EPA Region 5 Records Ctr.
308228

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

EXPANDED SITE INSPECTION REPORT

FOR

U S SMELTER AND LEAD REFINERY, INC.

EAST CHICAGO, INDIANA

LAKE COUNTY

U.S. EPA ID: IND047030226

April 1, 2008

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Signature Page
for
U S Smelter and Lead (USS Lead)
Expanded Site Inspection
East Chicago, Indiana
Lake County
U.S. EPA ID: IND047030226

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SECTION I

INTRODUCTION

The Indiana Department of Environmental Management (IDEM) Site Investigation Section, under a Cooperative Agreement (CA) with the United States Environmental Protection Agency (U.S. EPA), Region V, has been funded to perform an Expanded Site Inspections (ESI) at certain sites listed in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). This work is conducted under the authority of the Federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (aka Superfund), and the Superfund Amendments and Reauthorization Act (SARA) of 1986. Sites eligible for an ESI include those sites for which the Site Inspection (SI) did not conclude that "No Further Remedial Action is Planned" (NFRAP), as reflected in CERCLIS.

The primary objectives of the ESI are:

- To collect additional data beyond the SI, using the Hazard Ranking System (HRS), required to make the determination of whether the site should be placed on the National Priorities List (NPL);

- To identify sites that may require removal actions to address immediate threats to human health and/or the environment.

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The Site Investigation Section was given approval by the U.S. EPA to conduct an ESI at the U.S. Smelter and Lead Refinery, Inc.(USS Lead) Contamination area located in East Chicago, Lake County, Indiana. USS Lead operated a lead smelting facility on a 79 acre tract of land from 1920 to 1985. Lead waste was dumped onto the surface area south of the former plant building. Historic aerial photographs show that a large waste pile of undetermined height was located in this area. Overland flow from this waste pile was allowed to drain directly into a wetland area adjacent to the facility. Fugitive dust and other fallout from a facility stack may have also contributed to elevated levels of lead in nearby residential soils.

Information contained within this report will be used to evaluate USS Lead under the Revised Hazard Ranking System Model for possible inclusion on the NPL of hazardous waste sites.

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SECTION II

SITE BACKGROUND

2.1 Introduction

This section includes information obtained from the IDEM-RCRA files, U.S. EPA files, IDEM's Drinking Water program, and from U.S.G.S Topographic Maps.

2.2 Site Description and Location

USS Lead can be found on the U.S.G.S. Highland Quadrangle Topographic Map. The site lies in Section 33 in Township 37 North, Range 9 West. The center of the site is located at 41°35'50.0" latitude and 87°27'15.0" longitude. Refer to the Site Location Map on Page 2-2.

The facility is bordered to the north by the E J & E Railroad, to the west by the Grand Calumet River and the Indiana Harbor Canal, to the south by the Grand Calumet River, and to the east by the Indiana Harbor Belt Railroad. The facility lies in a mixed residential/commercial/industrial area.

The plant buildings that originally stood on the property have been demolished. The property has since been graded and vegetated in grasses. Debris from the facility operations has been placed in a Resource Conservation Recovery Act (RCRA) corrective action management unit (CAMU). The CAMU sits in a

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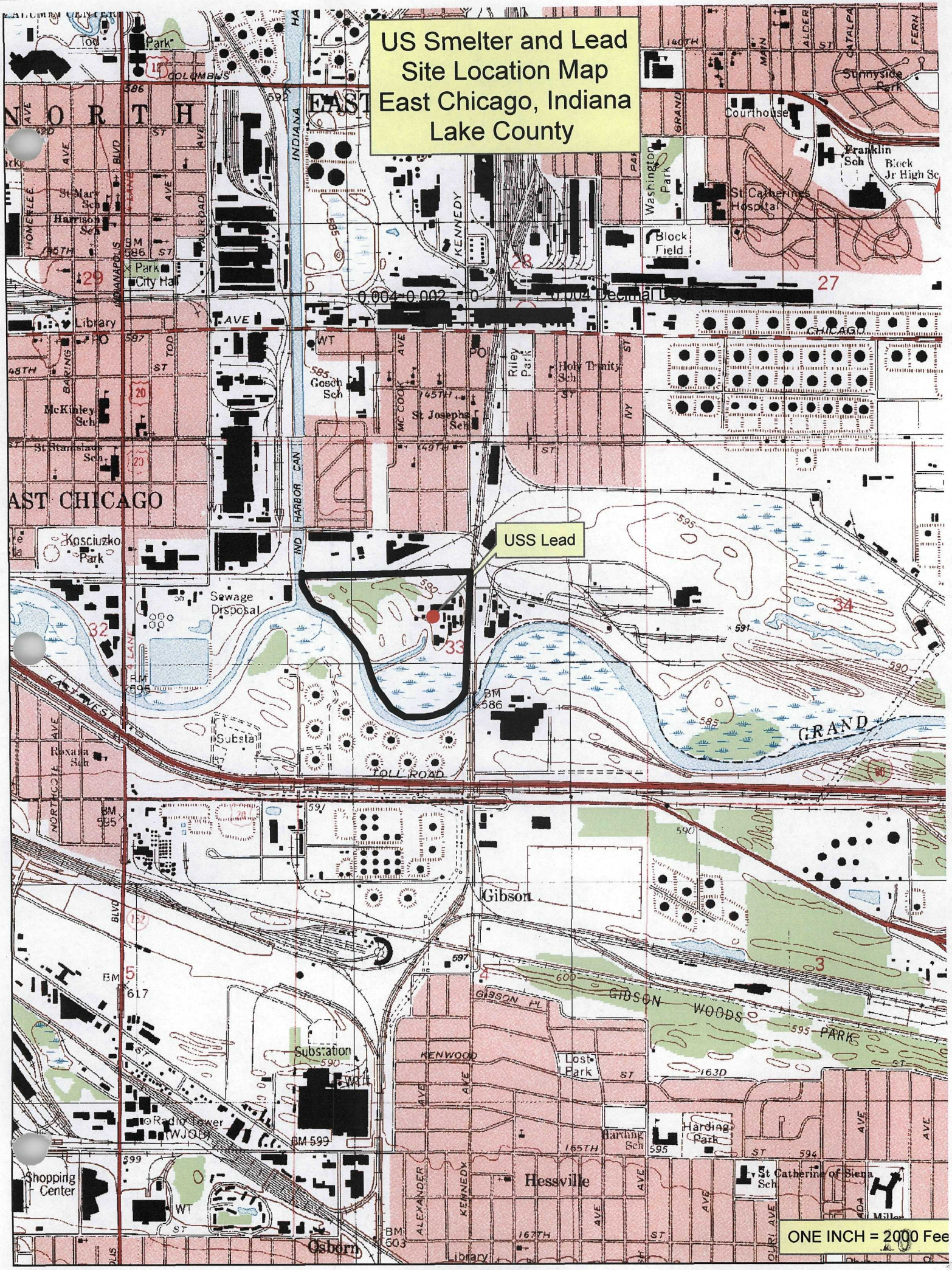
US Smelter and Lead
Site Location Map
East Chicago, Indiana
Lake County
USS Lead
NORTH EAST
EAST CHICAGO
Kosciuzko Park
Sewage Disposal
Substa
TOLL ROAD
GRAND
Gibson
GIBSON WOODS PARK
Substation
Radio Tower
WJOB
Shopping Center
Osborn
Hessville
Harding Park
Lost Park
Courthouse
Sunnyside Park
Franklin Sch
Block Jr High Sc
St Catherines Hospital
Washington Park
Block Field
Library
City Hall
McKinley Sch
St Stanislaus Sch
Gosch Sch
St Josephs Sch
Riley Park
Holy Trinity Sch
St Catherine of Siena Sch
ONE INCH = 2000 Fee

rectangle of approximately 800' X 650'. There is a cut out area in the CAMU that is approximately 250' X 400', making it "L" shaped. It is approximately 10 acres, 30 feet from the toe to the top, and is vegetated.

2.3 Site History

USS Lead operated a lead smelting facility on a 79 acre tract of land from 1920 to 1985. The smelting operation generated three waste materials: blast furnace slag, battery chips, and flue dust. In the 1920s, the facility produced a hi-purity lead which was free of bismuth. Bismuth dross was also treated at the facility to recover gold, silver, and metals of the platinum group. The facility originally consisted of a tank house, where lead refining occurred, a store building (a warehouse area plus an old boiler facility), the club building (a workers cleaning area, lunchroom, locker area and cafeteria), the main office and laboratory building, a silver refinery building, the sulfuric acid building, the tellurium building, and the byproducts building. A mixed metals building and bag house were constructed around 1926. A 50-ton blast furnace was installed to process the kettle dross but only operated on an intermittent basis due to the limited amount of kettle dross.

The facility was modified in the early 1970s to a secondary lead smelter for recovering lead from automotive batteries. Some kettles from the mixed metals building were moved to the eastern end of the tank house building which became the new alloying department. During plant conversion, the sulfuric acid building was converted for battery processing and renamed the battery breaker building.

Lead waste, in the form of slag and baghouse dust was dumped onto the facility property surface area south, north and west of the former plant buildings. Overland flow from the waste piles was allowed to drain directly into the adjacent wetland area. Former reports regarding the facility indicate that lead battery cracking activities also were conducted. Fugitive dust and other fallout from an onsite stack may have contained lead particulates. This particulate matter may have been deposited on nearby residential yards.

U.S. EPA Superfund program prepared a HRS documentation record dated August 30, 1991, as part of the February 7, 1992, proposal of USS Lead to the NPL. The HRS documentation record originally evaluated the surface water and air migration pathways and the potential threat contaminants from the USS Lead facility posed to wetlands and USS Lead employees. After the 1992 proposal to the NPL, U.S. EPA determined that the USS Lead

facility would be best addressed under RCRA authority. On November 18, 1993, USS Lead entered into a RCRA 3008(h) Administrative Order of Consent requiring the implementation interim measures on the property and off the facility investigations. Under the Administrative Order of Consent, USS Lead removed the waste piles along with the former plant building and other contaminated areas. Upon completion of soil removal and disposal activities, USS Lead completed construction of a CAMU. Most of the on property facility waste and building debris was disposed into the CAMU.

In 2004, RCRA referred the residential areas adjacent to the facility to Superfund as it was believed that elevated lead levels in soils adjacent to USS Lead could be attributed to the USS Lead facility. Subsequently, in 2006, RCRA referred the remaining portions of the facility to CERCLA due to residual contamination in wetlands and soil areas on the facility. This referral included upland, dune/swale, and riparian areas which may pose unacceptable exposures to human health and ecological receptors. RCRA has indicated that the facility has the inability to pay for further investigation and cleanup of the site; therefore, other than post-closure care of the CAMU no additional investigative or cleanup work under RCRA can be conducted.

SECTION III

FIELD OBSERVATIONS SAMPLING PROCEDURES

3.1 Introduction

This section outlines the sampling procedures and observations of the USS Lead facility and its surrounding areas.

3.2 Site Reconnaissance

On November 13 and 14, 2007, at the East Chicago Health Department, Mark Jaworski, (Project Manager) met with IDEM team members, Doug Fisher, Dan Chesterson, Chris Bonniwell, Paul Giesting, Marty Maupin, and Mike Sickels and with U.S. EPA team members John Bing Canar, Michael Berkoff, Laura Ripley, William Chantry (U.S. EPA contractor), Pat Hamblin, Abbey Brake, Dan Michor, and Heather Rosenfeld. USS Lead's consultant, Jeff Woelfer, with ETS Environmental Associates, also met with IDEM and U.S. EPA teams on the above mentioned dates. IDEM team members Fran Metcalfe and Bill Giles joined the team on November 14, 2007.

Inspection of the site revealed the following significant observations:

1) The site lies in a heavy industrial/residential setting.

2) Numerous businesses lie near the perimeter of the site.

3) A railroad borders the north and east areas of the site.

4) All plant buildings have been leveled.

5) No waste piles were observed on site.

6) Some waterfowl was observed near the wetland areas of the USS Lead property.

7) Original dune and swale features were observed in the far northwest portion of the USS Lead property.

8) A heavily populated residential area is present less than ¼ mile north and west of the site.

9) A wetland area is present on the south portion of the USS Lead property.

10) A CAMU was observed on the east portion of the site. Some debris particles and erosion features were observed on the CAMU.

