.3	<LOD	31.9	1332.4	27.9	
2900,100	03/16/06	1352	37.08797	-94.62482	13	23-Mar-06	<LOD	214.9	50.24	<LOD	41.6	12516.5	152.8	<LOD	50.5	<LOD	101.8	81.5	12.7	1353.8	27.6	
2900,100						23-Mar-06	421.9	115.6	72.57	414.4	30.7	27833.2	354.4	243.1	42.1	131.8	39.5	69.8	19.2	6567.9	96.7	
2900,100						23-Mar-06	345.3	99.9	65.24	241.6	23.5	20232.2	248.4	123.2	31.5	<LOD	112.1	94.5	16.6	4207.4	63.9	
2900,200	03/16/06	1354	37.08820	-94.62501	12	23-Mar-06	<LOD	275.1	60.02	264.8	21.6	4947.0	79.1	298.8	44.0	<LOD	108.1	182.5	18.3	8213.1	108.2	
2900,200						23-Mar-06	<LOD	267.2	57.31	273.5	21.7	6410.2	95.0	231.1	40.2	<LOD	109.2	187.6	18.0	7033.4	94.3	
2900,200						23-Mar-06	<LOD	276.0	60.11	346.4	23.6	5595.9	87.0	221.7	43.1	<LOD	111.6	176.6	18.2	7895.7	105.1	
2900,300	03/16/06	1359	37.08842	-94.62518	12	23-Mar-06	<LOD	260.1	58.94	103.0	16.1	3439.1	60.6	217.3	34.2	<LOD	107.0	108.1	14.7	5032.3	72.1	
2900,300						23-Mar-06	<LOD	272.7	55.9	118.1	17.2	4055.2	69.9	169.3	34.9	<LOD	109.2	125.8	15.7	5016.8	74.1	
2900,300						23-Mar-06	<LOD	261.9	58.67	141.2	17.2	3772.7	63.8	180.3	34.7	<LOD	108.1	118.5	15.0	5371.8	75.0	
2900,400	03/16/06	1400	37.08864	-94.62538	12	23-Mar-06	1633.5	258.5	174.28	842.6	69.7	143521.9	2259.1	330.3	54.2	307.9	54.7	<LOD	125.9	6129.5	121.2	
2900,400						23-Mar-06	540.6	164.6	118.92	291.4	41.4	79124.3	1083.0	186.7	30.2	<LOD	134.4	<LOD	71.0	2510.2	53.3	
2900,400						23-Mar-06	758.0	193.2	138.01	884.3	57.3	101192.2	1424.4	408.5	49.3	225.1	47.3	<LOD	99.0	6260.3	109.7	
2900,500	03/16/06	1404	37.08886	-94.62559	12	23-Mar-06	1584.5	282.8	195.95	6847.6	175.0	81176.5	1397.6	1019.2	116.1	<LOD	169.0	<LOD	125.5	24686.1	442.1	
2900,500						23-Mar-06	<LOD	670.8	159.58	4687.0	144.7	46241.1	888.4	1577.8	113.6	<LOD	166.8	<LOD	108.9	18837.3	374.7	
2900,500						23-Mar-06	3508.0	383.4	243.96	5896.8	173.6	159988.3	2871.9	847.3	114.4	<LOD	180.2	<LOD	156.8	21524.4	412.4	
2900,600	03/16/06	1406	37.08908	-94.62577	13	23-Mar-06	1592.8	390.4	295.64	8229.8	243.3	177071.9	3563.4	355.6	105.9	208.6	68.0	<LOD	162.8	14802.3	329.8	
2900,600						23-Mar-06	2312.3	393.5	291.55	9646.0	249.0	199235.2	3668.8	634.0	105.2	<LOD	180.0	<LOD	166.2	17294.9	347.4	
2900,600						23-Mar-06	2045.7	409.1	106.53	8661.3	253.7	175422.5	3554.4	568.8	113.8	<LOD	200.9	<LOD	160.3	16581.3	367.7	
2900,710	03/16/06	1409	37.08933	-94.62602	13	22-Mar-06	<LOD	275.3	57.86	513.0	26.7	6066.5	91.8	301.7	37.9	<LOD	107.1	<LOD	37.6	6015.0	83.8	
2900,710						22-Mar-06	<LOD	218.3	49.39	420.2	22.3	5593.4	79.1	272.1	31.4	<LOD	96.1	<LOD	32.3	4857.0	84.9	
2900,710						22-Mar-06	<LOD	209.2	52.97	548.5	25.6	5170.1	76.9	272.0	34.0	<LOD	100.2	<LOD	34.5	5427.3	72.8	
300,0	03/15/06	1430	37.08395	-94.63186	12	22-Mar-06	568.9	175.0	103.85	1145.8	48.0	29673.1	410.9	185.2	37.4	<LOD	127.6	<LOD	51.9	4321.2	76.1	
300,0						22-Mar-06	<LOD	359.4	74.95	622.9	33.3	20047.6	266.2	130.0	28.1	<LOD	113.4	<LOD	40.1	2829.7	51.6	
300,0						22-Mar-06	<LOD	387.8	82.96	1144.6	43.1	27979.0	353.4	173.2	26.0	<LOD	113.4	<LOD	43.3	2430.3	45.7	
300,100	03/15/06	1433	37.08422	-94.63200	12	22-Mar-06	1240.7	264.8	71.38	10623.6	214.4	122630.6	1849.0	292.6	61.1	<LOD	145.0	<LOD	104.6	8699.1	154.7	
300,100						22-Mar-06	1055.0	345.3	91.84	10057.3	258.6	135954.0	2561.1	379.2	78.9	<LOD	187.6	<LOD	126.5	9141.9	202.0	
300,100						22-Mar-06	1229.5	291.1	83.6	10439.9	223.5	136505.0	2164.3	400.6	67.1	<LOD	157.6	<LOD	116.4	9356.6	173.3	
300,200	03/15/06	1436	37.08445	-94.63212	12	22-Mar-06	370.3	122.4	87.55	2017.0	59.0	50554.1	615.7	223.7	38.3	<LOD	116.0	<LOD	62.1	5377.5	82.2	

<LOD - not detected

Table 1.1: XRF Analyses of Surficial Soil Samples

Sample ID	Sample Date Time	Time	Latitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
300,200						22-Mar-06	527.7	126.1	91.85	1652.4	53.8	53508.2	646.0	148.6	38.8	<LOD	118.1	<LOD	63.0	5714.8	85.7	
300,200						22-Mar-06	595.5	131.9	93.07	2200.5	62.4	56630.7	689.3	202.2	39.5	<LOD	119.7	<LOD	64.4	5742.3	87.0	
300,300	03/15/06	1438	37.08468	-94.63227	13	22-Mar-06	<LOD	204.2	44.29	66.7	13.9	12681.7	140.4	<LOD	48.3	<LOD	92.5	<LOD	28.2	1521.1	27.0	
300,300						22-Mar-06	<LOD	175.9	39.32	81.0	13.0	9804.3	110.8	58.2	13.4	<LOD	89.6	<LOD	26.4	1047.5	21.0	
300,300						22-Mar-06	<LOD	195.2	42.26	116.3	15.1	13006.4	143.1	<LOD	49.4	<LOD	91.3	<LOD	29.9	1602.1	27.8	
300,400	03/15/06	1441	37.08493	-94.63239	12	22-Mar-06	968.6	207.9	62.13	4158.9	104.1	75148.6	1053.0	281.2	54.5	<LOD	133.9	<LOD	82.4	8193.2	135.0	
300,400						22-Mar-06	<LOD	670.3	71.46	5319.7	129.9	88982.7	1324.9	474.7	65.7	<LOD	142.6	<LOD	92.5	10298.7	174.9	
300,400						22-Mar-06	1038.7	238.8	72.15	5901.1	137.7	83875.9	1245.6	385.2	65.1	<LOD	142.1	<LOD	92.5	10322.6	174.5	
300,500	03/15/06	1445	37.08517	-94.63251	13	22-Mar-06	<LOD	211.3	39.91	45.2	11.9	5277.3	74.1	109.1	16.2	<LOD	94.9	<LOD	21.5	1282.5	25.5	
300,500						22-Mar-06	<LOD	216.6	45.21	121.4	16.2	10305.3	128.5	78.5	20.9	<LOD	98.6	<LOD	27.6	2156.2	36.7	
300,500						22-Mar-06	<LOD	204.7	45.03	149.7	16.1	5087.2	76.1	92.0	23.6	<LOD	99.0	<LOD	26.1	2641.6	43.0	
3000,0	03/16/06	1345	37.08796	-94.62436	13	23-Mar-06	<LOD	322.8	70.2	1055.0	40.2	4703.6	83.3	528.9	51.6	<LOD	116.6	<LOD	48.0	9291.4	130.7	
3000,0						23-Mar-06	<LOD	365.6	90.3	1571.6	55.3	6150.9	113.2	972.9	74.1	<LOD	130.2	<LOD	60.3	15166.8	224.0	
3000,0						23-Mar-06	<LOD	389.7	94.89	2476.5	69.6	9905.8	159.6	902.1	85.1	131.8	43.2	<LOD	72.9	21928.5	303.8	
3000,100	03/16/06	1348	37.08816	-94.62456	13	23-Mar-06	3665.3	900.8	683.38	20413.2	849.7	136146.1	4854.3	13819.7	823.1	747.9	132.1	<LOD	557.3	200196.4	7067.8	
3000,100						23-Mar-06	2656.8	766.9	543.43	17188.4	675.9	108599.3	3564.8	13331.9	732.4	573.8	118.6	<LOD	470.2	185918.8	6017.1	
3000,100						23-Mar-06	3665.8	991.3	716.59	19017.3	851.6	144716.9	5462.0	14186.7	926.8	1003.9	147.2	<LOD	602.1	236220.0	8825.7	
3000,200	03/16/06	1350	37.08839	-94.62473	13	23-Mar-06	4100.6	943.7	720.43	25931.9	1051.7	176203.3	6300.1	11473.8	782.6	824.5	137.0	<LOD	548.2	199767.7	7101.8	
3000,200						23-Mar-06	3402.2	1008.9	766.91	26347.6	1127.0	182535.3	6895.6	13166.4	892.1	1140.0	151.4	<LOD	623.2	223227.7	8381.5	
3000,200						23-Mar-06	4713.9	1051.7	773.69	29538.0	1241.3	193886.8	7296.3	13598.0	889.1	829.4	148.2	<LOD	595.6	215391.7	8065.0	
3000,300	03/16/06	1353	37.08861	-94.62493	14	23-Mar-06	3101.4	709.5	493.28	16256.2	575.6	139800.8	4064.2	6220.8	442.9	396.2	105.3	<LOD	356.7	108242.9	3140.1	
3000,300						23-Mar-06	<LOD	2620.2	610.45	16127.5	748.1	151200.9	5741.3	5685.0	570.6	<LOD	409.6	<LOD	462.9	108936.7	4133.1	
3000,300						23-Mar-06	4070.6	776.6	542.36	17965.8	653.9	165013.0	4998.6	6266.1	488.0	652.6	111.0	<LOD	391.2	123589.5	3738.9	
3000,400	03/16/06	1355	37.08883	-94.62514	13	23-Mar-06	<LOD	477.4	111.58	2464.6	72.1	19458.3	291.6	1100.2	78.8	<LOD	136.4	360.9	32.1	16977.7	248.0	
3000,400						23-Mar-06	<LOD	447.8	103.99	1765.2	68.1	12496.2	230.7	845.7	74.3	<LOD	149.0	262.8	31.1	11386.2	201.9	
3000,400						23-Mar-06	<LOD	442.4	116.41	4702.1	102.6	26218.9	370.4	724.1	55.6	<LOD	128.5	124.4	23.8	8785.8	135.5	
3000,500	03/16/06	1358	37.08905	-94.62533	13	23-Mar-06	439.9	128.7	88.61	674.7	36.9	34728.4	439.2	87.2	28.9	<LOD	117.3	<LOD	54.3	3053.1	54.6	
3000,500						23-Mar-06	<LOD	374.8	86.73	900.6	40.7	28455.7	372.6	<LOD	93.3	<LOD	118.0	<LOD	49.0	3555.1	62.0	
3000,500						23-Mar-06	<LOD	354.0	84.76	628.7	35.3	33293.2	416.2	<LOD	84.9	<LOD	119.2	66.3	18.4	3013.6	53.3	
3000,600	03/16/06	1400	37.08926	-94.62553	13	23-Mar-06	<LOD	1506.6	393.96	11016.3	345.5	225224.2	5207.0	740.6	145.0	<LOD	233.0	<LOD	213.2	20971.3	520.8	
3000,600						23-Mar-06	2136.1	535.3	140	11375.5	358.1	225353.4	5271.5	921.3	154.7	<LOD	235.6	<LOD	214.8	23041.5	575.0	
3000,600						23-Mar-06	2699.3	436.5	322.12	10267.3	273.3	201522.3	3904.4	722.8	118.4	<LOD	192.5	<LOD	180.9	20051.5	418.0	
3000,700	03/15/06	1645	37.08947	-94.62572	15	23-Mar-06	<LOD	307.3	66.41	921.5	37.6	7230.9	113.2	437.5	50.9	<LOD	117.6	<LOD	47.0	9402.0	130.5	
3000,700						23-Mar-06	<LOD	380.8	94.62	1620.8	54.1	11891.4	180.3	675.9	71.1	<LOD	129.1	<LOD	65.1	16181.8	224.2	
3000,700						23-Mar-06	<LOD	420.1	98.95	1657.2	54.7	12671.9	190.1	891.0	69.4	<LOD	126.7	<LOD	62.0	14895.7	208.1	
3100,0	03/16/06	1430	37.08808	-94.62404	13	23-Mar-06	<LOD	1683.9	403.39	16251.6	574.1	42461.6	1290.1	9216.7	557.5	<LOD	312.3	<LOD	400.5	156529.8	4524.1	
3100,0						23-Mar-06	2162.6	710.5	548.22	20221.2	764.1	51964.1	1732.3	13148.2	734.9	655.4	121.7	<LOD	486.9	192669.2	6164.5	
3100,0						23-Mar-06	<LOD	1605.7	393.45	15511.7	541.1	37942.6	1137.2	9053.8	536.2	526.4	103.5	<LOD	380.9	150706.1	4268.9	
3100,100	03/16/06	1433	37.08844	-94.62399	13	23-Mar-06	4424.4	1031.7	765.17	22959.2	998.8	158587.1	5986.8	14670.5	938.3	779.3	140.9	<LOD	605.7	234502.6	8776.9	
3100,100						23-Mar-06	<LOD	771.8	145.55	1620.4	114.6	9134.6	332.9	2091.5	144.4	<LOD	246.1	<LOD	123.1	10598.8	359.1	
3100,100						23-Mar-06	3158.2	954.4	725.23	25134.0	1059.1	145792.3	5417.7	15663.9	930.0	772.7	144.1	<LOD	592.0	222177.8	8177.5	
3100,200	03/16/06	1435	37.08852	-94.62446	13	22-Mar-06	1240.9	340.0	243.69	9741.2	265.0	74802.4	1520.3	3587.5	229.6	445.4	69.6	<LOD	194.6	64415.2	1299.9	
3100,200						22-Mar-06	1556.1	400.2	284.35	11964.6	327.5	92212.3	1964.6	6046.4	292.3	534.8	75.7	<LOD	239.2	83485.8	1766.4	
3100,200						22-Mar-06	<LOD	962.7	259.31	9937.8	265.1	83728.6	1665.7	4424.5	236.1	401.7	67.5	<LOD	192.1	66745.2	1322.0	
3100,300	03/16/06	1445	37.08872	-94.62462	13	23-Mar-06	<LOD	421.2	90.54	2743.2	74.7	24976.3	357.1	408.1	61.3	<LOD	131.6	<LOD	67.9	11355.9	170.1	
3100,300						23-Mar-06	<LOD	338.2	73.93	1104.9	41.3	15535.7	209.7	617.0	44.4	<LOD	116.9	<LOD	50.1	6825.3	99.1	
3100,300						23-Mar-06	<LOD	564.0	129.41	3471.4	97.0	43032.8	653.3	1160.3	95.9	<LOD	145.4	134.1	33.9	21929.0	339.7	
3100,400	03/16/06	1449	37.08912	-94.62460	18	23-Mar-06	<LOD	261.5	54.29	78.3	16.2	10620.3	139.2	<LOD	52.9	<LOD	106.3	<LOD	32.7	1370.7	29.0	
3100,400						23-Mar-06	<LOD	285.0	55.19	<LOD	36.2	2375.2	57.7	<LOD	37.8	<LOD	123.4	<LOD	29.8	422.7	18.6	
3100,400						23-Mar-06	<LOD	207.2	44.31	<LOD	32.3	5176.1	72.9	<LOD	33.9	<LOD	96.0	<LOD	24.1	658.4	17.4	

<LOD - not detected

Table 1.1: XRF Analyses of Surficial Soil Samples

Sample ID	Sample Date Time	Time	Latitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
3100,500	03/15/06	1640	37.08912	-94.62502	14	23-Mar-06	<LOD	213.3	49.32	153.6	15.6	6401.1	84.8	78.1	17.4	<LOD	97.8	<LOD	26.5	1577.2	28.8	
3100,500						23-Mar-06	<LOD	212.3	49.85	262.8	20.0	18471.6	198.5	<LOD	61.2	<LOD	88.7	<LOD	33.8	2422.5	37.3	
3100,500						23-Mar-06	<LOD	314.8	71.49	212.8	24.1	7938.3	139.0	141.5	26.8	<LOD	125.9	<LOD	40.6	1945.5	45.4	
3100,600	03/15/06	1630	37.08938	-94.62525	14	23-Mar-06	1728.4	354.3	254.76	7800.1	208.8	153644.5	2787.6	<LOD	324.8	<LOD	181.6	<LOD	150.6	19813.9	385.9	
3100,600						23-Mar-06	1350.8	303.3	203.86	5719.3	171.2	98757.8	1869.7	752.6	103.0	<LOD	177.1	<LOD	118.5	16350.6	334.1	
3100,600						23-Mar-06	1136.9	287.0	203.4	5713.1	157.3	114357.1	1947.9	571.5	97.4	<LOD	168.6	<LOD	119.3	17756.6	325.9	
3100,700	03/15/06	1625	37.08961	-94.62539	14	23-Mar-06	<LOD	196.3	39.36	<LOD	26.8	1268.2	28.8	36.6	8.5	<LOD	94.9	<LOD	18.3	333.9	12.1	
3100,700						23-Mar-06	<LOD	244.4	59.12	69.1	13.5	3874.3	64.4	<LOD	39.8	<LOD	102.7	<LOD	22.3	765.8	20.6	
3100,700						23-Mar-06	<LOD	254.7	50.91	56.1	11.8	2426.5	45.4	46.8	11.5	<LOD	101.7	<LOD	18.8	586.2	17.1	
3200,0	03/16/06	1405	37.08826	-94.62378	16	23-Mar-06	<LOD	466.3	112.93	4336.5	104.1	18965.4	296.6	686.7	84.0	<LOD	137.8	108.7	27.8	18932.8	284.8	
3200,0						23-Mar-06	426.9	141.0	95.27	2444.1	70.0	13340.8	205.9	552.2	83.4	132.4	44.1	<LOD	73.8	21273.5	298.0	
3200,0						23-Mar-06	<LOD	606.1	151.46	4508.9	123.6	28408.1	486.7	1473.6	133.0	170.7	54.4	<LOD	114.1	35894.7	590.6	
3200,100	03/16/06	1410	37.08844	-94.62399	13	23-Mar-06	4088.3	1092.1	832.18	27562.7	1194.2	220689.3	8475.6	14385.9	919.3	999.5	153.4	<LOD	624.5	211856.1	8110.0	
3200,100						23-Mar-06	<LOD	2842.9	781.96	30684.2	1273.1	185315.2	6927.3	14862.6	909.7	689.5	137.8	<LOD	600.4	213951.6	7953.4	
3200,100						23-Mar-06	4906.3	1194.9	894.31	28831.1	1283.5	248754.1	9850.1	14734.9	971.3	1059.1	160.7	<LOD	668.1	222500.0	8789.8	
3200,200	03/16/06	1415	37.08867	-94.62417	13	23-Mar-06	3947.4	824.7	604.26	20186.6	731.2	286774.2	8738.4	3898.7	385.9	488.8	110.6	<LOD	412.8	81543.6	2516.3	
3200,200						23-Mar-06	2886.2	502.9	376.66	17335.1	458.9	179899.7	3936.7	2900.6	233.7	320.6	76.7	<LOD	250.4	58017.2	1290.5	
3200,200						23-Mar-06	2963.8	675.3	480.32	24868.1	816.5	205804.2	5903.8	4706.0	395.3	<LOD	302.8	<LOD	365.0	92419.4	2669.1	
3200,300	03/16/06	1420	37.08890	-94.62438	13	23-Mar-06	2539.5	693.1	512.65	17045.5	615.3	143239.1	4273.5	8293.0	514.1	489.2	108.9	<LOD	403.5	126458.1	3757.5	
3200,300						23-Mar-06	4037.4	891.4	659.12	20931.8	813.2	191000.0	6326.0	8506.7	606.3	842.4	130.4	<LOD	472.5	148724.9	4918.0	
3200,300						23-Mar-06	3357.5	763.4	552.51	17337.7	652.3	156227.1	4868.5	9340.7	564.0	594.7	114.1	<LOD	434.6	134122.8	4165.7	
3200,400	03/15/06	1635	37.08912	-94.62460	13	23-Mar-06	<LOD	231.3	48.35	45.4	13.2	7064.8	96.3	73.1	14.3	<LOD	101.1	<LOD	26.6	918.2	21.9	
3200,400						23-Mar-06	<LOD	216.3	43.84	69.9	13.2	5049.0	74.4	<LOD	41.1	<LOD	100.6	<LOD	25.5	894.4	21.4	
3200,400						23-Mar-06	<LOD	278.3	61.35	126.2	17.8	11268.4	144.5	69.7	21.8	<LOD	105.0	55.8	12.7	2161.8	38.4	
3200,500	03/15/06	1620	37.08927	-94.62482	14	23-Mar-06	722.0	224.4	152.08	3986.5	119.2	24552.2	441.2	1882.6	158.1	199.1	56.6	<LOD	130.0	47369.1	797.3	
3200,500						23-Mar-06	1053.2	278.5	203.01	7648.8	201.5	41152.0	783.0	2141.8	193.7	222.3	61.7	<LOD	161.8	59544.1	1096.3	
3200,500						23-Mar-06	<LOD	692.2	153.36	3970.8	122.3	23166.7	430.6	1520.3	168.6	226.4	57.3	169.0	48.2	52582.2	906.8	
3300,0	03/16/06	1445	37.08838	-94.62349	14	22-Mar-06	<LOD	212.6	45	175.3	16.7	8329.9	105.4	113.5	16.5	<LOD	98.4	<LOD	26.2	1330.5	26.3	
3300,0						22-Mar-06	<LOD	187.8	36.19	<LOD	30.3	4519.5	68.9	<LOD	28.4	<LOD	94.9	<LOD	23.2	425.2	14.0	
3300,0						22-Mar-06	<LOD	230.0	47.23	177.7	19.2	12802.7	162.2	<LOD	56.4	<LOD	103.9	<LOD	27.7	1620.7	32.1	
3300,100	03/16/06	1450	37.08858	-94.62370	13	22-Mar-06	3453.2	983.3	719.48	36169.8	1482.6	137706.9	5202.0	15355.1	954.6	710.3	142.1	<LOD	623.3	235899.3	8812.5	
3300,100						22-Mar-06	4069.7	1089.4	815.72	38633.3	1666.6	130825.0	5245.1	17183.6	1092.5	944.8	158.1	<LOD	705.2	270065.4	10689.8	
3300,100						22-Mar-06	3497.4	1078.3	837.28	35385.5	1530.1	164504.0	6527.3	19278.9	1112.9	935.5	154.8	<LOD	671.3	244932.9	9639.3	
3300,200	03/16/06	1451	37.08881	-94.62391	13	22-Mar-06	<LOD	745.3	190.91	4497.2	131.2	100289.1	1659.1	651.7	92.2	<LOD	166.5	<LOD	124.2	16706.8	298.6	
3300,200						22-Mar-06	1013.0	245.7	184.54	3477.2	107.0	102454.1	1591.6	538.0	62.9	<LOD	157.9	<LOD	106.0	8447.8	154.6	
3300,200						22-Mar-06	1396.6	279.1	189.78	4141.3	121.8	97018.2	1568.2	778.4	75.6	<LOD	160.5	155.9	40.8	11204.8	204.5	
3300,300	03/16/06	1455	37.08906	-94.62409	15	23-Mar-06	<LOD	1772.2	437.06	8192.6	367.8	79630.5	2511.6	3994.2	429.1	<LOD	317.7	<LOD	348.9	96108.4	2988.3	
3300,300						23-Mar-06	715.3	221.0	151.73	3216.8	105.2	29010.5	511.7	<LOD	444.2	<LOD	166.8	<LOD	128.9	45403.2	762.8	
3300,300						23-Mar-06	<LOD	1573.2	412.46	9222.7	348.9	100910.1	2749.2	4898.7	401.1	416.9	94.8	<LOD	336.0	109164.6	2946.0	
3300,300	03/15/06	1610	37.08919	-94.62383	14	23-Mar-06	<LOD	187.6	41.5	68.6	11.5	1543.3	32.1	<LOD	43.0	<LOD	93.8	<LOD	21.1	1155.5	23.3	
3300,300						23-Mar-06	<LOD	204.9	38.47	47.7	10.8	1401.5	30.3	<LOD	31.7	<LOD	96.0	<LOD	19.8	620.1	16.4	
3300,300						23-Mar-06	<LOD	213.2	47.61	63.1	12.0	1743.9	35.9	<LOD	46.6	<LOD	99.4	<LOD	22.2	1243.2	25.4	
3300,400	03/15/06	1615	37.08927	-94.62437	17	23-Mar-06	498.0	135.9	85.34	960.4	42.7	12403.5	186.6	472.6	69.1	142.3	42.3	<LOD	61.5	15592.2	216.7	
3300,400						23-Mar-06	674.1	175.7	124.56	1780.6	66.2	23549.8	365.8	909.4	103.0	<LOD	144.0	<LOD	93.0	27491.8	409.2	
3300,400						23-Mar-06	<LOD	330.5	76.76	657.0	35.3	10012.3	152.7	367.5	63.3	<LOD	121.0	<LOD	57.5	13759.0	189.3	
3400,0	03/16/06	1430	37.08855	-94.62321	14	23-Mar-06	<LOD	152.5	33.39	289.5	16.9	3184.1	48.3	370.7	26.1	<LOD	80.5	<LOD	27.1	3866.6	49.5	
3400,0						23-Mar-06	<LOD	195.2	40.53	445.8	22.6	4256.2	64.9	514.8	35.6	<LOD	86.6	<LOD	34.1	5986.1	76.2	
3400,0						23-Mar-06	<LOD	184.9	35.82	219.7	15.9	2108.5	38.8	431.5	26.3	<LOD	90.3	<LOD	28.7	3434.7	47.6	
3400,100	03/16/06	1435	37.08875	-94.62344	13	23-Mar-06	<LOD	302.8	67.86	401.1	27.5	17643.2	226.6	415.1	41.3	<LOD	113.2	<LOD	46.2	6516.9	92.4	
3400,100						23-Mar-06	<LOD	283.9	59.04	159.2	20.8	18565.7	226.1	220.0	31.6	<LOD	107.7	<LOD	39.8	4281.1	63.6	

<LOD - not detected

Table 1.1: XRF Analyses of Surficial Soil Samples

Sample ID	Sample Date Time	Time	Latitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
3400,100						23-Mar-06	<LOD	336.9	80.8	538.4	32.6	24450.5	312.8	279.1	44.8	<LOD	118.4	<LOD	54.1	7513.2	107.1	
3400,200	03/16/06	1440	37.08895	-94.62368	15	23-Mar-06	<LOD	284.9	67	494.4	28.5	15374.1	196.1	<LOD	118.1	<LOD	109.6	<LOD	44.7	6699.8	92.2	
3400,200						23-Mar-06	<LOD	250.5	53.54	503.0	25.8	10070.5	129.9	232.7	29.7	<LOD	102.1	<LOD	35.6	4007.7	58.4	
3400,200						23-Mar-06	<LOD	270.3	62.99	549.4	29.2	12669.3	168.1	157.3	37.0	<LOD	112.6	<LOD	42.3	5678.6	81.6	
3500,0	03/15/06	1555	37.08873	-94.62303	15	23-Mar-06	<LOD	160.1	26.89	<LOD	21.1	200.7	10.5	15.9	4.9	<LOD	85.5	<LOD	14.7	108.7	6.9	
3500,0						23-Mar-06	<LOD	139.0	26.41	<LOD	18.1	90.0	7.4	<LOD	12.6	<LOD	82.2	<LOD	13.9	88.4	6.2	
3500,0						23-Mar-06	<LOD	148.1	26.47	<LOD	20.7	190.0	10.2	<LOD	15.7	<LOD	85.2	<LOD	15.1	140.3	7.5	
3500,100	03/15/06	1600	37.08892	-94.62321	23	23-Mar-06	<LOD	144.8	26.7	<LOD	24.5	373.8	13.9	31.0	8.3	<LOD	85.9	<LOD	15.4	410.0	12.2	
3500,100						23-Mar-06	<LOD	150.9	26.69	<LOD	27.0	389.9	15.6	30.9	9.3	<LOD	90.5	<LOD	15.9	424.3	13.7	
3500,100						23-Mar-06	<LOD	161.0	28.78	31.2	8.6	409.1	14.5	35.3	8.7	<LOD	85.5	<LOD	15.7	445.8	12.8	
3500,200	03/15/06	1605	38.08916	-94.62347	22	23-Mar-06	<LOD	161.3	30.61	<LOD	21.6	456.7	15.6	18.7	4.8	<LOD	86.2	<LOD	14.6	93.7	6.6	
3500,200						23-Mar-06	<LOD	182.3	39.49	<LOD	21.9	429.4	16.4	<LOD	17.7	<LOD	95.4	<LOD	13.5	160.8	8.8	
3500,200						23-Mar-06	<LOD	164.0	33.09	<LOD	22.3	373.4	14.1	<LOD	15.5	<LOD	88.3	<LOD	16.3	141.1	7.7	
400,0	03/15/06	1455	37.08408	-94.63158	14	22-Mar-06	<LOD	224.5	44.62	<LOD	31.4	2387.2	43.8	18.6	5.9	<LOD	96.7	<LOD	18.2	127.2	8.2	
400,0						22-Mar-06	<LOD	209.7	45.12	<LOD	29.9	2599.7	45.7	<LOD	15.7	<LOD	95.8	<LOD	19.5	102.5	7.5	
400,0						22-Mar-06	<LOD	207.5	47.63	<LOD	28.1	2286.9	42.7	20.8	5.6	<LOD	95.5	<LOD	16.8	104.9	7.7	
400,100	03/15/06	1500	37.08431	-94.63171	12	22-Mar-06	732.1	165.7	47.79	5787.1	118.1	76875.8	995.6	192.6	44.0	<LOD	123.5	<LOD	78.0	6173.6	99.2	
400,100						22-Mar-06	1069.3	199.2	54.65	5240.7	118.8	96704.5	1320.7	<LOD	137.9	<LOD	133.9	<LOD	86.8	6145.0	104.8	
400,100						22-Mar-06	607.7	190.2	54.3	5182.6	117.7	87580.0	1202.9	192.3	47.4	<LOD	134.4	<LOD	82.9	6390.0	108.5	
400,200	03/15/06	1505	37.08457	-94.63184	12	22-Mar-06	944.7	199.3	144.52	1509.1	67.3	85378.6	1237.4	337.4	61.3	<LOD	139.4	<LOD	87.5	9643.7	160.7	
400,200						22-Mar-06	691.6	176.1	128.76	2052.0	71.3	74229.1	1029.6	378.0	54.7	<LOD	134.8	<LOD	77.5	8293.6	134.9	
400,200						22-Mar-06	<LOD	641.8	183.3	2312.3	88.3	110602.8	1694.3	494.7	76.4	<LOD	150.7	<LOD	105.8	13193.7	224.6	
400,300	03/15/06	1510	37.08480	-94.63196	13	22-Mar-06	<LOD	704.9	67.62	8128.6	171.4	99293.4	1466.1	207.5	46.6	<LOD	140.4	<LOD	90.6	5262.4	100.2	
400,300						22-Mar-06	<LOD	817.9	81.15	7467.1	174.8	120214.0	1899.8	304.2	53.0	<LOD	152.8	<LOD	106.4	5846.0	116.9	
400,300						22-Mar-06	915.9	231.0	66.77	4931.6	118.4	91423.3	1298.0	238.5	36.7	<LOD	135.8	<LOD	82.0	3417.5	69.3	
400,400	03/15/06	1513	37.08505	-94.63210	13	22-Mar-06	841.4	241.8	76.03	7167.0	155.8	93208.5	1367.5	459.0	55.9	<LOD	139.5	<LOD	88.6	7444.9	131.4	
400,400						22-Mar-06	<LOD	793.4	84.69	8660.9	184.0	95349.8	1446.8	447.5	62.2	<LOD	144.8	<LOD	102.0	8785.8	156.0	
400,400						22-Mar-06	<LOD	714.7	77.47	7983.6	169.5	100166.9	1478.9	307.2	58.3	<LOD	141.5	<LOD	92.4	8281.8	144.7	
400,500	03/15/06	1516	37.08530	-94.63225	13	22-Mar-06	<LOD	317.9	80.68	627.2	32.9	19559.3	255.2	328.2	33.4	<LOD	117.2	<LOD	42.2	3950.4	64.4	
400,500						22-Mar-06	<LOD	345.2	30.8	679.8	34.9	18518.4	250.1	317.0	37.4	<LOD	117.3	<LOD	44.6	4810.3	76.9	
400,500						22-Mar-06	<LOD	313.0	77.57	933.6	36.3	11714.3	160.9	240.0	23.9	<LOD	113.6	<LOD	32.5	2017.3	39.4	
500,0	03/15/06	1505	37.08414	-94.63129	13	22-Mar-06	<LOD	279.4	65.34	580.5	27.8	20907.7	235.1	113.0	21.7	<LOD	99.6	<LOD	37.4	2276.9	38.0	
500,0						22-Mar-06	<LOD	271.5	64.47	590.6	27.9	19115.7	218.6	103.7	22.5	<LOD	101.5	<LOD	37.6	2450.8	40.2	
500,0						22-Mar-06	<LOD	235.7	55.48	502.1	24.8	16616.1	185.9	99.2	20.3	<LOD	98.5	<LOD	35.6	2125.8	35.2	
500,100	03/15/06	1509	37.08438	-94.63140	13	22-Mar-06	1360.3	290.2	86.62	10249.4	223.0	130042.0	2092.0	214.8	53.7	<LOD	155.1	<LOD	114.0	5914.1	120.2	
500,100						22-Mar-06	1484.5	315.9	97.29	12476.9	268.1	149784.2	2488.0	196.9	64.9	<LOD	164.5	<LOD	122.9	8251.0	163.3	
500,100						22-Mar-06	1110.4	313.5	100.9	14828.8	315.4	164798.8	2808.9	275.6	69.1	<LOD	165.0	<LOD	126.4	8797.1	177.0	
500,200	03/15/06	1511	37.08464	-94.63154	13	22-Mar-06	1804.3	468.0	132.34	6894.4	236.9	234502.2	5062.4	245.5	69.6	<LOD	206.9	<LOD	171.9	5461.1	152.0	
500,200						22-Mar-06	1953.7	430.3	122.48	6528.0	214.1	192885.4	3943.4	389.2	64.6	<LOD	195.5	<LOD	147.9	4961.7	133.5	
500,200						22-Mar-06	1887.0	415.7	116.68	6991.0	224.0	211473.4	4312.4	266.1	63.7	<LOD	198.2	<LOD	156.2	5059.4	135.2	
500,300	03/15/06	1514	37.08489	-94.63166	13	22-Mar-06	<LOD	1358.1	347.38	8665.8	308.7	205845.2	5044.2	496.0	140.3	<LOD	238.3	<LOD	220.6	17491.8	467.5	
500,300						22-Mar-06	1368.2	340.1	258.28	7285.7	213.5	163653.7	3143.6	823.9	103.2	<LOD	187.8	<LOD	158.0	14525.8	309.4	
500,300						22-Mar-06	1793.5	468.7	373.84	9555.3	308.3	252898.0	5718.1	577.2	128.2	<LOD	221.5	<LOD	195.2	16976.9	420.7	
500,400	03/15/06	1516	37.08513	-94.63178	13	22-Mar-06	<LOD	729.1	83.73	6694.6	153.2	105761.6	1584.1	247.2	53.2	163.6	48.5	<LOD	91.3	6704.5	123.4	
500,400						22-Mar-06	<LOD	776.0	84.49	7499.8	173.0	121499.8	1890.0	490.4	64.8	<LOD	155.6	<LOD	116.6	8924.7	163.0	
500,400						22-Mar-06	1076.1	238.1	77.52	6618.5	145.9	102330.4	1472.6	279.6	51.1	<LOD	139.1	<LOD	89.0	6611.5	117.3	
500,500	03/15/06	1518	37.08537	-94.63194	13	22-Mar-06	527.9	158.6	58	6928.8	124.1	56761.3	699.1	79.7	19.0	<LOD	113.0	<LOD	64.4	1245.0	30.3	
500,500						22-Mar-06	604.5	155.0	59.09	6161.1	113.1	61028.3	737.6	82.3	19.2	<LOD	109.6	<LOD	60.4	1313.3	30.8	
500,500						22-Mar-06	<LOD	536.2	64.38	6760.9	134.7	74579.2	997.3	110.9	26.9	<LOD	123.9	<LOD	75.9	2110.5	46.4	
500,557	03/15/06	1521	37.08551	-94.63197	13	22-Mar-06	<LOD	344.2	76.51	240.7	23.3	11130.4	160.7	304.9	33.8	<LOD	113.9	<LOD	38.0	3937.3	65.6	