3.3 Soil Sample Collection

Soil samples were collected by IDEM at locations selected during the reconnaissance inspection to determine the extent of potential contamination. A total of 38 soil samples were collected on November 17-18, 2007. The soil samples are identified as samples ME2PE0 through ME2PE9, ME2PG6 through ME2PG9, ME2PH0 through ME2PH9, ME2PJ0 through ME2PJ9, ME2PD6 through ME2PD9. Refer to the Soil Sample Location and Comment Table, page 3-3 for a description of each sample. The Soil Sample Location Map, Appendix C, shows where each sample was obtained. Soil samples ME2PE6 through ME2PE9 are considered background

Table 1
USS Lead
Soil Sample Location And Comment Table

EPA Number	Sample Location	Comments
ME2PJ8	[redacted]	Dark brown, fine grained, dry
ME2PJ9	[redacted]	Dark brown, fine grained, dry, front yard
ME2PE0	[redacted]	Dark brown, dry,
ME2PE1	[redacted]	Front yard
ME2PE2	[redacted]	Dark brown fine topsoil
ME2PE3	[redacted]	Dark brown fine topsoil
ME2PE4	[redacted]	Dark brown fine topsoil, front yard
ME2PE5	[redacted]	Dark brown fine topsoil
ME2PE6	[redacted]	Fine medium brown topsoil
ME2PE7	[redacted]	Sandy brown soil, dry
ME2PE8	[redacted]	Medium brown sandy topsoil
ME2PE9	[redacted]	Medium brown fine topsoil
ME2PG6	[redacted]	Dark,organic, weedy
ME2PD6	[redacted]	Dark,organic, healthy sod
ME2PJ5	[redacted]	Duplicate of sample ME2PD6
ME2PH4	[redacted]	Dark soil
ME2PG7	[redacted]	Dark, sandy with pebbles
ME2PG8	[redacted]	Dense grass, dark soil
ME2PG9	[redacted]	Dark soil, backyard, east of house
ME2PD7	[redacted]	Dark , organic soil, backyard, west of house
ME2PD8	[redacted]	Very dark brown soil, weady, west of house
ME2PD9	[redacted]	Duplicate of sample ME2PD8
ME2PH0	[redacted]	Dark organic, sandy
ME2PH1	[redacted]	Side of yard, south of house, east of tree
ME2PH2	[redacted]	Dark organic soil
ME2PH3	[redacted]	Very dark brown soil, some grass, front yard
ME2PJ6	[redacted]	Duplicate of sample ME2PH3
ME2PH5	[redacted]	Dark, organic soil
ME2PH6	[redacted]	Black, rich organic, sandy
ME2PH7	[redacted]	Black, rich organic, sandy
ME2PH8	[redacted]	Black, rich organic, sandy
ME2PH9	[redacted]	Black, rich organic, sandy
ME2PJ0	[redacted]	Black, rich organic, sandy
ME2PJ1	[redacted]	Black, rich organic, sandy
ME2PJ7	[redacted]	Duplicate of sample ME2PJ1
ME2PJ2	[redacted]	Black, rich organic, sandy
ME2PJ3	[redacted]	Black, rich organic, sandy
ME2PJ4	[redacted]	Black, rich organic, sandy. thick grass mat

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soil samples. Soil sampling locations were selected by examining previously collected information and actual access permission which was granted by individual residents in the area.

Once a residential property was selected the following protocol was followed:

1) An IDEM representative (Paul Giesting 11/13/07, Fran Metcalfe 11/14) obtained pertinent information (name, address, phone number, number of residents) from the resident. Chris Bonniwell (IDEM) was responsible for the actual collection of soil samples.

2) An appropriate sampling location within the yard was selected. Sampling locations were preferentially selected in the backyard of the property when possible, away from buildings, structures, driplines, and other conditions that may affect the sample.

3) The U.S. EPA representative sampled the location with a bulb planter. This sampling method produced a soil plug approximately 4 inches in diameter and 6 inches deep. The soil plug was then placed in a stainless steel bowl. Large organic matter (roots, grass, etc.) was removed and the remaining soil was manually homogenized while wearing disposable gloves.

4) The majority of the collected sample was placed into a small plastic zip top bag. The sample was field screened for lead content utilizing an InnovX Systems xray flourescense (XRF) detector. The results were data logged by the U.S. EPA team, and the location of the sample was recorded by global positioning system (GPS). Soil conditions and a description of the sampling location were recorded on field sampling sheets.

5) An additional 1 to 3 soil plugs were collected immediately adjacent to the initial plug to insure that adequate soil was obtained after removing any grass, roots, or rocks or if a duplicate sample was

needed. All soil collected was placed in to the steel bowl. Organic matter and stones were removed, and the additional material was manually homogenized and composited with the initially collected soil. The entire composite sample was then placed in a pre-marked zip top plastic bag. A placard was generated indicating the project name, date, sample name, and time. The composite sample was placed on the ground adjacent to the collection point and the placard. The assembly was then photographed at close range for identification, as well as wide angle to indicate the relative position on the property.

6) The U.S. EPA team then decontaminated the sampling device and stainless steel bowl with three alternating applications of an Alconox solution and water. Sampling gloves were then disposed of properly.

7) The bagged sample was later transferred to a labeled sample jar and sent to the laboratory for analysis.

3.4. Wetland Sediment Sample Collection

The location of a wetland sediment sample was chosen based on elevated lead concentrations in the wetlands as indicated in the USS Lead Modified RCRA Facility Investigation Report. After a location was chosen, a shovel was used to clear an area approximately 12 inches in diameter of vegetation to facilitate sample collection. The shovel was then used to dig into and overturn 6 to 8 inches of the exposed soil. A dedicated plastic scoop was used to homogenize the sediment material in situ. After the sediment sample was homogenized, the material was described and transferred to two one gallon storage bags, one bag for IDEM and one bag for USS Lead's consultant. The bags were

Table 2
USS Lead
Wetland Sediment Sample Location and Comment Table

EPA Number	Sample Location	Comments
ME2PF0	Wetland sample obtained from the far southwest	Black sediment (10YR 2/1), saturated; Dominant vegetation
	sector of the wetland area	is cattails
ME2PF1	Wetland sample obtained from the south central	Black sediment (10YR 2/1), saturated; Dominant vegetation
	portion of the wetland area	is cattails
ME2PF2	Wetland sample obtained from the southeast	Black sediment (10YR 2/1), moist; Dominant vegetation
	sector of the wetland area	is phragmites
ME2PF3	Duplicate of ME2PF2	Same as sample ME2PF2
ME2PF4	Wetland sample obtained from the northeast sector	Black sediment (10YR 2/1), Soupy; extremely saturated,
	of the wetland area	Dominant vegetation is cattails
ME2PF5	Wetland sample located from the far northeast	Black sediment (10YR 2/1), Soupy; extremely saturated,
	sector of the wetland area	Dominant vegetation is cattails
ME2PF6	Wetland sample obtained from the wetland area	Black sediment (10YR 2/1), moist; Dominant vegetation
	on the far west sector of the USS Lead property;	is reed canary grass
	8 ft from Grand Calumet	
ME2PF7	Wetland sample obtained upstream from the USS	Black sediment (10YR 2/1), moist; Dominant vegetation
	Lead property at a point on the east side of Kennedy	is phragmites
	S of Calument River off of Kennedy	
ME2PK0	Wetland sample obtained upstream from the USS	Black sediment (10YR 2/1), moist; Dominant vegetation
	lead property at a point 30-40 feet from river,150	is phragmites
	yards east of Kennedy Av.	
ME2PK1	Wetland sample obtained upstream from the USS	Black sediment (10YR 2/1), moist; Dominant vegetation
	Lead facility, 100 yards east of SD8, 100 feet south	is phragmites
	of the Grand Calumet River; about 350 yards east of	
	Kennedy Ave.	
ME2PF8	Wetland sample obtained upstream from the USS	Black sediment (10YR 2/1), moist; Dominant vegetation
	Lead property on the east side of bridge on Kennedy	is phragmites and cattails
	Ave.; located adjacent to embankment	
ME2PF9	Wetland sample obtained on USS Lead property 75	
	feet east of MW 12	
ME2PG0	Wetland sample obtained southwest of sample	Black sediment (10YR 2/1), moist; Dominant vegetation
	ME2PF4 and northeast of sample ME2PF1.	is cattails
ME2PG1	Wetland sample obtained from the southwest sector	Black sediment (10YR 2/1), moist; Dominant vegetation
	of the wetland area	is phragmites

appropriately marked and pictures were taken for documentation. An XRF reading of the sample was obtained through the plastic bag. The bagged sample was later transferred to a labeled sample jar and sent to the laboratory for analysis.

Fourteen wetland sediment samples were collected. The samples are identified as ME2PF0 through ME2PF9, ME2PG0, ME2PG1, ME2PK0, and ME2PK1. Samples ME2PF7, ME2PF8, ME2PK0, and ME2PK1 are considered background wetland sediment samples. Refer to the Wetland Sample Location and Comment Table, page 3-6 for a description of each sample. The Wetland Sample Location Map, Appendix E, shows where each sample was obtained.

3.5 Sample Procedures and Analytical Results

The laboratory results from the sampling of the USS Lead inspection have been determined to be acceptable for use and meet the criteria contained in the U.S. EPA Contract Laboratory Program (CLP); refer to Analytical Results in Appendix H.

3.6 Summary Tables

All soil and wetland sediment samples were analyzed for metals and total organic carbon. A Key Findings List summarizing contaminant concentrations detected three (3)

times above background is found in Table 3, see page 4-8. Refer to Appendix H for a complete package of the chemical analysis data provided by the laboratory.

SECTION IV

DISCUSSION OF MIGRATION PATHWAYS

4.1 Introduction

Potential migration pathways for contaminants migrating from the USS Lead facility are discussed in this section. Potential contaminant migration via ground water, surface water (including drinking water threat, human food chain threat, and environmental threat), soil exposure, and air pathway are discussed.

4.2 Ground Water Pathway

USS Lead lies in the floodplain of the Grand Calumet River. The original geomorphology of USS Lead was dune and swale. Dune and swale features can still be observed in the far northwest corner of the USS Lead property.

The subsurface is comprised of silt, sand (fine and course), sand and gravel, and clay. According to driller logs from nearby locations, the sand and gravel deposits occur to a depth of about 20 feet. Approximately 100 feet of clay and clay along with gravel and sand deposits underlie the sand and gravel deposits. Silurian limestone bedrock begins at a depth of about 120 feet.

According to driller logs from the monitoring wells that have been completed in the wetland area of the USS Lead property, the ground water table occurs around a depth of 10 feet. The sands and gravel deposits of the surficial aquifer exhibit high transmissivity characteristics. Since the overlying soil is highly permeable, the aquifer is extremely susceptible to contamination from surface releases.

The majority of people within a 4-mile radius of the site obtain drinking water from the municipal water system. Municipal water is obtained from surface water intakes located in Lake Michigan. As the population is not using ground water as a source of drinking water in this area, no ground water samples were obtained as part of this investigation.

4.3 Surface Water Pathway

USS Lead lies in the Calumet Lacustrine Plain of the Lake Michigan Basin. The Michigan Basin encompasses an area of 604 square miles in northwestern Indiana.

Surface runoff from the facility is controlled by infiltration into the sandy surface of the wetlands located on the southern half of the property and by the Grand Calumet River. The Grand Calumet River flows into the

Indiana Harbor Canal. From the canal, surface water discharges into the Indiana Harbor which empties into Lake Michigan. Due to the construction of the Indiana Harbor Canal which connects the Grand Calumet River to Lake Michigan, the Grand Calumet River may flow backwards when high water levels exist in Lake Michigan. The probable point of entry (PPE) from USS Lead to the Grand Calumet River is a point located on the far south central portion of the USS Lead wetlands. The distance from the PPE to Lake Michigan is approximately 6 miles.

4.3.1 Drinking Water Threat

The majority of residents within a 4-mile radius of the USS Lead property obtain drinking water from surface water intakes located in Lake Michigan. Lake Michigan is located approximately 2 ¼ miles to the north. There are no known surface water intakes in the Grand Calumet River that are used as sources for drinking water; therefore, no surface water samples were obtained as part of this investigation.

4.3.2 Human Food Chain Threat

As stated in 4.3, drainage from the property is controlled by the property wetlands and the Grand Calumet River. The Grand Calumet River is considered a fishery.

According to the 2007 Indiana Fish Consumption Advisory, polychlorinated biphenyls (PCBs) are considered a threat to this fishery.

The primary focus of this Site Inspection was to investigate the presence of lead in the wetland area of USS Lead; therefore, no surface water samples were collected as part of this investigation.

4.3.3 Environmental Threat

The Indiana Department of Natural Resources/Division of Nature Preserves-Heritage Program (IDNR/DNP-HP) documents sensitive environments and/or endangered or threatened species within the State of Indiana. A survey conducted by the IDNR/DNP-HP indicated that there are numerous endangered and/or threatened species located near the former USS Lead property. Many wetland areas are located along the Grand Calumet River. Refer to Appendix G for the name and location of the endangered species and wetlands cited.

The primary focus of this Expanded Site Inspection was to investigate the presence of lead in the wetland area of the USS lead property. As mentioned in Section 3.4, fourteen wetland sediment samples were collected. The

Wetland Key Findings Table, Table 3 on page 4-8, depicts the samples and their corresponding metal concentrations that exceed three times background metal concentrations. A review of the Key Findings List revealed that lead is the significant metal of concern. Elevated lead concentrations, ranging from 332 mg/kg to as high as 6570 mg/kg, were detected in the wetland sediment samples. Wetland samples ME2PF5, ME2PF4, and ME2PG0 contained the following lead concentrations respectively and met the three times background Key Findings List criteria: 6440 mg/kg, 6570 mg/kg, and 5620 mg/kg. Samples ME2PF7, ME2PF8, ME2PK0, and ME2PK1 are considered reference background wetland sediment samples. It should be noted that the highest level of lead in a reference background sample was detected in sample ME2PKO. To conservatively determine which samples met the key findings criteria, metal concentrations for all soil samples were only compared to reference background sample ME2PK0. Refer to Appendices E, F and H for the lead concentration found at each location.