<LOD - not detected

Table 1.1: XRF Analyses of Surficial Soil Samples

Sample ID	Sample Date Time	Time	Latitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
500,557						22-Mar-06	<LOD	305.8	71.74	127.4	17.3	6164.9	95.9	171.9	18.8	<LOD	113.2	<LOD	27.8	1231.0	28.7	
500,557						22-Mar-06	<LOD	249.2	54.45	214.8	18.6	8136.6	107.1	198.6	28.0	<LOD	101.0	<LOD	29.5	3756.9	54.4	
600,0	3/15/2006	1525	37.08428	-94.63097	13	22-Mar-06	<LOD	253.7	59.72	343.3	24.3	13402.9	175.4	<LOD	74.7	<LOD	108.4	<LOD	32.1	2633.9	46.0	
600,0						22-Mar-06	<LOD	263.3	64.71	933.1	35.4	19860.6	239.0	85.6	26.2	<LOD	101.9	<LOD	38.3	3033.8	49.2	
600,0						22-Mar-06	<LOD	385.3	89.11	1727.2	56.1	32796.3	435.7	163.2	37.8	<LOD	121.9	<LOD	50.5	4769.3	79.4	
600,100	03/15/06	1530	37.08454	-94.63111	13	22-Mar-06	2042.8	399.0	110.12	7315.5	204.1	174417.2	3198.1	483.1	89.2	<LOD	180.3	296.2	59.6	12630.5	260.4	
600,100						22-Mar-06	2257.5	432.7	114.27	7513.2	220.8	221118.0	4246.1	383.7	95.8	<LOD	190.2	971.6	81.0	13499.2	289.9	
600,100						22-Mar-06	1487.0	405.4	320.35	5814.9	183.6	184175.0	3489.3	337.6	97.9	<LOD	192.0	1087.3	79.3	14649.0	307.1	
600,100 D	03/15/06	1530	37.08454	-94.63111	13	22-Mar-06	1751.0	371.4	102.81	7004.3	193.8	160541.6	2893.2	392.2	83.7	<LOD	177.4	274.4	56.2	11652.1	238.1	7.7 Duplicate
600,100 D						22-Mar-06	2053.3	411.3	316.33	5408.4	175.0	186318.7	3505.4	<LOD	282.3	<LOD	185.5	890.2	74.7	13840.0	289.9	2.5 Duplicate
600,100 D						22-Mar-06	2094.5	465.3	355.81	5996.8	205.0	232754.8	4746.0	494.6	102.6	<LOD	203.1	835.7	84.2	13643.7	310.7	7.3 Duplicate
600,200	03/15/06	1535	37.08479	-94.63125	14	21-Mar-06	<LOD	294.8	74.78	1283.1	40.7	47766.2	496.0	<LOD	42.0	<LOD	96.3	80.7	17.0	988.2	22.1	
600,200						21-Mar-06	<LOD	371.2	95.65	1519.4	50.6	62693.0	720.8	<LOD	72.4	<LOD	108.3	<LOD	61.8	2419.3	43.7	
600,200						21-Mar-06	589.1	140.5	103.83	1722.7	55.7	66041.1	785.9	150.5	33.7	117.2	37.8	<LOD	68.1	4317.1	68.6	
600,300	03/15/06	1542	37.08503	-94.63138	14	22-Mar-06	879.5	269.1	107.39	9634.7	210.0	143849.6	2261.3	371.2	63.8	<LOD	153.3	<LOD	113.0	8579.8	159.8	
600,300						22-Mar-06	1162.7	237.4	108.98	10802.6	209.1	103158.7	1504.1	<LOD	162.7	<LOD	142.3	<LOD	97.7	7485.8	131.6	
600,300						22-Mar-06	1271.5	359.3	136.06	9910.4	263.8	163089.7	3133.2	256.1	80.1	<LOD	188.2	<LOD	135.4	9213.3	207.9	
600,400	03/15/06	1542	37.08527	-94.63152	14	22-Mar-06	<LOD	529.3	58.81	5631.5	115.0	68959.1	892.7	<LOD	67.8	<LOD	119.1	<LOD	66.8	1617.8	37.7	
600,400						22-Mar-06	922.3	194.7	63.25	5910.0	119.9	76908.9	997.4	94.4	27.2	<LOD	121.2	<LOD	69.9	2332.9	48.3	
600,400						22-Mar-06	<LOD	415.8	48.21	4907.5	93.2	59073.3	682.5	<LOD	48.2	<LOD	107.4	<LOD	57.4	1021.0	25.3	
600,500	03/15/06	1545	37.08548	-94.63164	14	22-Mar-06	<LOD	976.4	105.79	11770.8	278.4	118769.1	2155.7	1389.6	146.6	<LOD	175.9	<LOD	158.7	34199.2	640.1	
600,500						22-Mar-06	1262.7	295.7	108.09	11159.3	244.4	137590.6	2267.2	774.8	95.0	<LOD	161.8	<LOD	137.1	17270.5	309.0	
600,500						22-Mar-06	1113.3	263.8	87.71	13157.7	266.5	101428.3	1627.0	1284.9	113.1	<LOD	153.8	<LOD	127.7	25512.4	427.9	
600,535	03/15/06	1520	37.08559	-94.63168	15	22-Mar-06	<LOD	192.9	41.8	178.1	16.3	6466.0	87.1	204.4	20.7	<LOD	97.9	<LOD	24.1	2046.7	34.7	
600,535						22-Mar-06	<LOD	256.8	59.92	254.2	19.9	7155.7	101.2	188.1	23.9	<LOD	104.3	<LOD	28.6	2431.6	41.8	
600,535						22-Mar-06	<LOD	249.1	59.26	191.4	19.6	12621.6	157.9	183.3	27.5	<LOD	101.6	<LOD	36.4	3401.6	52.2	
700,0	03/15/06	1535	37.08442	-94.63071	15	22-Mar-06	444.4	119.7	82.1	815.1	36.4	27619.9	336.9	113.5	30.2	<LOD	108.4	<LOD	48.2	3684.6	59.3	
700,0						22-Mar-06	<LOD	379.2	95.54	1073.6	44.6	38291.8	484.7	103.9	34.1	128.4	39.9	<LOD	55.1	4211.0	69.6	
700,0						22-Mar-06	<LOD	345.1	84.58	759.1	36.7	26829.6	340.8	<LOD	100.5	<LOD	114.9	<LOD	48.3	4284.0	68.8	
700,100	03/15/06	1538	37.08464	-94.63084	15	22-Mar-06	505.3	138.2	91.75	<LOD	79.4	53135.0	668.0	<LOD	54.8	<LOD	122.5	<LOD	56.8	1161.9	29.5	
700,100						22-Mar-06	457.4	132.9	86.25	<LOD	78.8	55667.2	690.3	66.0	16.8	149.4	41.0	<LOD	56.9	956.2	25.9	
700,100						22-Mar-06	359.1	117.8	82.64	<LOD	63.7	31503.9	382.5	54.6	15.9	120.3	38.3	<LOD	45.8	956.7	24.7	
700,200	03/15/06	1541	37.08488	-94.63098	14	22-Mar-06	926.4	195.9	151.82	<LOD	137.7	141885.5	2014.8	<LOD	61.9	<LOD	141.5	<LOD	97.0	1149.2	33.3	
700,200						22-Mar-06	814.4	191.1	135.64	<LOD	131.4	137808.8	1927.5	<LOD	57.6	240.5	46.7	<LOD	92.9	1019.2	30.5	
700,200						22-Mar-06	1691.2	318.3	239.67	<LOD	210.0	264539.6	4715.5	<LOD	103.9	201.0	59.8	<LOD	153.5	2098.7	61.2	
700,300	03/15/06	1542	37.08512	-94.63112	14	22-Mar-06	1069.5	245.5	73.76	5437.0	143.0	133528.7	2096.1	664.9	71.5	<LOD	154.3	<LOD	116.7	10440.8	188.5	
700,300						22-Mar-06	<LOD	654.7	61.2	6575.1	153.4	117355.4	1771.4	475.6	68.4	<LOD	145.1	<LOD	105.6	10684.1	184.5	
700,300						22-Mar-06	961.6	208.7	76.62	5121.3	123.8	101738.6	1457.2	535.8	64.4	<LOD	140.8	<LOD	98.1	10448.1	171.2	
700,400	03/15/06	1545	37.08537	-94.63126	15	22-Mar-06	<LOD	404.3	42.31	5157.8	96.1	47338.8	558.1	<LOD	35.3	<LOD	105.5	<LOD	49.3	521.8	17.5	
700,400						22-Mar-06	<LOD	492.6	51.3	5744.4	112.3	53314.3	679.2	<LOD	31.6	<LOD	114.9	<LOD	54.1	352.0	15.4	
700,400						22-Mar-06	<LOD	454.9	47.86	4834.2	96.4	48028.4	590.8	107.7	18.5	<LOD	111.3	<LOD	56.5	1149.2	28.6	
700,474	03/15/06	1548	37.08557	-94.63137	14	22-Mar-06	593.2	151.6	83.27	4099.4	93.5	51327.2	667.2	230.5	45.7	<LOD	119.9	<LOD	64.5	6842.6	106.3	
700,474						22-Mar-06	<LOD	686.6	134.73	6236.5	154.1	79395.6	1274.8	772.8	63.7	<LOD	154.1	<LOD	91.2	7868.2	149.2	
700,474						22-Mar-06	<LOD	235.0	32.09	964.3	35.4	16058.8	197.1	<LOD	77.9	<LOD	96.6	<LOD	33.9	3092.9	49.6	
800,0	03/15/06	1530	37.08458	-94.63039	16	21-Mar-06	<LOD	765.2	184.87	4182.2	124.1	96006.6	1574.2	503.4	90.4	<LOD	157.4	<LOD	105.2	16719.6	295.8	
800,0						21-Mar-06	781.2	237.1	166.93	2459.0	87.7	74771.6	1165.2	617.3	88.4	<LOD	149.4	<LOD	100.4	17645.3	293.1	
800,0						21-Mar-06	<LOD	737.3	175.78	3889.0	113.0	96136.1	1484.6	639.4	89.2	<LOD	150.3	<LOD	107.9	17861.5	296.1	
800,100	03/15/06	1453	37.08477	-94.63055	17	21-Mar-06	503.2	140.1	99.55	1512.1	54.2	54426.5	687.7	227.9	41.0	<LOD	118.6	<LOD	60.5	5776.2	90.4	
800,100						21-Mar-06	<LOD	397.1	100.71	1618.3	55.9	54308.0	687.6	256.1	41.4	<LOD	120.7	<LOD	62.0	5811.8	91.1	
800,100						21-Mar-06	<LOD	381.8	94.41	1526.2	54.0	53720.2	675.1	323.2	40.4	<LOD	117.9	<LOD	63.7	5507.0	86.6	

<LOD - not detected

Table 1.1: XRF Analyses of Surficial Soil Samples

Sample ID	Sample Date Time	Time	Latitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
800,200	03/15/06	1555	37.08501	-94.63069	16	21-Mar-06	1143.4	229.0	156.27	1781.3	75.8	109322.3	1595.4	422.8	74.3	<LOD	139.8	<LOD	102.4	13881.2	223.9	
800,200						21-Mar-06	1249.0	242.9	166.29	1476.1	74.0	109382.3	1656.8	812.2	85.7	<LOD	149.8	<LOD	111.5	16553.7	272.1	
800,200						21-Mar-06	1115.2	219.2	149.83	1629.7	70.4	92279.7	1332.0	330.0	69.9	<LOD	140.5	<LOD	98.0	12696.4	203.8	
800,300	03/15/06	1600	37.08525	-94.63086	16	21-Mar-06	972.4	270.4	206.6	5083.6	144.0	114721.0	1897.9	1270.7	128.1	170.3	55.9	<LOD	141.5	31268.1	535.7	
800,300						21-Mar-06	1988.3	354.9	240.68	5037.2	169.6	111860.0	2187.7	2348.5	179.6	<LOD	190.3	<LOD	169.2	41731.2	832.7	
800,300						21-Mar-06	974.9	161.4	111.91	2645.8	73.0	60313.5	769.4	861.5	66.8	<LOD	123.9	85.0	27.6	14150.7	195.5	
800,400	03/15/06	1403	37.08549	-94.63100	16	21-Mar-06	<LOD	1489.3	378.19	9761.1	348.9	96677.6	2524.6	6255.9	413.3	303.8	89.9	<LOD	308.5	117544.7	3032.8	
800,400						21-Mar-06	<LOD	1111.5	287.19	7739.6	248.4	86375.9	1903.5	4424.5	282.5	<LOD	222.6	<LOD	223.1	79037.2	1728.4	
800,400						21-Mar-06	<LOD	1228.4	327.98	8568.9	285.4	82460.7	1950.8	4669.9	322.7	<LOD	235.4	<LOD	253.4	91298.5	2133.4	
800,472	03/15/06	1605	37.08568	-94.63112	15	21-Mar-06	<LOD	203.7	49.61	330.9	19.4	7077.2	88.0	259.9	29.1	<LOD	91.9	<LOD	30.2	4794.8	59.9	
800,472						21-Mar-06	<LOD	230.4	57.87	389.9	22.3	10136.6	122.0	195.0	35.2	108.5	32.0	<LOD	36.7	6697.1	81.3	
800,472						21-Mar-06	<LOD	209.4	46.34	293.1	18.9	7942.6	96.8	123.7	30.3	135.4	30.9	<LOD	33.8	5366.9	65.7	
900,0	03/15/06	1600	37.08464	-94.63007	15	22-Mar-06	2729.3	694.1	485.51	7844.2	363.5	201833.7	6160.1	2130.3	467.8	397.0	107.4	<LOD	383.9	133654.5	4081.3	
900,0						22-Mar-06	1416.8	375.8	274.38	9832.8	288.1	128819.5	2749.2	1185.5	205.0	<LOD	209.0	<LOD	196.7	49836.3	1080.9	
900,0						22-Mar-06	1043.6	316.6	244.76	13846.4	329.1	132309.6	2502.7	817.3	173.8	228.4	62.3	<LOD	166.8	46990.4	905.5	
900,100	03/15/06	1603	37.08486	-94.63024	15	22-Mar-06	1014.0	238.8	159.9	2538.0	90.2	98359.9	1510.3	387.6	69.2	<LOD	150.1	<LOD	99.0	10931.5	190.3	
900,100						22-Mar-06	962.0	205.9	149.68	1837.7	74.2	93411.7	1362.4	394.3	59.1	<LOD	140.8	<LOD	92.4	8647.5	147.9	
900,100						22-Mar-06	<LOD	627.5	159.78	2523.2	88.1	105208.0	1564.8	257.1	61.9	<LOD	146.1	<LOD	98.9	9367.4	161.8	
900,200	03/15/06	1405	37.08513	-94.63040	15	22-Mar-06	842.2	233.8	172.02	2147.4	86.5	94106.8	1504.8	<LOD	216.5	<LOD	155.0	<LOD	94.8	11371.6	204.7	
900,200						22-Mar-06	1088.0	208.1	138.17	1155.4	59.3	65899.5	969.9	327.0	62.5	<LOD	140.4	<LOD	80.4	9976.6	166.5	
900,200						22-Mar-06	689.3	197.1	138.74	1090.8	59.4	73194.2	1081.0	226.2	60.5	<LOD	141.4	<LOD	81.7	9328.1	158.3	
900,300	03/15/06	1407	37.08535	-94.63058	16	22-Mar-06	715.1	177.1	127.25	2377.2	75.5	69015.5	955.6	421.7	56.0	<LOD	130.0	<LOD	75.8	8735.0	140.3	
900,300						22-Mar-06	<LOD	437.1	110.86	1675.2	60.5	63490.8	834.9	341.6	46.5	<LOD	128.7	<LOD	72.1	6669.0	106.3	
900,300						22-Mar-06	544.6	146.2	106.43	1756.8	60.3	53130.0	702.2	367.8	46.0	<LOD	125.9	<LOD	64.2	6516.3	104.0	
900,400	03/15/06	1609	37.08560	-94.63072	16	21-Mar-06	2044.4	560.1	171.36	12458.2	419.6	249540.7	6347.1	1594.4	274.0	267.3	85.0	<LOD	285.1	62411.6	1617.3	
900,400						21-Mar-06	2583.5	591.6	165.71	12118.5	413.9	230302.5	5922.0	2432.7	296.3	<LOD	257.7	<LOD	290.8	69648.4	1817.3	
900,400						21-Mar-06	2891.6	601.3	185.23	11621.2	403.2	276420.1	7072.1	2347.1	264.9	<LOD	250.4	<LOD	268.9	54676.5	1432.4	
900,475	03/15/06	1611	37.08578	-94.63084	15	21-Mar-06	<LOD	195.4	45	643.1	23.6	9292.5	101.7	386.9	28.7	<LOD	80.5	33.1	10.8	5189.9	59.4	
900,475						21-Mar-06	<LOD	283.6	69.32	1701.9	44.6	23873.3	262.8	395.8	40.3	<LOD	97.3	<LOD	46.9	7994.2	96.9	
900,475						21-Mar-06	<LOD	385.8	97.44	2722.3	68.2	38856.5	480.6	648.6	57.0	<LOD	118.1	<LOD	66.1	11641.6	155.9	
NS-1	03/16/06	1330	37.08727	-94.63027	19	20-Mar-06	<LOD	197.5	39.66	75.0	12.9	5388.0	72.4	<LOD	70.3	<LOD	89.7	<LOD	27.1	3174.9	44.6	
NS-1						20-Mar-06	<LOD	181.3	44.69	68.9	12.4	5450.2	71.1	<LOD	61.9	<LOD	89.1	<LOD	24.9	2608.9	37.9	
NS-1						20-Mar-06	<LOD	204.4	43.92	132.4	14.7	6422.1	82.8	73.3	21.2	<LOD	91.9	<LOD	26.9	2538.2	38.3	
NS-2	03/16/06	1400	37.08887	94.62853	21	20-Mar-06	<LOD	217.2	46.28	350.4	21.1	11522.9	135.2	<LOD	73.0	<LOD	94.0	<LOD	31.9	3317.4	47.4	
NS-2						20-Mar-06	<LOD	223.0	45.64	350.6	20.4	11922.1	134.7	89.3	19.9	<LOD	90.3	<LOD	29.8	2250.1	35.1	
NS-2						20-Mar-06	<LOD	210.7	44.98	364.9	21.2	10996.6	130.3	98.4	21.6	<LOD	92.4	<LOD	30.5	2487.1	38.8	
NS-3	03/16/06	1415	37.08689	-94.63261	20	20-Mar-06	<LOD	156.4	35.25	109.2	11.9	1542.5	30.9	<LOD	43.9	<LOD	86.5	<LOD	19.1	1274.3	23.8	
NS-3						20-Mar-06	<LOD	164.5	34.88	59.6	10.5	1304.4	28.2	<LOD	42.1	<LOD	89.8	<LOD	19.7	1161.7	22.7	
NS-3						20-Mar-06	<LOD	168.1	37.68	69.5	10.8	1560.7	30.7	<LOD	45.6	<LOD	87.9	<LOD	19.6	1443.3	25.4	
NS-4	03/17/06	830	37.08625	-94.63502	40	20-Mar-06	<LOD	184.1	42.34	<LOD	24.1	833.3	22.8	<LOD	34.5	<LOD	90.3	<LOD	17.2	724.5	18.0	
NS-4						20-Mar-06	<LOD	207.7	43.09	<LOD	26.2	864.7	23.2	<LOD	32.7	<LOD	94.0	<LOD	19.2	628.8	16.7	
NS-4						20-Mar-06	<LOD	203.3	40.54	<LOD	24.8	629.3	19.5	<LOD	32.7	<LOD	92.8	<LOD	18.3	630.2	16.6	
NS-5	03/17/06	845	37.08722	-94.63206	19	20-Mar-06	<LOD	222.0	50.04	49.2	15.2	7396.2	101.8	197.1	37.7	<LOD	100.4	<LOD	34.9	6692.1	87.1	
NS-5						20-Mar-06	<LOD	199.3	41.12	145.5	15.4	4975.6	71.5	141.3	26.4	<LOD	92.8	<LOD	27.8	3600.8	51.1	
NS-5						20-Mar-06	<LOD	224.7	46.02	86.6	15.1	5668.5	80.8	183.5	33.8	<LOD	97.4	<LOD	32.7	5668.6	74.0	
W-1	03/16/06	1415	37.08379	-94.63304	19	20-Mar-06	<LOD	206.6	42.03	<LOD	28.5	3339.4	54.0	<LOD	54.3	<LOD	96.9	<LOD	23.2	1760.9	31.3	
W-1						20-Mar-06	<LOD	209.6	38.7	<LOD	34.6	3464.5	56.6	<LOD	69.2	<LOD	99.2	<LOD	26.8	2792.2	43.5	
W-1						20-Mar-06	<LOD	205.9	45.2	<LOD	29.7	4372.3	64.7	<LOD	53.4	<LOD	96.1	<LOD	24.0	1681.1	30.2	
W-2	03/16/06	1430	37.08447	-94.63390	17	20-Mar-06	<LOD	181.9	42.18	<LOD	30.0	4022.3	60.9	<LOD	43.0	<LOD	96.6	<LOD	23.7	1104.9	23.3	
W-2						20-Mar-06	<LOD	223.7	46.28	<LOD	34.1	3872.9	62.2	66.0	17.4	<LOD	100.3	<LOD	26.2	1430.2	28.6	

<LOD - not detected

Table 1.1: XRF Analyses of Surficial Soil Samples

Sample ID	Sample Date Time	Time	Latitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
W-2						20-Mar-06	<LOD	192.9	42.69	<LOD	28.0	3106.8	49.9	<LOD	35.3	<LOD	93.5	<LOD	21.9	772.0	18.6	
Blank						22-Mar-06	<LOD	150.2	27.62	<LOD	16.8	40.6	5.9	<LOD	7.5	<LOD	85.9	<LOD	13.6	<LOD	12.3	
Blank (Pb <100)						21-Mar-06	<LOD	143.7	28.79	<LOD	22.5	503.1	16.4	15.4	4.4	<LOD	84.8	<LOD	13.8	72.7	6.1	
High Std						20-Mar-06	<LOD	350.7	75.02	3107.5	71.2	7247.4	114.3	668.3	42.0	<LOD	117.3	83.1	16.6	5705.3	87.1	3.1
High Std						20-Mar-06	<LOD	336.5	72.05	2918.5	67.2	7026.6	109.5	694.3	40.6	<LOD	111.9	108.3	16.9	5448.8	82.4	0.3
High Std						20-Mar-06	<LOD	339.8	73.47	3048.3	70.0	7173.8	112.9	651.8	41.3	<LOD	115.1	58.8	15.7	5568.7	85.1	0.7
High Std						21-Mar-06	<LOD	353.3	71.05	2908.9	67.6	7055.7	110.8	633.4	40.8	<LOD	112.7	99.7	16.8	5530.0	84.1	0
High Std						21-Mar-06	<LOD	354.0	71.94	3231.9	70.1	7113.1	108.4	742.6	40.3	<LOD	110.8	83.9	15.9	5525.5	81.7	0.1
High Std						21-Mar-06	<LOD	341.6	71.86	3094.7	69.9	7194.1	112.0	711.4	41.0	<LOD	114.5	61.0	15.6	5507.8	83.5	0.5
High Std						21-Mar-06	<LOD	324.5	68.65	2956.3	65.8	6998.8	106.0	688.4	39.3	<LOD	109.7	93.0	16.0	5434.4	79.9	1.8
High Std						21-Mar-06	<LOD	336.7	65.95	3026.5	68.9	7202.6	112.0	678.4	41.2	<LOD	114.9	70.5	15.9	5618.3	84.8	1.6
High Std						21-Mar-06	<LOD	331.1	73.9	2943.9	67.1	9894.4	141.7	641.1	40.8	<LOD	111.2	82.2	16.5	5765.1	85.2	4.2
High Std						21-Mar-06	<LOD	312.9	72.09	2864.4	65.8	7271.9	111.2	661.3	39.5	<LOD	112.2	120.2	17.0	5282.2	79.6	0.9
High STD						21-Mar-06	<LOD	357.0	77.25	2936.7	68.8	10044.6	147.4	713.5	42.5	<LOD	117.3	72.9	16.8	5811.6	88.1	5.1
High STD						21-Mar-06	<LOD	371.1	78.05	2984.2	69.7	10024.0	147.5	695.1	42.6	<LOD	118.2	84.3	17.2	5850.2	88.8	5.7
High STD						21-Mar-06	<LOD	309.6	73	3011.5	68.2	6859.6	107.0	702.4	40.7	<LOD	113.0	71.1	15.7	5521.8	82.9	0.2
High STD						22-Mar-06	<LOD	346.6	70.19	2873.8	69.0	7138.3	114.8	779.6	42.8	<LOD	116.8	70.5	16.4	5530.2	86.4	0
High STD						22-Mar-06	<LOD	335.7	74.09	3080.4	70.5	7575.8	117.8	684.7	41.4	<LOD	114.5	98.4	17.0	5520.0	84.5	0.2
High STD						22-Mar-06	<LOD	344.4	74.59	3150.5	72.0	7937.8	122.9	717.0	42.3	<LOD	117.1	91.7	17.0	5677.4	87.0	2.6
High STD						22-Mar-06	<LOD	358.6	69.7	2982.2	69.6	7012.7	111.8	659.8	41.1	<LOD	114.4	91.6	16.7	5377.5	83.4	2.8
High STD						22-Mar-06	<LOD	341.1	74.76	3159.6	71.7	7241.1	113.9	666.5	41.7	<LOD	116.0	87.2	16.7	5654.2	86.3	2.2
High STD						22-Mar-06	<LOD	336.0	75.3	3072.3	72.4	7379.9	118.6	716.2	43.2	<LOD	120.3	78.5	16.9	5676.2	88.8	
High STD						22-Mar-06	<LOD	353.3	77.66	3034.6	71.4	7420.3	118.4	736.4	42.5	<LOD	118.1	104.4	17.5	5494.5	86.0	0.7
High STD						23-Mar-06	<LOD	340.3	74.67	3056.7	69.5	7408.2	114.6	616.0	40.9	<LOD	113.1	87.5	16.5	5630.6	85.0	1.8
High STD						23-Mar-06	<LOD	353.9	73.11	2994.1	70.7	7191.9	115.4	618.9	42.3	<LOD	117.2	84.6	16.9	5695.6	88.4	3
High STD						23-Mar-06	<LOD	364.5	74.99	2934.3	69.8	7052.8	113.6	682.9	42.2	<LOD	116.3	103.8	17.4	5532.2	86.3	
Zero						21-Mar-06																
Zero						21-Mar-06																
Zero						21-Mar-06																
Zero						22-Mar-06																
Zero						22-Mar-06																
Zero						22-Mar-06																
Zero						23-Mar-06																
Zero						23-Mar-06																

<LOD - not detected

Table 2: XRF Analyses of Subsurface Soil Samples

Sample ID	Sample Date Time	Time	Lattitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
BH-1	03/14/06	930	37.08391	-94.63233	29	23-Mar-06	787.34	229.9	65.36	5570.02	129.29	**92286.03**	1328.14	176.02	40.67	140.39	45.42	<LOD	85.05	**4239.75**	82.47	
0-2						23-Mar-06	<LOD	804.37	74.22	5654.86	141.95	**104020.06**	1618.08	346.31	47.38	<LOD	148.56	<LOD	90.48	**4739.06**	97.12	
						23-Mar-06	<LOD	621.87	61.64	5028.16	115.36	**84559.79**	1162.44	183.04	39.29	<LOD	130.44	<LOD	76.07	**4327.72**	79.92	
BH-1	03/14/06	930	37.08391	-94.63233	29	23-Mar-06	<LOD	219.19	45.92	<LOD	39.2	**11326.88**	142.03	<LOD	48.91	<LOD	103.42	<LOD	26.91	**1264.15**	26.7	
3-4						23-Mar-06	<LOD	221.59	48.85	<LOD	41.81	**13809.95**	169.69	<LOD	55.99	<LOD	103.51	<LOD	27.96	**1669.72**	32.09	
						23-Mar-06	<LOD	214.67	46.13	<LOD	39.03	**12473.75**	145.92	56.39	14.15	<LOD	97.77	<LOD	26.72	**1008.68**	22.16	
BH-2	03/14/06	945	37.08441	-94.63249	19	23-Mar-06	<LOD	176.61	43.93	98.66	12.26	**4091.9**	56.91	54.04	14.03	<LOD	86.7	<LOD	22.38	**1185.45**	22.49	
0-2						23-Mar-06	<LOD	203.42	46.71	41.11	10.94	**3246.83**	51.6	62.85	10.41	<LOD	93.51	<LOD	20.77	**515.14**	15.05	
						23-Mar-06	<LOD	171.21	41.35	46.06	10.53	**3186.91**	48.63	<LOD	35.08	<LOD	88.72	<LOD	19.18	**825.03**	18.49	
BH-4	03/14/06	1045	37.08521	-94.63174	20	23-Mar-06	<LOD	590.25	63.95	7351.87	144	**64381.23**	879	136.55	23.24	<LOD	125.39	<LOD	66.32	**1463.14**	37.14	
0-2						23-Mar-06	<LOD	471.6	53.85	6059.12	114.56	**53826.42**	673.68	96.1	21.72	<LOD	113.55	<LOD	57.83	**1592.32**	35.77	
						23-Mar-06	883.41	222.04	66.88	8579.24	176.52	**94473.95**	1389.69	258.28	48.36	<LOD	139.04	<LOD	84.01	**5733.51**	106.48	
BH-4	03/14/06	1055	37.08521	-94.63174	20	23-Mar-06	405.94	118.22	33.58	3524.2	69.12	**31415.55**	350.47	55.22	11.78	<LOD	98.14	<LOD	40.9	**584**	17.29	
2-4						23-Mar-06	<LOD	410.55	41.78	4047.72	81.68	**40067.64**	473.89	54.25	13.75	<LOD	109.46	<LOD	48.24	**705.1**	20.62	
						23-Mar-06	<LOD	404.28	41.28	4392.19	86.14	**41422.13**	489.9	85.11	14.11	<LOD	107.52	<LOD	48.87	**705.87**	20.65	
BH-4	03/14/06	1100	37.08521	-94.63174	20	23-Mar-06	524.75	174.71	50.78	3696.85	85.2	**50081.77**	639.17	<LOD	40.18	<LOD	120.79	<LOD	61.96	**562.27**	19.85	
10-15						23-Mar-06	<LOD	527.79	50.99	3487.77	84.31	**51049.99**	666.74	57.03	13.7	<LOD	122.23	<LOD	58.94	**542.58**	19.87	
						23-Mar-06	455.71	146.19	42.15	3206.19	71.86	**40820.39**	486.42	48.43	11.53	<LOD	111.51	<LOD	49.79	**464.15**	16.59	
BH-5	03/14/06	1130	37.08487	-94.63138	15	23-Mar-06	<LOD	419.99	35.88	591.5	32.95	**11765.31**	169.94	331.78	46.56	<LOD	119.97	<LOD	47.6	**7643.47**	111.53	
0-2						23-Mar-06	<LOD	397.36	94.35	403.16	27.23	**7511.12**	116.22	339.72	42.48	<LOD	118.09	<LOD	45.8	**6520.95**	96.2	
						23-Mar-06	<LOD	328.94	77.67	210	19.93	**5102.6**	81.43	298.91	33.58	<LOD	108.4	<LOD	33.31	**4535.03**	67.85	
BH-6	03/14/06	1145	37.08453	-94.63114	14	23-Mar-06	<LOD	271.25	63.51	480.47	25.73	**12763.16**	160.34	64.99	14.68	<LOD	106.09	<LOD	28.2	**921.71**	22.64	
0-2						23-Mar-06	469.65	145.94	112.25	1700.96	56.82	**42148.43**	552.33	107.84	23.29	<LOD	122.59	<LOD	52.49	**1728.26**	38.86	
						23-Mar-06	<LOD	315.83	82.63	954.14	37.88	**21694.47**	272.05	75.38	21.93	<LOD	111.96	<LOD	37.32	**1899.8**	37.61	
BH-6	03/14/06	1150	37.08453	-94.63114	14	23-Mar-06	<LOD	336.28	81.53	941.17	38.2	**23720.33**	297.38	102.76	21.15	<LOD	113.97	<LOD	39.03	**1690.88**	35.2	
3-4						23-Mar-06	<LOD	310.82	78.61	448.62	27.53	**15950.1**	207.53	<LOD	53.3	<LOD	111.67	<LOD	35.87	**1252.85**	28.96	
						23-Mar-06	<LOD	291.94	70.38	424.71	25.91	**12934.33**	170.01	64.09	16.07	<LOD	110.8	<LOD	31.36	**1019.19**	25.14	
BH-7	03/14/06	1430	37.08490	-94.62989	14	23-Mar-06	<LOD	338.8	74.88	1634.64	51.29	**18786.04**	250.27	565.97	60.09	<LOD	117.32	<LOD	59.11	**13036.73**	173.5	
0-2						23-Mar-06	<LOD	416.39	88.59	1560.07	57.1	**24155.11**	348.01	1287.4	86.53	<LOD	130.75	<LOD	77.2	**21115.36**	297.81	
						23-Mar-06	<LOD	401.63	95.33	669.19	42.31	**16431.75**	255.55	1976.55	103.11	<LOD	138.33	<LOD	84.46	**26880.69**	384.74	
BH-7	03/14/06	1435	37.08490	-94.62989	14	23-Mar-06	<LOD	1088.45	265.35	686.31	96.21	**14360.03**	400.32	7391.69	401.09	365.25	83.67	<LOD	262.89	**119861.41**	2860.49	
2-5						23-Mar-06	<LOD	1510.14	315.84	1013.98	130.31	**21993.78**	668.31	9928.48	549.73	357.14	98.66	<LOD	348.14	**162075.7**	4438.61	
						23-Mar-06	<LOD	2846.08	706.27	1280.07	250.51	**32037.45**	1390.47	26908.52	1493.83	962.12	159.47	<LOD	740.41	**360806.56**	14550	
BH-8	03/14/06	1515	37.08533	-94.63051	14	23-Mar-06	<LOD	1298.01	311.7	2056.43	129.57	**188479.44**	4173.42	731.19	104.13	<LOD	213.85	<LOD	162.02	**12148.25**	301.91	
0-2						23-Mar-06	<LOD	548.41	121.37	643.68	48.98	**49751.15**	783.19	449.03	53.66	<LOD	150.51	<LOD	70.82	**6311.66**	119.87	
						23-Mar-06	963.67	202.3	132.81	847.67	53.76	**63784.09**	952.23	360.09	55.64	<LOD	144.98	<LOD	78.22	**7547.62**	133.28	
BH-8	03/14/06	1520	37.08533	-94.63051	14	23-Mar-06	<LOD	342.17	81.62	879.07	39.28	**34461.84**	424.32	<LOD	95.03	<LOD	114.67	<LOD	53.08	**3893.35**	63.4	
3-5						23-Mar-06	<LOD	392.3	92.38	1088.96	47.21	**39959.83**	530.53	<LOD	117.13	<LOD	122.92	<LOD	52.61	**5102.84**	84.65	
						23-Mar-06	<LOD	336.07	72.67	860.34	37.99	**28461.39**	355.19	122	30.58	<LOD	113.15	<LOD	45.45	**3581.93**	59.55	
BH-9	03/14/06	1600	37.08566	-94.63056	17	23-Mar-06	1658.48	444.57	344.9	15155.5	454.77	**121765.84**	2967.34	3369.94	292.33	<LOD	247.87	<LOD	258.41	**72897.39**	1782.09	
0-2						23-Mar-06	<LOD	1499.15	382.24	19178.02	587.51	**130640.3**	3386.85	4087.7	348.93	<LOD	262.19	<LOD	288.21	**90466.76**	2344.84	
						23-Mar-06	<LOD	1566.84	424.43	20330.94	645.76	**133245.48**	3618.11	5046.11	394.84	398.17	94.64	<LOD	303.5	**103248.16**	2797.1	
BH-9	03/14/06	1615	37.08566	-94.63056	17	23-Mar-06	<LOD	906.97	220.56	6380.91	184.94	**114967.38**	2126.17	2265.32	172.02	<LOD	183.77	<LOD	171.91	**43684.3**	823.1	
2-5						23-Mar-06	1084.68	278.89	198.48	2606.9	106.81	**105559.34**	1836.98	1805.42	148.42	186.25	58.91	<LOD	142.04	**37500.06**	668.02	
						23-Mar-06	<LOD	1174.37	307.19	6731.03	237.72	**131137.69**	2983.91	2438.36	215.19	<LOD	226.34	<LOD	196.26	**44359.31**	1030.73	
BH-9	03/14/06	1620	37.08566	-94.63056	17	23-Mar-06	725	230.72	159.27	2338.37	90.06	**86894.76**	1372.07	1230.18	121.52	222.64	52.52	<LOD	125.47	**31233.47**	507.06	
5-8						23-Mar-06	2343.45	481.59	340.24	11572.48	363.95	**121141.98**	2905.72	3557.9	287.47	<LOD	246.83	<LOD	243.19	**71377.66**	1718.31	
						23-Mar-06	1122.81	316.03	229.07	2528.05	113.41	**133910.91**	2427.89	2169.14	156.02	<LOD	185.8	<LOD	161.47	**36802.03**	687.22	
BH-10	03/14/06	1645	37.08607	-94.63010	14	23-Mar-06	<LOD	1990.75	462.91	<LOD	335.26	**175045.31**	4664.71	1245.1	186.02	<LOD	263.9	<LOD	217.76	**28156.05**	783.87	
0-2						23-Mar-06	<LOD	1982.44	445.36	<LOD	302.73	**136971.95**	3545.5	732.3	164.23	<LOD	256.37	<LOD	202.99	**24025.34**	653.57	
						23-Mar-06	2473.43	668.75	436.39	520.4	102.16	**134788.47**	3349.85	871.96	155.32	<LOD	253.69	<LOD	194.08	**22809.49**	597.81	
BH-10	03/14/06	1715	37.08607	-94.63010	14	23-Mar-06	<LOD	1823.51	434.53	<LOD	282.25	**133652.58**	3248.05	658.12	150.24	<LOD	238.49	<LOD	179.91	**22359.6**	574.22	

<LOD - not detected

Table 2: XRF Analyses of Subsurface Soil Samples

Sample ID	Sample Date Time	Time	Lattitude	Longitude	Accuracy	Analysis Date	Chromium mg/Kg	Cr +/- mg/Kg	Ni +/- mg/Kg	Copper mg/Kg	Cu +/- mg/Kg	Zinc mg/Kg	Zn +/- mg/Kg	Arsenic mg/Kg	As +/- mg/Kg	Cadmium mg/Kg	Cd +/- mg/Kg	Mercury mg/Kg	Hg +/- mg/Kg	Lead mg/Kg	Pb +/- mg/Kg	%Difference for Standards:
2-5						23-Mar-06	2196.81	637.09	421.5	462.52	97.94	**136316.41**	3270.02	471.41	145.26	<LOD	240.63	<LOD	181.71	**21842.35**	554.66	
						23-Mar-06	2226.61	665.76	436.11	519.37	103.89	**140643.89**	3500.85	<LOD	463.09	<LOD	254.38	<LOD	183.54	**22999.82**	604.16	
BH-10	03/14/06	1725	37.08607	-94.63010	14	23-Mar-06	<LOD	2012.81	454.79	<LOD	290.83	**138657.22**	3519.19	725.62	175.19	<LOD	254.58	<LOD	205.43	**28649.34**	756.49	
5-8						23-Mar-06	2503.24	676.45	439.82	<LOD	293.7	**140196.05**	3485.81	1047.07	182.13	<LOD	251.23	<LOD	201.54	**31347.91**	807.53	
						23-Mar-06	<LOD	1910.35	417.16	424.22	99.89	**136048.25**	3320.13	1076.72	178.23	<LOD	244.41	<LOD	193.69	**30917.72**	781.99	
High STD						23-Mar-06	<LOD	356.4	70.71	3048.33	69.83	**7016.36**	110.69	630.02	41.08	<LOD	115.97	68.77	15.92	**5575.77**	84.93	0.8
BH-10	03/14/06	1730	37.08607	-94.63010	14	23-Mar-06	1128.5	332.69	228.3	554.29	62.13	**81526.56**	1427.18	426.43	84.83	<LOD	172.77	<LOD	115.78	**13085.86**	252.2	
10-15						23-Mar-06	<LOD	1005.42	237.12	463.14	63.2	**87385.34**	1570.65	371.15	91.92	<LOD	175.88	<LOD	116.6	**14765.31**	288.85	
						23-Mar-06	1102.16	338.33	230.89	445.92	60.19	**83173.34**	1450.79	519.02	84.69	<LOD	176.23	<LOD	113.36	**12942.74**	249.05	
BH-11	03/15/06	915	37.08849	-94.62357	19	23-Mar-06	<LOD	297.02	63.64	737.27	32.38	**4926.78**	81.88	475.42	46.25	<LOD	112.82	<LOD	41.53	**8189.79**	111.87	
0-2						23-Mar-06	<LOD	306.72	66.16	900.85	35.95	**5166.06**	85.79	246.5	48.2	<LOD	114.17	<LOD	45.62	**9114.89**	123.88	
						23-Mar-06	<LOD	361.67	82.27	1435.67	48.49	**8260.02**	129.28	797.84	66.59	<LOD	120.33	<LOD	57.57	**14954.38**	201.13	
BH-12	03/15/06	930	37.08876	-94.62398	20	23-Mar-06	<LOD	617.3	138.58	1479.32	69.96	**85820.49**	1311.12	256.06	53.34	<LOD	148.96	<LOD	95.22	**6589.67**	123.26	
0-2						23-Mar-06	<LOD	406.59	92.18	771.3	42.12	**36486.57**	501.09	200.3	33.33	<LOD	130.1	<LOD	51.91	**3322.41**	62.99	
						23-Mar-06	<LOD	438.98	96.99	955.24	47.94	**48608.77**	668.58	162.09	30.77	<LOD	130.06	<LOD	57.6	**2737.68**	55.85	
BH-13	03/15/06	1015	37.08916	-94.62546	16	23-Mar-06	<LOD	383.93	97.59	1704.13	63.73	**19669.86**	314.99	803.6	88.33	159.92	47.19	<LOD	78.7	**19717.32**	304.28	
0-5						23-Mar-06	<LOD	476	101.38	1643.9	71.16	**15195.74**	290.92	795.95	102.22	<LOD	161.94	<LOD	87.13	**20282.38**	362.04	
						23-Mar-06	<LOD	586.54	119.64	2360.66	101.94	**21138.98**	465.57	769.69	120.52	<LOD	190.93	<LOD	102.1	**20553.64**	439.14	
BH-14	03/15/06	1045	37.08883	-94.62617	16	23-Mar-06	<LOD	1024.32	250.93	3372.24	124.32	**110328.02**	2009.01	291.77	95.73	<LOD	183.39	<LOD	121.83	**15601.76**	309.31	
0.5-2.5						23-Mar-06	<LOD	972.45	246.16	4934.38	144.1	**123750.05**	2097.86	<LOD	185.53	<LOD	166.87	<LOD	117.93	**7390.76**	151.33	
						23-Mar-06	853.68	266.33	195.27	2573.09	97.07	**85305.94**	1423.67	453.47	87.6	<LOD	160.33	<LOD	106.37	**15304.16**	276.96	
Zero						23-Mar-06																
BH-14	03/15/06	1030	37.08883	-94.62617	16	23-Mar-06	<LOD	417.4	94.61	808.78	41.83	**32069.62**	434.2	272.73	47.61	<LOD	128.03	<LOD	59.21	**7289.31**	113.12	
0-0.5						23-Mar-06	<LOD	1020.49	262.67	5237.7	153.34	**129447.59**	2245.42	<LOD	206.42	232.34	56.78	<LOD	129.86	**8738.27**	178.25	
						23-Mar-06	<LOD	1071.34	262.29	5263.28	162.45	**145731.13**	2647.12	329.15	78.07	<LOD	178.89	<LOD	142.14	**10004.52**	209.9	
BH-16	03/15/06	1115	37.08750	-94.62540	22	23-Mar-06	<LOD	204.09	40.99	<LOD	28.87	**3421.1**	54.74	41.47	11.2	<LOD	97.39	<LOD	20.91	**609.72**	16.79	
0-2						23-Mar-06	<LOD	320.11	73.24	138.96	24.93	**32253.43**	397.48	283.37	32.93	202.22	39.66	<LOD	48.05	**3977.9**	64.18	
						23-Mar-06	360.04	103.96	64	103.83	21.06	**21686.32**	270.18	227.7	30.1	122.79	37.93	<LOD	42.64	**3513.99**	57.17	
High STD						23-Mar-06	<LOD	378.04	76.84	3246.91	74.98	**7290.11**	117.76	704.69	43.31	<LOD	119.6	100.03	17.6	**5711.18**	89.39	3.2
BH-17	03/15/06	1145	37.08800	-94.62672	20	23-Mar-06	482.89	149.89	97.32	257.82	35	**52387.25**	700.69	180.65	41.91	200.18	43.88	<LOD	62.12	**5486.4**	91.63	
0-2						23-Mar-06	850.71	197.8	129.91	887.63	56.47	**80041.77**	1175.9	246.38	56.37	<LOD	148.19	<LOD	84.82	**8063.96**	139.72	
						23-Mar-06	2041.89	424.33	308.15	4302.3	170.75	**239487.44**	4839.53	810.41	115.99	229.28	69.26	<LOD	186.54	**17374.95**	383.06	
BH-18	03/15/06	1345	37.08602	-94.62981	13	23-Mar-06	2031.31	533.68	348.04	1689.86	117.36	**150111.38**	3300.47	469.81	110.4	370.35	75.27	<LOD	171.08	**14403.21**	348.38	
0-2						23-Mar-06	<LOD	1994.15	465.97	<LOD	303.69	**173268.13**	4290.93	693.85	135.78	<LOD	254.04	<LOD	199.07	**17326.35**	464.02	
						23-Mar-06	<LOD	1711.1	398.77	1598.98	126.95	**170728.22**	4016.38	414.06	115.66	288.97	82.14	<LOD	184.81	**13943.79**	362.5	
BH-18	03/15/06	1330	37.08602	-94.62981	13	23-Mar-06	2884.34	672.76	443.5	417.13	101.34	**163747.36**	3926.82	<LOD	321.68	<LOD	236.06	<LOD	186.07	**11961.25**	321.7	
2-5						23-Mar-06	<LOD	1834.68	402.44	1119.03	116.82	**163156.58**	3916.52	<LOD	347.71	<LOD	240.15	<LOD	185.44	**13763.24**	365.16	
						23-Mar-06	2436.11	660.99	433.74	481.3	104.65	**176555.13**	4195.41	347.77	111.6	<LOD	242.94	<LOD	184.13	**12864.31**	340.65	
BH-18	03/15/06	1430	37.08602	-94.62981	13	23-Mar-06	<LOD	292.38	54.38	210.62	18.73	**3987.51**	68.95	<LOD	58.64	286.18	38.4	<LOD	24.84	**1577.49**	32.98	
10-15						23-Mar-06	<LOD	361.17	81.71	373.72	27.39	**8976.18**	142.12	<LOD	87.25	<LOD	126.04	<LOD	33.41	**2890.57**	55.23	
						23-Mar-06	<LOD	234.02	53.12	137.45	15.1	**2784.17**	50.75	<LOD	44.62	<LOD	104.07	<LOD	21.16	**1036.77**	24.03	
BH-19	03/15/06	1500	37.08621	-94.62928	15	23-Mar-06	<LOD	321.18	67.19	206.67	24.42	**16634.86**	224.54	191.1	46.09	177.4	39.66	<LOD	46.02	**7960.5**	113.5	
0-2						23-Mar-06	<LOD	365.56	77.93	236.46	27.58	**17497.04**	256.87	334.94	49.41	341.13	44.59	<LOD	51.06	**7474.26**	117.88	
						23-Mar-06	<LOD	313.07	75.08	135.98	24.53	**14966.88**	218.97	433.42	59.6	<LOD	124.48	<LOD	54.35	**11501.99**	165.84	
BH-19	03/15/06	1515	37.08621	-94.62928	15	23-Mar-06	<LOD	1111.08	269.11	1364.01	113.27	**26644.6**	684.87	5467.19	358.49	300.22	83.42	<LOD	253.32	**106298.08**	2524.52	
2-5						23-Mar-06	<LOD	686.46	160.11	1031.79	75.14	**26440.98**	538.01	3019.67	210.59	226.81	62.87	<LOD	151.82	**63501.08**	1209.25	
						23-Mar-06	<LOD	555.93	122.06	690.95	58.49	**13994.75**	302.89	1465.62	153.82	<LOD	186.98	<LOD	107.98	**36844.73**	709.55	
BH-19	03/15/06	1530	37.08621	-94.62928	15	23-Mar-06	<LOD	375.2	84.78	803.73	40.54	**16531.39**	240.75	206.58	67.93	159.24	42.61	<LOD	61.79	**15190.91**	213.84	
5-6.5						23-Mar-06	<LOD	406.16	91.55	1025.86	46.19	**15211.65**	229.78	433.04	79.08	281.21	44.83	<LOD	66.91	**19332.45**	272.71	
						23-Mar-06	<LOD	455.31	104.16	1767.09	65.04	**16815.6**	273.1	480.14	98.45	<LOD	143.49	<LOD	82.25	**25495.71**	383.69	
High STD						23-Mar-06	<LOD	324.44	72.72	2974.44	68.45	**7140.29**	111.57	633.74	40.79	<LOD	114.41	57.73	15.47	**5542.68**	84.08	0.2

<LOD - not detected

Table 3: Laboratory Analyses of Surficial Soil Samples

			Arsenic		Cadmium		Chromium		Copper	Lead		Mercury		Zinc
Sample ID	Sample Date	Time	As	As TCLP	Cd	Cd TCLP	Cr	Cr TCLP	Cu	Pb	Pb TCLP	Hg	Hg TCLP	Zn
			(mg/Kg)	(mg/L)	(mg/Kg)	(mg/L)	(mg/Kg)	(mg/L)	(mg/Kg)	(mg/Kg)	(mg/L)	(mg/Kg)	(mg/L)	(mg/Kg)
0,300	3/15/06	1407	88.0	<0.050	270	0.590	9.1	<0.010	120	110000	4.3	0.36	<0.0005	19000
400,100	3/15/06	1500	11.0	<0.050	75	1.000	37.0	<0.010	5400	11000	58.0	40.00	<0.00050	92000
600,100	3/15/06	1530	45.0	<0.050	110	1.000	190.0	<0.010	4900	20000	11.0	410.00	<0.00050	160000
800,0	3/15/06	1550	71.0	<0.050	89	0.720	45.0	<0.010	3800	38000	87.0	0.59	<0.00050	100000
800,400	3/15/06	1403	23.0	<.050	73	0.830	66.0	<.010	4900	110000	380.0	3.20	<0.00050	67000
900,200	3/15/06	1405	41.0	<.050	31	0.150	63.0	<.010	1200	17000	140.0	0.14	<0.00050	75000
900,400	3/15/06	1609	33.0	<0.050	210	3.200	64.0	<0.010	6200	100000	81.0	3.80	<0.00050	140000
1000,0	3/15/06	1610	46.0	<0.050	160	1.200	110.0	<0.010	14000	220000	14.0	12.00	0.002	85000
1100,0	3/15/06	1639	49.0	<0.050	150	0.700	61.0	<0.010	6300	200000	810.0	1.50	<0.00050	100000
1300,0	3/15/06	1708	99.0	<0.050	1600	6.000	27.0	<0.010	2100	120000	80.0	0.62	0.0024	160000
1400,300	3/15/06	1712	43.0	<0.050	280	4.400	57.0	<0.010	670	62000	21.0	0.82	<0.00050	71000
1600,400	3/15/06	828	11.0	<0.050	3400	46.000	23.0	<0.010	410	7800	39.0	2.20	<0.00050	36000
1600,500	3/16/06	1025	58.0	<0.050	430	4.600	28.0	<0.010	600	60000	480.0	9.10	<0.00050	27000
1700,500	3/16/06	1045	77.0	<0.050	140	0.590	53.0	<0.010	1600	82000	490.0	0.36	<0.0050	56000
1700,600	3/16/06	1050	110.0	<0.050	260	4.300	44.0	<0.010	4800	130000	950.0	2.90	<0.00050	76000
1800,200	3/16/06	837	45.0	<0.050	150	1.100	75.0	<0.010	1200	220000	650.0	0.16	<0.00050	42000
1800,400	3/16/06	830	53.0	<0.050	290	1.800	57.0	<0.010	670	59000	290.0	0.33	<0.00050	74000
2000,500	3/16/06	1102	47.0	<0.050	20	0.084	82.0	<0.010	6000	11000	200.0	0.73	<0.00050	81000
2100,100	3/16/06	926	8.1	<0.050	23	0.140	33.0	<0.010	160	720	1.1	0.06	<0.00050	7200
2200,300	3/16/06	913	11.0	<0.050	320	4.700	42.0	<0.010	510	9700	11.0	0.07	<0.00050	89000
2500,300	3/16/06	1017	21.0	<0.050	710	8.400	530.0	0.011	5000	47000	7.8	5.60	<0.00050	280000
2700,10	3/16/06	1314	48.0	<0.050	430	4.700	56.0	<0.010	620	12000	18.0	2300.00	0.0021	86000
2800,600	3/16/06	1330	110.0	<0.050	1100	1.600	150.0	<0.010	14000	57000	63.0	15.00	0.0007	180000
300,400	3/15/06	1441	22.0	<0.050	48	0.680	30.0	<0.010	3200	10000	48.0	1.80	<0.00050	53000
3000,100	3/16/06	1348	180.0	<0.050	400	0.680	170.0	<0.010	7200	140000	150.0	7.30	<0.00050	64000
3100,200	3/16/06	1435	390.0	<0.050	420	0.790	120.0	<0.010	6400	84000	120.0	4.00	<0.00050	61000
3200,200	3/16/06	1415	290.0	<0.050	420	1.300	150.0	<0.010	10000	100000	38.0	13.00	<0.00050	120000
3200,300	3/16/06	1420	430.0	<0.050	400	0.760	160.0	<0.010	7300	91000	160.0	15.00	<0.00050	210000
3200,500	3/15/06	1620	170.0	<0.050	140	0.650	100.0	<0.010	3600	73000	98.0	14.00	<0.00050	21000
3300,100	3/16/06	1450	510.0	<0.050	630	1.300	270.0	<0.010	15000	190000	100.0	9.00	<0.00050	83000

TCLP - Toxicity characteristics Leaching Procedure
<0.050 - Not detected at the indicated concentration

Table 4: Laboratory Analyses and Coorelation of Subsurface Soil Samples

Sample ID	Lead Lab mg/Kg	Lead XRF mg/Kg	Zinc Lab mg/Kg	Zinc XRF mg/Kg	Arsenic Lab mg/Kg	Arsenic XRF mg/Kg	Copper Lab mg/Kg	Copper XRF mg/Kg
BH-1 0-2	5,700	4,739	73,000	104,020	32	346	3,700	5,655
BH-4 0-2	3,700	5,734	59,000	94,474	34	258	3,800	8,579
BH-4 10-15	470	562	29,000	51,050	19	57	3,000	3,697
BH-7 2-5	180,000	360,807	13,000	32,037	11	26,909	1,100	1,280
BH-9 0-2	130,000	103,248	110,000	133,246	33	5,046	9,300	20,331
BH-9 2-5	110,000	71,378	97,000	131,138	48	3,558	6,900	11,572
BH-9 5-8	52,000	37,500	78,000	133,911	39	2,169	1,700	2,607
BH-10 5-8	22,000	31,348	89,000	140,196	60	1,078	970	446
BH-10 10-15	31,000	14,765	100,000	87,385	59	519	690	554
BH-19 0-2	11,000	11,502	12,000	17,497	12	433	220	237
Correlation Coef.	0.876289		0.898146		-0.434364		0.981042	
r^2	0.767882		0.806666		0.188672		0.962443	

Table 5: Background Soil Sample Analyses

Sample I.D.	Lattitude	Longitude	Accuracy	Lead (mg/Kg):	Zinc (mg/Kg)	Arsenic (mg/Kg)	Cadmium (mg/Kg)	Chromium (mg/Kg)	Copper (mg/Kg)	Mercury (mg/Kg)
BG-1	37.07641	-94.64017	20	120	1100	7.1	6	36	18	ND (0.050)
BG-2	37.07434	-94.64165	14	200	1600	6.8	10	29	23	ND (0.050)
BG-3	37.06910	-94.64022	19	100	420	9.3	2.4	44	24	ND (0.050)
BG-4	37.05983	-94.64960	22	620	1600	5.1	9.2	25	47	ND (0.050)
BG-5	37.06392	-94.62737	13	440	2000	ND (5.0)	12	21	42	ND (0.050)
BG-6	37.07119	-94.63329	14	1300	5900	5.9	31	22	32	ND (0.050)
BG-7	37.06919	-94.61807	18	260	1300	8.7	8.5	45	38	ND (0.050)
BG-8	37.08206	-94.62858	28	2200	5800	8.8	47	30	230	ND (0.050)
BG-9	37.08632	-94.62048	19	720	2600	5.7	24	31	35	ND (0.050)
BG-10	37.08029	-94.61807	20	350	1600	6.4	8.6	34	12	ND (0.050)
			3X Max Background:	6,600	17,700	27.9	93	135	690	ND (< 0.15)
			Mean :	631	2392	6.9	15.9	31.7	53.7	ND
			Standard Deviation:	658.2	1907.6	1.6	13.9	8.3	64.2	ND
			Mean + 2 Standard Deviations:	1947.4	6207.2	10.1	43.7	48.3	182.1	ND

ND - not detected

Table 6: Surface Water Sample Results

Sample ID	Sample Date	Time	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Zinc
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
SW-1	3/16/06	1100	<0.050	0.0056	<0.010	<0.010	<0.050	<0.50	0.89
SW-2	3/16/06	1000	<0.050	0.049	<0.010	<0.010	<0.050	<0.50	3.3
SW-3	3/16/06	945	<0.050	0.050	<0.010	<0.010	<0.050	<0.50	3.7

<0.050 - Not detected at the indicated concentration

Table 7: Sediment Sample Results

Sample ID	Sample Date	Time	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Zinc
			(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
SED-1	3/16/06	1100	9.7	700	23.0	50	310	<0.050	23000
SED-2	3/16/06	1000	14.0	62	50.000	1400	1600	0.22	6500
SED-3	3/16/06	945	20.0	200	70.0	850	3600	<0.050	40000

<0.050 - Not detected at the indicated concentration

Table 8: Coorelation of Surficial Metals Analyses

	Arsenic			Cadmium			Chromium			Copper		
Location	Lab	Max	Avg	Lab	Max	Avg	Lab	Max	Avg	Lab	Max	Avg
0,300	20.0	1571.0	1286.9	270.0	334.8	266.3	9.1	<LOD	<LOD	<LOD	<LOD	<LOD
900,200	41.0	327.0	276.6	31.0	<LOD	<LOD	63.0	1088.0	873.2	1200.0	2147.4	1464.6
800,400	23.0	6255.9	5116.8	73.0	303.8	303.8	66.0	<LOD	<LOD	4900.0	9761.1	8689.9
400,100	11.0	192.6	192.5	75.0	<LOD	<LOD	37.0	1069.3	803.0	5400.0	5787.1	5403.4
800,0	71.0	639.4	586.7	89.0	<LOD	<LOD	45.0	781.2	781.2	3800.0	4182.2	3510.0
2200,300	11.0	<LOD	<LOD	320.0	278.4	269.4	42.0	894.3	825.1	510.0	306.9	271.3
300,400	22.0	474.7	380.4	48.0	<LOD	<LOD	30.0	1038.7	1003.7	3200.0	5901.1	5126.6
1400,300	43.0	<LOD	<LOD	280.0	636.1	591.6	57.0	972.0	884.6	670.0	2719.0	2432.9
1800,400	53.0	1177.9	986.8	290.0	296.8	254.7	57.0	848.4	712.3	670.0	547.6	541.2
1600,400	11.0	177.4	135.5	3400.0	5230.3	3417.3	23.0	<LOD	<LOD	410.0	411.4	214.8
900,400	33.0	2432.7	2124.8	210.0	267.3	267.3	64.0	2891.6	2506.5	6200.0	12458.2	12066.0
2100,100	8.1	61.6	54.5	23.0	<LOD	<LOD	33.0	0.0	0.0	160.0	67.2	67.2
1700,600	110.0	16877.8	14781.6	260.0	939.4	796.4	44.0	2522.0	2439.9	4800.0	18605.4	16084.6
1700,500	77.0	2572.6	2490.6	140.0	272.4	243.8	53.0	1556.0	1556.0	1600.0	2490.3	2390.3
1800,200	45.0	12088.3	8619.5	150.0	699.9	619.4	75.0	<LOD	<LOD	1200.0	<LOD	<LOD
3100,200	390.0	6046.4	4686.1	420.0	534.8	460.6	120.0	1556.1	1398.5	6400.0	11964.6	10547.9
1100,0	49.0	8647.1	8404.4	150.0	563.2	456.7	61.0	2838.6	2508.1	6300.0	21656.1	14653.8
1300,0	99.0	3775.9	2588.1	1600.0	1757.6	1235.3	27.0	3003.2	2010.8	2100.0	3121.4	2580.1
2000,500	47.0	2804.2	2058.1	20.0	<LOD	<LOD	82.0	1366.0	1366.0	6000.0	14448.8	13417.7
2800,600	110.0	1777.0	1542.3	1100.0	372.7	372.7	150.0	3689.6	3068.7	14000.0	38220.6	30704.4
2500,300	21.0	1274.6	1274.6	710.0	819.3	764.5	530.0	6691.3	6137.2	5000.0	11372.6	8754.1
2700,10	48.0	305.4	292.3	430.0	645.6	369.0	56.0	857.3	687.5	620.0	422.3	294.4
600,100	45.0	483.1	401.4	110.0	<LOD	<LOD	190.0	2257.5	1929.1	4900.0	7513.2	6881.2
3200,500	170.0	2141.8	1848.2	140.0	226.4	215.9	100.0	1053.2	887.6	3600.0	7648.8	5202.0
1000,0	46.0	12006.1	10134.3	160.0	531.0	476.5	110.0	3031.1	3031.1	14000.0	29373.0	25440.8
3300,100	510.0	19278.9	17272.5	630.0	944.8	863.5	270.0	4069.7	3673.4	15000.0	38633.3	36729.5
3200,300	430.0	9340.7	8713.5	400.0	842.4	642.1	160.0	4037.4	3311.5	7300.0	20931.8	18438.3
3000,100	180.0	14186.7	13779.4	400.0	1003.9	775.2	170.0	3665.8	3329.3	7200.0	20413.2	18873.0
1600,500	58.0	4296.1	2768.3	430.0	429.8	358.9	28.0	<LOD	<LOD	600.0	218.8	171.7
3200,200	290.0	4706.0	3835.1	420.0	488.8	404.7	150.0	3947.4	3265.8	10000.0	24868.1	20796.6
Correlation Coefficient	Lab/Max		Lab/ Average	Lab/Max		Lab/ Average	Lab/Max		Lab/ Average	Lab/Max		Lab/ Average
	0.543193		0.556482	0.932472		0.924427	0.807823		0.832894	0.960109		0.964011
r^2	0.295058		0.309672	0.869504		0.854565	0.652578		0.693712	0.92181		0.929316

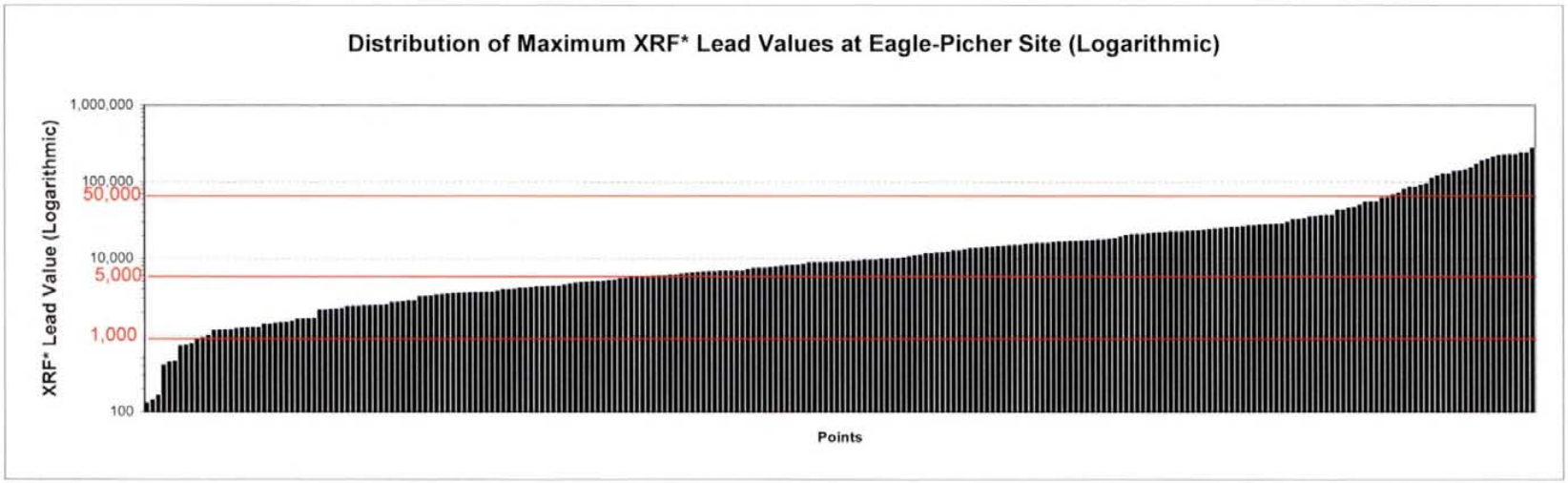
<LOD - non detect Results in mg/Kg

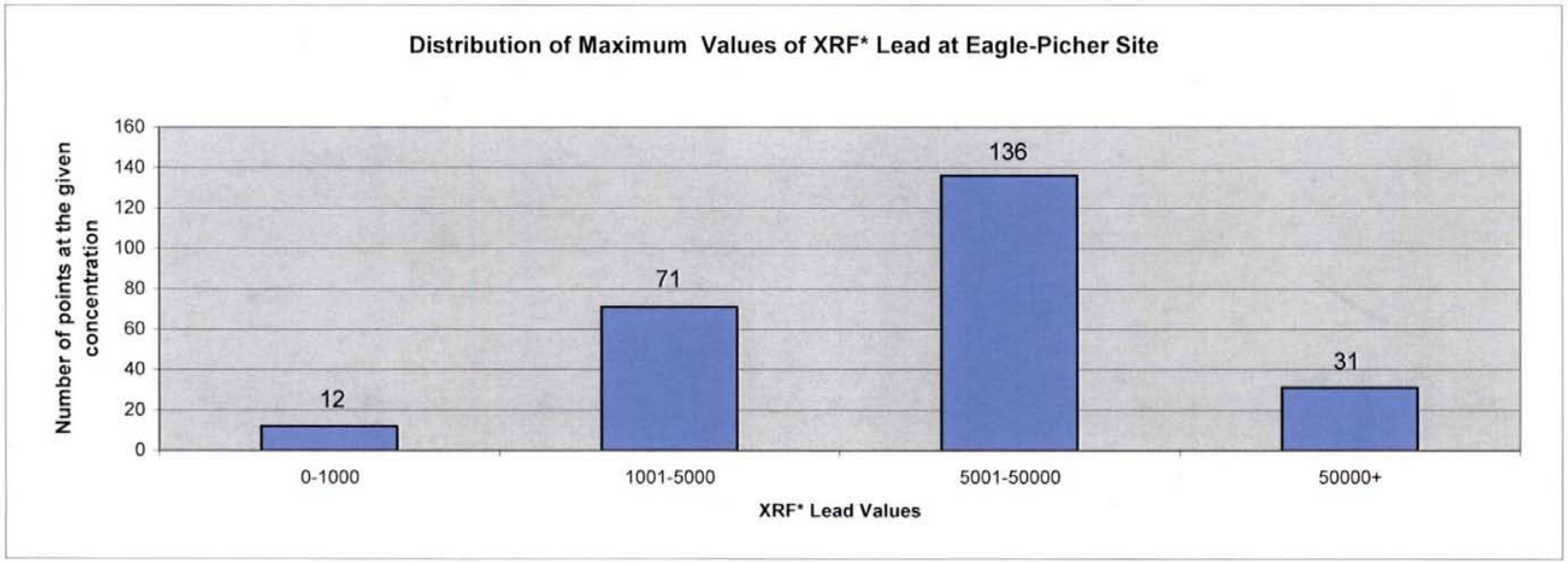
Table 8: Coorelation of Surficial Metals Analyses

	Lead			Mercury			Zinc		
Location	Lab	Max	Avg	Lab	Max	Avg	Lab	Max	Avg
0,300	110000.0	53601.0	47423.9	0.4	<LOD	<LOD	19000.0	14710.7	12892.7
900,200	17000.0	11371.6	10225.4	0.1	<LOD	<LOD	75000.0	94106.8	77733.5
800,400	110000.0	117544.7	95960.1	3.2	<LOD	<LOD	67000.0	96677.6	88504.7
400,100	11000.0	6390.0	6236.2	40.0	<LOD	<LOD	92000.0	96704.5	87053.4
800,0	38000.0	17861.5	17408.8	0.6	<LOD	<LOD	100000.0	96136.1	88971.4
2200,300	9700.0	3130.9	2250.8	0.1	<LOD	<LOD	89000.0	94703.2	87564.9
300,400	10000.0	10322.6	9604.9	1.8	<LOD	<LOD	53000.0	88982.7	82669.1
1400,300	62000.0	15124.0	13783.2	0.8	<LOD	<LOD	71000.0	92590.7	87028.8
1800,400	59000.0	23707.4	19688.4	0.3	<LOD	<LOD	74000.0	88707.6	83541.8
1600,400	7800.0	9691.7	4889.0	2.2	<LOD	<LOD	36000.0	30148.1	20264.3
900,400	100000.0	69648.4	62245.5	3.8	<LOD	<LOD	140000.0	276420.1	252087.8
2100,100	720.0	717.5	676.9	0.1	<LOD	<LOD	7200.0	7233.8	7108.4
1700,600	130000.0	222919.1	198884.2	2.9	<LOD	<LOD	76000.0	105433.5	101035.4
1700,500	82000.0	66919.4	63915.7	0.4	<LOD	<LOD	56000.0	122210.0	96599.3
1800,200	220000.0	206126.6	147808.2	0.2	<LOD	<LOD	42000.0	72224.0	58181.7
3100,200	84000.0	83485.8	71548.7	4.0	<LOD	<LOD	61000.0	92212.3	83581.1
1100,0	200000.0	165868.3	156650.4	1.5	<LOD	<LOD	100000.0	164035.1	126882.2
1300,0	120000.0	87483.3	67162.4	0.6	<LOD	<LOD	160000.0	268380.2	209221.1
2000,500	11000.0	27007.1	21581.7	0.7	133.7	133.7	81000.0	77345.0	69247.4
2800,600	57000.0	53081.3	45893.9	15.0	<LOD	<LOD	180000.0	374083.4	326607.0
2500,300	47000.0	45222.3	38715.8	5.6	<LOD	<LOD	280000.0	630147.6	526672.7
2700,10	12000.0	8641.4	7522.9	2300.0	5365.8	4002.3	86000.0	83140.6	75003.9
600,100	20000.0	14649.0	13592.9	410.0	1087.3	785.0	160000.0	221118.0	193236.7
3200,500	73000.0	59544.1	53165.1	14.0	169.0	169.0	21000.0	41152.0	29623.6
1000,0	220000.0	186072.9	163286.0	12.0	<LOD	<LOD	85000.0	166678.5	130742.7
3300,100	190000.0	270065.4	250299.2	9.0	<LOD	<LOD	83000.0	164504.0	144345.3
3200,300	91000.0	148724.9	136435.3	15.0	<LOD	<LOD	210000.0	191000.0	163488.8
3000,100	140000.0	236220.0	207445.0	7.3	<LOD	<LOD	64000.0	144716.9	129820.8
1600,500	60000.0	79415.1	49603.7	9.1	<LOD	<LOD	27000.0	37489.3	31141.2
3200,200	100000.0	92419.4	77326.7	13.0	<LOD	<LOD	120000.0	286774.2	224159.3
Correlation Coefficient	Lab/Max		Lab/ Average	Lab/Max		Lab/ Average	Lab/Max		Lab/ Average
	0.8826576		0.8648905	0.999992		0.999931	0.898712		0.903517
r^2	0.77908444		0.7480356	0.999983		0.999862	0.807683		0.816344