4.4 Soil Exposure

Soil areas outlined within the property boundary of the former USS Lead facility are not accessible to the public and to workers of businesses located around the facility. A six foot fence surrounds the USS Lead property

on the east, west, and north perimeter of the property. There are no schools or daycare facilities within 200 feet of USS Lead. Refer to the 4-Mile Radius Map, Appendix A, for the population within each distance ring. A potential exists for elevated levels of lead to have migrated off the facility into residential yards prior to clean up activities. Staff collected thirty eight off property residential soil samples. All soil samples were analyzed for metals. Samples ME2PE6, ME2PE7, ME2PE8, and ME2PE9 are considered reference background samples (Refer to the Proposed Background Sample Report for the U.S. Lead Smelter and Refinery, Inc. dated August 3, 2007). The Key Findings for Soil, beginning on page 4-9, depicts the samples and their corresponding metal concentrations that exceed three times background metal concentrations. It should be noted that the highest level of lead in a reference background soil sample was detected in sample ME2PE8, 165 mg/kg. To conservatively determine which samples met the key findings criteria, metal concentrations for all soil samples were only compared to reference background sample ME2PE8. Elevated levels of lead were found as high as 1680 mg/kg (sample ME2PH2). Refer to the Soil Sample Location ID Map,

Appendix C, for a location of all samples. The Soil Lead Concentration Map, Appendix D, shows the lead concentration found at each sample location and Appendix H has the analytical results from the soil samples taken during the ESI. Since elevated levels of lead were detected in off facility soils, it appears that the soil exposure pathway has likely been impacted by past activities at USS Lead.

4.5 Air Pathway

Also, past reports indicate that fugitive dust from waste piles on USS Lead property may have become airborne. A potential exists that wind may have caused fugitive dust from these waste management units to deposit off the facility. As the management units have been addressed, no air samples were taken during this inspection.

Table 3
USS LEAD
Key Findings for Wetland Sediments

Sample No	Sample ID	SpeciesName	Concentration	Units
SD-01	ME2PF0	Selenium (Total)	18	mg/Kg
SD-02	ME2PF1	Selenium (Total)	16.7	mg/Kg
SD-02	ME2PF1	Arsenic (Total)	916	mg/Kg
SD-03	ME2PF2	Iron (Total)	124000	mg/Kg
SD-03	ME2PF3	Iron (Total)	118000	mg/Kg
SD-03	ME2PF2	Selenium (Total)	21.2	mg/Kg
SD-03	ME2PF3	Chromium (Total)	679	mg/Kg
SD-03	ME2PF2	Chromium (Total)	787	mg/Kg
SD-03	ME2PF3	Selenium (Total)	21	mg/Kg
SD-04	ME2PF4	Selenium (Total)	41.1	mg/Kg
SD-04	ME2PF4	Lead (Total)	6570	mg/Kg
SD-04	ME2PF4	Thallium (Total)	19	mg/Kg
SD-04	ME2PF4	Arsenic (Total)	2280	mg/Kg
SD-04	ME2PF4	Iron (Total)	217000	mg/Kg
SD-04	ME2PF4	Antimony (Total)	730	mg/Kg
SD-05	ME2PF5	Arsenic (Total)	1020	mg/Kg
SD-05	ME2PF5	Lead (Total)	6440	mg/Kg
SD-05	ME2PF5	Selenium (Total)	24.4	mg/Kg
SD-06	ME2PF6	Selenium (Total)	16.8	mg/Kg
SD-06	ME2PF6	Chromium (Total)	460	mg/Kg
SD-06	ME2PF6	Nickel (Total)	99.2	mg/Kg
SD-06	ME2PF6	Iron (Total)	169000	mg/Kg
SD-07	ME2PF7	Selenium (Total)	8.4	mg/Kg
SD-07	ME2PF7	Magnesium (Total)	9600	mg/Kg
SD-10	ME2PF8	Magnesium (Total)	8820	mg/Kg
SD-11	ME2PF9	Selenium (Total)	19.9	mg/Kg
SD-11	ME2PF9	Arsenic (Total)	538	mg/Kg
SD-A	ME2PG0	Lead (Total)	5620	mg/Kg
SD-A	ME2PG0	Arsenic (Total)	854	mg/Kg
SD-A	ME2PG0	Selenium (Total)	23.3	mg/Kg
SD-B	ME2PG1	Selenium (Total)	17.2	mg/Kg
SD-B	ME2PG1	Arsenic (Total)	1080	mg/Kg

Footnote:

1) The wetlands sample concentrations are equal to or greater than three times the background sample, ME2PK0, Concentrations.

Table 6 on page 4-13 includes information on the Wetland Sediment Background Sample and concentrations that are three times background.

029

Table 4

USS LEAD

Key Findings for Soils

Sample No.	Sample ID	Species Name	Concentration	Units
BGSS-01	ME2PJ8	Arsenic (Total)	10.5	mg/Kg
BGSS-01	ME2PJ8	Selenium (Total)	4.5	mg/Kg
BGSS-03	ME2PE0	Selenium (Total)	4.4	mg/Kg
BGSS-07	ME2PE4	Selenium (Total)	3.9	mg/Kg
BGSS-08	ME2PE5	Arsenic (Total)	11.4	mg/Kg
SS-02	ME2PG6	Selenium (Total)	4.3	mg/Kg
SS-02	ME2PG6	Lead (Total)	610	mg/Kg
SS-02	ME2PG6	Arsenic (Total)	20.1	mg/Kg
SS-02	ME2PG6	Antimony (Total)	22.3	mg/Kg
SS-04	ME2PD6	Lead (Total)	775	mg/Kg
SS-04	ME2PD6	Arsenic (Total)	21.4	mg/Kg
SS-04	ME2PD6	Selenium (Total)	4	mg/Kg
SS-04	ME2PJ5	Antimony (Total)	24.3	mg/Kg
SS-04	ME2PD6	Antimony (Total)	23.7	mg/Kg
SS-04	ME2PJ5	Arsenic (Total)	20.6	mg/Kg
SS-04	ME2PJ5	Lead (Total)	826	mg/Kg
SS-06	ME2PH4	Antimony (Total)	40.7	mg/Kg
SS-06	ME2PH4	Cadmium (Total)	3.6	mg/Kg
SS-06	ME2PH4	Arsenic (Total)	33.5	mg/Kg
SS-06	ME2PH4	Lead (Total)	1220	mg/Kg
SS-06	ME2PH4	Selenium (Total)	4.3	mg/Kg
SS-07	ME2PG7	Lead (Total)	595	mg/Kg
SS-07	ME2PG7	Arsenic (Total)	17.5	mg/Kg
SS-07	ME2PG7	Selenium (Total)	4.3	mg/Kg
SS-07	ME2PG7	Antimony (Total)	24.5	mg/Kg
SS-09	ME2PG8	Lead (Total)	751	mg/Kg
SS-09	ME2PG8	Arsenic (Total)	17.3	mg/Kg
SS-09	ME2PG8	Antimony (Total)	18.8	mg/Kg
SS-10	ME2PG9	Selenium (Total)	4	mg/Kg
SS-11	ME2PD7	Antimony (Total)	19.6	mg/Kg
SS-11	ME2PD7	Lead (Total)	779	mg/Kg
SS-11	ME2PD7	Selenium (Total)	3.9	mg/Kg
SS-11	ME2PD7	Arsenic (Total)	13.5	mg/Kg
SS-13	ME2PD9	Lead (Total)	844	mg/Kg
SS-13	ME2PD8	Arsenic (Total)	11.5	mg/Kg
SS-13	ME2PD9	Arsenic (Total)	21.2	mg/Kg
SS-13	ME2PD9	Cadmium (Total)	4.8	mg/Kg
SS-13	ME2PD9	Selenium (Total)	3.8	mg/Kg
SS-13	ME2PD9	Antimony (Total)	22.9	mg/Kg
SS-13	ME2PD8	Antimony (Total)	14.5	mg/Kg
SS-13	ME2PD8	Selenium (Total)	3.8	mg/Kg
SS-13	ME2PD8	Lead (Total)	805	mg/Kg
SS-15	ME2PH0	Selenium (Total)	4.1	mg/Kg
SS-15	ME2PH0	Lead (Total)	577	mg/Kg
SS-15	ME2PH0	Arsenic (Total)	14.9	mg/Kg
SS-15	ME2PH0	Antimony (Total)	13.1	mg/Kg
SS-17	ME2PH1	Arsenic (Total)	27	mg/Kg
SS-17	ME2PH1	Antimony (Total)	30.2	mg/Kg

Table 4

USS LEAD

Key Findings for Soils

Sample No	Sample ID	Species Name	Concentration	Units
SS-17	ME2PH1	Cadmium (Total)	3.6	mg/Kg
SS-17	ME2PH1	Lead (Total)	868	mg/Kg
SS-19	ME2PH2	Arsenic (Total)	44.5	mg/Kg
SS-19	ME2PH2	Antimony (Total)	48.8	mg/Kg
SS-19	ME2PH2	Lead (Total)	1680	mg/Kg
SS-19	ME2PH2	Cadmium (Total)	4.1	mg/Kg
SS-19	ME2PH2	Selenium (Total)	4.2	mg/Kg
SS-19	ME2PH2	Silver (Total)	3.5	mg/Kg
SS-20	ME2PH3	Lead (Total)	535	mg/Kg
SS-20	ME2PJ6	Lead (Total)	530	mg/Kg
SS-20	ME2PJ6	Selenium (Total)	4.1	mg/Kg
SS-20	ME2PH3	Arsenic (Total)	11.6	mg/Kg
SS-20	ME2PJ6	Arsenic (Total)	11.2	mg/Kg
SS-20	ME2PH3	Selenium (Total)	4.1	mg/Kg
SS-22	ME2PH5	Antimony (Total)	24.8	mg/Kg
SS-22	ME2PH5	Lead (Total)	665	mg/Kg
SS-22	ME2PH5	Cadmium (Total)	5	mg/Kg
SS-22	ME2PH5	Arsenic (Total)	28.7	mg/Kg
SS-23	ME2PH6	Lead (Total)	676	mg/Kg
SS-23	ME2PH6	Antimony (Total)	25.8	mg/Kg
SS-23	ME2PH6	Arsenic (Total)	10.7	mg/Kg
SS-23	ME2PH6	Selenium (Total)	4.1	mg/Kg
SS-23	ME2PH6	Silver (Total)	3.3	mg/Kg
SS-24	ME2PH7	Cadmium (Total)	3.8	mg/Kg
SS-24	ME2PH7	Lead (Total)	697	mg/Kg
SS-24	ME2PH7	Selenium (Total)	4.2	mg/Kg
SS-24	ME2PH7	Antimony (Total)	17.4	mg/Kg
SS-24	ME2PH7	Arsenic (Total)	14.9	mg/Kg
SS-25	ME2PH8	Cadmium (Total)	4.1	mg/Kg
SS-25	ME2PH8	Arsenic (Total)	16.5	mg/Kg
SS-25	ME2PH8	Lead (Total)	671	mg/Kg
SS-25	ME2PH8	Selenium (Total)	4.3	mg/Kg
SS-25	ME2PH8	Antimony (Total)	13.8	mg/Kg
SS-26	ME2PH9	Copper (Total)	169	mg/Kg
SS-26	ME2PH9	Arsenic (Total)	19	mg/Kg
SS-26	ME2PH9	Cadmium (Total)	4.5	mg/Kg
SS-26	ME2PH9	Lead (Total)	808	mg/Kg
SS-26	ME2PH9	Antimony (Total)	16.5	mg/Kg
SS-27	ME2PJ0	Selenium (Total)	4.3	mg/Kg
SS-27	ME2PJ0	Cadmium (Total)	3.9	mg/Kg
SS-27	ME2PJ0	Antimony (Total)	12.6	mg/Kg
SS-27	ME2PJ0	Lead (Total)	838	mg/Kg
SS-27	ME2PJ0	Arsenic (Total)	15.8	mg/Kg
SS-28	ME2PJ1	Arsenic (Total)	19.9	mg/Kg
SS-28	ME2PJ7	Selenium (Total)	4.4	mg/Kg
SS-28	ME2PJ7	Antimony (Total)	13.4	mg/Kg
SS-28	ME2PJ7	Arsenic (Total)	20.2	mg/Kg
SS-28	ME2PJ1	Antimony (Total)	13	mg/Kg

Table 4
USS LEAD
Key Findings for Soils

Sample_No	Sample_ID	SpeciesName	Concentration	Units
SS-29	ME2PJ2	Arsenic (Total)	18	mg/Kg
SS-30	ME2PJ3	Arsenic (Total)	24.8	mg/Kg
SS-30	ME2PJ3	Lead (Total)	754	mg/Kg
SS-30	ME2PJ3	Antimony (Total)	17.6	mg/Kg

Footnote:

1) The soil sample concentrations are equal to or greater than three times the background sample, ME2PE8, concentrations.

Table 5 on page 4-12 includes information on the Soil Background Sample and concentrations that are three times background.