<LOD - non detect Results in mg/Kg

Table 9: Distribution of XRF Lead Result





*XRF - X-Ray Fluorescence

Figures

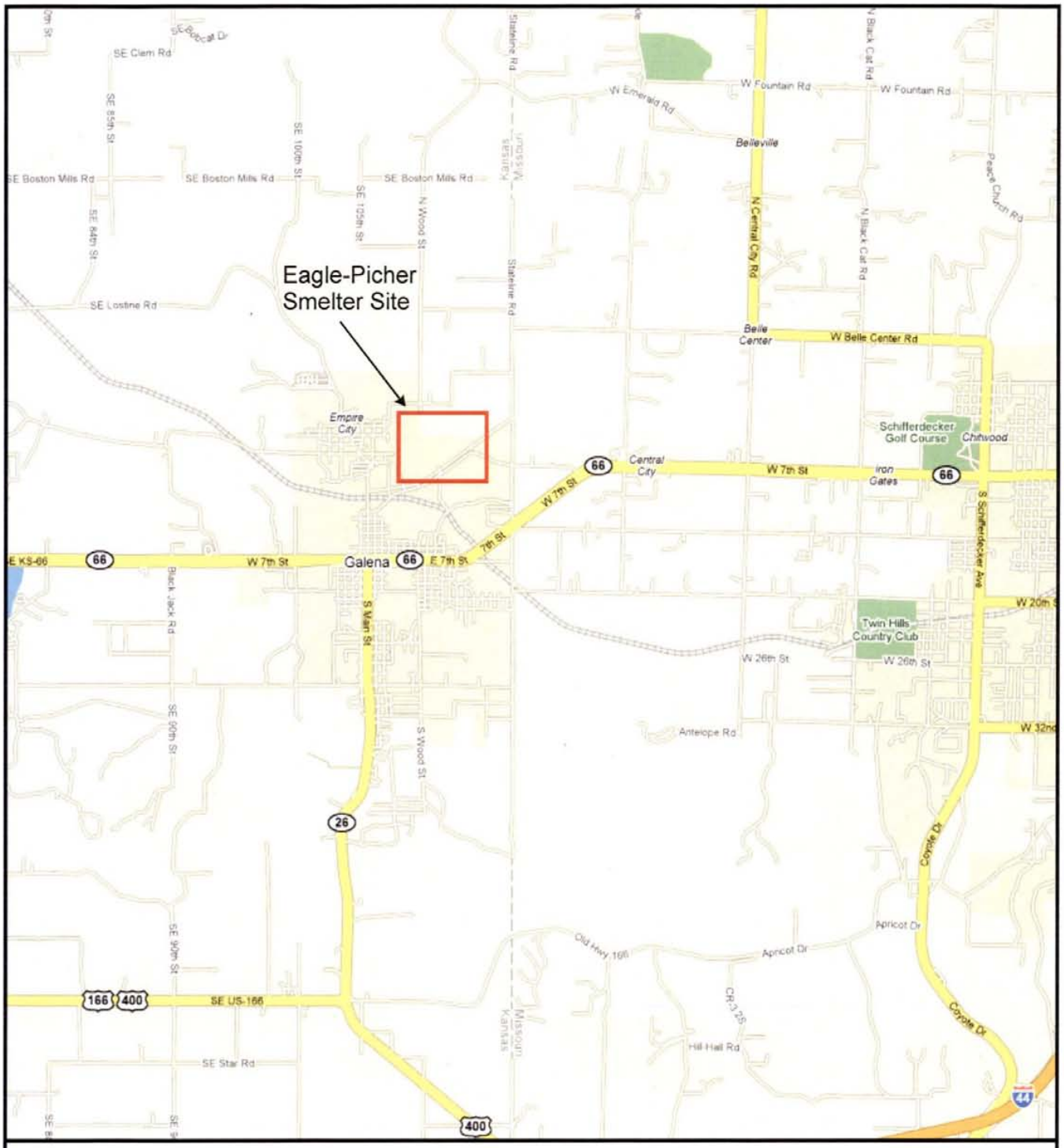


FIGURE 1

Area Map
Eagle-Picher Smelter Site
Galena, Kansas

Eagle-Picher Smelter Site

Figure 2
Sampling Locations

Map Drawn by KDHE

LEGEND

- Surface Water/Sediment
- Soil XRF*
- Borehole XRF*
- 500,0 Sample Location Coordinates

Scale: 0 120 240 480 Feet

N

* X-Ray Fluorescence

Eagle-Picher Smelter Site

Figure 3
Maximum Lead XRF*

Map Drawn by KDHE

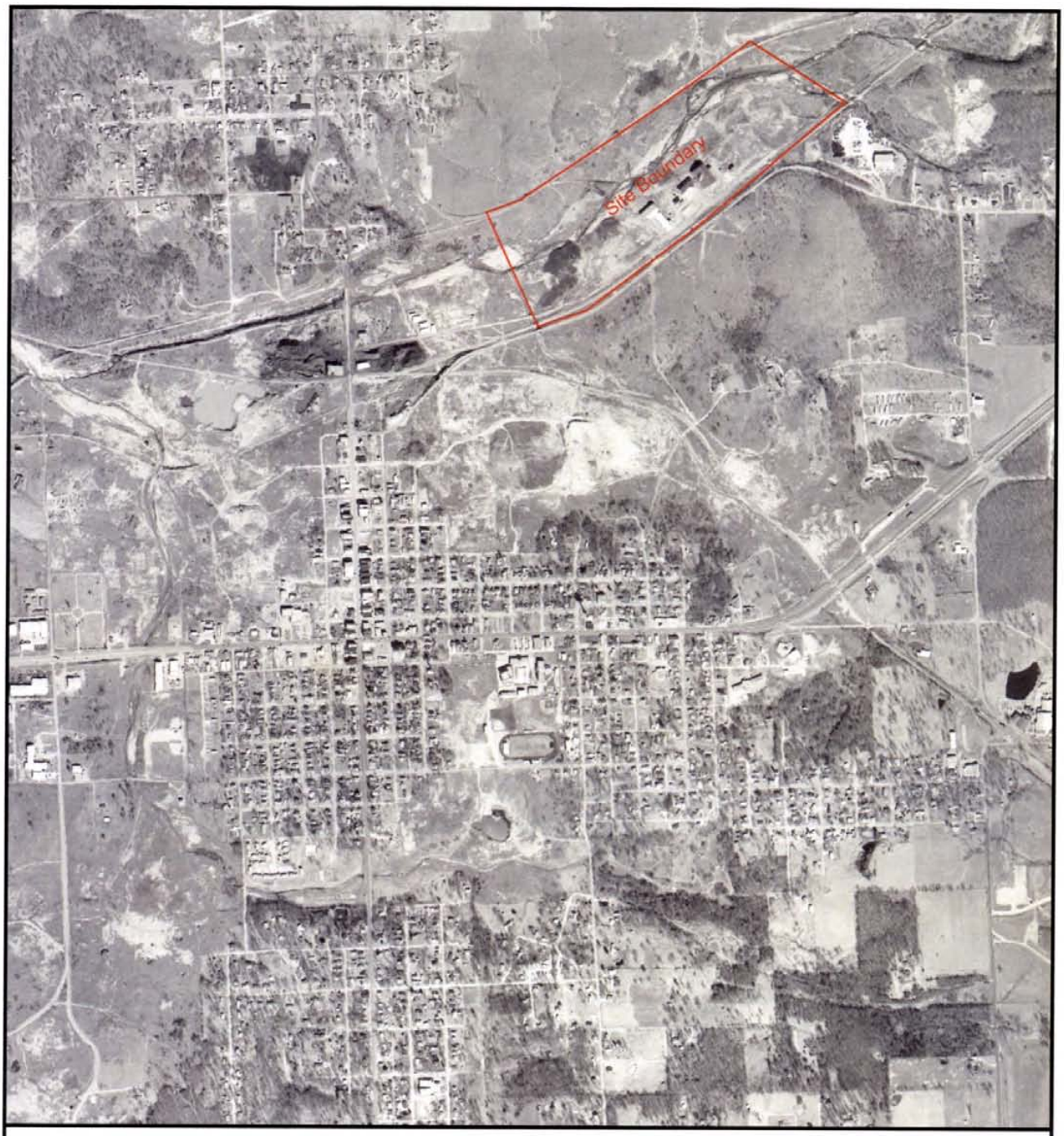
* X-Ray Florescence

LEGEND

- 0 - 5,000 mg/Kg of lead
- 5,001 - 50,000 mg/Kg of lead
- 50,001 - 270,065 mg/Kg of Lead
- Borehole XRF
- Creek
- 500,0 Sample Location Coordinates

Scale: 0 125 250 500 Feet

N



Scale: 0 390 780 1,560 Feet

LEGEND

● Background Sample

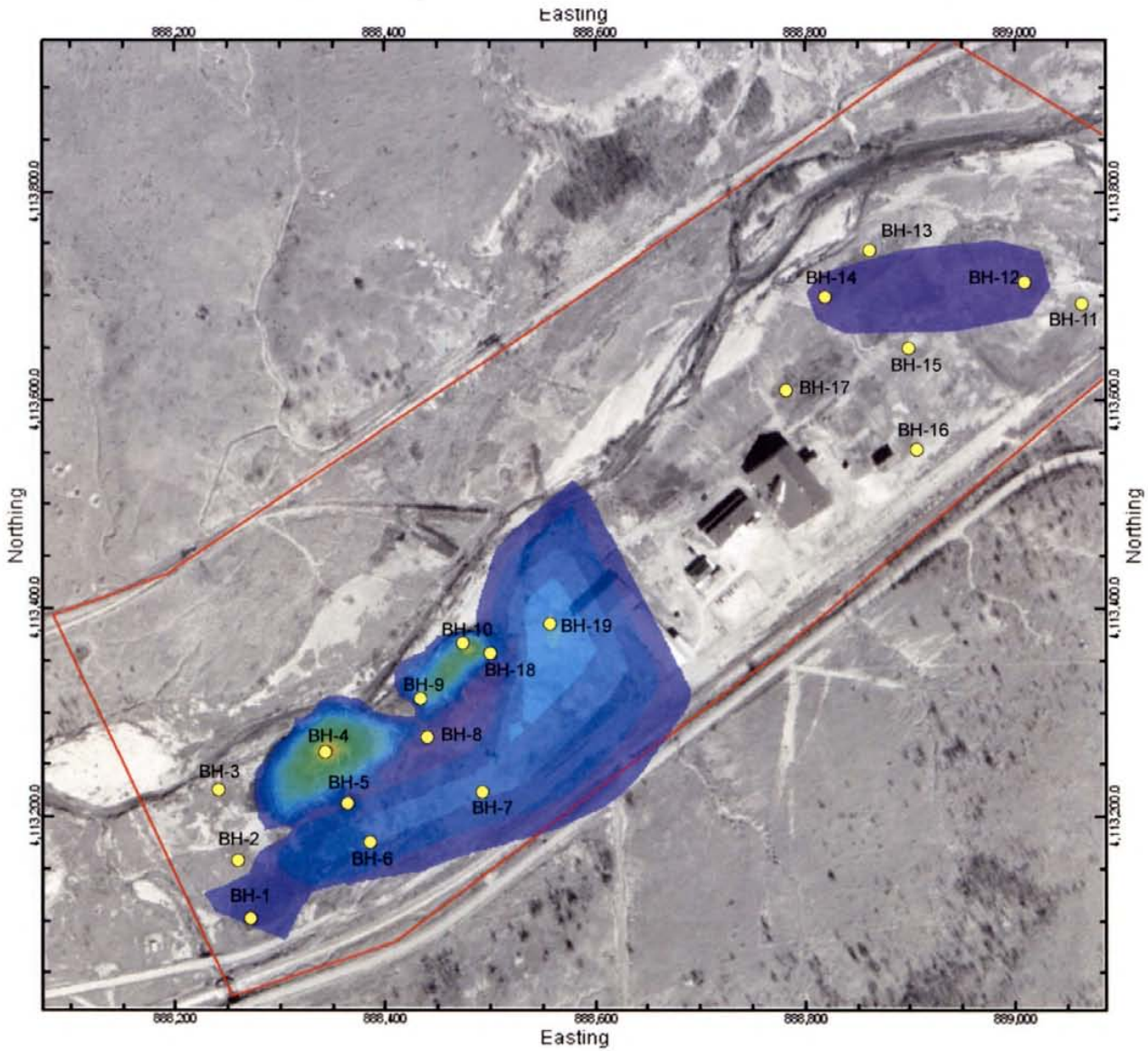
N

Map Drawn by KDHE

FIGURE 4

Background Sampling Locations
Eagle-Picher Site
Galena, Kansas

Project Manager: RB Drawn by: PBJ



N

LEGEND

4.25
4.0
3.75
3.5
3.25
3.0
2.75
2.5
2.25
2.0
1.75
1.5
1.25
1.0
0.75
0.5
0.25
0.0

Borehole

FIGURE 5

Thickness of Slag Pile
Eagle-Picher Site
Galena, Kansas

Map Designed by KDHE
for planning purposes only

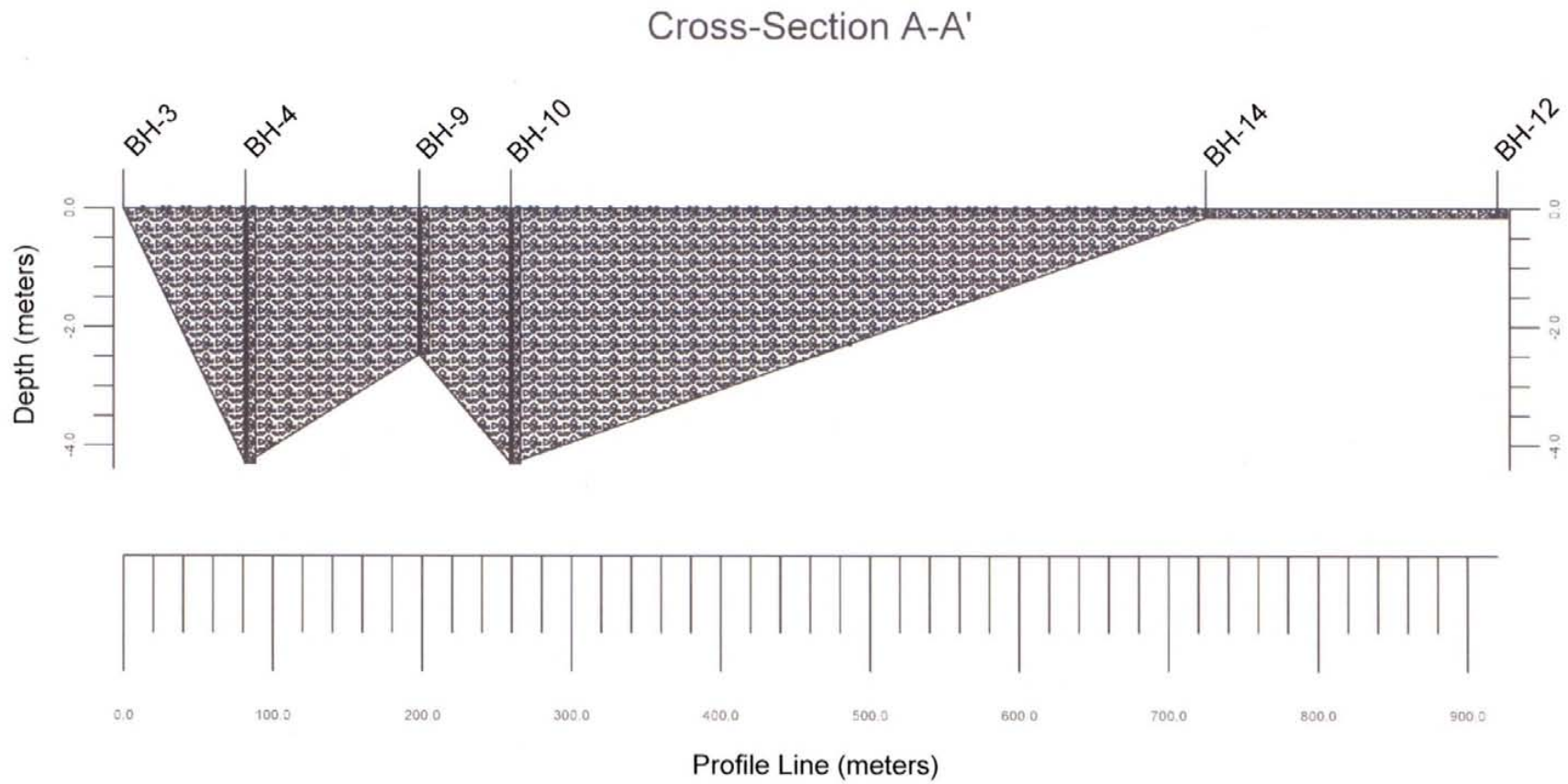
Total Slag Volume:
Approximately 470,000 cu. yds.
(calculated using Rockworks)

Scale in meters

0 200 400

Project Manager: REB

Drawn by: PEBJ



N

FIGURE 6A

Slag Cross Section
Eagle-Picher Site
Galena, Kansas

Map Designed by KDHE

Project Manager: RB Drawn by: PEBJ

Scale: 0 180 360 720 Feet

Map Drawn by KDHE

N

LEGEND

- Borehole Location
- Section Line
- Site Boundary

FIGURE 6B

Profile Line for Slag Section
Eagle-Picher Site
Galena, Kansas

Project Manager: RB Drawn by: PBJ

Photographic Documentation

Former Eagle-Picher Smelter
Removal Site Evaluation/Preliminary Assessment

Photo 1
View: Southeast
Date: 03/17/2006
Photo by: Randy Brown
Comments: Eagle-Picher site viewed from north side of Short Creek.

Photo 2
View: East
Date: 03/14/2006
Photo by: Randy Brown
Comments: Photo shows view of KDHE B-3300 rig advancing waste boring on massive slag pile west of the former Eagle-Picher smelter works.

Former Eagle-Picher Smelter
Removal Site Evaluation/Preliminary Assessment

Photo 3
View: East
Date: 03/14/2006
Photo by: Randy Brown
Comments: Massive slag piles west of former Eagle-Picher smelter works. Edge of Short Creek can be seen at left edge.

Photo 4
View: Northwest
Date: 03/14/2006
Photo by: Randy Brown
Comments: This photo shows KDHE field crew marking surface soil grid.

Former Eagle-Picher Smelter
Removal Site Evaluation/Preliminary Assessment

Photo 5
View: West
Date: 03/14/2006
Photo by: Randy Brown
Comments: KDHE field crew sampling surface grid near massive slag piles west of former Eagle-Picher smelter works.

Photo 6
View: West
Date: 03/14/2006
Photo by: Randy Brown
Comments: KDHE field crew sampling surface grid near massive slag piles west of former Eagle-Picher smelter works. Photo shows extent of slag to Short Creek.

Former Eagle-Picher Smelter
Removal Site Evaluation/Preliminary Assessment

Photo 7
View: South
Date: 03/14/2006
Photo by: Randy Brown
Comments: KDHE B-3300 drill rig advancing subsurface waste boring on massive slag piles west of former Eagle-Picher smelter works. Photo taken from bank of Short Creek.

Photo 8
View: East
Date: 03/16/2006
Photo by: Randy Brown
Comments: Surface water and sediment location S-1 upstream of former Eagle-Picher smelter works.

Former Eagle-Picher Smelter
Removal Site Evaluation/Preliminary Assessment

Photo 9
View: East
Date: 03/16/2006
Photo by: Randy Brown
Comments: Surface water and sediment location S-2 adjacent to slag piles at former Eagle-Picher smelter works.

Photo 10
View: East
Date: 03/16/2006
Photo by: Randy Brown
Comments: Surface water and sediment location S-3 downstream of slag piles at former Eagle-Picher smelter works.

Former Eagle-Picher Smelter
Removal Site Evaluation/Preliminary Assessment

Photo 11
View: North
Date: 03/14/2006
Photo by: Randy Brown
Comments: Former product tanks located at remaining and sediment location S-3 downstream of slag piles at former Eagle-Picher smelter works.

Photo 12
View: Southeast
Date: 03/16/2006
Photo by: Randy Brown
Comments: Rail spur with slag fill and associated areas north of former Eagle-Picher smelter on north side of Short Creek.

Preliminary Removal Evaluation Form and Data Summary

Kansas Department of Health and Environment

Preliminary Removal Site Evaluation Form

I. Site Information

Site Name: Former Eagle-Picher Smelter Site			
Address or location: 1203 East Clark Street			
City: Galena	County: Cherokee	State: Kansas	ZIP: 66739
Telephone: 417-434-0539	Fax:		
Directions to Site: Located at the east end of Clark Street, Galena, Kansas.			
Map attached? ☒ Yes			
Requested by: Rick Bean/Erica Bessey	Agency/Office: KDHE		
Address: 1000 S.W. Jackson		Date of Request: 07/28/06	
City: Topeka	State: Kansas	ZIP: 66612-1367	
Phone: 785-296-1675	E-mail: rbean@kdhe.state.ks.us	Fax:	
Site Contact: Rick Bean/KDHE			
Address: 1000 SW. Jackson, Suite 410			
City: Topeka	State: Kansas	ZIP: 66612-1367	
Phone: 785-296-1675	E-mail: rbean@kdhe.state.ks.us	Fax: 785-296-7030	

II. CERCLA Site Screening Response Criteria (see Section V for definitions)

A. Is there a release or threat of release as defined by the NCP? Yes ☒ No ☐

Explain: Massive piles of abandoned slag which contains hazardous substances are present at the site.

B. Is the source a facility or vessel as defined by the NCP? Yes ☒ No ☐

Explain: The site is a former lead and zinc smelter.

C. Does the release or threat of release involve a hazardous substance, pollutant, or contaminant as defined by the NCP? Yes ☒ No ☐

Explain: Lead, zinc, cadmium, copper, arsenic and mercury are present at the site.

D. Is the release subject to the limitations on response? Yes ☐ No ☒

Explain: No release limitations appear to exist.

E. Does the quantity or concentration warrant response? Yes ☒ No ☐

Explain: Uncontrolled hazardous substances are present which require proper disposal and/or stabilization.

F. Has a PRP been identified? Yes ☒ No ☐

Name: Eagle-Picher Industries		Telephone:	
Address: 250 East 5th Street	City: Cincinnati	State: Ohio	Zip: 45202

G. Document operational and regulatory history: see attached report ☒

H. What is the current land use around the facility? Check all that apply:
Residential ☒ Industrial ☒ Commercial ☒ Agricultural ☒ Recreational ☐

I. Is there an actual or potential exposure to hazardous substances, pollutants or contaminants:

Ground Water: Yes ☐ No ☐ Potential ☒ Receptor: Local ground water
Explain: Ground water is not used near the site for drinking water purposes. Shallow ground water is extensively impacted also from the Cherokee County Superfund Site

Surface Water: Yes ☒ No ☐ Potential ☐ Receptor:
Explain: Slag piles extend to Short Creek; analytical data indicates an impact to Short Creek

Soil: Yes ☒ No ☐ Potential ☐ Receptor: Workers and transients
Explain: Extensive soil contamination is present.

Waste: Yes ☒ No ☐ Potential ☐ Receptor: workers
Explain: Uncontrolled hazardous substances are present at the site; massive slag piles and associated waste areas are present.

Air: Yes ☐ No ☐ Potential ☒ Receptor: workers
Explain: Uncontrolled waste piles could cause intermittent air releases.

J. Is there an actual or a potential for contamination of a drinking water well? Yes ☐ No ☐ Potential ☒

K. Are there hazardous substances, pollutants, or contaminants in drums, barrels, bulk storage containers, or tanks? Yes ☐ No ☒
Explain: Wastes are contained in piles at the site.

Kansas Department of Health and Environment
Preliminary Removal Site Evaluation Form

L. Are there high levels of hazardous substances in:

Near-surface soils (< 2 feet below surface)?	Yes ☒	No ☐	Unknown ☐
Subsurface soils (> 2 feet below surface)?	Yes ☒	No ☐	Unknown ☐
Surficial Waste present?	Yes ☒	No ☐	Unknown ☐

Site Accessibility: Secure ☐ Access limited ☒ Readily accessible ☐ Worker population: 2-3

Further explanation: Extensive surficial and subsurface wastes are present along with impacted soils.

M. Are there conditions on site that may be susceptible to impact from adverse weather? Yes ☒ No ☐

Explain: Waste piles are uncontrolled and adjacent to Short Creek.

N. Is there a threat of fire or explosion? Yes ☐ No ☒

Explain:

O. Is there a potential for other federal or state response programs? Yes ☒ No ☐

KDHE is in the process of negotiating response actions through the Eagle-Picher bankruptcy.

P. Are there endangered species habitats, wetlands, or other sensitive environments nearby which may be adversely impacted by the site? Yes ☐ No ☒

Explain:

Q. Are there other situations or factors that warrant further CERCLA response? Yes ☒ No ☐

Explain: Abandoned wastes.

R. Document economic conditions surrounding the site: The site is situated in a commercial area of Galena.

III. CERCLA Site Screening Findings and Recommendations

A. CERCLA Eligible?

☒ Yes – further CERCLA evaluation is recommended. Cite applicable factors from Section III:

- ☒ A release of a hazardous substance, pollutant or contaminant has occurred;
- ☒ CERCLA Limitations on Response provisions do not apply;
- ☐ No responsible parties are willing/capable to respond at this time;
- ☐ Drums, barrels, and/or containers are, or may be present at the site;
- ☒ The site is susceptible to impact from adverse weather;
- ☒ No other federal or state response mechanisms were identified;
- ☒ The source is a facility as defined by the NCP;
- ☒ Contamination may be presenting sufficient quantity and/or concentration;
- ☒ There is an actual or potential exposure threat;
- ☐ There is, or may be, a threat of fire or explosion;
- ☒ There are, or may be, high concentrations of contaminants in surficial soils;
- ☐ There are endangered species, wetlands, or other sensitive environments or receptors that may be impacted by the site.

If necessary, explain:

☐ No - further CERCLA evaluation is not recommended. Cite appropriate factors from Section III:

- ☐ No release has occurred;
- ☐ Not a hazardous substance, pollutant or contaminant;
- ☐ Insufficient quantity or concentration:
- ☐ No actual or potential exposure threats;
- ☐ No high levels of contaminants in surficial soils:
- ☐ Not a facility or vessel;
- ☐ Subject to response limitations;
- ☐ Willing/capable responsible party response;
- ☐ Drums, barrels, and/or containers are, or may be present at the site;
- ☐ Site not susceptible to adverse weather:
- ☐ No threat of fire or explosion;
- ☐ Referred to another program.

If necessary, explain:

Kansas Department of Health and Environment

Preliminary Removal Site Evaluation Form

IV. Removal Considerations and Recommended Response Actions

If yes, check recommended or potential removal actions from § 300.415(d) of the NCP to warrant further removal site evaluation below:

☒ Release or threat of release is present.

- ☒ Site security
- ☒ Drainage control
- ☒ Stabilization or removal of surface impoundments
- ☒ Capping of contaminated soil
- ☒ Use of chemicals to retard or control spread of contaminants
- ☒ Excavation of contaminated soils
- ☐ Removal of drums, barrels, tanks or other bulk storage containers
- ☒ Containment, treatment, disposal or incineration of hazardous substances, pollutants or contaminants
- ☐ Provide alternate water supplies
- ☐ Other (specify and explain):

Briefly explain the rationale for checked alternatives: Primary concern identified at site is from uncontrolled hazardous substances. Removal, stabilization or disposal would alleviate release or threat of release.

V. Remedial Considerations

Future sampling to delineate and determine extent of wastes and impacted soils recommended. Consolidation of smelter wastes into a repository may be the most expedient way of on-site control of abandoned wastes and impacted soils.

VI. Final Comments/Recommendations

Abandoned hazardous substances at the site appear to warrant further integrated remedial/removal evaluation under CERCLA if Eagle-Picher is unable to commit bankruptcy resources to conduct the necessary response actions.

V. Definitions

I. **CERCLA** is the Comprehensive Environmental Response Compensation and Liabilities Act, 42 USC §9601 et seq. (as amended).

A **FACILITY** is defined as any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly-owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or any site or area, where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel.

A **HAZARDOUS SUBSTANCE** means any substance, element, compound, mixture, solution, hazardous waste, toxic pollutant, hazardous air pollutant, or imminently hazardous chemical substance or mixture designated pursuant to the Clean Water Act (CWA), CERCLA, Safe Drinking Water Act (SDWA), Clean Air Act (CAA) or Toxic Substances Control Act (TSCA). The term does not include petroleum products, natural gas, natural gas liquids, liquefied natural gas, synthetic gas or mixtures of natural and synthetic gas.

The LIMITATIONS ON RESPONSE provisions of the NCP [40 CFR 300.400(b)] states that removals shall not be undertaken in response to a release: of a naturally occurring substance in its unaltered or natural form; from products that are a part of the structure of, and result in exposure within, residential buildings or business or community structures; or into public or private drinking water supplies due to deterioration of the system through ordinary use.

NCP is the National Oil and Hazardous Substances Pollution Contingency Plan 40 CFR §300-302.

POLLUTANT or CONTAMINANT includes, but is not limited to, any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions or physical deformations, in such organisms or their offspring. The term does not include petroleum products, natural gas, natural gas liquids, liquefied natural gas, synthetic gas or mixtures of natural and synthetic gas. [40 CFR 300.5]

A **RELEASE** is defined as any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment of barrels, containers, and other closed receptacles containing any hazardous substances or pollutant or contaminant), but excludes: workplace exposures; engine exhaust emissions; nuclear releases otherwise regulated; and the normal application of fertilizer. For purposes of the NCP, release also means threat of release. [40 CFR 300.5]

A **VESSEL** is defined as every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water other than a public vessel. [40 CFR 300.5]

Field Memorandum for Preliminary Removal Evaluation
Eagle-Picher Smelter Site
Galena, Cherokee County, Kansas

The former E-P Smelter site is located at the eastern edge of Galena, Cherokee County Kansas in Sections 13 and 14, Township 34 South and Range 25 East. The site consists of land at and adjacent to the former E-P smelting facility. The E-P site has not yet been assigned a CERCLA Information System (CERCLIS) identification number.

Site History

The former E-P smelter facility began production in the early 1900s. The E-P smelter was a lead and zinc smelter which processed ores from the adjacent zinc mining district. The site became inactive in the 1960s, and was partially dismantled in 1983. While extensive assessment and remedial activities have been conducted in the Galena area associated with the Galena Subsite of the Cherokee County Superfund site, no previous assessment data of the E-P site itself is available.

Summary of Field Investigation Work

The Kansas Department of Health and Environment/Bureau of Investigation (KDHE/BER) conducted an expedited assessment of the site in March, 2006 in order to provide data for the pending bankruptcy settlement of Eagle-Picher. The site was measured out to a 100'X 100X' grid for unbiased soil sampling south of Short Creek. Five (5) random samples were obtained north of Short Creek, and two (2) west of the unnamed tributary that forms the western edge of the site.

Surficial soil samples were obtained with a stainless steel trowel. Samples were placed into plastic bags, marked with time, sampler, and location, double bagged, and placed on ice. A total of 251 surficial soil samples were obtained across the site.

In addition, 19 subsurface sampling locations were chosen across the site area. All sample locations were measured with a global positioning satellite (GPS) instrument to a typical accuracy of +/- 20 feet or less.

Subsurface borings were advanced with KDHE's Mobile B-3300 auger drill rig. Borings were advanced until native material was encountered or refusal. Boreholes were visually logged, and samples were taken at various intervals from the auger cuttings similar to the surficial soil samples. Test holes were abandoned with a mixture of bentonite and cuttings. A total of 33 subsurface samples were obtained.

Three (3) surface water and sediment samples were obtained at the site. One sample was obtained from an upstream location, one at the site, and one several hundred feet downstream of the site. Samples were obtained with disposable polyethylene cubitainers and transferred into prepared laboratory bottles in order to not lose the preserving acid in the laboratory bottles. Sediment samples were obtained in ziplock bags with a clean stainless steel trowel, and immediately transferred to laboratory jars once the sampler was out of the streambed.

Ten (10) background samples were collected south of the site. These extended to approximately four (4) miles away from the site. Background samples were collected directly into laboratory jars after homogenization with stainless steel trowels for laboratory analysis.

A total of 41 quality control analyses were conducted by XRF. A rinsate sample was collected on two (2) separate occasions, one from decontamination of drill augers and one from decontamination of trowels.

Initial Sample Analytical Data Results
Samples were analyzed by KDHE's Innov-X X-ray fluorescence (XRF) analyzer. Each sample bag was analyzed three (3) consecutive runs longitudinally across the sample bag. Laboratory samples were submitted to KDHE's Division of Health and Environment Laboratory for analysis by EPA Methods 6010 (except mercury) and 245.1 for mercury.

Preliminary Results
Elevated levels of several metals were observed at the site, most notably lead, zinc, cadmium, arsenic, copper and mercury. Maximum observed surficial XRF values are as follows: lead, 270,065 mg/Kg; zinc, 630,148 mg/Kg; cadmium, 5,230 mg/Kg; arsenic, 19,279 mg/Kg; copper, 47,211 mg/Kg; chromium, 6,691.3 mg/Kg; and mercury, 5,366 mg/Kg. The maximum subsurface detections for the same constituents were: lead, 360,807 mg/Kg; zinc, 239,487 mg/Kg; cadmium, 962 mg/Kg; arsenic, 26,909 mg/Kg; copper, 20,331 mg/Kg; chromium, 2,884 mg/Kg; and mercury was not detected in subsurface XRF analyses.

Preliminary discussions with DHEL laboratory indicate all metals are also elevated in laboratory analysis. One mercury value exceeded 1,000 mg/kg with a corresponding XRF value of 5,366 mg/kg. Most other mercury laboratory values were well below this, in a 50-200 mg/kg range. Lead and zinc detections appear to be generally correlative; however laboratory data has not been reported and a correlation coefficient cannot yet be calculated.

Surface water samples indicated cadmium and zinc above the upstream concentration; sediment samples indicated arsenic, zinc, lead, mercury, copper above the upstream concentration.

Asbestos containing materials were not observed in the visual site inspection. One aged transformer had no placards and could possibly contain polychlorinated biphenyls (PCBs). Some surficial staining and acid scale on concrete was identified near the sulfuric acid room and tank.

Quality Control Samples
All XRF duplicates and standards were within the recommended percent different range indicated in EPA Method 6200. The two rinsate samples indicated levels far below KDHE residential Risk-Based Standards for Kansas (RSKs) assuming 100% solubility from sampling equipment.

Background Samples
A table containing detected laboratory background concentrations is included as Attachment F.

Two (2) separate background calculations were made: three times (3X) the maximum background detections per Environmental Protection Agency (EPA) Hazard Ranking System (HRS) guidance; and a mean plus two standard deviations (mean + 2σ) approach which is commonly used to determine statistical background ranges at a 95%.

Subsurface Volume Estimations

Visual thickness of smelter waste was used to establish a Surfer™ plot and calculate a volume of smelter waste from the observations. Appendix E contains the inputs and outputs of these estimations.

Phase I Environmental Site Assessment

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March 15, 2006

VIA EMAIL

Elisa S. Feldman
U.S. Department of Justice
Environmental and Natural Resources Division
Environmental Enforcement Section
P.O. Box 7611
Washington, D.C., 20044-7611

Re: EaglePicher Holdings, Inc., et al., No. 05-12601 (Bankr. S.D. Ohio)

Dear Elise:

Thank you for your recent[1] letter containing informal discovery requests by the United States in connection with the above-referenced bankruptcy proceedings of EaglePicher Holdings, Inc., EaglePicher Automotive, Inc., and certain of their affiliates (collectively, the "Debtors"). The Debtors understand that you are requesting the information to evaluate the proposed funding of the custodial trusts defined in EaglePicher's First Amended Joint Plan of Reorganization (the "Custodial Trusts"). Please understand that the Debtors will make every reasonable effort to locate and produce responsive documents in as timely a fashion as possible so that this process can proceed on the expedited basis that we have discussed. The Debtors are producing documents subject to Rule 408 and other law regarding settlement and offers of compromise.

In response to your requests, the Debtors are diligently working to compile a package of relevant information regarding the properties proposed for inclusion in the Custodial Trusts. As you noted, this may take some time to organize and, therefore, I anticipate that we will produce the requested material to you in a rolling fashion. To commence our production, enclosed as Exhibit A to this letter is a chart that contains the Debtors' initial responses to request number 5 of your letter. We anticipate that this chart may be supplemented as additional information concerning the sites becomes available.

Also enclosed are documents Bates-numbered KS0000001 to KS0000168, which represent information and materials related to the Galena, Kansas site. We will provide additional materials under

[1] Although your letter is dated February 9, 2006, we received it March 8, 2006 and understand that the date may have been a typographical error.

separate cover for this and other sites as soon as possible. For example, I received a 1998 survey of the Galena, KS property today that we are having reproduced for production.

You will note that some documents may at some time have been marked with "Confidential" or some other designation by third parties. Notwithstanding any such designation, the Debtors are producing such documents if they are not privileged from production to the United States. The production of documents with such markings is not a waiver of any right or privilege concerning the documents or the informal requests, including the attorney-client privilege, all of which the Debtors expressly reserve.

We intend to send you individual packages based on site location to assist you in your distribution process to the relevant state agencies. Accordingly, we will send you an Illinois specific package and copy only the State of Illinois to avoid the distribution of materials related to the Illinois site to the State of Kansas. We are providing information in the spirit of cooperation to address your requests as promptly and directly as possible. To the extent you have questions regarding the Debtors' production, please do not hesitate to contact me or Karen Winters to discuss them.

Very truly yours,

Patrick J. Brooks

Enclosures
cc: Stephen D. Lerner
Karen A. Winters
Erika Bessey (Kansas)

DESIGNATED PROPERTY

PROPERTY NAME	STREET ADRESS	AC[1]	LEGAL DESCRIPTION[2]	EPA ID NO.[3]	PERMITS	OWNER
Galena, Cherokee County, Kansas	N. Wood Rd., Vicinity of Smelter	5.1	[1] P.I.D. # 201-12-0-00-00-016.00-0: Beginning at the Southwest Corner of the Southeast Quarter of the Southwest Quarter of Section 12, Township 34 South, Range 25 East of the Sixth Principal Meridian, Cherokee County, Kansas, according to the United States Government Survey thereof, thence East 700 feet, North 483 feet, more or less, to the right of way of the KCFS & M R.R. Co., thence Southwest along the right of way to a point 105.5 feet North of the point of beginning, thence South 105.5 feet to the point of beginning.		N/A	EPT
Galena, Cherokee County, Kansas	Rt. 1, Vicinity of Smelter	36	[2] P.I.D. # 201-12-0-00-00-021.00-0: The West half (W/2) of Government Lots Three (3) and Four (4), in the Southeast Quarter (SW/4) of Section Twelve (12), Township Thirty-Four (34) South, Range Twenty-five (25) East of the Sixth Principal Meridian, Cherokee County, Kansas, according to the United States Government Survey thereof, Subject to a Right of way Easement granted to the St. Louis-San Francisco Railway Company, recorded March 1, 1954 in Book R at Page 79 in the Office of the Register of Deeds, Cherokee County, Kansas; AND, A strip of ground One hundred (100) feet wide across the East Half of Government Lot Four (4) in the Southwest quarter of Section Twelve (12), Township Thirty-Four (34) South, Range Twenty-five (25) East of the Sixth Principal Meridian, Cherokee County, Kansas, according to the United States Government Survey thereof, LYING NORTH OF AND ADJACENT TO THE RIGHT OF WAY OF THE MISSOURI KANSAS TEXAS RAILWAY COMPANY.	240	N/A	EPT

[1] Approximate Acreage.
[2] The bracketed numbers for the Galena, KS properties represent Debtors' internal numbering of the property, we will provide you with a map once bates stamped that will assist you in placing the parcels on the map.
[3] With respect to the property located in Galena, KS the numbers indicated are EPA Tract Nos.

PROPERTY NAME	STREET ADRESS	AC[1]	LEGAL DESCRIPTION[2]	EPA ID NO.[3]	PERMITS	OWNER
Galena, Cherokee County, Kansas			[3] P.I.D. # 206-13-0-20-01-001.00-0: Those portions of the Northwest Quarter (NW/4) in Section Thirteen (13), Township Thirty-four (34) South, Range Twenty-five (25) East of the Sixth Principal Meridian, Cherokee County, Kansas, according to the United States Government Survey thereof, described as follows: A. Beginning at the Northwest corner of the Southwest Quarter of the Northwest Quarter of said Section 13, thence East Three hundred thirty (330) feet, thence South Six hundred sixty (660) feet, thence West Three hundred thirty (330) feet, thence North Six hundred sixty (660) feet to the place of beginning; Except Railroad Right of Way; B. Beginning at a point Six hundred sixty (660) feet West of the Southeast Corner of the Northwest Quarter (NW/4) of the Northwest Quarter (NW/4) of said Section 13, thence North Three hundred thirty (330) feet, thence from said point in a southwesterly direction to the Southwest Corner of the Northwest Quarter (NW/4) of the Northwest Quarter (NW/4) of said Section 13, thence East Six hundred sixty (660) feet to the point of beginning, EXCEPT Railroad right of way. C. Ten (10) Acres in a square form in the Southeast corner of the Northwest Quarter (NW/4) of the Northwest Quarter (NW/4) of said Section 13; Except railroad right of way and except public road; D. That portion of the Northeast Quarter (NE/4) of the Northwest Quarter (NW/4) of said Section 13, lying North of the North right of way line of the existing public road known as Clark Avenue and the North right of way line of the MK&T Railway Company, E. That portion of the Northwest Quarter (NW/4) of the Northwest Quarter (NW/4), of said Section 13, containing approximately 27.21 acres, and lying North of and adjacent			
	Clark St., Smelter	53		278	N/A	EPT

PROPERTY NAME	STREET ADRESS	AC	LEGAL DESCRIPTION	EPA ID NO.	PERMITS	OWNER
			to real estate already owned by Eagle Picher at the execution of Deed filed August 8, 1952 in Book 155 of Deeds at Page 552 in the office of the Register of Deeds, Cherokee County, Kansas, EXCEPT RAILROAD RIGHT OF WAY; AND, A portion of the Northeast Quarter (NE/4) of Section Thirteen (13), Township Thirty-four (34) South, Range Twenty-five (25) East of the Sixth Principal Meridian, Cherokee County, Kansas, according to the United States Government Survey thereof, described as follows: That portion of Government Lot One (1), LYING NORTH OF THE RIGHT OF WAY OF THE MK&T RAILWAY COMPANY.			
Galena, Cherokee County, Kansas	Clark St., Smelter	11937 SF	[4] P.I.D. # 206-13-0-20-01-002.00-0: That portion of Lots Eight (8) and Nine (9) in Block One (1), LYING NORTH OF CLARK AVENUE, in Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT
Galena, Cherokee County, Kansas	Clark St., Smelter	37500 SF	[5] P.I.D. # 206-13-0-20-01-003.00-0: Lots 1, 2, 3, 4, 5 and 6, in Block 2, Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT
Galena, Cherokee County, Kansas	Clark St., Smelter	15625 SF	[6] P.I.D. # 206-13-0-20-01-004.00-0: Lots 1, 2, and 3, in Block 3, Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT
Galena, Cherokee County, Kansas	Clark St., Smelter	25050 SF	[7] P.I.D. #206-13-0-20-01-005.00-0: Lots 1, 2, 3, 4, 5 and 6, Block 4, LYING NORTH OF CLARK AVENUE, in Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT
Galena, Cherokee County, Kansas	Clark St., Smelter	6.9	[8] P.I.D. # 206-13-0-20-02-001.00-0: NOTE: THE LEGAL DESCRIPTION OF THIS P.I.D. # IS INCLUDED IN THE LEGAL DESCRIPTION OF P.I.D. # 206-13-0-20-01-001.00-0 (# 3 in this list). This parcel is the portion of the NW ¼ NW ¼ lying North of the St. Louis San Francisco	279	N/A	EPT

EXHIBIT A to March 15, 2006 Letter to E. Feldman PROVIDED IN CONNECTION WITH SETTLEMENT DISCUSSIONS (FRE 408)

PROPERTY NAME	STREET ADRESS	AC[1]	LEGAL DESCRIPTION[2]	EPA ID NO.[3]	PERMITS	OWNER
			R.R. For taxation purposes, Cherokee County has given it a separate P.I.D. # because it is divided from the rest of the NW ¼ NW ¼ by the railroad.			
Galena, Cherokee County, Kansas	Clark St., Smelter	27675 SF	[9] P.I.D. # 206-13-0-20-03-001.00-0: All of Block Five (5), LYING NORTH OF CLARK AVENUE, in Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT
Galena, Cherokee County, Kansas	Bellevue St., Vicinity of Smelter	1.1	[10] P.I.D. # 206-13-0-20-09-002.00-0: Lots 2, 3, 4, 5, 6, 7, 8 & 9, Block 7, in Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT
Galena, Cherokee County, Kansas	Bellevue St., Vicinity of Smelter	1.3	[11] P.I.D. # 206-13-0-20-09-003.00-0: Lots 10, 11, 12, 13, 14, 15, 16, 17 and 18, in Block 7, Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT
Galena, Cherokee County, Kansas	Bellevue St., Vicinity of Smelter	1.3	[12] P.I.D. # 206-13-0-20-10-001.00-0: Lots 1, 2, 3, 4, 5, 6, 7, 8, and 9, in Block 22, Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT
Galena, Cherokee County, Kansas	Bellevue St., Vicinity of Smelter	6250 SF	[13] P.I.D. # 206-13-0-20-10-002.00-0: Lot 10, in Block 22, Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT
Galena, Cherokee County, Kansas	Bellevue St., Vicinity of Smelter	29125 SF	[14] P.I.D. # 206-13-20-10-004.00-0: Lots 15, 16. 17, 18 and 19, in Block 22, Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT
Galena, Cherokee County, Kansas	Bellevue St., Vicinity of Smelter	1.5	[15] P.I.D. # 206-13-20-11-001.00-0: Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, Block 21, Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT
Galena, Cherokee County, Kansas	Bellevue St., Vicinity of Smelter	1.5	[16] P.I.D. # 206-13-0-20-11-002.00-0: Lots 12, 13, 14, 15, 16, 17, 18, 19, 20, 21 and 22, in Block 21, Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT

PROPERTY NAME	STREET ADRESS	AC[1]	LEGAL DESCRIPTION[2]	EPA ID NO.[3]	PERMITS	OWNER
Galena, Cherokee County, Kansas	Bellevue St., Vicinity of Smelter	12500 SF	[17] P.I.D. # 206-13-0-20-12-001.00-0: Lots 1 and 2, block 20, Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT
Galena, Cherokee County, Kansas	Bellevue St., Vicinity of Smelter	1.5	[18] P.I.D. # 206-13-0-20-14-001.00-0: Lots, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11, Block 24, Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT
Galena, Cherokee County, Kansas	Bellevue St., Vicinity of Smelter	1.3	[19] P.I.D. # 206-13-0-20-1-5-001.00-0: Lots 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10, Block 23, Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT
Galena, Cherokee County, Kansas	E. Front St., Vicinity of Smelter	12	[20] P.I.D. # 206-13-0-20-16-001.00-0: That portion of the Northeast Quarter of the Northwest Quarter of Section 13, Township 34 South, Range 25 East of the 6th Principal Meridian, Cherokee County, Kansas, according to the United States Government Survey thereof, LYING SOUTH OF THE SOUTH RIGHT OF WAY LINE OF U.S. HIGHWAY 66.		N/A	EPT
Galena, Cherokee County, Kansas	E. Grand Ave., Vicinity of Smelter	35418 SF	[21] P.I.D. # 206-14-0-10-13-006.00-0: Lots 1, 2, 3, 4, 5 and 6, in Block 11, Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.	110	N/A	EPT
Galena, Cherokee County, Kansas	Water St., Vicinity of Smelter	16674 SF	[22] P.I.D. # 206-14-0-10-13-007.00-0: Lots 10, 11 and 12, in Block 10, Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.	111/112	N/A	EPT
Galena, Cherokee County, Kansas	Water St., Vicinity of Smelter	25000 SF	[23] P.I.D. # 206-14-0-10-13-008.00-0: Lots 6, 7, 8 and 9, in Block 10 of Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.	113	N/A	EPT
Galena, Cherokee County, Kansas	Clark St., Vicinity of Smelter	4.7	[24] P.I.D. # 206-14-0-10-13-010.00-0: Beginning at the Northeast corner of the Southeast Quarter (SE/4) of the Northeast Quarter (NE/4) of Section 14, Township 34 South, Range 25 East of the Sixth Principal Meridian, Cherokee County, Kansas, according to the United States Government Survey thereof, thence West Three hundred thirty (330) feet, thence South Six hundred Sixty (660) feet, thence East Three	281	N/A	EPT

PROPERTY NAME	STREET ADRESS	AC[1]	LEGAL DESCRIPTION[2]	EPA ID NO.[3]	PERMITS	OWNER
			hundred thirty (330) feet, thence North Six hundred Sixty (660) feet, to the place of beginning. Subject to the Right of Way of the Missouri, Kansas and Northwestern Railway Company over the Southeast corner thereof.			
Galena, Cherokee County, Kansas	Water St., Vicinity of Smelter	1.5	[25] P.I.D. # 206-14-0-10-23-002.00-0: Lots 11, 12, 13, 14, 15, 16, 17, 18, 19 and 20 in Block 20, Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof, EXCEPT RAILROAD RIGHT OF WAY		N/A	EPT
Galena, Cherokee County, Kansas	Prospect St., Vicinity of Smelter	1.4	[26] P.I.D. #206-14-0-10-28-001.00-0: All of Block 26, Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT
Galena, Cherokee County, Kansas	Water St., Vicinity of Smelter	1.1	[27] P.I.D. #206-14-0-10-29-001.00-0: Lots 3, 4, 5, 6, 7, 8, 9 and 10, Block 25, Brinkerhoff's Addition to the City of Galena, Cherokee County, Kansas, according to the recorded plat thereof.		N/A	EPT
Baxter Springs, Cherokee County, Kansas	W 19th St.	12	[28] P.I.D. #222-10-0-00-00-002.00-0: The West Twelve (12) acres of the Northwest Quarter (NW/4) of the Northeast Quarter 9NE/4) of Section Ten (10), Township Thirty-five (35) South, Range Twenty-four (24) East of the Sixth Principal Meridian, Cherokee County, Kansas, according to the United States Government Survey thereof.		N/A	EPT
Baxter Springs, Cherokee County, Kansas	S. Ballard Rd.	7	[29] P.I.D. #222-10-0-00-00-009.00-0: That portion of Government Lot Two (2) and the South Half (S/2) of the Northeast Quarter (NE/4) in Section Ten (10), Township Thirty-five (35) South, Range Twenty-four (24) East of the Sixth Principal Meridian, Cherokee County, Kansas, according to the United States Government Survey thereof, described on Deed dated November 5, 1917, file in Book 92 of Deeds at Page 14, as: A strip of ground One hundred (100) feet in width, described as, Beginning at a point on the West line of said Government Lot 2, said point being Three		N/A	EPT

PROPERTY NAME	STREET ADRESS	AC[1]	LEGAL DESCRIPTION[2]	EPA ID NO.[3]	PERMITS	OWNER
			hundred twenty-five (325) feet, more or less, South of the Northwest corner of said Government Lot 2, thence in a Northeasterly direction, over and across said Lot 2 and the South Half of the Northeast Quarter, to a point on the East line of the said South Half of the Northeast Quarter of Section 10, to a point One hundred forty (140) feet, more or less, South of the Northeast corner of the said South Half of the Northeast Quarter, thence South One hundred Sixteen (116) feet, thence in a Southwesterly direction parallel to and One hundred (100) feet distant from the above described line, over and across the said South Half of the Northeast Quarter and Government Lot 2, to a point on the West line of said Government Lot 2, Four hundred forty-one (441) feet, more or less, South of the Northwest Corner of said government Lot 2, thence North One hundred Sixteen (116) feet, to the point of beginning, EXCEPT any portion reserved by the St. Louis-San Francisco Railway Company, grantor on Deed filed September 30, 1968 in book 179 of Deeds at Page 527 in the office of the Register of Deeds, Cherokee County, Kansas. Except Minerals.			
Baxter Springs, Cherokee County, Kansas	SE Treece Rd.	3.6	[30] P.I.D. #225-16-0-00-00-002.00-0: A portion of Government Lots Three (3) and Four (4), in Section Sixteen (16), Township Thirty-five (35) South, Range Twenty-four (24) East of the Sixth Principal Meridian, Cherokee County, Kansas, according to the United States Government Survey thereof, described as follows: A strip of ground One hundred fifty (150) feet in width, being seventy-five (75) feet on each side of the center line of a proposed railroad (as described on Right of Way deed recorded September 28, 1917 in Book 82 of Deeds at Page 593 in the office of the Register of Deeds, Cherokee County, Kansas), said line being described as follows: Beginning at a point on the South line of said Government Lots 3 and 4, Nineteen hundred ninety (1990) feet, more or less, West of the Southeast corner of said Government Lot 4, thence in a northeasterly direction (on a tangent) across said Government Lots 3 and 4, to a point on		N/A	EPT

+28 acTreec

PROPERTY NAME	STREET ADRESS	AC[1]	LEGAL DESCRIPTION[2]	EPA ID NO.[3]	PERMITS[4]	OWNER
			the North line of Government Lot 4, Ten hundred fifteen (1015) feet, more or less, West of the Northeast corner of said Government Lot 4.			
Columbus, Cherokee County, Kansas	SW Treece Rd	2200 SF	[31] P.I.D. #231-11-0-00-00-006.00-0: Being the RIGHT-OF-WAY of varying width on each side of center line of track known as Naylor Spur as now located and constructed in Government Lot 5, in Section 11 Township 35 South, Range 23 East of the 6th Principal Meridian, Cherokee County, Kansas, according to the United States Government Survey thereof, being the right-of-way acquired by Miami Mineral Belt Railroad Company by deeds recorded in Book 92 at Page 12; Book 92 at Page 16; Book 92 at Page 151; Book 92 at Page 152; Book 92 at Page 153; Book 92 at Page 154; Book 92 at Page 155, Book 92 at Page 10; and in Book 119 at Page 571. A.P.N.		N/A	EPT
Hockerville, Ottawa County, Oklahoma	N/A	2.3	Tract No. 0000-14-029-023-0-017-00 Beg SE Corner SE¼ NW¼, thence W 100', thence N 1000', thence E 100', thence S 1000' to POB, Section 14, Township 29 N, Range 23 E		N/A	EPT
Hockerville, Ottawa County, Oklahoma	N/A	1.52	Tract No. 0000-14-029-023-0-006-00 Tract POB SW Corner NE¼, thence N 660', thence E 100', thence S 660', thence W 100' to POB, Section 14, Township 29 North, Range 23 East		N/A	EPT
Picher, Ottawa County, Oklahoma	N/A	15.11	Tract No. 6710-17-029-023-0-001-01 NW¼ SE¼ Less S 821.5' of NW¼ SE¼, Section 17, Township 29 N, Range 23E		N/A	EPI
River Rouge, Michigan	Adjacent to 1900 West Pleasant Ave.	5			N/A	EPI
Galena, Illinois		9	Commencing at the S.E. corner of Section 25; thence West 20 chains, thence North 11 chains, thence East 10 chains to		N/A	EPI

PROPERTY NAME	STREET ADRESS	AC[1]	LEGAL DESCRIPTION[2]	EPA ID NO.[3]	PERMITS	OWNER
			the Point of Beginning; Thence North 9 chains, thence East 10 chains, thence South 9 chains, thence West 10 chains to the place of beginning containing 9 acres, all in *Township 29, North of Range 1, West of the 4th P.M.* in the County of Jo Daviess and State of Illinois. Subject to easements and restrictions of record and taxes for the year 1983 and subsequent years.			
Urbana, Ohio	Adjacent to 720 S. Edgewood Ave.	2.86	Assessor's Parcel No. K48-25-11-01-33-020-00: DISTRICT: K48; CITY: URBANA CORP-URBANA; SEC/TWN/RNG/MERIDIAN: SEC 1 TWN 25N RNG 11W; ASSESSOR'S MAP REFERENCE: MAP K00110		N/A	EPI
Sidney, Ohio	Lot 5199, Brooklyn Ave.	12	TO BE SUPPLEMENTED		N/A	EPI
Sidney, Ohio	Lot 5199, Brooklyn Ave.	0.3	TO BE SUPPLEMENTED		N/A	EPI

TRANSITIONAL PROPERTY

PROPERTY NAME	STREET ADRESS	AC[4]	LEGAL DESCRIPTION	EPA SITE NO.	PERMITS	OWNER
Hillsdale, Michigan (Rubber Plant)	215 Industrial Drive	6.8	A parcel of land, lying in the East ½ of the Northeast ¼ of Section 21, Town 6 South, Range 3 West, City of Hillsdale, Hillsdale County, Michigan. Described as commencing at the East ¼ corner of said Section 21; Thence N 00°03'30" W, along the East line of said Section 21, a distance of 496.49 feet, to the point of beginning. Thence N 89°39'45" W, a distance of 600.55 feet; thence N 00°03'30" W, parallel with the east line of said Section 21, a distance of 496.48 feet; thence S 89°39'45" E, a distance of 600.55 feet, to the east line of said Section 21; thence S 00°03'30" E, along the east line of said Section 21, a distance of 496.48 feet to the point of beginning; subject to restrictions, conditions and easements of record; containing 6.8 acres. Also, a right-of-way for the purpose of ingress and egress to the above described property, described as: beginning at the Northeast corner, of the above described parcel; thence N 89°39'45" W, along the north line of the above described property, a distance of 600.55 feet; thence N 00°03'30" W, a distance of 66.00 feet; thence S 89°39'45" E, a distance of 600.55 feet; thence 00°03'30" E, a distance of 66.00 feet, to the point of beginning. It is a condition of the within conveyance that said premises may be used only for industrial or commercial purposes and that all construction thereon facing Highway M-99, Mechanic Street, Arch Avenue, Uran Avenue and any future streets and avenues, shall be of masonry or steel construction and that no tavern, motel, public hall, drive-in theatre or restaurant, slaughterhouse, tannery or rendering plat, or other building for the carrying on of any noxious, dangerous or offensive trade or business shall be erected thereon, and that said premises shall not be used for any of the above-	MID00809798	General Stormwater Permit No. MIS210179	Hillsdale Debtors

[4] Approximate Acreage.

PROPERTY NAME	STREET ADRESS	AC[4]	LEGAL DESCRIPTION	EPA SITE NO.	PERMITS	OWNER
			mentioned purposes nor for any hospital, cemetery, asylum, or as a junkyard. L-454-90 Ward 2.			
Hillsdale, Michigan (Industrial Drive)	221 Industrial Drive	6.8	A parcel of land, lying in the East ½ of the Northeast ¼ of Section 21, Town 6 South, Range 3 West, City of Hillsdale, Hillsdale County, Michigan. Described as commencing at the East ¼ corner of said Section 21; Thence N 00°03'30" W, along the East line of said Section 21, a distance of 496.49 feet, to the point of beginning. Thence N 89°39'45" W, a distance of 600.55 feet; thence N 00°03'30" W, parallel with the east line of said Section 21, a distance of 496.48 feet; thence S 89°39'45" E, a distance of 600.55 feet, to the east line of said Section 21; thence S 00°03'30" E, along the east line of said Section 21, a distance of 496.48 feet to the point of beginning; subject to restrictions, conditions and easements of record; containing 6.8 acres. Also, a right-of-way for the purpose of ingress and egress to the above described property, described as: beginning at the Northeast corner, of the above described parcel; thence N 89°39'45" W, along the north line of the above described property, a distance of 600.55 feet; thence N 00°03'30" W, a distance of 66.00 feet; thence S 89°39'45" E, a distance of 600.55 feet; thence S 00°03'30" E, a distance of 66.00 feet, to the point of beginning. It is a condition of the within conveyance that said premises may be used only for industrial or commercial purposes and that all construction thereon facing Highway M-99, Mechanic Street, Arch Avenue, Uran Avenue and any future streets and avenues, shall be of masonry or steel construction and that no tavern, motel, public hall, drive-in theatre or restaurant, slaughterhouse, tannery or rendering plant, or other building for the carrying on of any noxious, dangerous or offensive trade or business shall be erected thereon, and that said premises shall not be used for any of the above-mentioned purposes nor for any hospital, cemetery, asylum, or any junkyard. L-454-90 Ward 2.	MID000809871 (old) MID000809798 (current/ combined with Rubber)	General Stormwater Permit No. MISS210179	Hillsdale Debtors

PROPERTY NAME	STREET ADRESS	AC[4]	LEGAL DESCRIPTION	EPA SITE NO.	PERMITS	OWNER
Hillsdale, Michigan (South Street)	135 E. South Street	4.4	A part of the southwest one-quarter, Section 26, Town 6 South, Range 3 West, City of Hillsdale, (unplatted) describe as follows: Commencing at a point where the east line of Broad Street intersects the centerline of South Street and running thence north 69°38"east, 481.2 feet; thence north 80°0' east, 178.0 feet; thence north 10° west, 24.75 feet to the point of beginning, which point is in the north line of South Street; thence north 10° west, 343.5 feet; thence north 69°06' east to the St. Joseph River; thence southeasterly along the St. Joseph River to a point 150 feet from and perpendicular to the northerly line of South Street; thence south 80° west, 50 feet more or less; thence south 10° east, 150 feet to the northerly line of South Street; thence south 80° west along South Street, 15.00 feet to the point of beginning. Subject to the conditions, however, that no building of any nature or description be built or maintained on the southerly 150 feet of the above described lands; and further the grantor has the right to the use of the southerly 150 feet of the above described lands for the purpose of maintaining and repairing the pumping station and pipes now on lands lying easterly thereof. Further, that if the grantor uses said southerly 150 feet to maintain or repair the pumping station and pipes on its lands easterly thereof, then such damage as is occasioned to said southerly 150 feet will be repaired at the sole cost of the grantor.	MID093826733	General Stormwater Permit No. MIS210179	Hillsdale Debtors

PROPERTY NAME	STREET ADRESS	AC[5]	LEGAL DESCRIPTION	EPA SITE NO.	PERMITS	OWNER
Inkster, Michigan	2424 John Daly & 2638 Princess Street		Parcel I: That part of the N.W. ¼ of Section 30 described as beginning at the S.W. corner of Hannan's Michigan Heights Subdivision as recorded in Liber 53 of Plats, Page 4, Wayne County Records, not partially vacated, and proceeding thence North 79°47'30" East along the Southerly line of said plat and along the Southerly line of Westwood Subdivision as recorded in Liber 41 of Plats, Page 19, Wayne County Records, also now partially vacated, 1189.27 feet to the West line of John Daly Road; thence North 0°46' East along said West line, 127.76 feet to the Southeast corner of Lot 91 of said Westwood Subdivision; thence South 82°06' West, 133.72 feet to the centerline of vacated alley; thence North 0°46' East along said centerline 71.79 feet; thence South 82°06' West 516.37 feet to the West line of said Westwood Sub.; thence North 0°44', East along said West line 158.09 feet to the South line of Trowbridge Avenue; thence South 82°20' West along said South line, 535.33 feet to the West line of said Hannan's Michigan Heights Subdivision; thence along said West line, South 0°04'20" West 162.62 feet and South 0°09'30" West 239.79 feet to the point of beginning; subject to easements of records. Parcel II: Lots 77, 91, 92 and 93, and one-half (½) of vacated alley in the rear of and adjacent to said lots, of "Westwood Subdivision" of J.W. Daly Farm being part of Lots 5, 6 and 7 Smalley's Subdivision of the Northeast ¼ and East ½ of Northwest ¼ of Section 30, Town 2 South, Range 10 East, Dearborn Township, lying South of Michigan Avenue, Wayne County, Michigan, according to the plat thereof as recorded in Liber 41, Page 19 of Plats, Wayne County Records. Parcel III: Lots 51 and 61, both inclusive, of Hannan's Michigan Heights Subdivision of a part of Lot 5 of A. A.	N/A		EPI

[5] Approximate Acreage.

PROPERTY NAME	STREET ADRESS	AC[5]	LEGAL DESCRIPTION	EPA SITE NO.	PERMITS	OWNER
			Smalley's Subdivision of the Northeast ¼ and East ½ of the Northwest ¼ of Section 30, Town 2 South, Rage 10 East, Dearborn Township, Wayne County, Michigan, according to the plat thereof as recorded in Liber 53, Page 4 of Plats, Wayne County Records. Tax #44-021-99-0010-003 Land situated in the City of Inkster, County of Wayne, State of Michigan, more particularly described as: Part of the Northwest ¼ of Section 30, T. 2S., R. 10 E, City of Inkster, Wayne County, Michigan described as beginning at a point distant N 82°20' E 151.16 feet along the South line of Trowbridge avenue, 60 feet wide; and S 07°13'08" E 141.07 feet and N 82°46'50" E 50.75 feet from the Northeast corner of Lot 17 of MICHIGAN DEARBORN SUB, as recorded in Liber 59 of plats, Page 94, Wayne County Records; thence continuing N 82°46'50" E 52.83 feet; thence S 07°43' E 123.48 feet; thence S 81°50'30" W 51.88 feet; thence N 08°09'30" W 15.76 feet; thence S 81°50'30" W12.20 feet; thence N 08°09'30" W. 12.00 feet; thence N 81°50'30" E 12.20 feet; thence N 08°09'30" W 96.91 feet to the point of beginning. Containing 0.13 acres more or less. #44-020-02-0075-00 Lot 75 and ½ adjacent vacated alley at the rear thereof, Westwood Subdivision of J.W. Daly Farms, as recorded in Liber 41, Page 19 of Plats, Wayne County Records. Commonly known as 26733 Trowbridge. #44-020-02-0076-000 Lot 76 and ½ of the vacated alley at the rear thereof, Westwood Subdivision, as recorded in Liber 41, Page 19 of Plats, Wayne County Records.			

EXHIBIT A to March 15, 2006 Letter to E. Feldman PROVIDED IN CONNECTION WITH SETTLEMENT DISCUSSIONS (FRE 408)

PROPERTY NAME	STREET ADRESS	AC[5]	LEGAL DESCRIPTION	EPA SITE NO.	PERMITS	OWNER
Miami, Oklahoma	200 BJ Tunnel Blvd.	5.03	Lots 1-8, inclusive, Block 3, WEA Addition Plat #4 to the City of Miami, Oklahoma."	OKD007150709	Stormwater Permit No. OKG00329	EPT

ENVIRON

Final Report
Phase I Environmental Site Assessment
Former Smelter Property
Galena, Kansas

Prepared for:

EaglePicher Incorporated

Prepared by

ENVIRON International Corporation
St. Peters, Missouri

January 2006
19-15311A

KS0000001

Contract No:	*19-15311A*
Issue:	*Final Report*
Author (signature):	*Michael F. Ellis, P.E.*
Project Manager (signature):	*Michael F. Ellis, P.E.*
Principal (signature):	*Gary F. Vajda, P.E.*
Date:	*January 6, 2006*

This report has been prepared by ENVIRON with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client. This report is confidential to the client, and ENVIRON accepts no responsibility whatsoever to third parties to whom this report, or any part thereof, is made known, unless formally agreed by ENVIRON beforehand. Any such party relies upon the report at their own risk.

ENVIRON disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of the work.

CONTENTS

Page

1.0 INTRODUCTION 5

2.0 SUMMARY OF CONCLUSIONS 10

3.0 DESCRIPTION OF THE SITE AND FACILITY OPERATIONS 14

3.0 DESCRIPTION OF THE SITE AND FACILITY OPERATIONS 14

3.1 SITE OWNERSHIP 14
3.2 SITE SETTING 14
3.3 SITE HISTORY 16
3.4 DESCRIPTION OF OPERATIONS 19
3.5 DATA BASE REVIEW 20
3.6 CHEMICAL AND CHEMICAL WASTE STORAGE 21
3.6.1 Underground Storage Tanks (USTs) *21*
3.6.2 Aboveground Storage Tanks (ASTs) *21*
3.6.3 Drum and Other Storage Areas *21*
3.6.4 Spill Prevention Control and Countermeasures (SPCC) Plan *21*
3.7 HAZARDOUS AND NONHAZARDOUS WASTE 21
3.7.1 Hazardous Waste Management *21*
3.7.2 Non-hazardous Waste Management *22*
3.8 AIR EMISSIONS 22
3.9 WATER USE AND WASTEWATER DISCHARGES 23
3.9.1 Water Supply *23*
3.9.2 Wastewater Discharges *23*
3.9.3 Stormwater Discharges *23*

3.10 POTENTIAL ON-SITE SOIL AND GROUNDWATER IMPACT 23

3.10.1 SITE-SPECIFIC IMPACTS 23
3.10.2 REGIONAL SOIL AND GROUNDWATER IMPACTS 25
3.10.3 NPL-RELATED ACTIVITIES 26
3.11 ASBESTOS-CONTAINING MATERIALS (ACM) 28
3.12 POLYCHLORINATED BIPHENYLS 28

FIGURES:

Figure 1: *Site Location Map*
Figure 2: *Site Layout Map*

APPENDICES:

Appendix A: Description of Environmental Data Bases
Appendix B: EDR Data Base Search Reports
Appendix B-1: EDR Data Base Search Report
Appendix B-2: Sanborn Maps
Appendix B-3: Topographic Maps
Appendix C: Galena City Clerk's Office List of EPI Properties
Appendix D: Historical Maps and Photographs
Appendix D-1: 1958 Site Layout
Appendix D-2: Undated Photograph (circa. 1930 -1945)
Appendix D-3: Undated Photograph (circa. post 1945)

1.0 INTRODUCTION

ENVIRON International Corporation (ENVIRON) was retained by EaglePicher Incorporated (EPI) to perform a Phase I Environmental Site Assessment (ESA) of the EaglePicher Technologies, LLC. (EPT) facility located on Old Highway 66 (Clark Street) in Galena, Cherokee County, Kansas (herein referred to as the "property," the "facility," or the "site"). The purpose of ENVIRON's review was to identify any environmental issues that could result in potentially significant environmental liabilities or compliance costs, and to assess potential CERCLA liabilities associated with the site.

In the context of this report, the term "significant" is used to describe areas of concern that could potentially result in liabilities or compliance costs in excess of $100,000. ENVIRON's conclusions about the relative significance of the areas of concern are based primarily upon our professional judgment and are meant to provide guidance in the face of inherent uncertainty about these issues.

ENVIRON's ESA was conducted in accordance with the scope of work presented in ENVIRON's proposal to EPI dated November 23, 2005. ENVIRON's scope of work was intended to identify the presence of any hazardous substances or petroleum products under conditions that indicate an existing release, a past release, or a material threat of release into structures on the Site or into soil, groundwater or surface waters at or surrounding the Site. This ESA scope is in general accordance with the requirements specified under ASTM Standard E1527-00, *Standard Practice for Environmental Site Assessments: Phase I Environmental Assessment Process.*

This report may be relied upon by EPI, its shareholders, attorneys and lenders, subject to the terms and conditions of the November 23, 2005 proposal and scope of work, provided that in no event shall ENVIRON's aggregate liability to all the above parties exceed the limitation of liability agreed to by our client.

ENVIRON's scope of work was based on the following:

- Site visit by Michael Ellis of ENVIRON on December 1, 2005;
- Interview with Mr. Jim Breiner, EPT Environmental Engineer;
- Interview with Ms. Cheryl Hayes, Galena City Clerk;.
- A review of documents made available to ENVIRON by EPI personnel consisting:
  - *Phase I Environmental Site Assessment* prepared for the subject property by ENVIRON dated February 1998 (1998 ENVIRON Report);
  - 1958 Site Layout Map
  - 1986 aerial photograph from the Galena City Clerk's office;

- EPI Property Questionnaire describing the property improvements (dated approximately 1996);

➢ A review of the following documents obtained from the public repository at the City of Galena Public Library:

- *Draft Remedial Investigation, Existing Data Evaluation, Galena Subsite, Cherokee County, Kansas Site*, dated May 28, 1995 and prepared by CH2MHill and Ecology & Environment;
- *Final Draft Groundwater and Surface Water Operable Unit Feasibility Study, Galena Subsite, Cherokee County, Kansas Site*, dated February 26, 1988 and prepared by CH2MHill, Black & Veatch, ICF, PRC and Ecology & Environment;
- *Cherokee County, Galena Subsite, Operable Unit #7, Remedial Administrative Record, Volume 1, May 1996* prepared by Ecology & Environment;
- *Cherokee County, Galena Subsite, Operable Unit #5, Volume VI of VIII, Remedial Administrative Record, Volume 1, September 1985* prepared by Ecology & Environment containing *Pre-mining Surface and Shallow Groundwater Quality in the vicinity of Short Creek, Galena, Kansas* (undated) prepared for PRPs and submitted to Environmental Management Services Company and USEPA by AMAX (Mr. Peter Keppler) on March 22, 1980;
- *Quality of the Water Supply of Kansas*, Horatio Newton Parker USGS, Water Supply Paper 273, 1911; and
- *Contamination of Soil and Vegetation with Cadmium, Copper, Lead and Zinc in the Proximity of a Smelter* prepared by J.V. Lagerwerff, D.L. Brower, G.T. Biersdorf, USDA Agricultural Research Service, August 1972 (1972 USDA Report);

➢ A review of the following documents obtained from the Missouri Southern College Library:

- 1954 Eagle Picher Tri-State Mining District Map (identifies smelter and acid plant);
- March 1935 mine map depicts no mines on the smelter property;
- April 1942 Eagle Picher Mining and Smelting Company Map identifying two investigatory drill holes adjacent to the north boundary of the property;
- Galena and Empire City 1900 Property Map (smelter property is not identified); and

- Una S. Mine, Dr. Carl Mining Company Map, July 1916 (smelter property is not identified);

➢ A review of the following documents observed or obtained from the Galena Mining & Historical Museum:

- 1913 photograph of the smelter;
- 1929 photograph of the smelter under construction and expansion;
- 1936 photograph of the smelter;
- undated interior photographs of smelter operations;
- *World's Greatest Zinc & Lead District* (document containing photographs with captions of mining activities in the district undated but museum personnel believe the document was prepared in late 1930s); and,
- *History of Cherokee County 1866 to 1923*, undated document;

➢ A review of the following documents obtained from websites:

- *Natural Resource Damage Assessment and Restoration (NRDAR) 101*, presented by Frances Klahr, MDNR NRDAR Coordinator at the Tri-State Mining District Forum, April 12 through 14, 2005, Missouri Southern State University, Joplin, Missouri;
- Assessment of Trace Elements in Sediment in the Spring River/Empire Lake and Tar Creek Systems, Cherokee County, Kansas presented by L.M. Pope, K.E. Juracek and A.C. Ziegler, at the Tri-State Mining District Forum, April 12 through 14, 2005, Missouri Southern State University, Joplin, Missouri;
- *GeoKansas-A Place to Learn About Kansas Geology, Lead and Zinc Mining* (www.kgs.ku.edu/Extension/ozark/mining.html);
- *The City of Galena, Kansas, Oldest Mining Town in Southeast Kansas, 1877, The History of Galena and Empire City* by Nathaniel Thompson Allison, 1904 (www.galenkansas.us/1904report.shtml);

- *Spring River Watershed Inventory and Assessment prepared by Lisa K. Kiner, Chris Vitello, and Kara Hash, Missouri Department of Conservation (updated August 23, 2002) (www.conservation.state.mo.us/fish/watershed/spring/contents/370cotxt.htm);*

- *Five-Year Review Report, Third Five-Year Review Report for the Cherokee County Superfund Site, Cherokee County, Kansas* prepared by USEPA Region 7, September 2005 (USEPA Region 7 website) (Third Five-Year Report);

- *Polk's Kansas State Gazetteer and Business Directory Volume XII, 1912 Galena* (skyways.lib.ks.us/Kansas/genweb/Cherokee/library2/polk/galena.html);

- *Study of Stability Problems and Hazard Evaluation of the Kansas Portion of the Tri-State Mining Area* by J.R. McCauley, L.L. Brady, and F.W. Wilson, prepared in the 1983 Kansas Geological Survey Open-File Report 83-2 *(www.kgs.ku.edu/Publications/OFR/1983/83-2/index.html);*

- *History of the State of Kansas by William G. Cutler dated 1883, Cherokee County, Part 3, (www.kancoll.org/books/cutler/cherokee-co-pl.html);*

➢ A review of federal and state environmental regulatory agency databases for the Facility and the surrounding area by Environmental Data Resources, Inc. (EDR) who provided ENVIRON with the results of their database searches in a report entitled "EDR Radius Map Report with Geocheck™" on November 29, 2005. This report is provided as Appendix B-1.