Table 5

EPA Number	Sample Number	Chemical Name	Concentration	3 X Background	Units
ME2PE8	BGSS-11	Aluminum (Total)	12500	37500	mg/Kg
ME2PE8	BGSS-11	Antimony (Total)	3.9	11.7	mg/Kg
ME2PE8	BGSS-11	Arsenic (Total)	3.4	10.2	mg/Kg
ME2PE8	BGSS-11	Barium (Total)	221	663	mg/Kg
ME2PE8	BGSS-11	Beryllium (Total)	1.9	5.7	mg/Kg
ME2PE8	BGSS-11	Cadmium (Total)	1.2	3.6	mg/Kg
ME2PE8	BGSS-11	Calcium (Total)	50700	152100	mg/Kg
ME2PE8	BGSS-11	Chromium (Total)	62.6	187.8	mg/Kg
ME2PE8	BGSS-11	Cobalt (Total)	3.5	10.5	mg/Kg
ME2PE8	BGSS-11	Copper (Total)	50.2	150.6	mg/Kg
ME2PE8	BGSS-11	Iron (Total)	25900	77700	mg/Kg
ME2PE8	BGSS-11	Lead (Total)	165	495	mg/Kg
ME2PE8	BGSS-11	Magnesium (Total)	11900	35700	mg/Kg
ME2PE8	BGSS-11	Manganese (Total)	3100	9300	mg/Kg
ME2PE8	BGSS-11	Nickel (Total)	12	36	mg/Kg
ME2PE8	BGSS-11	Potassium (Total)	1050	3150	mg/Kg
ME2PE8	BGSS-11	Selenium (Total)	1.2	3.6	mg/Kg
ME2PE8	BGSS-11	Silver (Total)	1.1	3.3	mg/Kg
ME2PE8	BGSS-11	Sodium (Total)	411	1233	mg/Kg
ME2PE8	BGSS-11	Thallium (Total)	2.7	8.1	mg/Kg
ME2PE8	BGSS-11	Vanadium (Total)	24.9	74.7	mg/Kg
ME2PE8	BGSS-11	Zinc (Total)	590	1770	mg/Kg

Table 6

EPA Number	Sample Number	Species Name	Concentration	BKgdX3	Units
ME2PK0	SD-08	Aluminum (Total)	4720	14160	mg/Kg
ME2PK0	SD-08	Antimony (Total)	176	528	mg/Kg
ME2PK0	SD-08	Arsenic (Total)	117	351	mg/Kg
ME2PK0	SD-08	Barium (Total)	115	345	mg/Kg
ME2PK0	SD-08	Beryllium (Total)	1.1	3.3	mg/Kg
ME2PK0	SD-08	Cadmium (Total)	11.6	34.8	mg/Kg
ME2PK0	SD-08	Calcium (Total)	11600	34800	mg/Kg
ME2PK0	SD-08	Chromium (Total)	153	459	mg/Kg
ME2PK0	SD-08	Cobalt (Total)	6.6	19.8	mg/Kg
ME2PK0	SD-08	Copper (Total)	154	462	mg/Kg
ME2PK0	SD-08	Iron (Total)	36800	110400	mg/Kg
ME2PK0	SD-08	Lead (Total)	1780	5340	mg/Kg
ME2PK0	SD-08	Magnesium (Total)	2810	8430	mg/Kg
ME2PK0	SD-08	Manganese (Total)	835	2505	mg/Kg
ME2PK0	SD-08	Nickel (Total)	30	90	mg/Kg
ME2PK0	SD-08	Potassium (Total)	402	1206	mg/Kg
ME2PK0	SD-08	Selenium (Total)	1.8	5.4	mg/Kg
ME2PK0	SD-08	Silver (Total)	4.8	14.4	mg/Kg
ME2PK0	SD-08	Sodium (Total)	1050	3150	mg/Kg
ME2PK0	SD-08	Thallium (Total)	5.7	17.1	mg/Kg
ME2PK0	SD-08	Vanadium (Total)	26.2	78.6	mg/Kg
ME2PK0	SD-08	Zinc (Total)	1820	5460	mg/Kg

Section V

Site Summary

USS Lead operated a lead smelting facility on a 79 acre tract of land from 1920 to 1985. Lead waste was dumped onto the surface area south of the former plant building. Historic aerial photographs show that a large waste pile was located in this area. According to the 1991 HRS Documentation Record for USS Lead, this pile had an area of 148,574 ft^2. Overland flow from this waste pile was allowed to drain directly into the adjacent wetland area. Fugitive dust from waste piles on the facility and other fallout from a facility stack may have released lead particulates into the air which may have contributed to elevated levels of lead in nearby residential soils.

Wetland sediment samples were obtained as part of this Expanded Site Inspection. Metal analyses of reference background wetland samples and USS Lead property wetland samples reveal a release of lead into the USS Lead property wetlands. Three facility wetland sediment samples had lead concentrations greater than three times reference background wetland samples.

A sensitive environment request was submitted to the Indiana Department of Natural Resources (IDNR). The IDNR

noted that numerous State/Federal endangered and/or threatened species have been reported within several miles from the former USS Lead facility. Residential soil samples were also obtained. Numerous soil samples revealed elevated levels of lead three times above reference background levels. In addition past U.S. EPA and IDEM reports reveal that the facility had a stack that has been demolished. Since elevated levels of lead were detected in wetlands and residential areas, and air releases were reported, it appears that a release to the surface water, soil exposure, and air pathways has occurred from the USS Lead facility.

References

1) U.S.G.S. Topographic Map, Highland, Indiana Quadrangle, 1991

2) U.S. EPA, USS Lead HRS Document Record, 1991

3) Geochemical Solutions, Final USS Lead Modified RCRA Facility Investigation (MRFI) Report, March 1, 2004

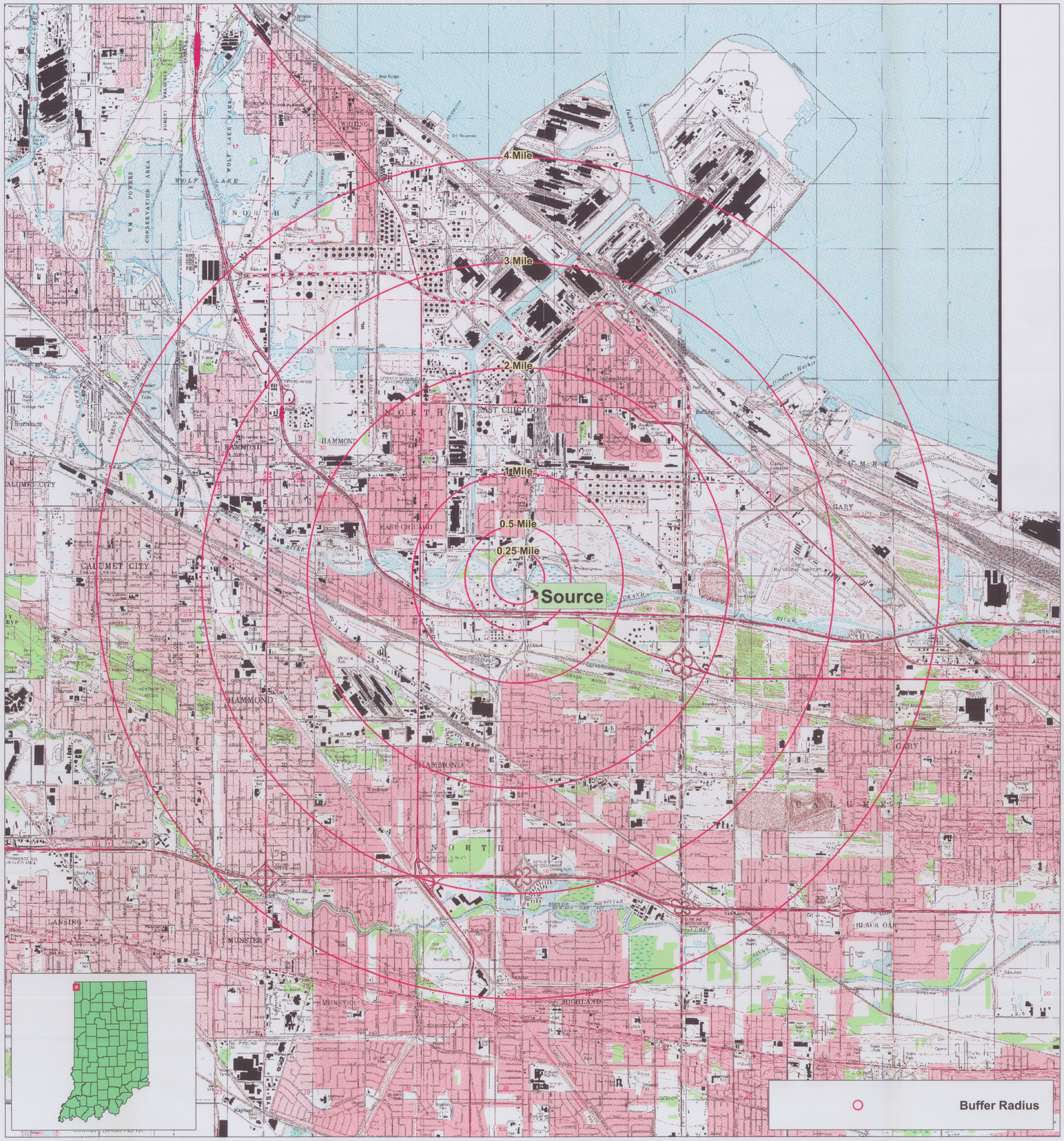
4) Indiana Department of Natural Resources, Division of Water, water well driller logs.

5) U.S. EPA, Gerald Phillips, Referral of RCRA Subtitle C Corrective Action Facility to CERCLA, September, 2007

6) Indiana Department of Environmental Management, Proposed Background Sample Location Report, August, 2007

7) Hancock, Daniel F., Vic Windle, and Ed Surla, September 16, 1985, Fugitive Dust Test Report in the Vicinity of U.S. S. Lead Refinery, Inc., East Chicago, Indiana, conducted by Emissions Sampling Section (ESS), Air Pollution Control Division (APCD), ISBA.

APPENDIX A
FOUR (4) MILE RADIUS MAP



US Smelter & Lead Refinery, Inc. (USS Lead)
East Chicago, Lake County, IN
US EPA ID: IND 047030226
Four Mile Radius Map

Source Coordinate

87°27'46.27"W 41°36'55.62"N

T37N R9W Sec 33

Buffer Distance	Adjusted Population
0.25 Mile	652
0.5 Mile	1205
1 Mile	4433
2 Mile	32589
3 Mile	46423
4 Mile	41099

Mapped by: Diane Osborn, IDEM, Office of Land Quality, Engineering & GIS Services, February 2008

Sources:
IDEM 4 Mile Mapper Application
USGS Digital Raster Graphics 1:24,000 topographic map
Census block group 2000 total population
Census 2000 County Boundaries
Census 2000 City Boundaries

Disclaimer: This map does not represent a legal document. It is intended to serve as an aid in graphic representation only. It is not warranted for accuracy or suitability for any purpose. There are known sources of error in the population estimates presented on this map including:

- The Census 2000 block group population data is out of date, and is itself an imperfect estimate of population.
- The adjusted population estimate derived from the Census 2000 block group data assumes that the population is evenly distributed in each block group polygon.
- The Census 2000 block group population has been clipped to include Indiana data only.

Method of Estimating Population: The adjusted population estimate is the sum of Census 2000 block group populations (TOTALPOP field) adjusted to include only the areas of the block groups contained inside the buffers. The adjusted population estimate assumes that the population is evenly distributed in each block group polygon. The specific procedure used in this analysis is as follows:

1. The study area or site is drawn on screen by the user. The study area can be 1 or more polygons.
2. The user selects the polygon(s) to include in the population estimate, and clicks a button to perform the rest of the analysis which is described in the following steps.
3. The study area polygon(s) are buffered at .0001, ¼, ½, 1, 2, 3 and 4 miles. The buffers are stored as polygons in a shapefile. In analyses with more than one study area polygon, intersecting buffers are dissolved to prevent overlapping buffers of the same buffer distance. This is necessary to prevent counting the population more than once in areas where buffers overlap.
4. A spatial union is performed on the block group layer and the buffers layer resulting in a new layer containing polygons reflecting the combined geography of the block groups and the buffers. The new polygons inherit the attributes of the parent polygons from the block groups and buffers layers, including the population and area of the parent block group polygon. The area of the new polygons is not calculated automatically during the union.
5. The geographic area of each new polygon is determined through a field calculation using a piece of visual basic code. See ArcGIS Help for a discussion of this process including the code.
6. Following step 5, each new polygon has an attribute record containing the geographic area of the new polygon, the geographic area of the parent block group, and the TOTALPOP field population value from the parent block group. Dividing the area of the new polygon by the area of the parent block group and multiplying that value by the population yields a population estimate for each new polygon. For example: Block Group A with an area of 10 square miles and a population of 200 people is split into 2 polygons by the 4 mile buffer ring. The area of the block group inside the 4 mile buffer is 2 square miles, or 20% of the area of the original 10 square mile block group. Assuming the population is uniformly distributed in Block Group A, the population from Block Group A that is within the 4 mile buffer ring should also be 20% of the total population for the block group. Twenty percent of 200 is 40 people. (2 ÷ 10 × 200 = 40)
7. The new population figures from step 6 are automatically summed and compiled into a table that is displayed on the print layout. The automatic summing process completed by the 4 Mile Mapper application produces population estimates that include the entire population from the site out to each buffer distance (e.g. 0 to 0.25, 0 to .50, 0 to 1, 0 to 2…). The map author manually recalculates these figures by taking the population for each buffer distance and subtracting the population of the next smaller buffer distance to provide a population figure for the donut area bounded by each pair of consecutive buffer distances (e.g. 0 to 0.25, 0.25 to 0.5, 0.5 to 1, 1 to 2…). The population table is labeled and revised to reflect these values, and a total population figure is added to reflect the population from the site out to the 4 mile buffer distance.