The Federal and state data bases searched by EDR for entries located in the vicinity of the subject Site are described in Appendix A. The radius searched for a particular database is in accordance with the guidance provided within ASTM Standard E1527-00, *Standard Practice for Environmental Site Assessments: Phase I Environmental Assessment Process*. Because the environmental data bases themselves are sometimes not updated by the specific regulatory agencies for periods of up to one year (depending on the data base and the state), the data base search reported herein will not necessarily identify a facility or Site for which an environmental investigation/listing has been initiated subsequent to the last update. In addition, the EDR data base searches typically contain a number of "unmapped Sites." Although ENVIRON reviewed the list of unmapped Sites for any properties observed during the Site visit which are adjacent to the subject Site, it was beyond the scope of this assessment to locate each of the unmapped Sites;

➢ A review of the United States Geologic Survey (USGS) 7.5 Minute topographic maps for the Baxter Springs, Kansas and Joplin West, Missouri quadrangles, dated 1978. A historical topographic map for the Baxter Springs, Kansas and Joplin West, Missouri quadrangles dated 1959 was reviewed. A historical USGS 30 Minute topographic map for West Joplin, Missouri dated 1894 was also reviewed;

- ENVIRON requested a review of historical City Directory information for the Site and vicinity from EDR, but EDR reported this information was not available. ENVIRON reviewed a 1902 Polk City Directory from *The City of Galena, Kansas, Oldest Mining Town in Southeast Kansas, 1877, The History of Galena and Empire City* by Nathaniel Thompson Allison, 1904 document;

- A request to EDR for historical aerial photographs for the Site and vicinity. EDR indicated that no coverage was available. ENVIRON reviewed an aerial photograph of the Site dated January 25, 1997 provided by the TerraServer website. ENVIRON also reviewed a framed aerial photograph at the Facility dated approximately 1990 according to Facility personnel; and,

- A review of historical Sanborn fire insurance maps covering the property and vicinity dated 1905, 1911, 1918, 1930, and 1945 (ENVIRON 1998 referenced a 1897 map). These maps are attached as Appendix B-2.

No environmental samples were collected as part of ENVIRON's scope of work, nor did ENVIRON review a chain-of-title for the facilities. ENVIRON did not independently verify all of the written or oral information provided to ENVIRON during the course of this review. While ENVIRON has no reason to doubt the accuracy of the information provided, this report is complete and accurate only to the extent that the information provided to ENVIRON is complete and accurate.

2.0 SUMMARY OF CONCLUSIONS

Subject to the qualifications and limitations stated in Chapter 1.0, ENVIRON was retained by EPI to conduct a Phase I ESA of the former EPI facility in Galena, Kansas. The purpose of ENVIRON's review was to identify any environmental issues that could result in potentially significant liabilities or compliance costs, and to assess potential CERCLA liabilities associated with the site.

In the context of this report, the term "potentially significant" is used to describe potential areas of concern that could reasonably result in liabilities or compliance costs (not including fines or penalties) in excess of $100,000. The term "noteworthy" is used to describe areas of concern that could, but are not likely to, result in liabilities in excess of $100,000. ENVIRON's conclusions about the relative significance of the identified areas of concern are based primarily on our professional judgment and are meant to provide guidance in areas of uncertainty.

2.1 POTENTIALLY SIGNIFICANT ISSUES

Based on ENVIRON's review, the potentially significant issues identified for the EPI Facility in Galena, Kansas comprise on-site soil, shallow groundwater[1], and surface water impacts for which additional investigation and/or remedial work may be performed either voluntarily or in response to agency orders.

The facility was a former lead and zinc smelter/ chemicals manufacturing operation. Smelter operations were performed from 1878 to 1971. The acid plant produced sulfuric acid from 1954 to the early 1980s. In the early 1980s, all of the buildings and structures housing former smelting operations were demolished and a portion of the chemical production operations buildings were demolished. Demolition debris and former ore and slag piles were used to regrade the site according to the ENVIRON 1998 report.

Due to historic mining related problems in the region, Cherokee County was listed on the National Priorities List in September 1983. The Cherokee County Superfund Site represents the Kansas portion of the Tri-State Mining District (Missouri and Oklahoma are the others states in the district). The Cherokee Superfund site was further divided into seven subsites consisting of: Galena, Baxter Springs, Treece, Badger, Lawton, Waco and Crestline. The Operable Units (OUs) within the Cherokee County Superfund Site are listed below:

- OU-1 – Galena Alternative Water Supply, contained within the Galena subsite;
- OU-2 – Spring River Basin, not associated with a subsite, but includes watersheds from all subsites excluding the Treece subsite;

[1] Potentially significant issues regarding shallow groundwater impact are limited to shallow groundwater that may flow ("daylights") into Short Creek.

- OU-3 – Baxter Springs subsite;
- OU-4 – Treece subsite;
- OU-5 – Galena Groundwater/Surface Water, contained within the Galena subsite;
- OU-6 – Badger, Lawton, Waco, and Crestline subsites; and
- OU-7 – Galena Residential Soils, contained within the Galena subsite.

The subject former smelter property is not at present specifically listed as part of the Cherokee Superfund site; the site is physically located in proximity to OU-1, OU-2, OU-5 and OU-7, and actions regarding OU-2 and OU-5 in particular may impact environmental liabilities associated with the subject site, even though liabilities outside the property have been resolved (see below). The results of the recently completed surface water characterization effort for OU-2 should be available late 2005 or early 2006. The Third Five-Year Report (September 2005) recommends amending the existing Record of Decision (ROD) for OU-5 to include additional cleanup of the subject smelter property. The status of the proposed amendment to the OU-5 ROD is not known, but if implemented, it could trigger CERCLA liabilities for the subject site.

Off-site soil and groundwater impacts (i.e. regional soil and groundwater impact and National Priorities List (NPL) related activities regarding the site) are not considered to be potentially significant since Eagle-Picher Industries, Inc. (EPII) entered into a Settlement Agreement with USEPA in March 1995 which was confirmed in EPII's reorganization from bankruptcy in November 1996. As part of that Settlement Agreement, EPII (and presumably its successor, EPI) resolved its liability for all areas beyond the property line of the site which are within the boundaries of the Cherokee County Superfund site. However, performance of off-site remedial activities within the Cherokee County Superfund site by USEPA and/or KDHE will also likely impact on-site remedial efforts (*i.e.*, upstream sediment in Short Creek).

ENVIRON's efforts as part of performing this ESA indicates that surface soil impact is likely due to the historical storage of ores for smelter operations and due to emissions from smelting operations. Stormwater runoff from the site may be impacted with metals due to on-site fill materials and may transport impacted sediments to Short Creek.

KDHE filed a Proof of Claim (POC) with the Bankruptcy Court on September 29, 2005 regarding potential natural resource damages and assessments pursuant to CERCLA attributed to operation of the former smelter. The KDHE POC totals $5,298,000 for debt incurred since November 18, 1996[2]. The POC indicates that contamination has continued to be released from smelter waste at the site since November 18, 1996. The POC also indicates the continuing release allows lead, zinc and cadmium to enter Short Creek, leach into groundwater and impact vegetative growth which provides habitat for resources of the State. KDHE estimates the damages to groundwater at $252,500,

[2] November 29, 1996 is the date that EPII, predecessor to EPI, emerged from bankruptcy.

damages to surface water at $2,500,000, damages to terrestrial resources at $2,108,000 and future O&M costs at $437,500. No details are provided with the POC regarding the KDHE estimated damages.

ENVIRON does not know whether the KDHE will be successful in supporting all or any of their claim in bankruptcy proceedings, but does note the following with respect to the claimed costs:

- Previous Records of Decision (RODs) for the Galena subsite have dismissed groundwater remediation since this aquifer is essentially impossible to remediate due to natural ores and mining wastes. Although limited damages are estimated by KDHE regarding groundwater, any costs appear excessive and should be eliminated.

- The assessed damages to surface water and terrestrial resources are unsubstantiated and seem excessive since:

  - Galena (the metal-containing mineral) was historically discovered in Short Creek confirming its presence as a naturally-occurring impact to surface water;

  - Published reports documenting the limited historical (pre-smelter) use of surface soil for agricultural purposes limiting the terrestrial resource value;

  - Numerous significant up-gradient sources of impact to Short Creek exist including the abandoned mines and large tailings pile adjacent to Short Creek in Missouri;

  - Estimated damages that have occurred between 1996 and 2005 should only reflect the relatively minor incremental increase in surface water impact and damage to terrestrial resources associated with the site that has occurred; and,

  - The estimated damages appear to presume a more pristine surface soil and surface water condition than existed in the area prior to mining and smelting operations were ever performed in the area.

No soil or groundwater investigations have been performed at the site to date. An investigation to be performed by KDHE is reportedly pending according to the Third Five-Year Report.

2.2 NOTEWORTHY ISSUES

Although not expected to be significant, some noteworthy issues were identified:

- ***Asbestos***

  An EPI internal property assessment was performed in approximately 1996. This assessment indicated that 60% of the Manganese Sulfate Drying Production Area building was covered with asbestos-containing transite siding. The building

perimeter totals 650 feet and the estimated wall height is 30 feet; therefore, approximately 12,500 square feet of transite siding may have been present. Transite siding was not observed during the 1998 or 2005 ENVIRON site visits.

- ***Potential Petroleum Impact***

Potential impact from the storage of oil in above ground storage tanks identified on historic Sanborn maps may be present in limited areas where the tanks were formerly located. No staining or indication of petroleum impact was observed on the ground surface during the site visit. - and are present in [illegible] slag?

- ***PCBs***

acc. to who?

PCBs are present in the transformer in the electrical building on the northeast portion of the site. Other transformers at the site reportedly contain no PCBs. The EDR Report indicates that a TSCA inspection occurred in 2000 and violations were noted. The electrical building contains PCB labels on the doors and PCB labels were present on the transformer. The cost for removal of PCB-containing transformer oil or removal of the transformer is not expected to be significant.

nature of violations

3.0 DESCRIPTION OF THE SITE AND FACILITY OPERATIONS

3.1 SITE OWNERSHIP

According to the Galena City Clerk and documents provided by EPI, the site is owned by Eagle-Picher Industries, Inc (EPII)[3]. The property currently consists of 68 acres consisting of 60 acres north and 8 acres south of Old US Highway 66. The list of properties owned is provided as Appendix C and was confirmed accurate with the Galena City Clerk (the list is dated 1996). The approximate site boundaries are depicted on Figure 1.

Historically, the site has included up to approximately 130 acres as depicted on the 1958 site plan provided as Appendix D-1.

3.2 SITE SETTING

The subject property is located on Old US Highway 66 (East Clark Street) in Galena, Cherokee County, Kansas. Most of the Site is situated between Old US Highway 66 and Spring Creek; although, portions of the site extend north of Short Creek and south of Old US Highway 66. Short Creek transects the north portion of the property and approximately 1,800 feet of Short Creek is present on the site. The property is located northeast of Galena in a currently undeveloped area (see Figure 1).

Neighboring properties have been reclaimed due to historic mining activities performed on these properties and within the surrounding region. The site is bounded to the:

- North: by Short Creek and undeveloped property, and overhead electric transmission line, beyond which are residential properties approximately 2000 feet north of the site; yards?
- South: by Clark Street followed by a railroad line, and Old Highway 66 (some owned undeveloped property is located south of Old Highway 66), beyond which are undeveloped reclaimed mining areas and Galena Demolition Landfill;
- East: by undeveloped property and American Disposal (waste hauling truck service facility) beyond which is the Missouri-Kansas state line; and
- West: by undeveloped presumed reclaimed mining areas (tailings piles were formerly located west of the site which are not currently present west of the site) (see historic topographic maps).

The property is currently developed with six buildings described from east to west as: still this many buildings?

[3] The Kansas Department of Health & Environment (KDHE) Proof of Claim (POC) submitted to the US Bankruptcy Court in September 2005 indicates that the property was transferred from Eagle Picher Industries, Inc. to Eagle Picher Technologies, LLC by quit claim deed on March 19, 1998.

- Electrical building: approximately 1,000 square feet; containing a transformer and other electrical switch gear (PCB containing electrical equipment is present in the building);
- Manganese Sulfate Drying and Production Area building: approximately 29,000 square feet; containing three reactors and used equipment;
- Manganese Dioxide Production Area building: approximately 10,500 square feet; containing tanks, reactors, drying oven, piping, three exterior sulfuric acid tanks and containment systems, and a sodium hydroxide tank and containment system;
- Office, Shower and Laundry and Laboratory building: approximately 5,700 square feet (two connected buildings); containing limited furniture, laboratory equipment and glassware;
- Raw Materials Warehouse: approximately 14,000 square feet; containing used equipment at the south end of the building; and,
- Finished Product Storage Warehouse: approximately 15,000 square feet; empty and connected to the north end of the Raw Materials Warehouse.

The areas surrounding the buildings are covered with gravel and crushed demolition debris (concrete and gravel) within the fenced areas of the historic production areas. The floors of demolished buildings are present. Property north of Short Creek and south of Old US Highway 66 are covered with prairie grass.

The property was formerly developed with a smelter and acid production plant. The site layout and building descriptions are provided on the 1958 site layout figure provided as Appendix D-1. The smelter and acid production plant were demolished by EPII in the early 1980s. Demolition included the removal of buildings to grade and regrading of the site.

Based on a review of the USGS topographic map for the Baxter Springs, Kansas and Joplin, Missouri West quadrangles, ground elevation within fenced areas at the site is approximately 890 feet above mean sea level. The topography of the site is relatively flat within the fenced area and gently slopes downward to the north toward Short Creek. The site slopes steeply downward to Short Creek at the west end of the property due to the re-grading performed when the facility was demolished. Fill material has been pushed to the north towards Short Creek and abuts Short Creek at the extreme west edge of the property. Surface water runoff drains to the north toward Short Creek. Facility personnel indicated that there have been no known occurrences of flooding at the Site. Flood plain information was not available according to the EDR report.

Site personnel believe the facility has always utilized the local sanitary sewer system for all wastewater discharges from the Facility since operations commenced. No septic systems have reportedly been utilized at the Site.

Geologic descriptions for the region were reviewed in the *Study of Stability Problems and Hazard Evaluation of the Kansas Portion of the Tri-State Mining Area* prepared by Kansas Geological Survey (KGS) in 1983. The Ozark Plateau Province is developed on cherty limestones of Mississippian age. These are the oldest exposed rocks in Kansas and contained the deposits of lead and zinc with commercial value. The Mississippian limestones consist of Warsaw Limestone, Keokuk Limestone and Fern Glen Limestone. Soil in the area is described as thin and rocky containing residual cherty gravel that has resulted from the weathering of the Mississippian limestones. The report describes most of the area as unsuitable for cropland. Soils at the site consist of a very gravelly silty loam according to EDR.

No specific information was available concerning the depth to shallow groundwater or groundwater flow direction. The EDR Report indicates that 36 well records exist for wells within a one mile radius of the site. Five well records regard wells on the site. One production well was completed to a depth of 1150 feet below ground level (bgl). Static water levels were recorded in 1932 when the well was installed and recorded between 1975 and 1987. The static water levels ranged between 70 and 110 feet bgl. The well was closed in 1987. A second well was completed to a depth of 1155 feet bgl and was closed in 1981. A third well was complete do a depth of 104 feet bgl and was closed in 1981. Four wells were formerly located on or near the west end of the property and depths ranged from 110 to 959 feet bgl and these wells were closed in 1993. Based upon topography, shallow groundwater at the site is expected to flow north towards Short Creek.

3.3 SITE HISTORY

The property was originally owned by Egidius Moll (German farmer) and was used for farming. In 1876, lead was identified in Short Creek near the property. The property was purchased by Galena Ore (Galena) Mining & Smelting Company in 1877. A smelter was constructed in late 1878. Eagle Picher purchased the facility in 1912. Mining in the immediate Galena region ended in the 1920s; however, smelting continued until 1971.

To ascertain additional information related to previous uses of the site and surrounding area, ENVIRON reviewed Sanborn Maps (dated 1905, 1911, 1918, 1930 and 1945), aerial photographs (dated 1986 from the Galena City Clerk's Office and 1991 from Terraserver); historical topographic maps (dated 1978, 1959 and 1894); an undated aerial photograph from Google; undated photographs of the site reviewed at the Galena Mining & Historical Museum (provided as Appendices D-2 and D-3); and history of the site provided in the 1972 USDA Report. ENVIRON requested city directory information for the site and vicinity; however, EDR indicated that no coverage was available for this reference. ENVIRON reviewed a 1902 Polk City Directory from *The City of Galena, Kansas, Oldest Mining Town in Southeast Kansas, 1877, The History of Galena and Empire City* by Nathaniel Thompson Allison, 1904 document.

Pre-1876: The site was owned by Egidius Moll and was used for farming prior to 1876. The land reportedly provided little value regarding agricultural

purposes. Lead ore was discovered in Short Creek in 1876. After 1876, nearly the entire Galena region was used for mining of galena (lead sulfide) and saphalerite (zinc sulfide). Galena Mining & Smelting Company acquired 120 acres south of Short Creek from Mr. Moll in 1876. The properties north and east of the site were sold to West Joplin Lead & Zinc Company and South Side Mining & Manufacturing Company, respectively. Review of historic maps indicates that no mining occurred on the site.

1877-1911: Galena Mining & Smelting Company completed construction of the first smelter in the area on the site in September 1877. The smelter was constructed as an air furnace, which was soon converted to a blast furnace. The facility was then expanded in 1883 to include six blast furnaces.

The 1894 topographic map depicts Galena, Empire and Short Creek (1:125,000 scale). Railroads are present north and south of the site. No other features are depicted at the site on the map.

The 1998 ENVIRON report references review of 1897 and 1900 Sanborn maps that according to EDR are no longer available. The 1897 Sanborn map indicates that an ore crusher is under construction at the site according to the 1998 ENVIRON Report. The 1900 Sanborn indicates the site was operated by Galena-Empire Smelter. A dump is described as located adjacent and to the west of the site. Dumps are associated with mines and contain stockpiles of overburden material removed from the respective mine, or are associated with milling operations.

The 1905 Sanborn map depicts the furnaces, bag house, coke storage, refinery, and mineral storage on the map. Additional smaller buildings including an office and two additional railroad spurs are depicted on the map.

The 1911 Sanborn map depicts the addition of a pond east of the bag house. The buildings at the site have been expanded and a conveyer has been installed between the bag house and other process buildings.

1912-1929: Eagle Picher acquired the smelter and property from Galena Mining & Smelting Company in 1912. Eagle Picher reportedly expanded and improved the smelter after acquisition.

The 1918 Sanborn map indicates the smelter was operated by Eagle Picher Company Smelting Works. A new larger furnace has been constructed and the pond has been replaced by two rectangular reservoirs.

Mining operations in the Galena area reportedly ceased in the 1920s.

1930-1958: The site layout has expanded again according to the 1930 Sanborn map.

New process buildings include a refining house, expanded baghouse, machine shop, hopper house, several building on the eastern portion of the site, and storage areas for lime, coal, and coke.

An undated photograph is provided as Appendix D-2. The photograph appears to be dated between 1930 and 1945 since little development appears to be present west of the hoppers. The photograph depicts vegetation south of the smelter (foreground of the photograph) and limited vegetation north of the smelter across Short Creek (background of photograph).

The 1945 Sanborn map indicates the smelter operations have expanded since 1930. Two new furnaces, wet processes building and Catrell process buildings have been added north of the refining house on the west side of the property. A mill and tank have been added to the west end of the hoppers along the railroad tracks, and new furnaces and a copper shop have been added north of the new mill. The compressor building near the center of the site has been expanded. A lunch room, sheet metal works and welding building, brick storage building, and research building have been added east of furnaces in the center of the site.

An undated photograph is provided as Appendix D-3. The photograph depicts only the central portion of the smelter after approximately the mid-1940s or later since the mill and copper shop are present west of the hoppers. The photograph does not depict the east portion of the site.

The Acid Plant was constructed and sulfuric acid was produced from molten sulfur starting in 1954. The 1958 Site Plant depicts the Acid Plant west of the smelter operations, including several stacks, tanks (including a 25-foot diameter oil tank northwest of the Acid Plant), and reservoirs.

1958-1971 The 1959 topographic map depicts the former smelter and acid plant buildings. Tailings piles are located west of the site. Numerous tailings piles and mines are depicted on the map east of the site in Missouri. Short Creek forms the north boundary of one tailings pile that covers approximately 35 acres.

1971-2005 The 1978 topographic map depicts the site similar to the 1959 topographic map with the addition of three small buildings. No other significant changes were noted except the large tailings pile east of the site in Missouri has nearly doubled in size and covers an area of approximately 70 acres. Short Creek forms the north boundary of this tailings pile. The boundary between the tailings pile and Short Creek is approximately 3,500 feet long.

3.4 DESCRIPTION OF OPERATIONS

No operations have been performed at the site since 2004 according to facility personnel.

According to the 1972 USDA Report and the interview with facility personnel, lead and zinc smelting operations ceased in 1970. Cadmium was smelted from 1941 to 1945 and from 1954 to 1971. Sulfuric acid was produced from molten sulfur in the Acid Plant from 1954 to 1971. Other historic production activities included: zinc oxide production between 1941 that continued through 1971; zinc sulfate production between 1954 that continued through 1971; copper and manganese ore roasting; manganese sulfate production from 1963 to approximately 2004; and manganese dioxide production from the early 1980s to approximately 2004.

The facility most recently produced manganese dioxide and ferrous sulfate. Manganese oxide received in 3,000 pound super sacks was mixed with sodium hydroxide and a lithium catalyst in a pressure vessel to form manganese dioxide. The resulting precipitate was then leached with sulfuric acid, washed and dried. The resulting manganese dioxide product was packaged and delivered to customers. Ferrous sulfate was received in crystal form, and then it was dissolved in water and dried. The resulting product (ferrous sulfate "pearl" form) was then packaged and delivered to customers. In 1998 the facility employed 16 personnel and operations were performed during three shifts, six days per week. The facility's primary SIC code was 2819 (industrial inorganic chemicals, not elsewhere classified). The major raw materials stored at the facility included manganese oxide, sulfuric acid, sodium hydroxide and ferrous sulfate.

Historically the facility operated as a smelter from 1878 to 1971. Smelting operations included processing lead, zinc and cadmium ores. The smelting process included the following general steps:

- Heating ore in a kiln to remove surplus material (*i.e.* organic material) and moisture;
- Crushing to reduce the ore to a fine powder;

- Heating in calcining kilns to remove sulfur;
- Heating in the furnaces equipped with retorts charged with ore and coke;
- Capturing vaporized metal from the retorts in a condenser; and
- Pouring molten metal from the condenser into ingots.

The facility constructed an acid plant in 1954 to generate sulfuric acid from molten sulfur from the smelter. The acid plant operated until 1971.

3.5 DATA BASE REVIEW

To assess the potential for soil and/or ground water impacts at the property due to on-and off-site sources, ENVIRON conducted a review of federal and state environmental data bases and requested files from local environmental and other regulatory agencies for the property.

ENVIRON contracted with EDR in November 2005 to conduct a review of federal and state regulatory agency data bases for the site and facilities in the vicinity of the property. EDR conducted an environmental regulatory data base search of sites located within extended radii of the property beyond recommended radii by the ASTM standard. The radii for the data base search were expanded to ensure neighboring properties were covered by the search due to the size of the property. The EDR report is presented in Appendix B-1.

ENVIRON reviewed the results of EDR's search. The subject site is listed on the FTTS INSP (Federal Insecticide, Fungicide and Rodenticide Act / Toxic Substances Control Act Tracking System Inspection), FINDS (Facility Index System/Facility Registry System), RCRA-LQG (RCRA Large Quantity Generator), TRIS (Toxic Chemical Release Inventory System) data bases. The FTTS INSP data base entry is due to previous asbestos NESHAPS and PCB inspections performed by USEPA in 1997 and 2000, respectively. No violations are noted for the asbestos inspection; violations are noted regarding the PCB inspection. The FINDS data base entry is due to the other data base entries identified for the site. The RCRA-LQG data base entry is due to the management of D001 (ignitable wastes), D002 (corrosive waste) and D010 (selenium) wastes at the site. Twelve generator violations are noted in the data base report in August 2002 and two violations are noted in August 1991. Compliance regarding all of the violations was achieved within two to three months of the violation (see Section 3.7.1 regarding further discussion of hazardous waste).

Other sites listed in the EDR Report included American Disposal Services, which was reported in the solid waste landfill data base due to used tire management and the AST data base due to five registered ASTs at the site (four currently used and one permanently closed). The tank contents are only reported for a 10,000 gallon diesel AST. The remaining three AST contents are not reported.

Other sites reported in the EDR Report are a minimum of one-half mile from the site. The EDR data base searches contained 43 unmapped Sites. Although ENVIRON briefly reviewed the list of unmapped sites for any properties observed during the site visit to be nearby or adjacent to the subject site, it was beyond the scope of this assessment to locate each of the unmapped sites identified by EDR. The Cherokee County Superfund Galena Subsites [Operable Units 1 (drinking water) and 5 (surface water)] were identified as unmappable in the data base report (see Section 3.10 for further discussion of the Cherokee County Superfund site).

3.6 CHEMICAL AND CHEMICAL WASTE STORAGE

3.6.1 Underground Storage Tanks (USTs)

Facility personnel did not believe that any underground storage tanks (USTs) had ever been present at the site. No evidence of USTs (e.g., vent pipes, fill ports or dispensing equipment) was observed by ENVIRON during the site visit.

3.6.2 Aboveground Storage Tanks (ASTs)

The site has three ASTs that were used to contain sulfuric acid. One tank is approximately 2,500 gallons and the other two tanks are approximately 1,500 gallons. The site also contains one approximately 2,500 gallon tank that was used to contain sodium hydroxide. The ASTs are equipped with separate containment systems (acids and caustics are separated). The ASTs appear to be empty, but the tanks were not accessed to confirm contents. No significant leaks or spills were identified. Several process reactors are present at the site in the Manganese Sulfate Drying and Production Area building.

3.6.3 Drum and Other Storage Areas

Only storage of used equipment is performed in various locations at the site. No drum storage is currently performed at the site.

3.6.4 Spill Prevention Control and Countermeasures (SPCC) Plan

The facility does not currently store drums of oil or petroleum products. The facility does not have or require a SPCC Plan.

3.7 HAZARDOUS AND NONHAZARDOUS WASTE

3.7.1 Hazardous Waste Management

The facility was identified as a large quantity generator by EDR (USEPA ID No. KSD980320204). Facility personnel were not familiar with the former operations performed at the site. The 1998 ENVIRON Report indicated that the site did not typically generate hazardous wastes. On January 7, 1998 approximately 20,000 pounds

of manganese dioxide test material contaminated with cadmium was disposed as hazardous waste. The EDR Report indicates that disposal of unspecified ignitable, corrosive and selenium containing wastes occurred in August 2002. No hazardous waste is currently generated or stored at the site.

3.7.2 Non-hazardous Waste Management

Non-hazardous waste formerly generated at the facility primarily consisted of trash. Small quantities of waste oil (one drum per year) were generated. Trash was disposed at the City of Galena's municipal landfill. Waste oil was managed by Safety Kleen in Springfield, Missouri.

3.8 AIR EMISSIONS

The facility is currently not operating and no process related air emissions occur from the facility. The 1998 ENVRION report indicates that primary air emissions at the facility at that time consisted of particulate matter from the processing equipment, which was controlled by baghouses. No formal emission calculations were available for review during the site visit in 1998, but based upon ENVIRON's observations in 1998, particulate emissions appeared to be *de minimis*. Correspondence from KDHE received in July 1996 indicated that it was not necessary for the facility to obtain an air operating permit (this correspondence was reviewed in 1998, but was not available during the 2005 site visit). The 1998 ENVIRON report indicates that facility personnel stated that the last major modification to the facility occurred in 1992, when new equipment and baghouses were installed. An air emission source approval was obtained from KDHE for this modification. The report indicated that the last KDHE inspection occurred in 1992 and the facility was found to be in compliance with air regulations.

Air emissions from smelter operations ceased in 1971. Air emissions tests were performed at the smelter in September 1971 to assess emissions from the sulfuric acid plant, the zinc oxide reheater, the manganese ore heater and dryer and the manganese sulfate blender and dryer according to the 1972 USDA Report. Air controls consisted of scrubbers and baghouses. The emissions tests indicated that zinc and manganese emissions were in excess of State of Kansas limits.

The USDA study described in the 1972 USDA Report was performed to assess cadmium, copper, lead, zinc and manganese impact in soil and vegetation due to the emissions from the smelter. The report depicts the aerial extent of impact attributable to emissions from the smelter. The USDA study of soil and vegetation was completed immediately after the smelter operations ceased and attributed lead and cadmium concentrations in exposed surface soil[4] at concentrations greater than 400 ppm and 20 ppm, respectively, to an approximate 200 acre area generally north of the smelter. The study assessed the incremental impact due to the smelter compared to the existing impact from natural

[4] The 1972 USDA Report refers to soil as "protected" vs. "unprotected". Protected soil consists of soil beneath a structure constructed prior to operation of the smelter. Unprotected soil consists of soil exposed to potential impact from the smelter.

minerals or mining activities. Soil impact was also delineated to an approximate vertical depth of 10 cm (4 inches) or less during the study.

Air emission control equipment consisting of a baghouse was present at the smelter as early as 1905 based upon review of Sanborn maps. The emission control equipment increased in size as the smelter expanded. The 1972 USDA Report also indicates that scrubbers were present at the site to control air emissions.

3.9 WATER USE AND WASTEWATER DISCHARGES

3.9.1 Water Supply

Potable water is supplied to the site by the City of Galena. No water supply wells, production wells, or monitoring wells were observed at the Site. Historic wells at the site were discussed in Section 3.2.

3.9.2 Wastewater Discharges

No sanitary or process wastewater is currently generated at the site. Sanitary and process wastewaters generated at the site were formerly discharged to the sanitary sewer system operated by the City of Galena. Sanitary wastewater was discharged directly and process wastewater was neutralized prior to discharge. Facility personnel reported in 1998 that the City of Galena was aware of the discharge and that the discharge did not require a permit. Facility personnel were not aware of any septic systems at the site.

Process wastewater discharges that occurred during historic smelter operations are not known.

3.9.3 Stormwater Discharges

Stormwater from the site generally flows north across the site and enters Short Creek immediately north of the site. Facility personnel reported in 1998 that KDHE determined that the facility was not required to obtain a stormwater permit since little or no industrial activity occurred outside of the buildings. Further discussion of stormwater is provided in Section 3.10.

3.10 POTENTIAL ON-SITE SOIL AND GROUNDWATER IMPACT

3.10.1 Site-Specific Impacts

No soil or groundwater investigations have been performed to date at the site. An investigation to be performed by KDHE is reportedly pending.

Based upon ENVIRON's efforts as part of this ESA, residual surface soil impact is likely due to the historical storage of ores for smelter operations and emissions from smelting operations. Residual materials remaining at the smelter may have been used while re-grading the site during demolition activities during the early 1980s. Stormwater runoff

from the site may be impacted with metals and may transport sediment to Short Creek. Potential impact from the storage of oil in above ground storage tanks identified on historic Sanborn maps may be present in limited areas where the tanks were formerly located. No staining or indication of petroleum impact was observed on the ground surface during the site visit.

KDHE filed a Proof of Claim (POC) with the Bankruptcy Court on September 29, 2005 regarding natural resource damages and assessments pursuant to CERCLA attributed to operation of the former smelter. The KDHE POC totals $5,298,000 for debt incurred since November 18, 1996. The POC indicates that contamination continues to be released from smelter waste at the site since November 18, 1996. The POC indicates the continuing release allows lead, zinc and cadmium to enter Short Creek, leach into groundwater and extirpate vegetative growth which provides habitat for resources of the State. KDHE estimates the damages to groundwater at $252,500, damages to surface water at $2,500,000, damages to terrestrial resources at $2,108,000 and future O&M costs at $437,500. No details are provided with the POC regarding the KDHE estimated damages, but ENVIRON notes the following:

Previous RODs for the Galena subsite have dismissed groundwater remediation since this aquifer is essentially impossible to remediate due to natural ores and mining wastes. Although limited damages are estimated by KDHE regarding groundwater this estimated costs appears excessive and should be eliminated.

- The assessed damages to surface water and terrestrial resources seem excessive since:

- Galena (the metal-containing mineral) was historically discovered in Short Creek confirming the presence of naturally occurring metal-containing minerals already impacting surface water well before the existence of the smelter;
- Published reports documenting the limited usability of surface soil for agricultural purposes prior to the existence of the smelter;
- Numerous significant up-gradient sources of impact to Short Creek exist including the abandoned mines and large tailings pile adjacent to Short Creek in Missouri; and,
- Estimated damages that occurred between 1996 and 2005 should only reflect the relatively minor incremental increase in surface water impact and damage to terrestrial resources associated with the site that occurred during that time period.
- The estimated damages also appear to presume a more pristine surface soil and surface water condition existed in the area prior to mining and smelting operations that were performed in the area.

It is not known at this time whether KDHE will be successful in supporting all or any of their claim in the bankruptcy proceedings.

3.10.2 Regional Soil and Groundwater Impacts

Liabilities associated with off-site soil and groundwater impacts have been resolved. Eagle-Picher Industries, Inc. (EPII) entered into a Settlement Agreement with USEPA in March 1995 which was confirmed in EPII's reorganization in November 1996. As part of that Settlement Agreement, EPII resolved its liability for all areas beyond the property line of the subject site which are within the boundaries of the Cherokee County Superfund site, including natural resource damage claims. However, subsequent response actions by others elsewhere on the Cherokee County Superfund site may impact the subject site.

It is further noted that any actual or alleged impact must be considered in the context of regional environmental impacts due to naturally present metal containing minerals and historic mining activities. Sulfide minerals (galena – lead sulfide and sphalerite - zinc sulfide) were historically present and likely still present (albeit the mineral concentration may be of low commercial value) in Spring Creek, and in soil or rock at or very near the surface in the Galena area. Local recorded history indicates that galena was first discovered in the local area in Short Creek.

Residual sulfide minerals are also present at the surface in the region due to the deposition of mining wastes at the surface from mining activities. As water percolates through the natural or residual sulfide minerals or mining wastes at or near the surface in an oxidizing environment; the water reacts with the sulfide minerals to form acid. The acid solution then dissolves metals in the minerals causing low pH and high metal concentrations in water.

Lead and zinc found in mining wastes and underlying soils have been characterized in the Galena subsite at concentrations ranging up to several thousand parts per million (ppm) with relatively minor concentrations of cadmium present (500 ppm or less). Erosion of mining wastes and surface water impact from areas containing mining wastes have impacted local streams.

3.10.3 NPL-Related Activities

Due to historic mining related problems in the region, Cherokee County was listed on the National Priorities List in September 1983. The Cherokee County Superfund Site represents the Kansas portion of the Tri-State Mining District (Missouri and Oklahoma are the others states in the district). The Cherokee Superfund site was further divided into seven subsites consisting of: Galena, Baxter Springs, Treece, Badger, Lawton, Waco and Crestline. The Operable Units (OUs) within the Cherokee County Superfund Site are listed below:

- OU-1 – Galena Alternative Water Supply, contained within the Galena subsite;
- OU-2 – Spring River Basin, not associated with a subsite, but includes watersheds from all subsites excluding the Treece subsite;
- OU-3 – Baxter Springs subsite;
- OU-4 – Treece subsite;
- OU-5 – Galena Groundwater/Surface Water, contained within the Galena subsite;
- OU-6 – Badger, Lawton, Waco, and Crestline subsites; and
- OU-7 – Galena Residential Soils, contained within the Galena subsite.

Although the subject former smelter property is not at present a specifically listed part of the Cherokee Superfund site, the smelter site is physically located in proximity to OU-1, OU-2, OU-5 and OU-7. The table below summarizes remedial activities for each of the four OUs that are in the vicinity of the subject site smelter. This table is based upon information provided in the *Third Five-Year Review Report for the Cherokee Superfund Site* (September 30, 2005).

Operable Unit	Remedial Actions	Status
OU-1	ROD was issued in 1989 and included providing potable drinking water to residents. The remedy included installing pipelines to provide potable water from the City of Galena municipal deep wells to affected rural residents.	The remedial action was essentially complete in 1994 and an operations and maintenance (O&M) phase started in 1995 which still continues.

OU-2	Surface water and sediment characterization data was collected in 2004 and 2005 from the Spring River drainage basin. The results of this effort are expected to be released in late 2005 or early 2006, and are expected to provide the baseline characterization data for OU-2. PRPs are expected to contribute to or actually perform further investigations and sediment remediation projects.	Currently in characterization phase.
OU-5	The ROD was issued in 1989. The response action consisted of mine waste cleanup from 900 acres of non-residential land. The mine wastes were segregated and wastes containing less than 1,000 ppm lead were placed at the surface and higher concentration wastes were used to fill mine voids or surface collapses. Selected areas were re-vegetated after completion of the remedy. A follow-up biological study within the Galena subsite was completed in 2003. The study concluded that some ecological gains can be measured due to the OU-5 remedy. The study assessed surface water, sediments and biological communities in the drainage area. According the Five-Year Report, KDHE has begun an assessment of the former smelter; however, facility personnel were not aware of KDHE's investigation and ENVIRON was not able to confirm that the investigation has commenced based upon conversations with KDHE.	The remedy is in the O&M phase, which is performed by KDHE. KDHE is expressing concern related to historic cost expectations and the level of effort required for O&M (erosion control and riprap replacement). KDHE is assessing "remedy enhancement" to reduce future O&M costs. USEPA is now recommending amending the OU-5 ROD to include additional cleanup at the former smelter that was omitted from the original ROD. The cleanup at the smelter is necessary to preclude migration of sediments or impacted stormwater to Short Creek which ultimately drains to Spring River (OU-2).
OU-7	The ROD was issued in 1996. The remedy included residential soil cleanup consisting of soil removal at residential properties with lead or cadmium concentrations exceeding 800 ppm or 75 ppm, respectively. Removal continued until lead and cadmium concentrations were reduced to 500 ppm and 25 ppm, respectively, or a total depth of one foot was achieved. Properties were backfilled with "clean" native soil and re-vegetated. More than 1,500 properties were sampled and removal actions occurred at more than 700 properties. The removal actions were completed in 2001. The Third Five-Year report attributes the much larger residential lead problem in Galena to the presence of the smelter and the wind dispersion of emissions over a large area. No data is provided to support this position in the Third Five-Year Report and ignores other potential sources (*ie.* wind dispersion from tailings piles southwest of Galena, historic use of chat piles for fill in the region, and native background concentrations of metals in soil). The 1972 USDA Report describes the assessment of soil and vegetation completed immediately after the smelter operations ceased. The USDA Report identified lead and cadmium concentrations in	The remedial effort is considered to be in the O&M phase. The geometric mean of blood lead levels in Galena children has decreased from 4.13 µg/dl to 2.29 µg/dl due to the residential cleanup efforts. The US geometric man of blood lead levels is 2.2 µg/dl.

	"unprotected" soil at concentrations greater than 400 ppm and 20 ppm to an approximate 200 acre area generally north of the site. Impact was also delineated to a depth of 10 cm (4 inches) or less. Unprotected soil consists of soil not covered by a building during the historic operations of the smelter. Protected soil samples were collected beneath structures where soil would have been protected from emissions from the smelter.	

Issues regarding OU-2 and OU-5 may impact environmental liabilities associated with the subject site even though liabilities outside the property have been resolved. The results of the surface water characterization effort for OU-2 should be available late 2005 or early 2006. The potential amendment of OU-5 to specifically include additional cleanup at the site may also trigger CERCLA liabilities for the site.

It is important to note however that the various RODs for the Galena subsite also recognize that remediation of shallow ground water underlying the Galena area will be neither practical nor effective. Instead the USEPA has focused on protecting the underlying Roubidoux aquifer for use as a potable source. In addition, the remediation of shallow groundwater is not feasible (or possible) due to some of the very remedial measures performed in the area by USEPA, which consisted of filling abandoned mine shafts and collapses with mine wastes that exhibited the highest concentrations of lead and cadmium. These soils were then covered with mine waste exhibiting lower metals concentrations and then re-vegetated.

3.11 ASBESTOS-CONTAINING MATERIALS (ACM)

Facility personnel were not aware of ACM at the facility, but no survey has been performed. The only potential ACM observed during the site visit consisted of floor tile and ceiling tiles in office areas including the office space in the Raw Materials Warehouse and Office and Laboratory Buildings. The EDR report indicates that an asbestos NESHAPS inspection occurred in 1997 and no violations were noted. An asbestos survey should be performed to determine if any ACM is present in the buildings at the site.

An EPI internal property assessment was performed in approximately 1996. This assessment indicated that 60% of the Manganese Sulfate Drying Production Area building was covered with transite siding. The building perimeter totals 650 feet and the estimated wall height is 30 feet; therefore, approximately 12,500 square feet of transite siding may be present. Transite siding was not observed during the 1998 or 2005 ENVIRON site visits.

3.12 POLYCHLORINATED BIPHENYLS

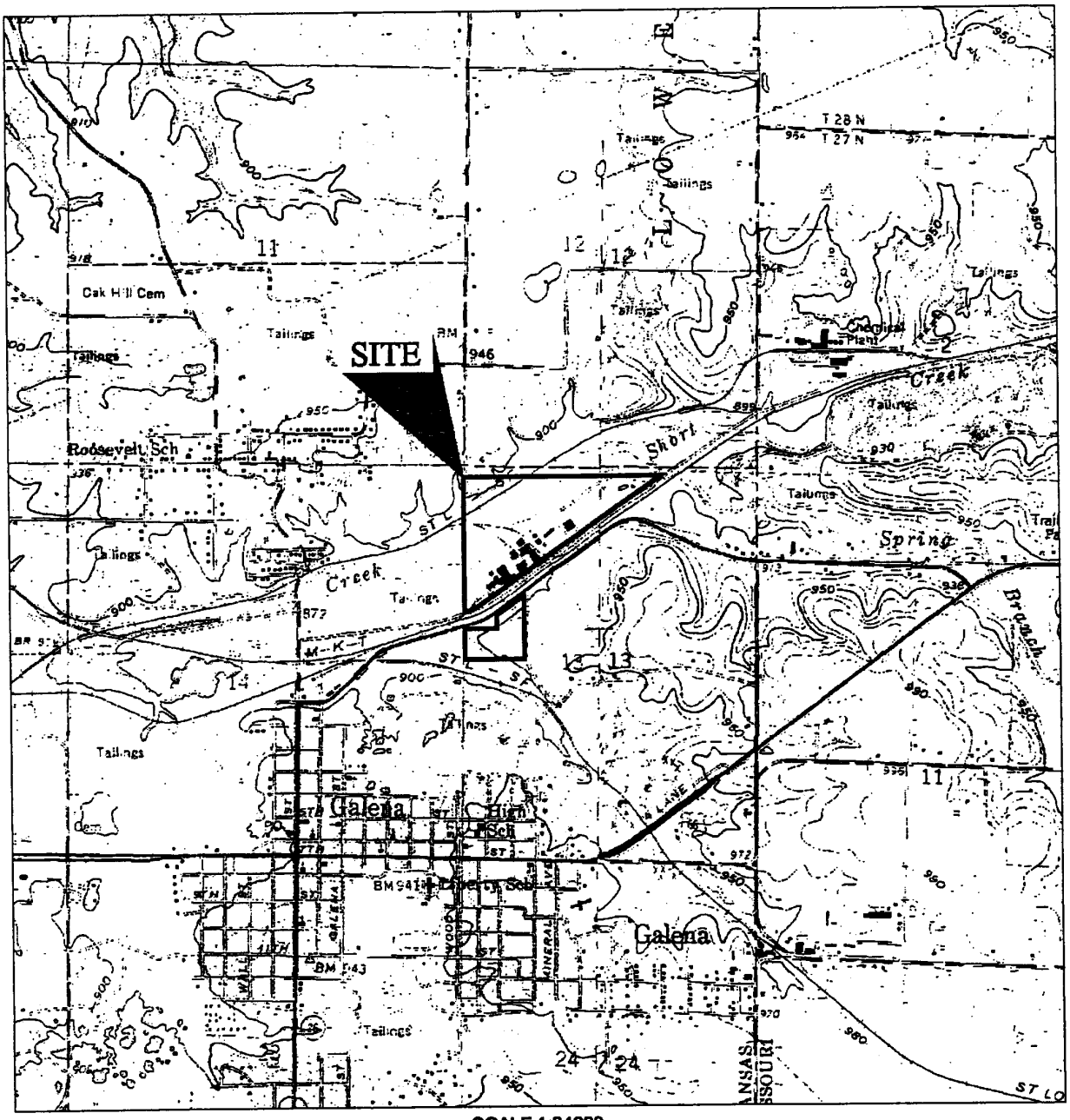
Electric service is provided through four transformers at the site: one pad-mounted transformer, one transformer in a building at the northeast corner of the site, and two pole-mounted transformers. PCBs are present in the transformer in the electric building

on the northeast portion of the site. The other transformers reportedly contain no PCBs. The EDR Report indicates that a TSCA inspection occurred in 2000 and violations were noted. The electrical building contains PCB labels on the doors and PCB labels were present on the transformer. No indications of past releases were observed.

-oo0oo-

APPENDIX D-1

1958 SITE PLAN



SCALE 1:24000

1 1/2 0 1 MILE

2000 0 2000 4000 6000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

SOURCE: U.S.G.S. 7.5 minute series (topographic)
Baxter Springs, Kansas Quadrangle, 1959 (Photorevised 1978);
Joplin West, Missouri Quadrangle, 1962 (Photorevised 1978).

ENVIRON

SITE LOCATION MAP
EAGLE PICHER
GALENA, KANSAS

Figure
1

Drafter: ELS Date: 12/14/05 Contract Number: 19-15311A Approved: Revised:

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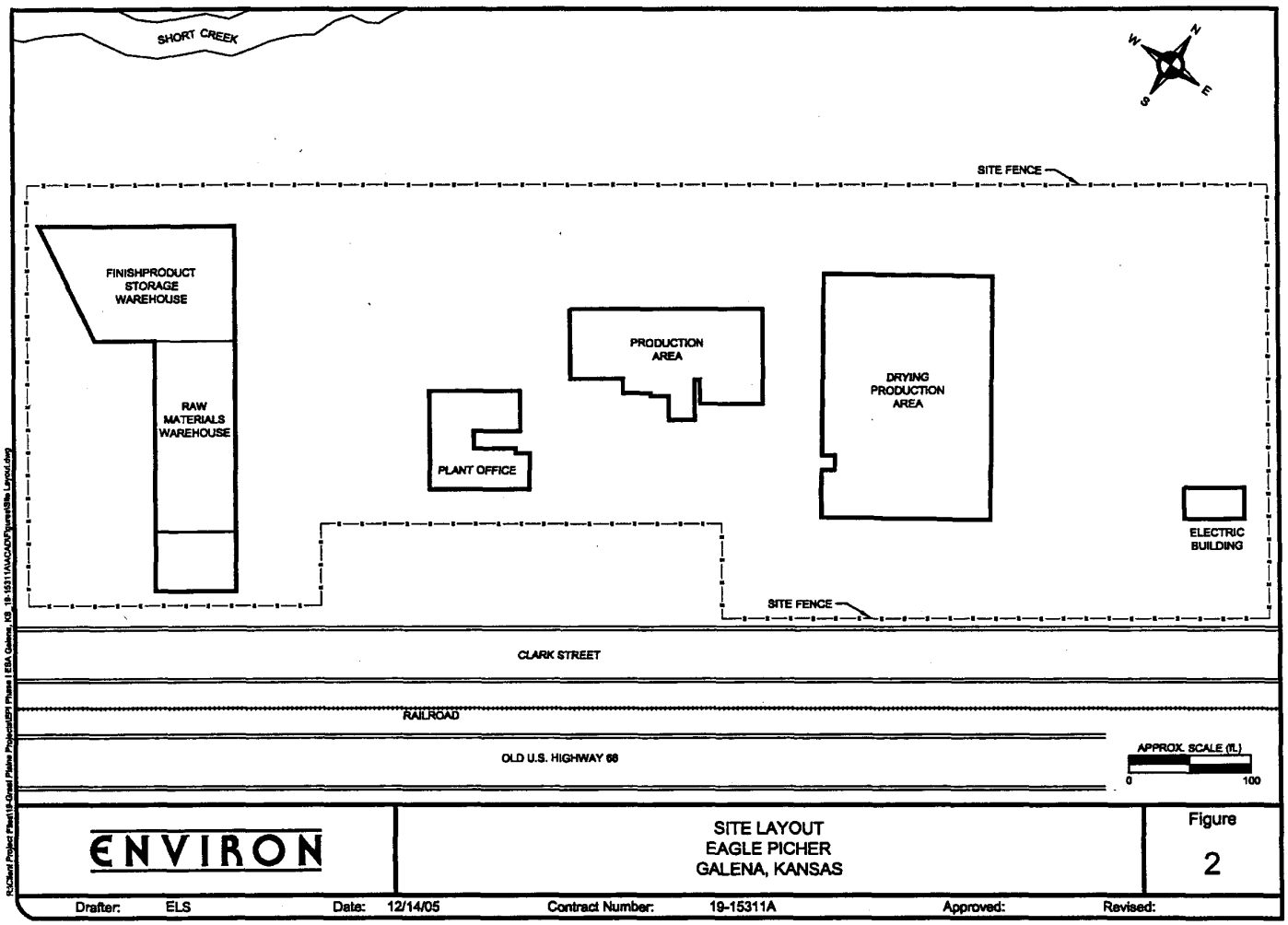
KS0000045



ENVIRON

SITE LAYOUT
EAGLE PICHER
GALENA, KANSAS

Figure
2

Drafter: ELS | Date: 12/14/05 | Contract Number: 19-15311A | Approved: | Revised:

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KS0000046

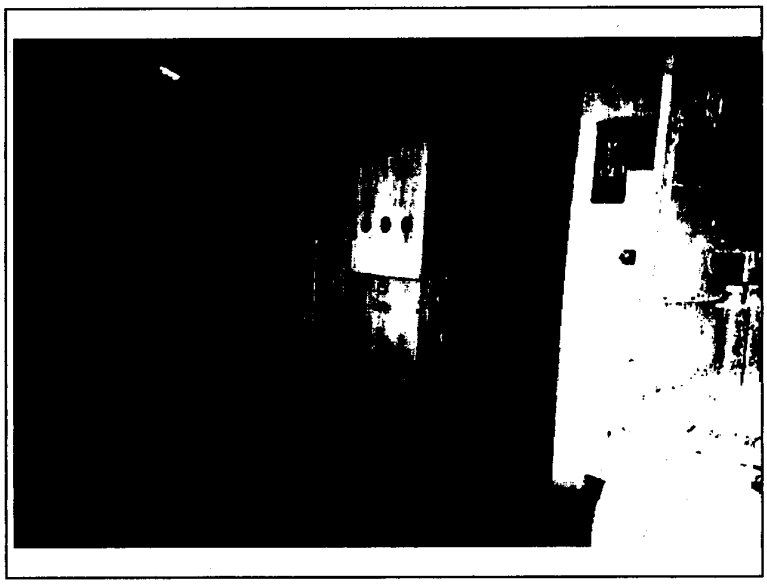


Photo 1: PCB containing transformer in the Electric Building.

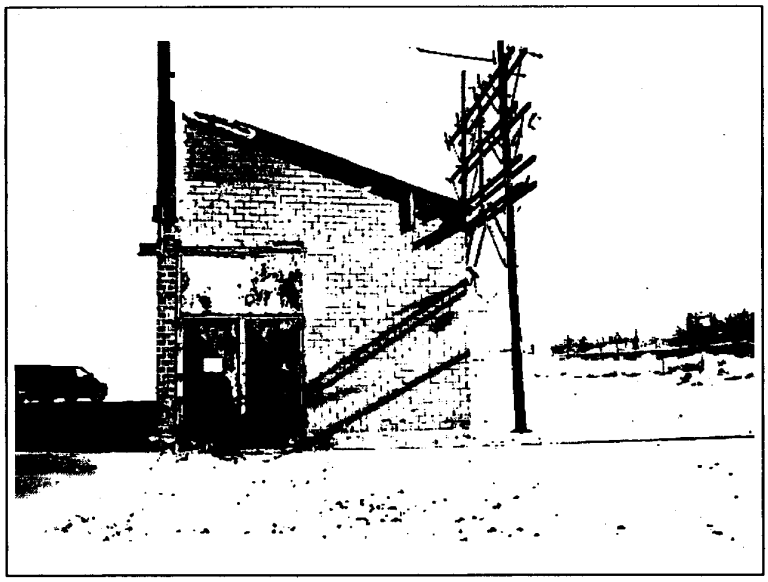


Photo 2: Facing west side of Electric Building.

Title:	Phase I Environmental Assessment	**Approved:**	**Project-Nr.:** 19-	**Date:** December 1, 2005
Site:	**EPI Former Galena Smelter Property Galena, Kansa**			
Client:	**EPI**	ENVIRON		**Appendix __**

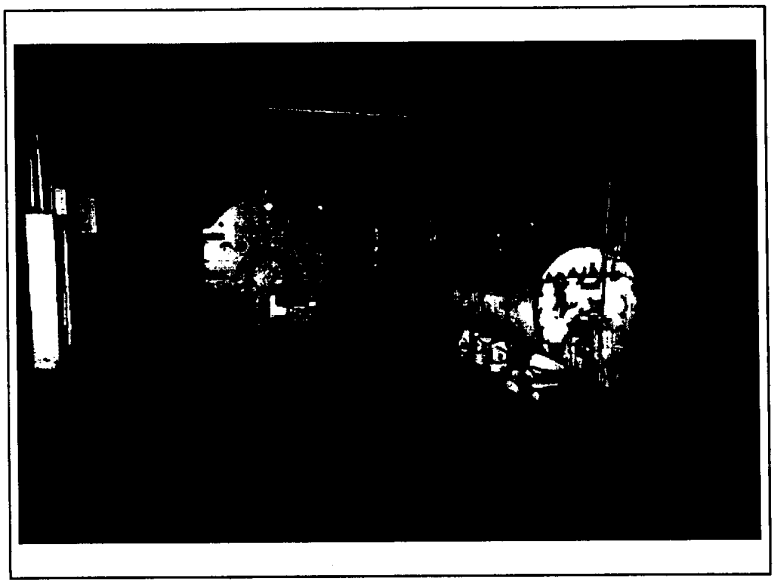


Photo 3: Reactor vessels in Manganese Sulfate Drying and Production Area Building.

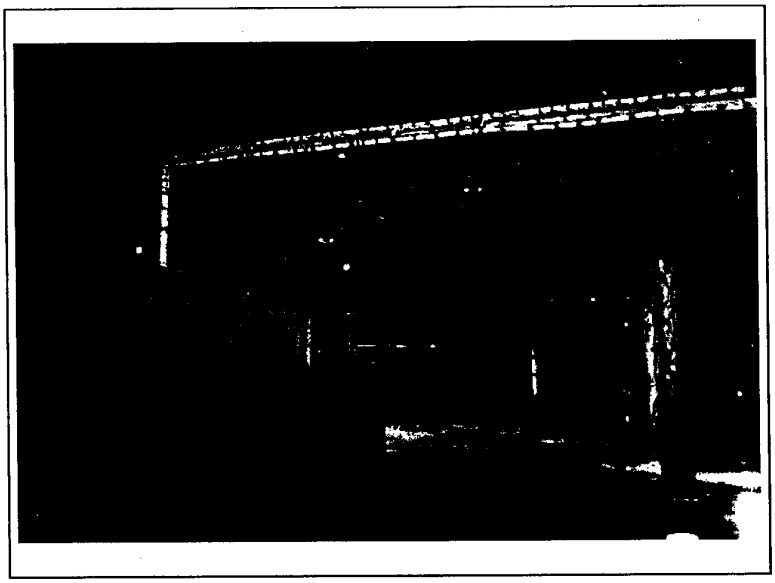


Photo 4: Interior of Manganese Sulfate Drying and Production Area Building .

Title:	Phase I Environmental Assessment	**Approved:**	**Project-Nr.:** 19-	**Date:** December 1, 2005
Site:	**EPI Former Galena Smelter Property Galena, Kansa**			
Client:	**EPI**	ENVIRON		**Appendix __**

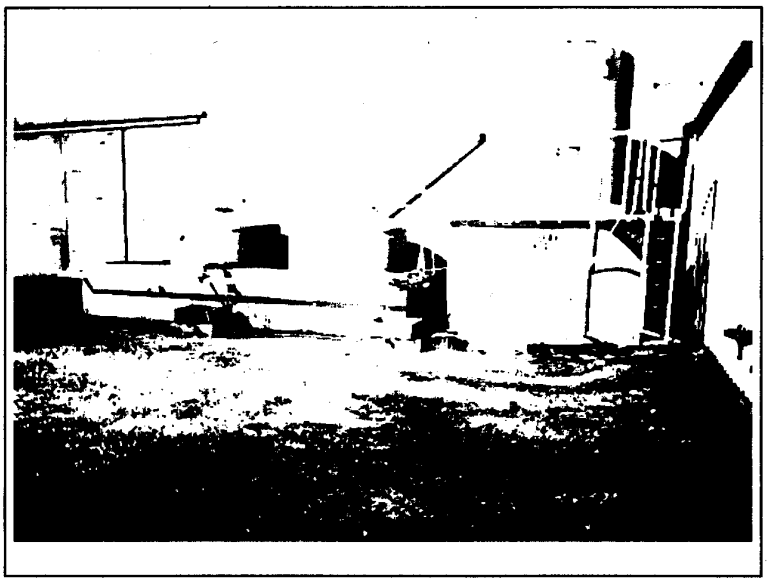


Photo 5: Sulfuric acid tanks south of Manganese Dioxide Production Area Building.

Photo 6: Storage area south interior of Raw Materials Warehouse.

Title:	Phase I Environmental Assessment	**Approved:**	**Project-Nr.:** 19-	**Date:** December 1, 2005
Site:	**EPI Former Galena Smelter Property Galena, Kansa**			
Client:	**EPI**	ENVIRON		**Appendix __**

Photo 7: Interior of Finish Product Storage Warehouse.

Photo 8: View of Short Creek facing northeast near the west property boundary. Material in foreground appears to be coal, coke or slag.

Title:	Phase I Environmental Assessment	**Approved:**	**Project-Nr.:** 19-	**Date:** December 1, 2005
Site:	**EPI Former Galena Smelter Property Galena, Kansa**			
Client:	**EPI**	ENVIRON		**Appendix __**

Photo 9: Facing northeast toward the site toward the Finish Product Warehouse Building..

Photo 10: Facing northeast along north fence depicting slope towards Short Creek for most of the site.

Title:	Phase I Environmental Assessment	**Approved:**	**Project-Nr.:** 19-	**Date:** December 1, 2005
Site:	**EPI Former Galena Smelter Property Galena, Kansa**			
Client:	**EPI**	ENVIRON		**Appendix __**

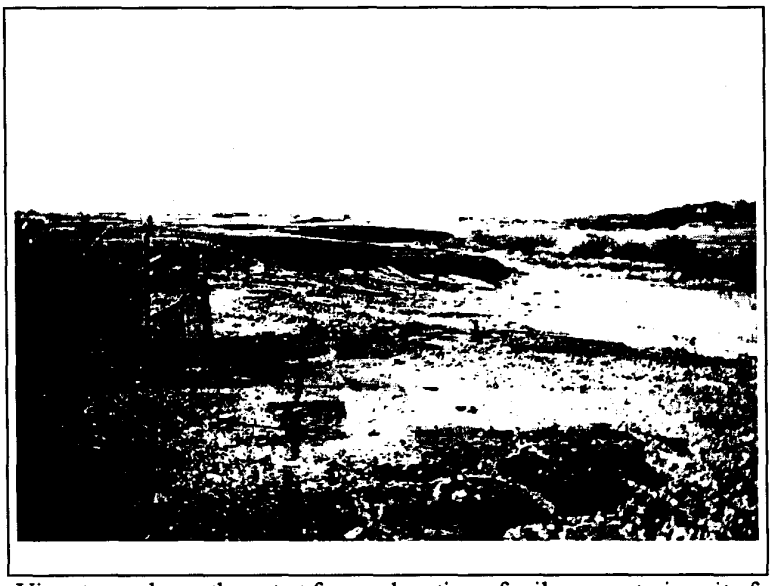


Photo 11: View towards southwest at former location of rail spur entering site from across Short Creek.

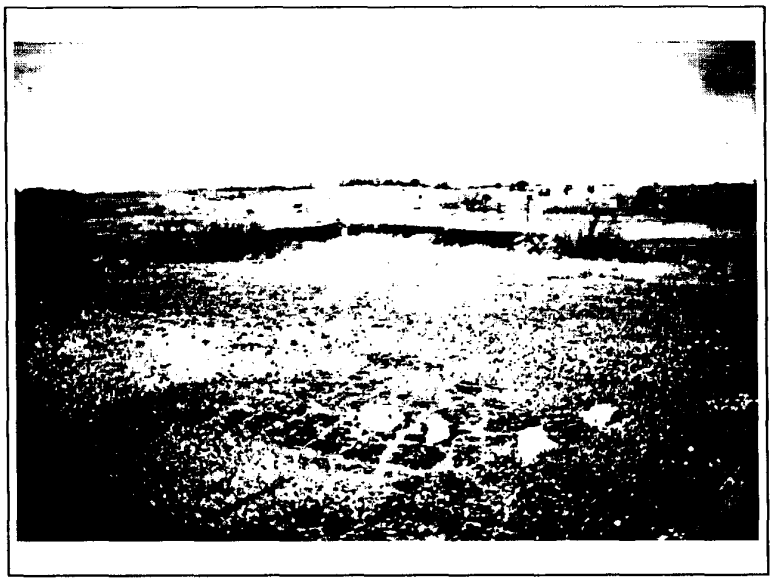


Photo 12: View towards north from fence north of historic production areas.

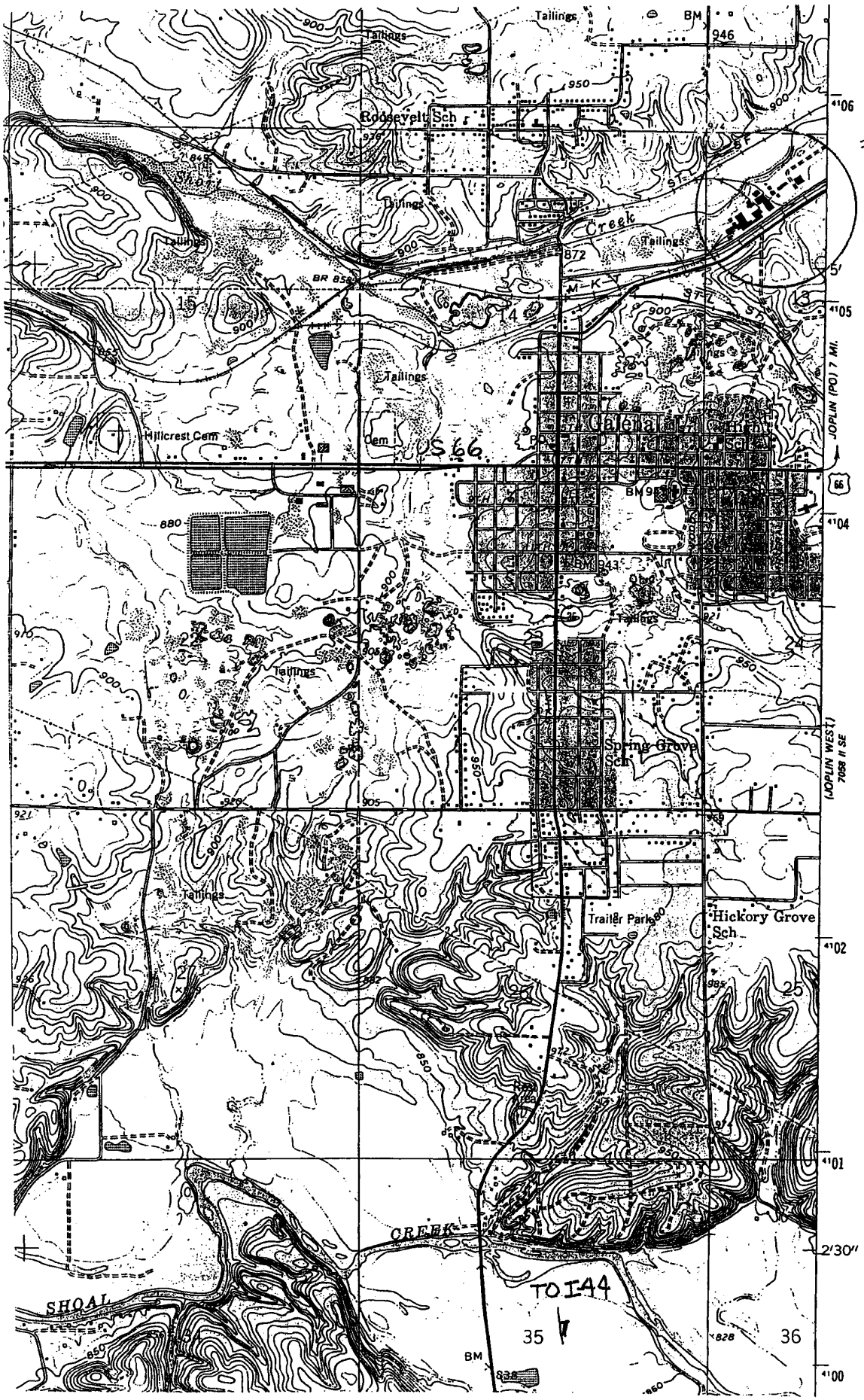
Title:	Phase I Environmental Assessment	**Approved:**	**Project-Nr.:** 19-	**Date:** December 1, 2005
Site:	**EPI Former Galena Smelter Property Galena, Kansa**			
Client:	**EPI**	ENVIRON		**Appendix __**

Photo 13: View towards east toward property owned south of Old US Highway 66.

Title:	Phase I Environmental Assessment	**Approved:**	**Project-Nr.:** 19-	**Date:** December 1, 2005
Site:	**EPI Former Galena Smelter Property Galena, Kansa**			
Client:	**EPI**	ENVIRON		**Appendix __**

APPENDIX C

GALENA CITY CLERK'S LIST OF EPI PROPERTIES



E-P
#40
ELECTRONICS -
CHEMICALS

KS0000147

Land Improvements

1 Square Feet Paving 76,500 FT² Condition code F

_____% asphalt
_____%concrete
100 %gravel

2 Feet of Fencing 3450 FT Condition code E

3 Feet of Rail siding NA Condition code_____

4 Fire protection water storage tank NA Condition code_____

Gallon capacity_____
Elevated or_____
On Grade_____

5 Water Supply X City_____Well Condition code E

6 Sewer System X City_____Septic Tank Condition Code G

7 Yard Lighting Poles 3 (Number) Condition Code G

8 Additional land improvements such as sidewalks, signs, flag poles. Give quantity and condition code. 4 NEW INTERN PLANT WATER SYSTEM (WITH TWO FIRE HYDRANTS) AND A NEW SECURITY FENCE AROUND OPERATING BUILDING WERE RECENTLY INSTALLED. E-P OWNS THE HIGH VOLTAGE ELECTRICAL TRANSFORMER FEEDING THE PLANT SITES.

KSCAMA AA-SB CHEROKEE COUNTY, KANSAS TGC 10/01/96

SELECT A PARCEL BY ENTERING AN "X" IN THE SELECT COLUMN. CMD. 7 TO EXIT

PARCEL ID	OWNER'S NAME	ACREG	CL	NUM.	DIR	SITE ADDRESS	ZIP
2311100000006000	EAGLE-PICHER CO	.0	VR	00000	SW	TREECE RD	66725
2011200000016000	EAGLE-PICHER IND INC	5.1	VR	00000		COUNTY RD	66739
2011200000021000	EAGLE-PICHER IND INC	36.0	VR	00000		RT 1	66739
2061302001001000	EAGLE-PICHER IND INC	*53.0	CU	00000		CLARK ST	66739
2061302001002000	EAGLE-PICHER IND INC	.0	VU	00000		CLARK ST	66739
2061302001003000	EAGLE-PICHER IND INC	.0	VU	00000		CLARK ST	66739
2061302001004000	EAGLE-PICHER IND INC	.0	VU	00000		CLARK ST	66739
2061302001005000	EAGLE-PICHER IND INC	.0	VU	00000		CLARK ST	66739
2061302002001000	EAGLE-PICHER IND INC	*6.9	VU	00000		CLARK ST	66739
2061302003001000	EAGLE-PICHER IND INC	.0	VU	00000		CLARK ST	66739
2061302009002000	EAGLE-PICHER IND INC	* 1.1	VU	00000		BELLVIEW ST	66739
2061302009003000	EAGLE-PICHER IND INC	* 1.3	VU	00000		BELLVIEW ST	66739
2061302010001000	EAGLE-PICHER IND INC	.0	VU	00000		BELLVIEW ST	66739
2061302010002000	EAGLE-PICHER IND INC	.0	VU	00000		BELLVIEW ST	66739
2061302010004000	EAGLE-PICHER IND INC	.0	VU	00000		SUMMIT ST.	66739
2061302011001000	EAGLE-PICHER IND INC	* 1.5	VU	00000		BELLVIEW ST	66739
2061302011002000	EAGLE-PICHER IND INC	* 1.5	VU	00000		BELLVIEW ST	66739
2061302012001000	EAGLE-PICHER IND INC	.0	VU	00000		SPELTER ST.	66739

MORE DATA Y

acres - Pond

* Smelter property

KSCAMA AA-SB CHEROKEE COUNTY, KANSAS TGC 10/01/96

SELECT A PARCEL BY ENTERING AN "X" IN THE SELECT COLUMN. CMD. 7 TO EXIT

PARCEL ID	OWNER'S NAME	ACREG	CL	NUM.	DIR	SITE ADDRESS	ZIP
2061302014001000	EAGLE-PICHER IND INC	* 1.5	VU	00000		BELLVIEW ST	66739
2061302015001000	EAGLE-PICHER IND INC	* 1.3	VU	00000		BELLVIEW ST	66739
2061302016001000	EAGLE-PICHER IND INC	.0	VU	00000		OLD HWY 66	66739
2061401013006000	EAGLE-PICHER IND INC	.0	VU	00000		WATER ST	66739
2061401013007000	EAGLE-PICHER IND INC	.0	VU	00000		WATER ST	66739
2061401013008000	EAGLE-PICHER IND INC	.0	VU	00000		WATER ST	66739
2061401013010000	EAGLE-PICHER IND INC	4.7	VU	00000		COUNTY RD	66739
2061401023002000	EAGLE-PICHER IND INC	1.5	VU	00000		WATER ST	66739
2061401028001000	EAGLE-PICHER IND INC	.0	VU	00000		PROSPECT ST	66739
2061401029001000	EAGLE-PICHER IND INC	.0	VU	00000		WATER ST	66739
2221000000002000	EAGLE-PICHER IND INC	.0	VR	00000	W	19TH ST	66713
2221000000009000	EAGLE-PICHER IND INC	7.0	VR	00000	S	BALLARD RD	66713
2251600000002000	EAGLE-PICHER IND INC	.0	VR	00000	SE	TREECE RD	66713
~~1361303020011000~~	~~EAGLESON CARLOS & JU~~	~~.0~~	~~RU~~	~~400~~	~~S~~	~~INDIANA AVE~~	~~66725~~
1361303038018000	EAGLESON JACK L & LO	.0	RU	503	W	COUNTRY RD	66725
2030700000007000	EAKES RAYMOND B & DE	.0	RR	6640	SE	LOSTINE RD	66739
2062402008001000	EASTLUND JOSEPH W	.0	RU	00900		MINERAL ST	66739
2210102039006000	EATON JAMES C & MARY	.0	CU	322	E	11TH ST	66713