IDEM
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

This Map was created using 4 Mile Mapper, a customized application developed in ArcGIS v 9 in the Office of Land Quality, Applied Science Technologies Section by Mr. Raju Gopinath, Indiana Governor's Public Service Intern, Summer 2004.

0 0.5 1 2 3 4 Miles
0 1.5 3 6 KM

N W E S

APPENDIX B

15-Mile Surface Water Pathway Map

US Smelter & Lead Refinery, Inc. (USS Lead)
East Chicago, Lake County, IN
EPA ID: IND 047030226
15 Mile Surface Water Map

Fifteen Mile Surface Path 1
Fifteen Mile Surface Path 2
Flow Path
National Hydrography Flow Line USGS IN
USS Lead Site
County Boundary (Census 2000)
Indiana State Boundary (INDOT)

IDEM
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

0 1.5 3 6 Miles
0 2.5 5 10 KM

Mapped by: Diane Osborn, IDEM, Office of Land Quality, Engineering & GIS Services, February 2008

Sources:
USGS Digital Raster Graphics 1:24,000 topographic map
National Hydrography Dataset (NHD)
Census 2000 County Boundaries
Census 2000 City Boundaries
Indiana Department of Transportation State Boundary

Disclaimer: This map does not represent a legal document. It is intended to serve as an aid in graphic representation only. It is not warranted for accuracy or suitability for any purpose.

APPENDIX C

Soil Sample Location ID Map

APPENDIX C: SOIL SAMPLE LOCATION ID MAP

HAS BEEN REDACTED – ONE PAGE

CONTAINS POTENTIAL PERSONALLY-IDENTIFYING INFORMATION

APPENDIX D

Soil Lead Concentration Map

APPENDIX D: SOIL LEAD CONCENTRATION MAP

HAS BEEN REDACTED – ONE PAGE

CONTAINS POTENTIAL PERSONALLY-IDENTIFYING INFORMATION

APPENDIX E

Wetland Sediment Location ID Map

US Smelter & Lead Refinery, Inc. (USS Lead)
East Chicago, Lake County, IN
EPA ID: IND 047030226
Wetlands Sample Location Map

APPENDIX F

Wetland Lead Concentration Map

US Smelter & Lead Refinery, Inc. (USS Lead)
East Chicago, Lake County, IN
EPA ID: IND 047030226
Wetlands Lead Concentration Map
Indiana Harbor Canal main channel
Grand Calumet River - Grey's Indiana Harbor Canal
East Chicago
Kennedy Ave
Hammond
964 ppm
3740 ppm
6570 ppm
6440 ppm
5620 ppm
4350 ppm
4210 ppm
2150 ppm
4770 ppm
4160 ppm
332 ppm
1270 ppm
1780 ppm
1550 ppm
Lake County
Mapped by: Diane Osborn, IDEM, Office of Land Quality, Engineering & GIS Services, December 2007
Sources:
National Hydrography Dataset (NHD)
Census 2000 County Boundaries
Census 2000 City Boundaries
Indiana Department of Transportation State Boundary
2005 Indiana Orthophotography
(IndianaMap Framework Data www.indianamap.org)
Disclaimer: This map does not represent a legal document. It is intended to serve as an aid in graphic representation only. It is not warranted for accuracy or suitability for any purpose.
Wetlands Lead Sample (ppm)
City Boundary (Census 2000)
County Boundary (Census 2000)
IDEM
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
0 250 500 1,000 Feet
0 75 150 300 Meters

APPENDIX G

Sensitive Environment Information Map

DNR Indiana Department of Natural Resources

Mitchell E. Daniels, Jr., Governor
Kyle J. Hupfer, Director

RECEIVED
NOV 01 2007
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
OFFICE OF LAND QUALITY

October 31, 2007

Mr. Mark Jaworski
IDEM/OLQ Site Investigation
100 N. Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

Dear Mr. Jaworski:

I am responding to your request for information on the endangered, threatened, or rare (ETR) species, high quality natural communities, and natural areas documented from a project area, USS Lead, Lake County, Indiana. The Indiana Natural Heritage Data Center has been checked and enclosed you will find information on the ETR species documented within one mile and four miles the project area.

For more information on the animal species mentioned, please contact Katie Smith, Nongame Supervisor, Division of Fish and Wildlife, 402 W. Washington Room W273, Indianapolis, Indiana 46204, (317)232-4080.

The information I am providing does not preclude the requirement for further consultation with the U.S. Fish and Wildlife Service as required under Section 7 of the Endangered Species Act of 1973. You should contact the Service at their Bloomington, Indiana office.

U.S. Fish and Wildlife Service
620 South Walker St.
Bloomington, Indiana 47403-2121
(812)334-4261

At some point, you may need to contact the Department of Natural Resources' Environmental Review Coordinator so that other divisions within the department have the opportunity to review your proposal. For more information, please contact:

Robert Carter Jr., Director
Department of Natural Resources
attn: Christie Stanifer
Environmental Coordinator
Division of Water
402 W. Washington Street, Room W264
Indianapolis, IN 46204
(317)232-4160

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Please note that the Indiana Natural Heritage Data Center relies on the observations of many individuals for our data. In most cases, the information is not the result of comprehensive field surveys conducted at particular sites. Therefore, our statement that there are no documented significant natural features at a site should not be interpreted to mean that the site does not support special plants or animals.

Due to the dynamic nature and sensitivity of the data, this information should not be used for any project other than that for which it was originally intended. It may be necessary for you to request updated material from us in order to base your planning decisions on the most current information.

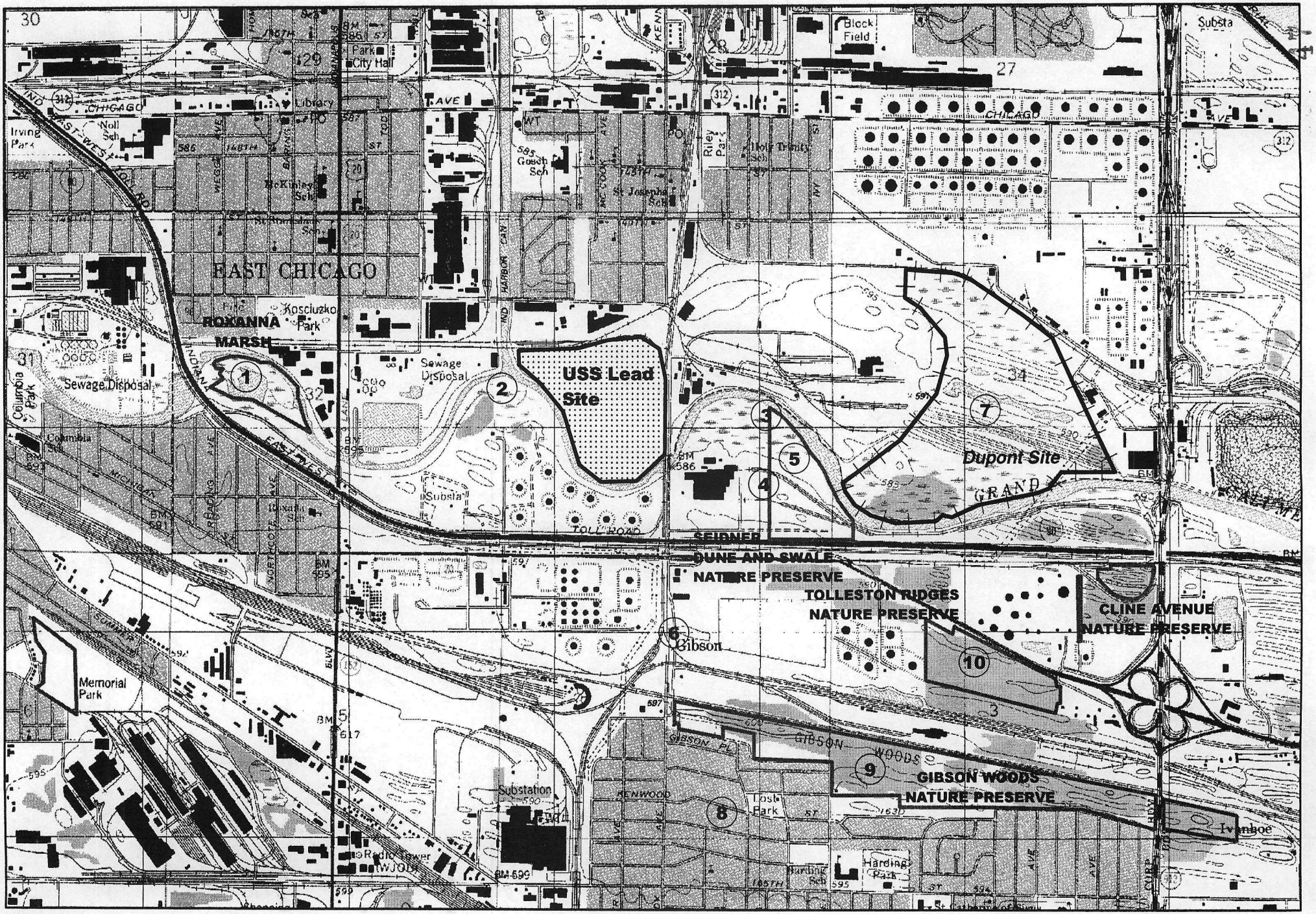
Thank you for contacting the Indiana Natural Heritage Data Center. You may reach me at (317)232-8059 if you have any questions or need additional information.

Sincerely,

Ronald P. Hellmich

Ronald P. Hellmich
Indiana Natural Heritage Data Center

enclosure: data sheet for one mile radius, 3pp.
map sheet for one mile radius
data sheets for four mile radius, 20pp.



USS Lead
One Mile Radius Search
October 31, 2007

0 0.125 0.25 0.5 0.75 1 Miles

N W E S

Legend

Managed Lands

DuPont Site

October 31, 2007

Endangered, Threatened and Rare Species and High Quality Natural Communities Documented Within One Mile of the USS Lead Project Area, Lake County, Indiana

SPECIES NAME	COMMON NAME	FED	STATE	TOWN RANGE SEC	DATE	COMMENTS
Map # 1						
.OXANA MARSH						
Rallus limicola	Virginia Rail		SE	037N009W 32 WH	1982-07-20	
Chlidonias niger	Black Tern		SE	037N009W 32 CTR WH & SWQ	1989-06-24	
Nycticorax nycticorax	Black-crowned Night-heron		SE	037N009W 32 SWQ	1986-06-28	
Cistothorus palustris	Marsh Wren		SE	037N009W 32 SWQ	1985-07	
Ixobrychus exilis	Least Bittern		SE	037N009W 32 SWQ	1984-06-28	
Spermophilus franklinii	Franklin's Ground Squirrel		SE	037N009W 32 NEQ SWQ	1985-07-02	
Xanthocephalus xanthocephalus	Yellow-headed Blackbird		SE	037N009W 32 SWQ	1986-06-21	
Rana pipiens	Northern Leopard Frog		SSC	037N009W 32 SWQ	1984	
Map # 2						
Spermophilus franklinii	Franklin's Ground Squirrel		SE	037N009W 33 SWQ NWQ	1992-08-05	
Map # 3						
SEIDNER DUNE AND SWALE NATURE PRESERVE						
Ardea alba	Great Egret		SSC	037N009W 33 NEQ SEQ	1988-06-10	
Chlidonias niger	Black Tern		SE	037N009W 33 NH SEQ	1991-07-11	
Cistothorus palustris	Marsh Wren		SE	037N009W 33 SEQ	1987-06-06	
Juncus balticus var. littoralis	Baltic Rush		SR	037N009W 33 SWQ	2001	
Map # 4						
ermophilus franklinii	Franklin's Ground Squirrel		SE	037N009W 33 SEQ	2002-09-04	
SEIDNER DUNE AND SWALE NATURE PRESERVE						
Hesperia leonardus	Leonard's Skipper		SR	037N009W 33 SEQ	2001	
Peoria gemmatella	Gemmed Cordgrass Borer		SR	037N009W 33 SEQ	2001	
Grammia phyllira	The Sand Barrens Grammia		SR	037N009W 33 SEQ	2001	
Semiothisa eremiata	The Goat's Rue Looper		SR	037N009W 33 SEQ	2001	
Map # 5						
SEIDNER DUNE AND SWALE NATURE PRESERVE						
Cosmotettix bilineatus	Two-lined cosmotettix		ST	037N009W 33	2003	
Map # 6						
Spermophilus franklinii	Franklin's Ground Squirrel		SE	036N009W 04 SWQ NWQ NEQ	1992-08-09	
Map # 7						
DUPONT SITE						
Pyrausta laticlavia	The Southern Purple Mint Moth		SR	037N009W 34	2005	
Phaneta umbrastriana			SR	037N009W 34	2005	
Phaneta olivaceana			SR	037N009W 34	2005	
Phaneta ochreoterminana			SR	037N009W 34	2005	
Eucosma giganteana			SR	037N009W 34	2005	
ucosma bilineana			SR	037N009W 34	2005	
Peoria tetradella			SR	037N009W 34	2005	

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Endangered, Threatened and Rare Species and High Quality Natural Communities Documented Within One Mile of the USS Lead Project Area, Lake County, Indiana

SPECIES NAME	COMMON NAME	FED	STATE	TOWN RANGE SEC	DATE	COMMENTS
Papaipema rigida	A Borer Moth		SR	037N009W 34	2005	
Papaipema maritima	The Giant Sunflower Borer Moth		ST	037N009W 34	2005	
Papaipema beeriana	Beer's Blazing Star Borer Moth		ST	037N009W 34	2005	
Oncocnemis riparia	The Dune Oncocnemis Moth		ST	037N009W 34	0000	
Oligia obtusa	A Noctuid Moth		SE	037N009W 34	2005	
Meropleon ambifuscum	Newman's Brocade		ST	037N009W 34	2005	
Macrochilo louisiana			ST	037N009W 34	2005	
Grammia virguncula			SR	037N009W 34	2005	
Macrochilo hypocritalis	A Noctuid Moth		SR	037N009W 34	2005	
Agrotis vetusta	A Moth		SR	037N009W 34	2005	
Leucania linita			SR	037N009W 34	2005	
Leucania inermis	A Moth		SR	037N009W 34	2005	
Iodopepla u-album	A Noctuid Moth		SR	037N009W 34	2005	
Hypenodes caducus	Large Hypenodes		SR	037N009W 34	2005	
Anepia capsularis	The Starry Campion Capsule Moth		SR	037N009W 34	2005	
Faronta rubripennis	The Pine Streak		ST	037N009W 34	2005	
Fagitana littera	The Marsh Fern Moth		ST	037N009W 34	2005	
Eucoptocnemis fimbriaris	A Noctuid Moth		ST	037N009W 34	0000	
Lemmeria digitalis	A Noctuid Moth		SR	037N009W 34	2005	
Apamea nigrior	Black-dashed Apamea		SR	037N009W 34	2005	
Map # **8**						
Schinia indiana	Phlox Moth		SE	036N009W HESSVILLE AREA	1940-05	
na pipiens	Northern Leopard Frog		SSC	036N009W 04	1923-06-30	
Map # **9**						
GIBSON WOODS NATURE PRESERVE						
Satureja glabella var. angustifolia	Calamint		SE	036N009W 02	1906-08	
Lycaeides melissa samuelis	Karner Blue	LE	SE	036N009W 04 SEQ	1992-07-09	
Prairie - sand dry-mesic	Dry-mesic Sand Prairie		SG	036N009W 03 SH	1978-07	
Prairie - sand wet-mesic	Wet-mesic Sand Prairie		SG	036N009W 03 SH	1978-07-21	
Carex aurea	Golden-fruited Sedge		SR	036N009W 03 SWQ	1978-01-25	
Wetland - marsh	Marsh		SG	036N009W 03 SH	1978-07	
Savanna - sand dry-mesic	Dry-mesic Sand Savanna		SG	036N009W 03 SH	1978-07-21	
Forest - floodplain wet-mesic	Wet-mesic Floodplain Forest		SG	036N009W 03 SH	1978-07	
Map # **10**						
TOLLESTON RIDGES NATURE PRESERVE						
Prairie - sand mesic	Mesic Sand Prairie		SG	036N009W 03 N HALF N HALF SEQ	1978-07-21	
Wetland - marsh	Marsh		SG	036N009W 03 NH NH SEQ	1978-07	
Savanna - sand dry-mesic	Dry-mesic Sand Savanna		SG	036N009W 03 NH SEQ	1978-07-21	
Ambystoma laterale	Blue-spotted Salamander		SSC	036N009W 3	2005-05-23	

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SPECIES NAME	COMMON NAME	FED	STATE	TOWN RANGE SEC	DATE	COMMENTS
Ancylis semiovana			SR	037N009W 34	2005	
Trichosilia manifesta	The Record Keeper Moth		SR	037N009W 34	2005	
sperotettix viridis pratensis	A Grasshopper		SR	037N009W 34	2005	
arachidia binocula	Prairie tarachidia			037N009W 34	2005	
Tricholita notata	Marked Noctuid		ST	037N009W 34	2005	
Notodonta scitipennis	A Notodontid Moth			037N009W 34	2005	
Spartiniphaga inops	Spartina Borer Moth		SR	037N009W 34	2005	
Hyperaeschra georgica	A Prominent Moth			037N009W 34	2005	
Chlidonias niger	Black Tern		SE	037N009W 34 SWQ	1991-06-25	
Cistothorus palustris	Marsh Wren		SE	037N009W 34 SWQ	1991-09-15	
Prairie - sand wet-mesic	Wet-mesic Sand Prairie		SG	037N009W 34 SEQ	1978-07	
Wetland - meadow sedge	Sedge Meadow		SG	037N009W 34 SEQ	1978-07	
Botaurus lentiginosus	American Bittern		SE	037N009W 34 SWQ	1991-07-11	
Savanna - sand dry	Dry Sand Savanna		SG	037N009W 34 SEQ	1978-07	
Prairie - sand dry-mesic	Dry-mesic Sand Prairie		SG	037N009W 34 SEQ	1978-07	
Trimerotropis maritima	The Dune Locust		ST	037N009W 34	0000	
Protorthodes incincta	Saturn quaker		SR	037N009W 34	0000	
Wetland - marsh	Marsh		SG	037N009W 34 SEQ	1978-07	
Ixobrychus exilis	Least Bittern		SE	037N009W 34 SWQ	1991-07-11	
Xanthocephalus xanthocephalus	Yellow-headed Blackbird		SE	037N009W 34 SWQ	1991-05-14	
Sympetrum semicinctum	Band-winged Meadowhawk		SR	037N009W 34	2005	
Conocephalus saltans	Prairie Meadow Katydid		SR	037N009W 34	2005	
Rallus limicola	Virginia Rail		SE	037N009W 34 SWQ	1991-07-11	
Bruchomorpha extensa	The Long-nosed Elephant Hopper		SR	037N009W 34	2005	
Acronicta dactylina			SR	037N009W 34	2005	
Metanema determinata	Dark Metanema		SR	037N009W 34	2005	
Platyperigea meralis	The Rare Sand Quaker		ST	037N009W 34	2005	
ilosoma latipennis	The Red-legged Tussock Moth		SR	037N009W 34	2005	
Coenochroa illibella	Dune Panic Grass Moth		SR	037N009W 34	2005	
Grammia figurata	The Figured Grammia		SR	037N009W 34	2005	
Cycnia inopinatus	The Unexpected Milkweed Moth		SR	037N009W 34	2005	
Problema byssus	Bunchgrass Skipper		ST	037N009W 34	2005	
Polites mystic	Long Dash Skipper		SR	037N009W 34		
Hesperia leonardus	Leonard's Skipper		SR	037N009W 34	0000	
Agrotis stigmosa			ST	037N009W 34	2005	
Atrytonopsis hianna	Dusted Skipper		ST	037N009W 34	0000	
Aethes patricia			SE	037N009W 34	2005	
Bruchomorpha dorsata			SR	037N009W 34	2005	
Polyamia herbida	The Prairie Panic Grass Leafhopper		ST	037N009W 34	2005	
Polyamia caperata			SR	037N009W 34	2005	
Paraphlepsius maculosus	Peppered Paraphlepsius Leafhopper		ST	037N009W 34	0000	
Paraphlepsius lobatus			ST	037N009W 34	2005	
Laevicephalus acus			SR	037N009W 34	2005	
Flexamia reflexus	Indiangrass Flexamia		ST	037N009W 34	2005	
Chlorotettix fallax	A Leafhopper		SR	037N009W 34	2005	
Prosapia ignipectus	Red-legged Spittle Bug		SR	037N009W 34	2005	
Lycaeides melissa samuelis	Karner Blue	LE	SE	037N009W 34	0000	
Speyeria aphrodite	Aphrodite Fritillary		WL	037N009W 34	2005	
Erynnis persius persius	Persius Dusky Wing		SE	037N009W 34	0000	
lacrochilo absorptalis	A Moth		SR	037N009W 34	2005	
Phytometra ernestinana	Ernestine's Moth		SE	037N009W 34	2005	

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TYPE	SPECIES NAME	COMMON NAME	FED	STATE	TRS	LASTOBS	COMMENTS
	Acronicta dactylina			SR	037N009W 34	2005	
	Agrotis vetusta	A Moth		SR	037N009W 34	2005	
	Ancylis semiovana			SR	037N009W 34	2005	
	Bruchomorpha dorsata			SR	037N009W 34	2005	
	Coenochroa illibella	Dune Panic Grass Moth		SR	037N009W 34	2005	
	Hesperotettix viridis pratensis	A Grasshopper		SR	037N009W 34	2005	
	Hypenodes caducus	Large Hypenodes		SR	037N009W 34	2005	
	Laevicephalus acus			SR	037N009W 34	2005	
	Lemmeria digitalis	A Noctuid Moth		SR	037N009W 34	2005	
	Leucania linita			SR	037N009W 34	2005	
	Metanema determinata	Dark Metanema		SR	037N009W 34	2005	
	Notodonta scitipennis	A Notodontid Moth			037N009W 34	2005	
	Oligia obtusa	A Noctuid Moth		SE	037N009W 34	2005	
	Oncocnemis riparia	The Dune Oncocnemis Moth		ST	037N009W 34	0000	
	Papaipema rigida	A Borer Moth		SR	037N009W 34	2005	
	Paraphlepsius lobatus			ST	037N009W 34	2005	
	Peoria tetradella			SR	037N009W 34	2005	
	Phaneta ochreoterminana			SR	037N009W 34	2005	
	Phaneta olivaceana			SR	037N009W 34	2005	
	Phaneta umbrastriana			SR	037N009W 34	2005	
	Phytometra ernestinana	Ernestine's Moth		SE	037N009W 34	2005	
	Polites mystic	Long Dash Skipper		SR	037N009W 34		
	Polyamia caperata			SR	037N009W 34	2005	
	Tricholita notata	Marked Noctuid		ST	037N009W 34	2005	
nphibian	Necturus maculosus	Common mudpuppy		SSC	036N009W 11 NWQ	1986-07	
Amphibian	Rana pipiens	Northern Leopard Frog		SSC	037N009W 07	1899-09-22	
Amphibian	Rana pipiens	Northern Leopard Frog		SSC	036N009W 04	1923-06-30	
Amphibian	Rana pipiens	Northern Leopard Frog		SSC	037N009W 32 SWQ	1984	
Amphibian	Rana pipiens	Northern Leopard Frog		SSC	036N009W 19	1980-06-11	
Amphibian	Rana pipiens	Northern Leopard Frog		SSC	036N010W 001 SWQ NWQ SWQ	1924-04-05	
Amphibian	Rana pipiens	Northern Leopard Frog		SSC	036N009W 22	1973-07-14	
Amphibian	Rana pipiens	Northern Leopard Frog		SSC	037N009W WHITING AREA	1899-07	
Bird	Anas clypeata	Northern Shoveler			037N009W 07	1935-07-14	
Bird	Ardea alba	Great Egret		SSC	036N009W 22 NEQ	2003-06-01	NEST SITE
Bird	Ardea herodias	Great Blue Heron			036N009W 22	2003-06-01	
Bird	Bartramia longicauda	Upland Sandpiper		SE	037N009W 35 SEQ	1994-05-21	
Bird	Botaurus lentiginosus	American Bittern		SE	037N009W 07	1979-05-10	
Bird	Botaurus lentiginosus	American Bittern		SE	037N009W 36	1978-07	
Bird	Botaurus lentiginosus	American Bittern		SE	037N009W 34 SWQ	1991-07-11	
Bird	Chlidonias niger	Black Tern		SE	037N009W 25	1978-07-11	
Bird	Chlidonias niger	Black Tern		SE	037N009W 32 CTR WH & SWQ	1989-06-24	
Bird	Chlidonias niger	Black Tern		SE	037N009W 07	1950-06-22	
Bird	Chlidonias niger	Black Tern		SE	037N009W 34 SWQ	1991-06-25	
ɑird	Cistothorus palustris	Marsh Wren		SE	037N009W 19	NO DATE	