MORE DATA Y

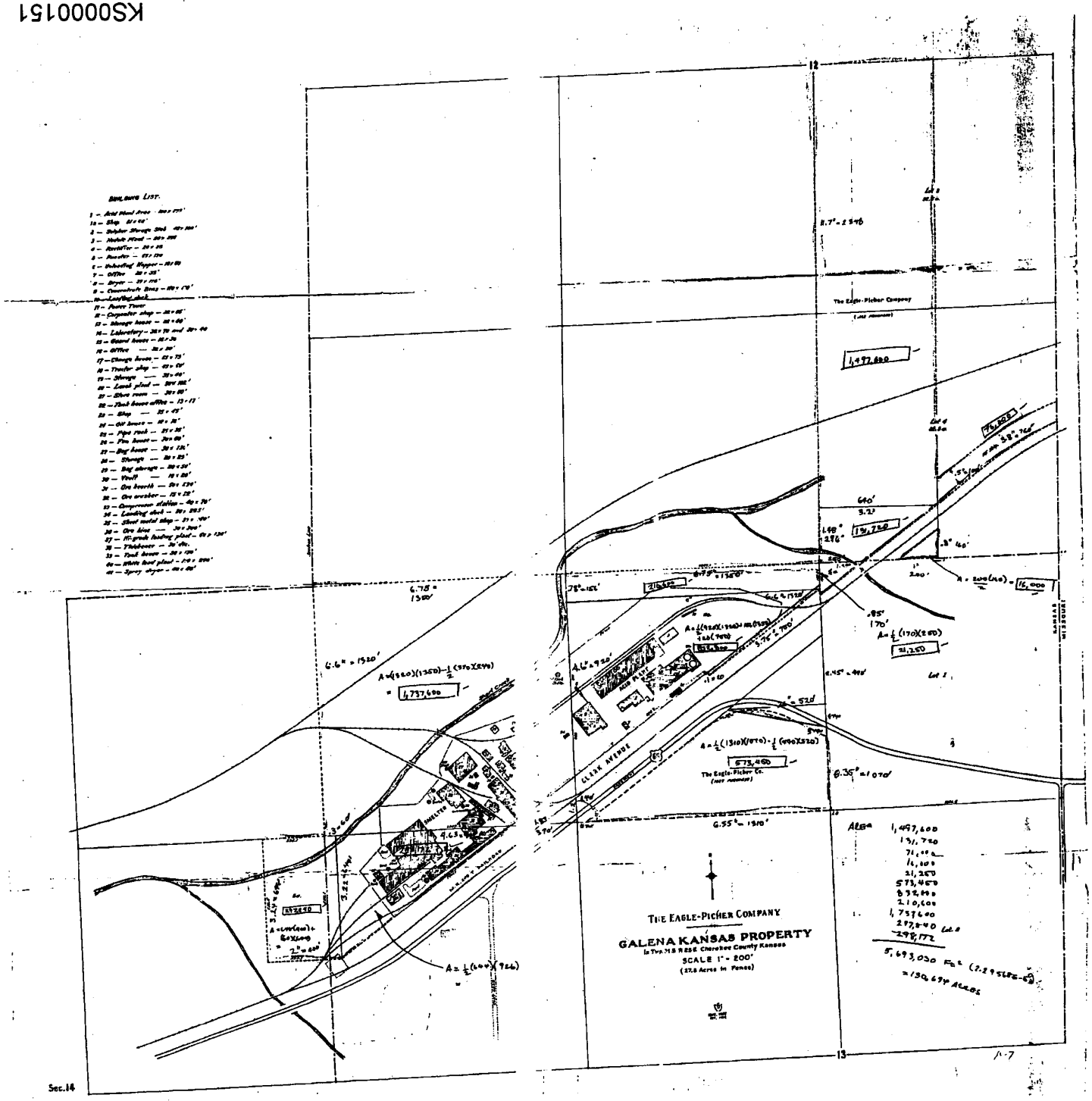
TOTAL/22.4 Acres

* Smelter property

53
6.9
1.1
1.3
1.5
1.5
1.5
1.3

68.1 acres

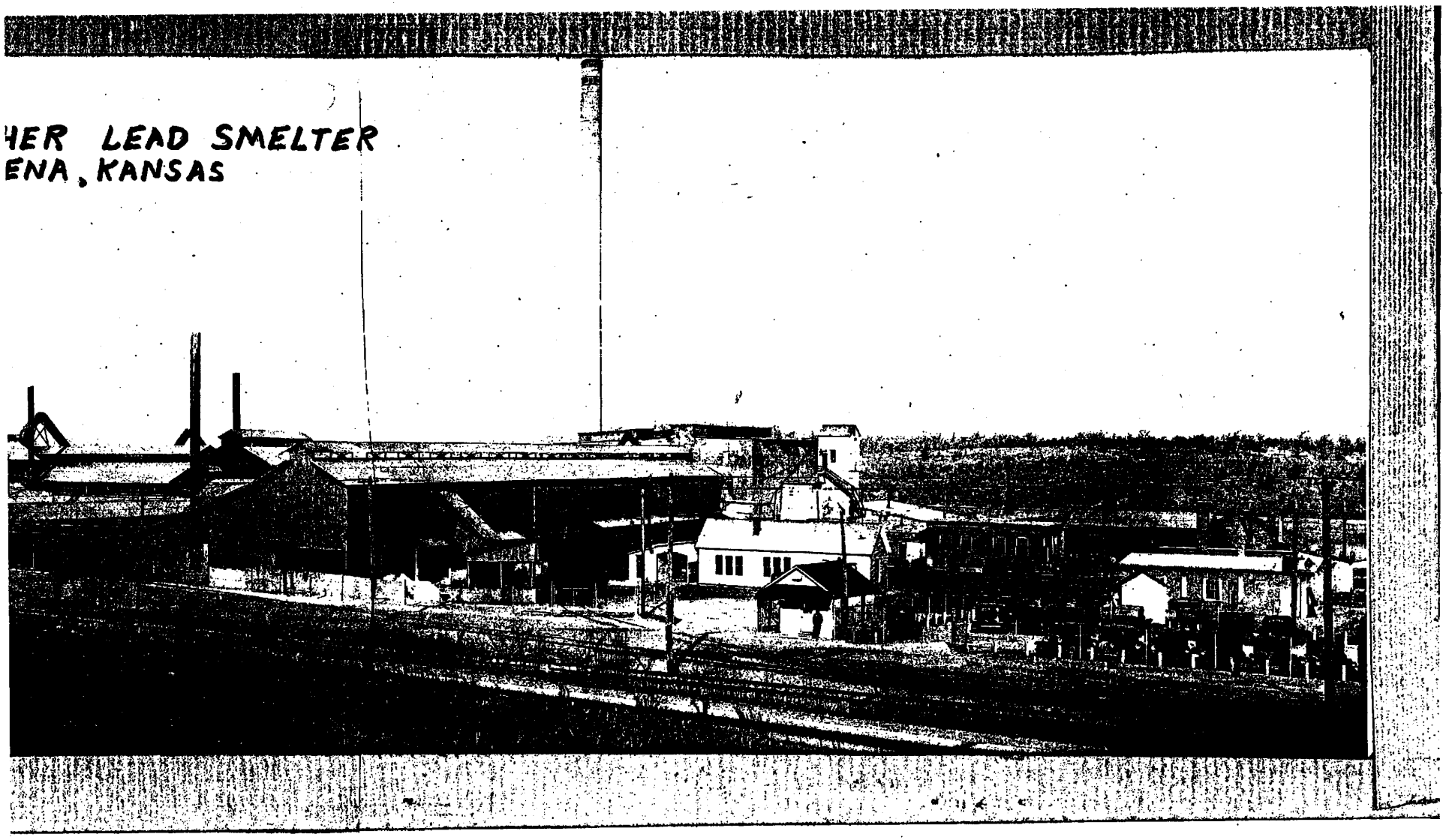
KS0000150


THE EAGLE-PICHER COMPANY
GALENA KANSAS PROPERTY
SCALE 1" = 200'
The Eagle-Picher Company
The Eagle-Picher Co.
CLARK AVENUE
SHELTER
Sec. 14
Lot 1
Lot 2
Lot 3
Lot 4
Lot 5
Lot 6
Lot 7
1,497,600
131,720
21,250
573,400
210,600
1,757,600
297,840
298,172
5,693,030

KS00001151

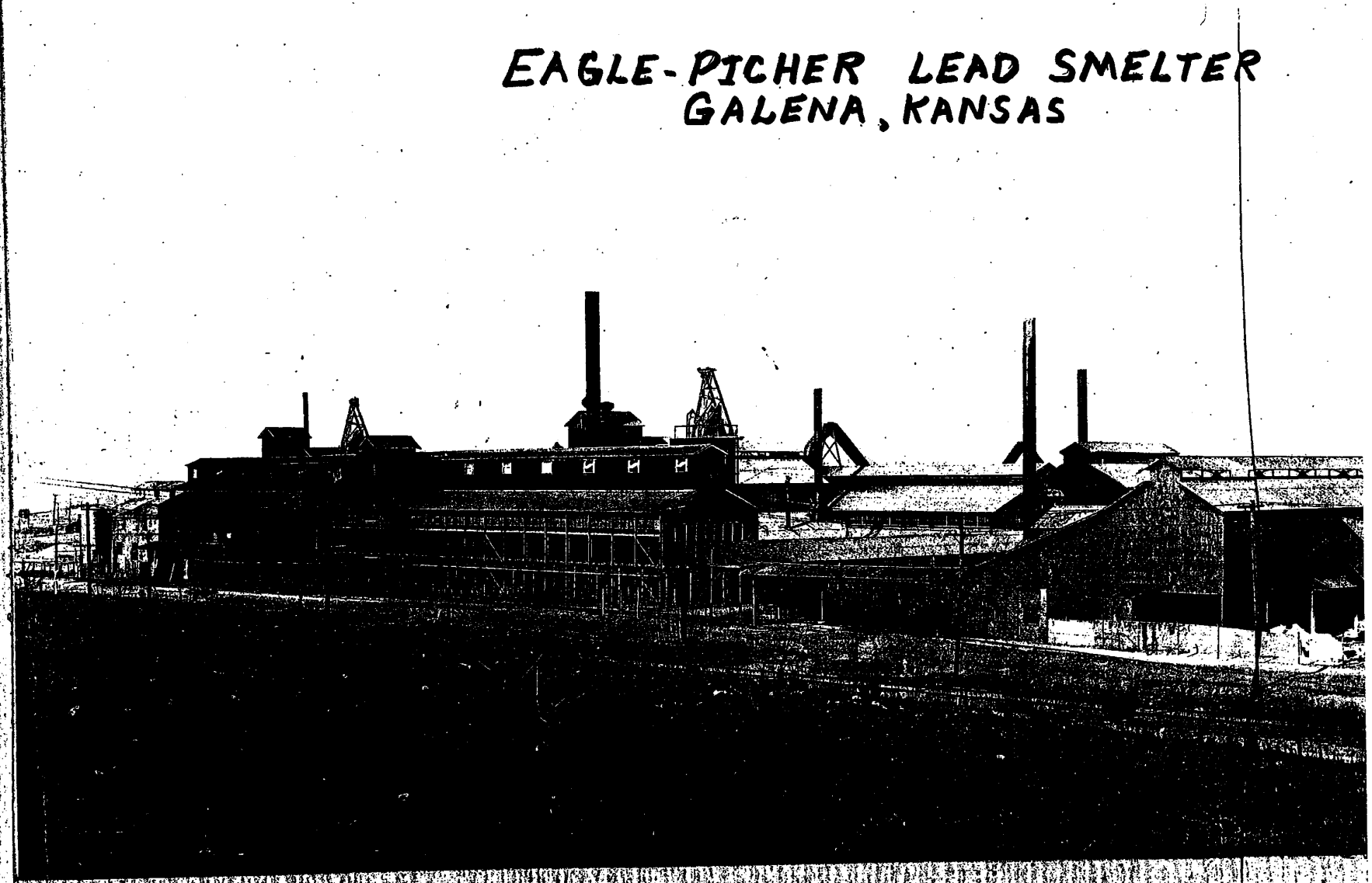
APPENDIX D-2

UNDATED PHOTOGRAPH (CIRCA. 1930 TO 1945)



KS0000152

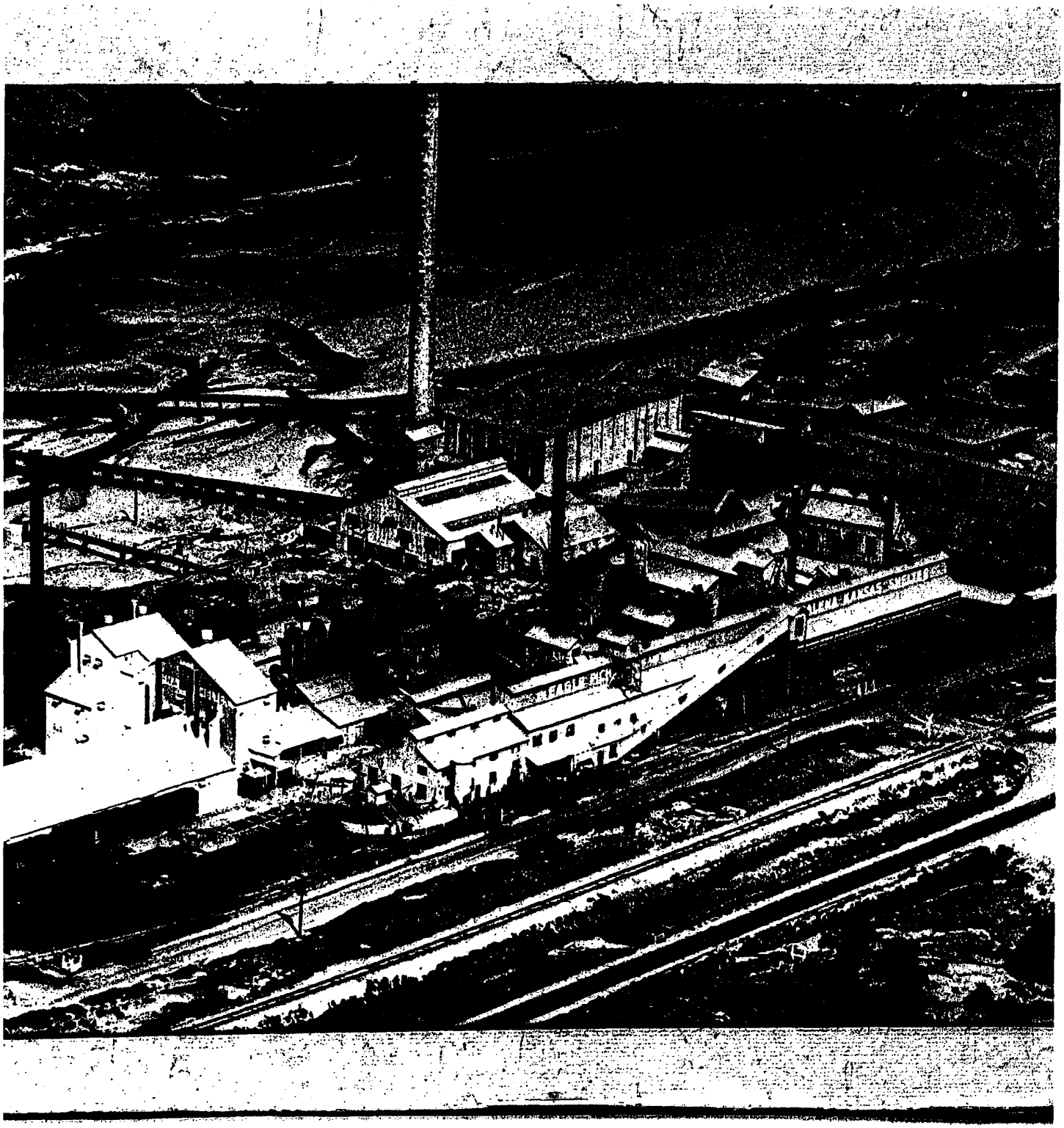
EAGLE-PICHER LEAD SMELTER
GALENA, KANSAS



KS0000153

APPENDIX D-3

UNDATED PHOTOGRAPH (CIRCA. POST 1945)



KS0000154

V. GALENA, KANSAS

A. Introduction

The Technologies Division of Eagle-Picher Industries, Inc. (Eagle-Picher) owns and operates a facility located at East Clark Street in Galena, Kansas ("site"). The environmental assessment of the site is based on the following:

- A visit to the site by Frank Marrazza of ENVIRON on January 14, 1998.
- Interviews with the following Eagle-Picher personnel: Paul Harper, Corporate Director of Environmental Affairs; Bill Ideker, Director of Environmental Affairs for the Technologies Division; and Bryan Hudson, Environmental Manager of the Chemicals Department.
- A review of documents provided to ENVIRON.
- A search of federal and state environmental regulatory agency databases for the subject site and neighboring facilities, provided by Vista on January 22, 1998.
- A review of the 1978 USGS 7.5 minute topographic map for Baxter-Springs, Kansas.
- A review of Sanborn Fire Insurance maps dated 1897, 1900, 1905, 1911, 1918, 1930 and 1945.

At the time the report was prepared, ENVIRON was in the process of obtaining historical aerial photographs of the site, National Wetlands Inventory maps and Flood Insurance Rate maps. When ENVIRON obtains such materials, they will be reviewed and pertinent information will be provided to Howard, Darby & Levin.

B. Site Setting

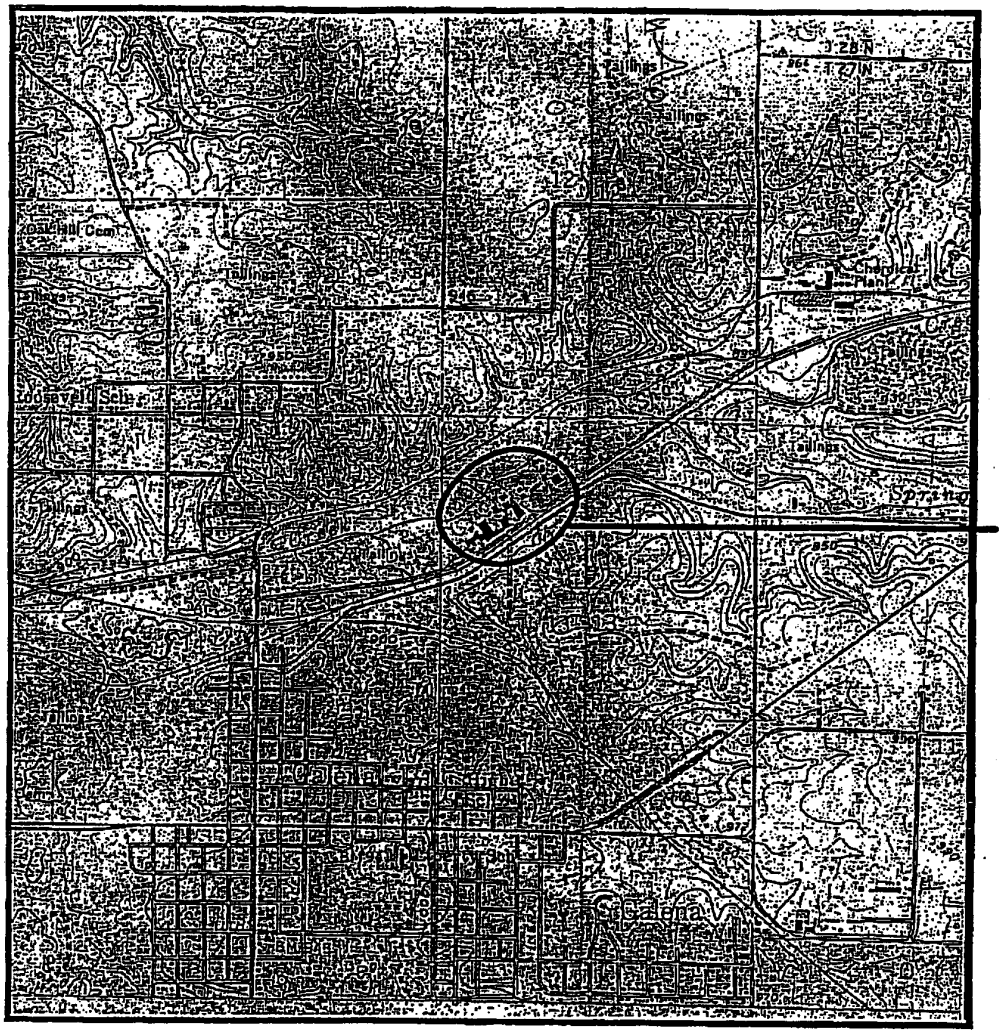
The site is located at East Clark Street in Galena, Kansas (Figure V-1). Four main buildings are situated on an approximately 60-acre site. Outdoor areas at the site are primarily unpaved. Pads of demolished buildings, and several piles of ore, slag, tailings, and other smelter waste products are present throughout the site. The site is located in a mixed land use area. Farmers Chemicals, a manufacturer of fertilizers, borders the site to the north. Unused land, which contains several tailings piles, border the remaining areas of the site.

Although the detection of noise and odors is dependent on the weather conditions and ongoing operations at the time of the site visit, ENVIRON did not note strong odors or excessive noise emanating from the facility. According to facility personnel, no complaints have ever been received from neighboring facilities or residents regarding noise or odors emanating from the facility. In addition, the facility has reportedly received no correspondence from regulatory agencies regarding noise or odors.

Based on the USGS topographic map for Baxter-Springs, Kansas, ground elevation at the site is approximately 900 feet above mean sea level. The surrounding topography slopes slightly south and west toward Short Creek, which flows into Shoal Creek, approximately 7 miles southeast of the site. Facility personnel were unaware of any significant flooding that has occurred at the site. Based on the site inspection, wetlands do not appear to be situated on the site.

Facility personnel report that there are no ground water wells located on-site or in the site vicinity. Facility personnel had no knowledge regarding the depth-to-ground water or the direction of ground water flow. Assuming shallow ground water flow follows local topography, ground water likely flows to the southeast.

KS0000156



0 2000 4000

Scale In Feet

SOURCE: USGS TOPOGRAPHIC QUADRANGLE; BAXTER SPRINGS, KANSAS 1959 PHOTOREVISED 1978 & JOPLIN WEST, MISSOURI-KANSAS 1978

ENVIRON	SITE LOCATION MAP EAGLE-PICHER GALENA, KANSAS	Figure V-1
Drafted By: HFZ Date: 1/27/98		6583AJ04

According to facility personnel, drinking water and sewage treatment services at the site are provided by the City of Galena. Facility personnel were unaware of any septic systems ever being used on-site. Electrical service is provided by Empire District Electric and natural gas is provided by Kansas Gas and Electric.

C. Site History

Based on interviews with facility personnel and a review of Sanborn Fire Insurance maps, the site is in an area that was mined for lead and zinc ores in the 1800s. The site was initially developed in approximately 1903 as a primary lead processing facility and smelter. By approximately the 1930s, the site was converted to a zinc smelter and began to also operate as a lead and zinc chemicals manufacturing operation. Most of the operations at the site were shut down by the 1960s, and in the early 1980s the majority of the buildings were demolished and the debris buried in-place.

Sanborn Fire Insurance maps dated 1897, 1900, 1905, 1911, 1918, 1930 and 1945 were reviewed by ENVIRON. A discussion of relevant findings from the Sanborn Fire Insurance maps is presented below:

- The 1897 Sanborn Fire Insurance map shows that a smelter is being constructed at the site. Six small buildings are shown, although the uses of these buildings are not described.

- The 1900 Sanborn Fire Insurance map shows that the site was operated by the Galena-Empire Smelter. No new buildings are shown, although the ore crusher that was being constructed in the 1897 map is now complete. A dump is located adjacent and to the west of the site.

- The previous buildings are no longer present at the site on the 1905 Sanborn Fire Insurance map, although an access road appears unchanged. The site is now operated by the Galena Smelting and Manufacturing Company. A 6,000 gallon water tower is present, and several process buildings exist, including a bag-house, a mineral house, a

coke house, a refinery, a furnace and an office building and shed. The dump is no longer present. Two new railroad sidings can be seen crossing the site.

- The 1911 Sanborn Fire Insurance map shows that buildings at the site have expanded. The former mineral house is used to store lead and zinc ore. The former bag house is enlarged and includes a "blue room". A conveyor has been installed between the bag house/blue room building and the other process buildings. A pond is present at the site.

- The 1918 Sanborn Fire Insurance map shows that the site was operated by the Eagle-Picher Company Smelting Works. A new larger furnace building has been constructed and two square-shaped reservoirs appear to replace the pond, which is no longer present.

- The site layout has expanded again, according to the 1930 Sanborn Fire Insurance Map. New process buildings include a refining house, machine shop and hopper house on the western portion of the site, and several smaller unidentified buildings on the eastern portion. Storage areas for lime, coal and charcoal are noted. U.S. Highway 66 has been constructed along the southeastern border of the site.

- The 1945 Sanborn Fire Insurance Map shows several new process buildings, including a large furnace building and two smaller ones, a cooper shop, a wet process building, a paint shop, a sheet metal and welding shop, mill and laboratory. The two reservoirs noted above are still present and the storage areas for lime, coal and charcoal are also noted.

Given the long industrial use of the site and the use of a variety of chemicals throughout this time, historical operations have resulted in environmental impacts to the site. Section J of this Chapter contains a more detailed discussion of potential on-site contamination issues from the historical use of the site.

D. Description of Operations

The facility currently produces manganese dioxide and ferrous sulfate.[1] Manganese oxide, which is received at the facility in 3,000 pound tote bags, is mixed with sodium hydroxide and a small amount of lithium catalyst in a pressure vessel to form manganese dioxide. The resulting precipitate is then leached with sulfuric acid, washed and dried. The resulting manganese dioxide product is packaged for final delivery to customers. Ferrous sulfate is received at the facility in a crystal form, where it is dissolved in water and dried. The resulting product (ferrous sulfate in "pearl" form) is then packaged for final delivery to customers.

Approximately 16 people are employed at the facility, and operations are conducted over three shifts per day, six days per week. The facility's primary Standard Industrial Classification (SIC) code is 2819 (Industrial Inorganic Chemicals, Not Elsewhere Classified). As noted above, the major raw materials include manganese oxide, sulfuric acid, sodium hydroxide, and ferrous sulfate.

E. Database Review

ENVIRON reviewed the results of the environmental database searches provided by Vista. The subject site is listed on the following databases:

- The site is listed on USEPA's RCRIS database as being a small quantity generator of hazardous waste. Issues associated with this listing are discussed in Section G.

- The site is listed on USEPA's AIRS database as producing regulated air emissions. Issues associated with this listing are discussed in Section H.

- The site is listed on the USEPA's Toxic Chemical Release Inventory System as using or releasing toxic chemicals. This listing is discussed further in Section L.

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1 Until recently, the facility also produced manganese sulfate.

In addition to the site itself, two sites were listed on various regulatory databases within the radial distances searched, as discussed below.

- The site is within the Cherokee County Superfund Site (Galena Subsite). The current status of this site and its relation to Eagle-Picher are discussed in Section J.

- The Oronogo-Duenweg Mining Belt Superfund site is located approximately 0.9 miles east of the site. Given its distance from Eagle-Picher's Galena site and the direction of ground water at the Galena site, this Superfund site does not appear to represent a significant environmental concern to the subject site.

F. Chemical and Chemical Waste Storage

1. Underground Storage Tanks

According to facility personnel, no underground storage tanks (USTs) have ever been present at the site and no evidence of such (e.g., fill pipes or vents) was observed by ENVIRON. The Vista environmental database search does not indicate that any USTs are present at the site.

2. Aboveground Storage Tanks

Eagle-Picher has two aboveground storage tanks (ASTs) on-site.[2] Both tanks are 2,500 gallons in capacity, and are located outdoors within a bermed area. One tank stores sulfuric acid and the other tank stores sodium hydroxide. No evidence of significant leaks or spills near the ASTs was observed at the time of the site visit, and facility personnel report that no significant spills from the ASTs have occurred.

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[2] In addition to these two ASTs, there are several process vessels on-site, primarily located indoors at the Chemicals Department.

3. Drums and Other Storage Areas

Facility personnel report that drums of chemicals are not typically stored at the facility, and no drums of chemicals were observed by ENVIRON during the site visit.

4. Spill Prevention Control and Countermeasure (SPCC) Plan

Facilities with the capacity to store oil or petroleum products in a single aboveground container larger than 660 gallons, in multiple aboveground containers with a combined volume exceeding 1,320 gallons (i.e., the equivalent of twenty-four 55-gallon drums), or in underground containers with a combined volume exceeding 42,000 gallons are required to prepare an SPCC plan, as specified under 40 CFR $112.3, if a release from the facility could be reasonably expected to discharge oils to navigable waters. Because the facility does not exceed these thresholds, it is not required to prepare or maintain an SPCC Plan.

G. Hazardous and Nonhazardous Waste

1. Hazardous Waste

Facility personnel report that hazardous waste is not typically generated at the facility. On January 7, 1998, however, approximately 20,000 pounds of manganese dioxide, which was old test material that was contaminated with cadmium, was disposed of at the Michigan Disposal site as hazardous waste. The facility obtained a temporary EPA generator identification number for this shipment.

As stated above, the site is listed on USEPA's RCRIS database as being a small quantity generator of hazardous waste (i.e., generating between 100 and 1,000 kilograms of hazardous waste per month). The facility may wish to contact USEPA to confirm its change in generator status. The facility has reportedly never been inspected by USEPA or the Kansas Department of Health and Environment (KDHE) to determine compliance with hazardous waste regulations.

2. Nonhazardous Waste

Nonhazardous waste generated by the facility primarily consists of general trash. Small quantities of waste oil (approximately one drum per year) are also generated. General trash is disposed of at the City of Galena's municipal landfill. Waste oil is transported by Safety-Kleen to its facility in Springfield, Missouri.

3. Off-Site Liabilities

The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database and State Priority Lists (SPL) were searched to determine whether any of the three off-site waste management facilities discussed above were listed. The Michigan Disposal site is listed on CERCLIS, but has been assigned a "No Further Remedial Action Planned" (NFRAP) classification. The Safety Kleen facility in Springfield Massachusetts is also listed on CERCLIS, but has not been designated as NFRAP. It has had no history of investigation or assessment since 1990. As such, the above sites do not likely represent a significant concern to Eagle-Picher.

If, in the future, any of the off-site waste management facilities used by the site becomes a federal or state Superfund site, subject to federal or state enforcement proceedings, or subject to third party lawsuits, Eagle-Picher could be responsible for a portion of the investigation or remediation costs.

H. Air Emissions

The primary air emissions at the facility are particulate matter from the processing equipment, which are controlled by baghouses. No formal calculation of these emissions has apparently been completed. Based on observations made during the site visit, such emissions appear to be *de minimis*. This is supported by correspondence received in July 1996 from the KDHE, which states that it would not be necessary for the facility to obtain an air operating permit. Facility personnel report that the last major modification to the facility occurred in 1992, when new equipment and baghouses were installed. An air emission source approval was obtained from the KDHE for this modification. Based on discussions with facility

personnel and a review of the Vista data base results, the facility was last inspected by the KDHE in 1992, when it was found to be in compliance with air regulations.

I. Wastewater Discharges

Wastewater discharges from the site include process wastewater, sanitary wastewater, and storm water. Sanitary wastewater from the facility is discharged directly to the City of Galena sewer system. Process wastewater is neutralized prior to its discharge to the City of Galena sewer system. Facility personnel report that the City is aware of the discharge of this process wastewater, and requires no permit. Storm water from the site enters Short Creek. Facility personnel report that the KDHE has determined that the facility is not required to have a storm water permit due to little outside activity. No documentation regarding this determination was available. As discussed below in Section J, certain remedial actions may be required in the future, in part, to address storm water runoff.

J. On-Site Soil and Ground Water Contamination

As presented above, the Galena facility was the site of a former lead and zinc smelting and chemicals manufacturing operation. The 60-acre site operated from approximately 1903 to the 1950s. In the early 1980s, buildings and structures housing former manufacturing operations were dismantled. Certain structures and former ore and slag piles reportedly were used to recontour and level the site.

The site is part of the Cherokee County Superfund Site (Galena Subsite). The Galena Subsite, which covers an area of approximately 25 square miles, currently comprises two Operable Units (OUs); the Ground Water/Surface Water OU and the Alternative Water Supply OU. USEPA has issued a Record of Decision (ROD) for the Ground Water/Surface Water OU which requires the removal of mining waste from the ground surface with subsequent disposal in existing mine voids, the recontouring and vegetation of approximately 600 acres of surface area impacted by mining activities, stream channelization and diversion, and investigation of the deep (Roubidoux) aquifer underlying the area. The ROD for the Alternative Water Supply OU requires that local residents, that had been using shallow ground water as a potable source, be provided with water from the Roubidoux Aquifer. The total

capital costs for implementation of the Ground Water/Surface Water OU and the Alternative Water Supply OU are $8.3 million and $5.3 million, respectively. Annual O&M costs for these two OUs are $15,000 and $100,000, respectively. It should be noted that, in issuing these decisions, USEPA has recognized that remediation of shallow ground water underlying the Galena Subsite will be neither practical nor effective. Instead, the USEPA has focused on protecting the underlying Roubidoux Aquifer which serves as a potable source to area users.

Based on the information available, it is unclear what (if any) future remediation of the Galena site will be required under the present regulatory framework for the area. The site is not specifically addressed under the current Ground Water/Surface Water OU. It is possible, however, that the site could be designated as part of a future separate OU within the Galena Subsite. Eagle-Picher has estimated the costs of remedial action at the site to be $0.5-7 million. Details of this estimate were not provided but corporate personnel indicated that future action at the site would likely consist, at a minimum, of further investigatory work (including risk assessment). Based primarily on activities conducted at a similar site in Oklahoma, corporate personnel believe that any future remedial action primarily would consist of consolidation of on-site waste materials, capping and recontouring various areas of the site, and monitoring of certain areas. Corporate personnel also believe that ground water remediation will not be required because of USEPA's previous decisions not to require remediation of the shallow aquifer.

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Based on the information stated above, ENVIRON believes that the range of costs provided by Eagle-Picher for future actions at the site is reasonable. Specifically, ENVIRON believes that, at a minimum, further investigation will be required to establish the magnitude and extent of any contamination at the site, and the risks to human health and the environment posed by the site. The costs for such investigation could be in the range of $1-2 million, depending on the extent and magnitude of contamination existing at the site. Based on the history of operations at the site, ENVIRON also believes that some remedial action ultimately will be required. Under a reasonable-case scenario, such action likely will consist of consolidation of on-site waste materials within individual waste management units and the subsequent capping of these units, on-site compliance monitoring, provisions for a vegetated cover over the remaining parts of the site, and stabilization of certain highly contaminated

waste materials where needed. The costs for such remedial action (in addition to the investigation costs presented above) would likely be on the order of approximately $3-5 million depending on the magnitude and extent of contamination present at the site. Thus, total costs under a reasonable case scenario are estimated to be $4-7 million.

It is ENVIRON's understanding that Eagle-Picher has resolved, through a settlement agreement with USEPA, all outstanding liabilities for off-site soil contamination associated with the Galena facility. Hence, for the purposes of this assessment, ENVIRON has not considered any liabilities associated with off-site soil contamination.

K. Asbestos and Polychlorinated Biphenyls

According to facility personnel, no known asbestos-containing materials (ACMs) are present in buildings at the facility. Although ENVIRON did not observe presumed asbestos containing materials (PACM) during its site visit, the facility may wish to conduct an asbestos survey to confirm that no PACM is present.

Electrical service to the site is provided through approximately four transformers. Facility personnel report that only one transformer contains polychlorinated biphenyls (PCBs). This transformer is labeled and is inspected every month. ENVIRON personnel observed no obvious indications of leakage at any transformer. Other than electrical equipment, facility personnel were unaware of any other equipment or oils at the facility that may have contained PCBs.

L. Emergency Planning and Community Right-to-Know

Based on information provided by facility personnel, the Galena site is subject to the requirements of the Emergency Planning and Community Right-to-know Act (EPCRA) of 1986, also known as Title III of the Superfund Amendments and Reauthorization Act (SARA):

- The facility stores extremely hazardous substances in quantities that exceed their Threshold Planning Quantities (TPQs): sulfuric acid. Therefore, the facility is required to comply with the emergency planning sections of EPCRA (Sections 301-

303). According to facility personnel, the facility has notified the necessary regulatory agencies of its storage of these hazardous substances, as required.

- There have been no reported releases into the environment of listed hazardous substances exceeding the reportable quantity limits. Therefore, the facility has not been subject to the emergency notification requirements of EPCRA (Section 304).

- Facilities that store substances with Material Safety Data Sheets (MSDSs) on-site in amounts greater than their TPQs are subject to the community right-to-know sections of EPCRA (Sections 311 and 312). Pursuant to 311, the facility has reportedly submitted a list of chemicals present on-site to the state and the local fire department. The facility also prepares and submits Tier II forms to the Missouri Emergency Response Commission (SERC), the Local Emergency Planning Committee (LEPC), and the local fire department on an annual basis, as required under Section 312..

- The facility is subject to the toxic chemical release reporting requirements of EPCRA (Section 313) because the facility processes listed chemicals in quantities exceeding 25,000 pounds per year or uses listed chemicals in quantities exceeding 10,000 pounds per year. The facility's last submission (for reporting year 1996) of Toxic Chemical Release Inventory (TRI) reports (Form Rs) was not readily available. The Vista database indicates that such forms have been submitted in the past for manganese compounds and sulfuric acid.

M. Occupational Safety and Health

Although a comprehensive review of occupational health and safety issues was beyond ENVIRON's scope of work, a brief review of current operations was conducted to determine whether any major areas of concern were evident. ENVIRON did not identify any major areas of concern.

Based on discussions with facility personnel, the facility has not been inspected by Occupational Safety and Health Administration (OSHA). The facility's plans and documents related to occupational safety and health are summarized below:

- The facility has a written hazard communication plan, which outlines procedures for promoting awareness and proper handling of hazardous chemicals at the facility (29 CFR §1910.1200).

- Facilities are required to develop a bloodborne pathogen exposure control plan if the type of work performed is likely to result in occupational exposure to blood or other potentially infectious materials (29 CFR §1910.1030). Because of the potential for exposure to blood when administering first aid, the facility is required to prepare a bloodborne pathogen exposure control plan, which the facility has done. Several employees are trained annually in first aid, and regular bloodborne pathogen training is conducted.

- The facility maintains OSHA 200 logs related to reportable occupational injuries and lost-time accidents. Based on ENVIRON's review, these forms are appropriately completed, signed, and maintained at the site.

- The facility maintains a written confined space entry plan, lock-out/tag-out plan, respiratory protection program, and forklift training program.

"Elise.Feldman@usdoj.gov"
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03/15/2006 03:26 PM

To "Elise.Feldman@usdoj.gov" <Elise.Feldman@usdoj.gov> (Receipt Notification Requested) (IPM Return Requested), "cintron-silva.maria@epa.gov"
cc "Alan.Tenenbaum@usdoj.gov" <Alan.Tenenbaum@usdoj.gov> (Receipt Notification Requested) (IPM Return Requested)
bcc
Subject RE: EP post-call followup

Other language that we have provided to EP is the following pertaining to the "exclusive jurisdiction" language at Article XIII.

Article XIII. Delete "exclusive" or add: "provided, however, with respect to a governmental unit's exercise of its police or regulatory powers, the jurisdiction of any other tribunal shall not be reduced or impaired from that as set forth in any applicable, valid statutory grant of jurisdiction."

> _____
> From: Feldman, Elise (ENRD)
> Sent: Tuesday, March 14, 2006 5:50 PM
> To: Feldman, Elise (ENRD); 'ebessey@kdhe.state.ks.us'; 'robert_singletary@oag.state.ok.us'; 'christie.kincannon@ago.mo.gov'; 'piercejc@michigan.gov'; 'JKMcManus@ag.state.oh.us'; 'bruce.kugler@epa.state.il.us'; 'richard.lotz@state.co.us'; 'Barbara.Rauch@deq.state.ok.us'; 'cintron-silva.maria@epa.gov'; 'jmorgan@atg.state.il.us.'; 'moran.gloria-small@epamail.epa.gov'; 'Garypie.Catherine@epamail.epa.gov'; 'kloeckner.jane@epa.gov'; 'miranda.wellbourne@usdoj.gov'; 'Webster.Susan@epamail.epa.gov'; 'Ofosu.Philip@epamail.epa.gov'; Smith, Calisa (ENRD); 'KCordry@NAAG.ORG'; 'PCotter@NAAG.ORG'
> Subject: RE: EP post-call followup
>
> During the call, people requested langauge to address concerns about environmental liability of the NewCo's. See suggested language below.
>
> Nothing in the Plan or Confirmation Order shall release, discharge, enjoin, or preclude (i) any Claim of any governmental unit under police or regulatory laws that has not arisen as of the Effective Date of the Plan, (ii) any liabilitiy or cause of action under police or regulatory laws that any governmental unit may have that is not within the definition of "claim" under 11 U.S.C. § 101(5), and (iii) any liability to a governmental unit under police or regulatory laws that any entity would be subject to as the owner or operator of property after the Effective Date of the Plan.
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> _____
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