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Bird	Cistothorus palustris	Marsh Wren		SE	036N009W 15 COMMON LINE	2000-06-24	
d	Cistothorus palustris	Marsh Wren		SE	036N008W 01 NEQ	2000-06-10	
Bird	Cistothorus palustris	Marsh Wren		SE	037N009W 34 SWQ	1991-09-15	
Bird	Cistothorus palustris	Marsh Wren		SE	037N009W 26 SEQ	1991-06-12	
Bird	Cistothorus palustris	Marsh Wren		SE	037N009W 32 SWQ	1985-07	
Bird	Cistothorus platensis	Sedge Wren		SE	037N009W 07 SH	1991	
Bird	Euphagus cyanocephalus	Brewer's Blackbird			037N009W WHITING	1965-06-28	
Bird	Falco peregrinus	Peregrine Falcon		SE	037N009W 21 NEQ NWQ NWQ	2005-07-06	NEST SITE
Bird	Falco peregrinus	Peregrine Falcon		SE	037N009W 16	2005-07-06	NEST SITE
Bird	Falco peregrinus	Peregrine Falcon		SE	037N009W 17	2007-06-07	NEST SITE
Bird	Gallinula chloropus	Common Moorhen		SE	036N009W 22 NEQ	2001-07-27	
Bird	Ixobrychus exilis	Least Bittern		SE	037N009W 34 SWQ	1991-07-11	
Bird	Ixobrychus exilis	Least Bittern		SE	037N009W 32 SWQ	1984-06-28	
Bird	Ixobrychus exilis	Least Bittern		SE	037N009W 36	1978-07-11	
Bird	Ixobrychus exilis	Least Bittern		SE	037N009W 07 SH	1991	
Bird	Nyctanassa violacea	Yellow-crowned Night-heron		SE	036N009W 19	1976-05	
Bird	Nycticorax nycticorax	Black-crowned Night-heron		SE	037N009W INDIANA HARBOR	1995	
ɔird	Nycticorax nycticorax	Black-crowned Night-heron		SE	037N009W 32 SWQ	1986-06-28	
Bird	Phalaropus tricolor	Wilson's Phalarope		SSC	037N009W 07	1941	
Bird	Rallus elegans	King Rail		SE	037N009W 36	1978-08	
Bird	Rallus elegans	King Rail		SE	037N009W 18	1987-07-26	
Bird	Rallus elegans	King Rail		SE	037N009W 34 SEQ	1974-05-22	
Bird	Rallus limicola	Virginia Rail		SE	037N009W 36	1978-07	
Bird	Rallus limicola	Virginia Rail		SE	037N009W 07 SH	1991	
Bird	Rallus limicola	Virginia Rail		SE	037N009W 32 WH	1982-07-20	
Bird	Rallus limicola	Virginia Rail		SE	037N009W 34 SWQ	1991-07-11	
Bird	Xanthocephalus xanthocephalus	Yellow-headed Blackbird		SE	037N009W 32 SWQ	1986-06-21	
Bird	Xanthocephalus xanthocephalus	Yellow-headed Blackbird		SE	037N009W 34 SWQ	1991-05-14	
Fish	Acipenser fulvescens	Lake Sturgeon		SE	037N009W 8	2005-09-28	
High Quality Natural Community	Prairie - sand dry	Dry Sand Prairie		SG	037N009W 26 SH NWQ + NH SWQ	1978-07-12	
High Quality Natural Community	Prairie - sand dry	Dry Sand Prairie		SG	037N009W 25 NWQ SWQ	1978-07-12	
High Quality Natural ;ommunity	Prairie - sand dry	Dry Sand Prairie		SG	037N009W 36 NEQ	1978-07	

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High Quality Natural Community	Prairie - sand dry-mesic	Dry-mesic Sand Prairie		SG	037N009W 36	1978-07	
High Quality Natural Community	Prairie - sand dry-mesic	Dry-mesic Sand Prairie		SG	037N009W 26 SH NWQ + NH SWQ	1978-07-12	
High Quality Natural Community	Prairie - sand dry-mesic	Dry-mesic Sand Prairie		SG	037N009W 34 SEQ	1978-07	
High Quality Natural Community	Prairie - sand dry-mesic	Dry-mesic Sand Prairie		SG	036N009W 07 SEQ	1981-08-15	
High Quality Natural Community	Prairie - sand dry-mesic	Dry-mesic Sand Prairie		SG	037N009W 25 NWQ SWQ	1978-07-12	
High Quality Natural Community	Prairie - sand wet	Wet Sand Prairie		SG	037N009W 26 SH NWQ + NH SWQ	1978-07-12	
High Quality Natural Community	Prairie - sand wet	Wet Sand Prairie		SG	036N009W 13 NH NEQ	1982-08-01	
High Quality Natural Community	Prairie - sand wet-mesic	Wet-mesic Sand Prairie		SG	037N009W 34 SEQ	1978-07	
High Quality Natural Community	Prairie - sand wet-mesic	Wet-mesic Sand Prairie		SG	036N008W 06 SWQ	1978-07-20	
High Quality Natural Community	Savanna - sand dry	Dry Sand Savanna		SG	037N009W 34 SEQ	1978-07	
High Quality Natural Community	Savanna - sand dry	Dry Sand Savanna		SG	037N009W 36 NWQ SEQ	1978-07	
High Quality Natural Community	Savanna - sand dry-mesic	Dry-mesic Sand Savanna		SG	036N009W 13 NH NEQ	1982-08-01	
High Quality Natural Community	Savanna - sand dry-mesic	Dry-mesic Sand Savanna		SG	036N009W 08 NWQ	1981-10-02	
High Quality Natural Community	Savanna - sand dry-mesic	Dry-mesic Sand Savanna		SG	036N008W 06 SWQ	1978-07-20	
High Quality Natural Community	Savanna - sand mesic	Mesic Sand Savanna		SG	036N009W 03 NH SEQ	1978-07-21	
High Quality Natural Community	Wetland - marsh	Marsh		SG	037N009W 36 NEQ	1978-07	
High Quality Natural Community	Wetland - marsh	Marsh		SG	037N009W 34 SEQ	1978-07	
High Quality Natural Community	Wetland - marsh	Marsh		SG	037N009W 26 SEQ	1978-07	
High Quality Natural Community	Wetland - marsh	Marsh		SG	037N009W 26 NWQ SWQ	1978-07-12	

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High Quality Natural Community	Wetland - marsh	Marsh		SG	037N009W 36 NEQ	1978-07	
High Quality Natural Community	Wetland - meadow sedge	Sedge Meadow		SG	037N009W 34 SEQ	1978-07	
High Quality Natural Community	Wetland - panne	Panne		SG	037N009W 36 NEQ	1978-07-11	
High Quality Natural Community	Wetland - panne	Panne		SG	037N009W 36 NEQ	1978-07-11	
High Quality Natural Community	Wetland - panne	Panne		SG	037N009W 26 NEQ	1978-08	
Insect Coleoptera	Nicrophorus americanus	American Burying Beetle	LE	SX	036N009W HAMMOND AREA	1896	
Insect Homoptera	Bruchomorpha extensa	The Long-nosed Elephant Hopper		SR	037N009W 34	2005	
Insect Homoptera	Chlorotettix fallax	A Leafhopper		SR	037N009W 34	2005	
Insect Homoptera	Chlorotettix fallax	A Leafhopper		SR	036N009W 3	2004-09-08	
Insect Homoptera	Flexamia reflexus	Indiangrass Flexamia		ST	037N009W 34	2005	
Insect Homoptera	Paraphlepsius maculosus	Peppered Paraphlepsius Leafhopper		ST	037N009W 34	0000	
Insect Homoptera	Polyamia herbida	The Prairie Panic Grass Leafhopper		ST	037N009W 34	2005	
Insect Homoptera	Prosapia ignipectus	Red-legged Spittle Bug		SR	037N009W 34	2005	
Insect Lepidoptera	Aethes patricia			SE	037N009W 34	2005	
Insect Lepidoptera	Agrotis stigmosa			ST	037N009W 34	2005	
Insect Lepidoptera	Anepia capsularis	The Starry Campion Capsule Moth		SR	037N009W 34	2005	
Insect Lepidoptera	Apamea nigrior	Black-dashed Apamea		SR	037N009W 34	2005	
Insect Lepidoptera	Atrytonopsis hianna	Dusted Skipper		ST	037N009W 34	0000	
Insect Lepidoptera	Atrytonopsis hianna	Dusted Skipper		ST	036N009W 01 SEQ	1994-06-03	
Insect Lepidoptera	Atrytonopsis hianna	Dusted Skipper		ST	036N008W 06 SWQ	1994-06-03	
Insect Lepidoptera	Cycnia inopinatus	The Unexpected Milkweed Moth		SR	037N009W 34	2005	
Insect Lepidoptera	Erynnis persius persius	Persius Dusky Wing		SE	037N009W 34	0000	
Insect Lepidoptera	Eucoptocnemis fimbriaris	A Noctuid Moth		ST	037N009W 34	0000	
Insect Lepidoptera	Eucosma bilineana			SR	037N009W 34	2005	
Insect Lepidoptera	Eucosma giganteana			SR	037N009W 34	2005	
Insect Lepidoptera	Euphyes dion	Sedge Skipper		SR	036N009W 3	2004-07-09	

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Insect Lepidoptera	Fagitana littera	The Marsh Fern Moth		ST	037N009W 34	2005	
·ect ·pidoptera	Faronta rubripennis	The Pine Streak		ST	037N009W 34	2005	
Insect Lepidoptera	Grammia figurata	The Figured Grammia		SR	037N009W 34	2005	
Insect Lepidoptera	Grammia virguncula			SR	037N009W 34	2005	
Insect Lepidoptera	Hesperia leonardus	Leonard's Skipper		SR	037N009W 34	0000	
Insect Lepidoptera	Hesperia ottoe	Ottoe Skipper		SE	037N009W 25 SEQ NWQ	1995-06-28	
Insect Lepidoptera	Hyperaeschra georgica	A Prominent Moth			037N009W 34	2005	
Insect Lepidoptera	Iodopepla u-album	A Noctuid Moth		SR	037N009W 34	2005	
Insect Lepidoptera	Leucania inermis	A Moth		SR	037N009W 34	2005	
Insect Lepidoptera	Lycaeides melissa samuelis	Karner Blue	LE	SE	036N009W 11	1974-SU	
Insect Lepidoptera	Lycaeides melissa samuelis	Karner Blue	LE	SE	037N009W 34	0000	
Insect Lepidoptera	Lycaeides melissa samuelis	Karner Blue	LE	SE	036N009W 01 SH SH SEQ	1994-07-28	
Insect Lepidoptera	Macrochilo absorptalis	A Moth		SR	037N009W 34	2005	
Insect Lepidoptera	Macrochilo hypocritalis	A Noctuid Moth		SR	037N009W 34	2005	
Insect ·idoptera	Macrochilo louisiana			ST	037N009W 34	2005	
·ect Lepidoptera	Macrochilo louisiana			ST	036N009W 3	2004-06-22	
Insect Lepidoptera	Meropleon ambifuscum	Newman's Brocade		ST	037N009W 34	2005	
Insect Lepidoptera	Metarranthis apiciaria	Barrens Metarranthis Moth		SE	036N009W OSBORN AREA	1904-07-01	
Insect Lepidoptera	Papaipema beeriana	Beer's Blazing Star Borer Moth		ST	037N009W 34	2005	
Insect Lepidoptera	Papaipema lysimachiae	The St. John'Swort Borer Moth		SR	036N009W 3	2000-09-05	
Insect Lepidoptera	Papaipema maritima	The Giant Sunflower Borer Moth		ST	037N009W 34	2005	
Insect Lepidoptera	Platyperigea meralis	The Rare Sand Quaker		ST	037N009W 34	2005	
Insect Lepidoptera	Problema byssus	Bunchgrass Skipper		ST	036N009W 3	2003-07-11	
Insect Lepidoptera	Problema byssus	Bunchgrass Skipper		ST	037N009W 34	2005	
Insect Lepidoptera	Protorthodes incincta	Saturn quaker		SR	037N009W 34	0000	
Insect Lepidoptera	Pyrausta laticlavia	The Southern Purple Mint Moth		SR	036N009W 3	2005-05-12	
Insect Lepidoptera	Pyrausta laticlavia	The Southern Purple Mint Moth		SR	037N009W 34	2005	
Insect Lepidoptera	Schinia indiana	Phlox Moth		SE	036N009W HESSVILLE AREA	1940-05	
·ect Lepidoptera	Spartiniphaga inops	Spartina Borer Moth		SR	036N009W 3	2004-09-04	

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TYPE	SPECIES NAME	COMMON NAME	FED	STATE	TRS	LASTOBS	COMMENTS
Insect Lepidoptera	Spartiniphaga inops	Spartina Borer Moth		SR	037N009W 34	2005	
Insect Lepidoptera	Speyeria aphrodite	Aphrodite Fritillary		WL	037N009W 34	2005	
Insect Lepidoptera	Sphinx luscitiosa	The Luscious Willow Sphinx		SR	036N009W 3	2004-06-24	
Insect Lepidoptera	Spilosoma latipennis	The Red-legged Tussock Moth		SR	037N009W 34	2005	
Insect Lepidoptera	Tarachidia binocula	Prairie tarachidia			037N009W 34	2005	
Insect Lepidoptera	Trichosilia manifesta	The Record Keeper Moth		SR	037N009W 34	2005	
Insect Odonata	Sympetrum semicinctum	Band-winged Meadowhawk		SR	037N009W 34	2005	
Insect Odonata	Sympetrum semicinctum	Band-winged Meadowhawk		SR	036N009W 36	1999	
Insect Orthoptera	Conocephalus saltans	Prairie Meadow Katydid		SR	037N009W 34	2005	
Insect Orthoptera	Neoconocephalus nebrascensis	A Katydid		SR	036N009W 3	2005-07-24	
Insect Orthoptera	Trimerotropis maritima	The Dune Locust		ST	037N009W 34	0000	
Mammal	Spermophilus franklinii	Franklin's Ground Squirrel		SE	037N009W 34 SEQ	1990-07-06	
Mammal	Spermophilus franklinii	Franklin's Ground Squirrel		SE	036N009W 04 SWQ NWQ NEQ	1992-08-09	
Mammal	Spermophilus franklinii	Franklin's Ground Squirrel		SE	037N009W 33 SWQ NWQ	1992-08-05	
Mammal	Spermophilus franklinii	Franklin's Ground Squirrel		SE	037N009W 32 NEQ SWQ	1985-07-02	
Mammal	Spermophilus franklinii	Franklin's Ground Squirrel		SE	036N009W 11 SEQ NWQ	1986-09-10	
Mammal	Spermophilus franklinii	Franklin's Ground Squirrel		SE	037N009W 33 SEQ	2002-09-04	
Mammal	Spermophilus franklinii	Franklin's Ground Squirrel		SE	037N009W 36	1978-08	
Mammal	Spermophilus franklinii	Franklin's Ground Squirrel		SE	037N010W 13 CENTER	1991-06-19	
Reptile	Clemmys guttata	Spotted Turtle		SE	037N009W 25 SEQ	1991-04-18	
Reptile	Clemmys guttata	Spotted Turtle		SE	037N008W 31	2005-05-10	
Reptile	Clemmys guttata	Spotted Turtle		SE	037N009W NEAR WHITING	NO DATE	
Reptile	Clemmys guttata	Spotted Turtle		SE	036N009W 36 NEQ	2000-06-08	
Reptile	Emydoidea blandingii	Blanding's Turtle		SE	037N009W 34 SH	1991	
Reptile	Emydoidea blandingii	Blanding's Turtle		SE	037N010W 24 WH NWQ NEQ	1979-06-30	
Reptile	Emydoidea blandingii	Blanding's Turtle		SE	037N008W 30 WH	2000-04-07	
Reptile	Ophisaurus attenuatus attenuatus	Western Slender Glass Lizard			037N009W 35 SEQ	1990	
Vascular Plant	Agalinis skinneriana	Pale False Foxglove		ST		1916-08-26	
Vascular Plant	Agalinis skinneriana	Pale False Foxglove		ST	037N009W 25 SEQ	1991-08-13	
Vascular Plant	Agalinis skinneriana	Pale False Foxglove		ST	037N009W 36	1991-08-29	
Vascular Plant	Agalinis skinneriana	Pale False Foxglove		ST	037N008W 30 SH SWQ	1995-09-21	

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Vascular Plant	Arctostaphylos uva-ursi	Bearberry		SR	037N009W 36 SWQ NEQ	1991-08-12	
scular Plant	Arctostaphylos uva-ursi	Bearberry		SR	037N009W 36	1978-01-25	
ascular Plant	Arctostaphylos uva-ursi	Bearberry		SR	037N008W 30 SWQ	1995-06-02	
Vascular Plant	Arctostaphylos uva-ursi	Bearberry		SR	037N009W 25 SEQ	1991-08-13	
Vascular Plant	Arctostaphylos uva-ursi	Bearberry		SR	037N009W 26	1978-07	
Vascular Plant	Arctostaphylos uva-ursi	Bearberry		SR	037N009W 26 SH NEQ & NEQ SEQ	1991-08-12	
Vascular Plant	Arenaria stricta	Michaux's Stitchwort		SR	037N009W 25	1978-01-25	
Vascular Plant	Arenaria stricta	Michaux's Stitchwort		SR		1946-06-14	
Vascular Plant	Arenaria stricta	Michaux's Stitchwort		SR	037N009W NEAR IND. HARBOR	1907-07-28	
Vascular Plant	Aristida intermedia	Slim-spike Three-awn Grass		SR	037N009W 36 NH	1991-08-12	
Vascular Plant	Aristida intermedia	Slim-spike Three-awn Grass		SR	037N009W 26 SH NEQ & NEQ SEQ	1980-09-24	
Vascular Plant	Aristida intermedia	Slim-spike Three-awn Grass		SR	037N009W 36 SWQ NEQ	1986-12-16	
Vascular Plant	Aristida intermedia	Slim-spike Three-awn Grass		SR	037N008W 30 SH SWQ	1995-09-21	
Vascular Plant	Aristida intermedia	Slim-spike Three-awn Grass		SR	037N009W 25 SEQ	1991-08-13	
Vascular Plant	Aristida tuberculosa	Seabeach Needlegrass		SR	036N008W 07	1952-09-21	
Vascular Plant	Aster borealis	Rushlike Aster		SR	037N009W 26 SH NEQ & NEQ SEQ	1985-07-10	
Vascular Plant	Aster sericeus	Western Silvery Aster		SR	037N009W 36	1978-11	
scular Plant	Buchnera americana	Bluehearts		SE	037N009W 26	1906-07-24	
ascular Plant	Buchnera americana	Bluehearts		SE	037N009W 25 SH SWQ	1991-08-29	
Vascular Plant	Buchnera americana	Bluehearts		SE	037N009W NEAR IND. HARBOR	1907-07-28	
Vascular Plant	Buchnera americana	Bluehearts		SE	037N008W 30 SWQ	1995-07-24	
Vascular Plant	Buchnera americana	Bluehearts		SE	037N009W 26 SH NEQ & NEQ SEQ	1991-08-12	
Vascular Plant	Buchnera americana	Bluehearts		SE	037N009W 25 CTR WH SWQ	1991-08-29	
Vascular Plant	Carex aurea	Golden-fruited Sedge		SR	037N009W 26	1899-06-18	
Vascular Plant	Carex aurea	Golden-fruited Sedge		SR	037N009W 25 SEQ & 30 037N008W	1991-06-12	
Vascular Plant	Carex aurea	Golden-fruited Sedge		SR	037N009W 26 SH NEQ & NEQ SEQ	1991-06-13	
Vascular Plant	Carex aurea	Golden-fruited Sedge		SR	037N009W 34 SEQ	1991-07-02	
Vascular Plant	Carex aurea	Golden-fruited Sedge		SR	037N009W 36	1978-01-25	
Vascular Plant	Carex aurea	Golden-fruited Sedge		SR	037N008W 30 SWQ	1995-06-02	
Vascular Plant	Carex bebbii	Bebb's Sedge		ST	037N009W 34 SH	1991	
Vascular Plant	Carex conoidea	Prairie Gray Sedge		ST	036N009W 1/2 MI N OF GRIFFITH	1924-06-05	
scular Plant	Carex crawei	Crawe Sedge		ST	037N008W 30 SWQ	1995-07-26	
Vascular Plant	Carex crawei	Crawe Sedge		ST	036N008W 07	1949-06	

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Vascular Plant	Carex crawei	Crawe Sedge		ST	037N009W 26 SH NEQ & NEQ SEQ	1991-06-13	
scular Plant	Carex crawei	Crawe Sedge		ST	037N009W 25 SEQ	1991-08-13	
Vascular Plant	Carex crawei	Crawe Sedge		ST	037N009W 36	1956-06-26	
Vascular Plant	Carex crawei	Crawe Sedge		ST	037N009W INDIANA HARBOR	1903-06	
Vascular Plant	Carex crawei	Crawe Sedge		ST	037N009W 23 SEQ NWQ SWQ	1994-06-30	
Vascular Plant	Carex eburnea	Ebony Sedge		SR	037N008W 30 SWQ	1995-06-02	
Vascular Plant	Carex eburnea	Ebony Sedge		SR	037N009W 26 SH NEQ & NEQ SEQ	1985-07-10	
Vascular Plant	Carex eburnea	Ebony Sedge		SR	037N009W 25 SEQ	1991-08-13	
Vascular Plant	Carex garberi	Elk Sedge		ST	036N008W 07	1949-06	
Vascular Plant	Carex garberi	Elk Sedge		ST	037N009W 26 SEQ	1991-06-13	
Vascular Plant	Carex garberi	Elk Sedge		ST	037N009W 25 SEQ	1991-08-13	
Vascular Plant	Carex limosa	Mud Sedge		SE	037N009W 36	1895-06-30	
Vascular Plant	Carex richardsonii	Richardson Sedge		ST	037N008W 30 SWQ	1995-07-26	
Vascular Plant	Carex richardsonii	Richardson Sedge		ST	037N009W 26 SH NEQ & NEQ SEQ	1986-04-29	
Vascular Plant	Carex richardsonii	Richardson Sedge		ST	037N009W 25 SEQ & 30 037N008W	1991-08-13	
scular Plant	Ceanothus herbaceus	Prairie Redroot		SE	037N009W 36	1903-05-30	
ascular Plant	Cirsium pitcheri	Dune Thistle	LT	ST	037N009W EDGEMORE	1882-01-12	
Vascular Plant	Cirsium pitcheri	Dune Thistle	LT	ST	037N009W AT PINE	1909-06	
Vascular Plant	Cirsium pitcheri	Dune Thistle	LT	ST	037N009W INDIANA HARBOR	1916-08-05	
Vascular Plant	Cornus rugosa	Roundleaf Dogwood		SR	037N009W 36	1920-07	
Vascular Plant	Cypripedium calceolus var. parviflorum	Small Yellow Lady's-slipper		SR	037N009W 36	1978-01-25	
Vascular Plant	Cypripedium calceolus var. parviflorum	Small Yellow Lady's-slipper		SR	037N009W 26 N1/2 SEQ	1987-05-20	
Vascular Plant	Cypripedium calceolus var. parviflorum	Small Yellow Lady's-slipper		SR	037N009W 26	1899-06-08	
Vascular Plant	Cypripedium candidum	Small White Lady's-slipper		WL	037N009W WHITING	1893-05-25	
Vascular Plant	Cypripedium candidum	Small White Lady's-slipper		WL	037N009W 36	1897-05-29	
Vascular Plant	Cypripedium candidum	Small White Lady's-slipper		WL	037N009W 26	1889-05-25	
Vascular Plant	Cypripedium candidum	Small White Lady's-slipper		WL	037N009W 26 SH NEQ & NEQ SEQ	1985-07-10	
Vascular Plant	Diervilla lonicera	Northern Bush-honeysuckle		SR	036N009W 11 NEQ	1999-09-07	
Vascular Plant	Eleocharis geniculata	Capitate Spike-rush		ST	037N009W 25 SEQ	1991-08-13	
scular Plant	Eleocharis geniculata	Capitate Spike-rush		ST	037N009W 26 NEQ	1985-07-10	

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TYPE	SPECIES NAME	COMMON NAME	FED	STATE	TRS	LASTOBS	COMMENTS
Vascular Plant	Eleocharis geniculata	Capitate Spike-rush		ST	037N009W WHITING	1880-09	
scular Plant	Eleocharis geniculata	Capitate Spike-rush		ST	037N009W 23 SWQ SWQ	1975-10	
Vascular Plant	Eleocharis geniculata	Capitate Spike-rush		ST	037N009W 36 NH	1991-08-12	
Vascular Plant	Equisetum variegatum	Variegated Horsetail		SE	037N009W INDIANA HARBOR	1902-06-11	
Vascular Plant	Eriophorum angustifolium	Narrow-leaved Cotton-grass		SR	037N009W 36 NH	1982	
Vascular Plant	Eriophorum angustifolium	Narrow-leaved Cotton-grass		SR	037N009W 34 SH	1991	
Vascular Plant	Eriophorum gracile	Slender Cotton-grass		ST	037N009W 36	1934-06	
Vascular Plant	Geranium bicknellii	Bicknell Northern Crane's-bill		SE	037N009W 26	1903-06-15	
Vascular Plant	Juncus balticus var. littoralis	Baltic Rush		SR	037N009W 34 SH	1991	
Vascular Plant	Juncus balticus var. littoralis	Baltic Rush		SR	037N009W 25 SEQ	1991-08-13	
Vascular Plant	Juncus balticus var. littoralis	Baltic Rush		SR	037N009W 26 SH NEQ & NEQ SEQ	1991-08-13	
Vascular Plant	Juncus balticus var. littoralis	Baltic Rush		SR	037N009W 36	1991-08-13	
Vascular Plant	Juncus scirpoides	Scirpus-like Rush		ST	036N008W 07	1952-07-27	
Vascular Plant	Juniperus communis	Ground Juniper		SR	037N008W 30 SWQ	1995-06-02	
Vascular Plant	Juniperus communis	Ground Juniper		SR	037N009W 1 MI E OF INDIANA HARBOR	1907-07-28	
scular Plant	Lathyrus maritimus var. glaber	Beach Peavine		SE	037N009W INDIANA HARBOR	1907-07-29	
Vascular Plant	Lechea stricta	Upright Pinweed		SX	037N009W 36	1881-09-10	
Vascular Plant	Melampyrum lineare	American Cow-wheat		SR	037N009W WHITING	1894-08-07	
Vascular Plant	Orobanche fasciculata	Clustered Broomrape		SE	037N009W 26	1889-06-08	
Vascular Plant	Orobanche fasciculata	Clustered Broomrape		SE	037N009W 36	1926-06-21	
Vascular Plant	Pinus banksiana	Jack Pine		SR	037N008W 30 SWQ	1995-06-02	
Vascular Plant	Pinus banksiana	Jack Pine		SR	037N009W 36	1978-07	
Vascular Plant	Pinus banksiana	Jack Pine		SR	037N009W 25 NWQ SEQ	1991-08-13	
Vascular Plant	Pinus banksiana	Jack Pine		SR	037N009W 26 SH NEQ & NEQ SEQ	1985-07-10	
Vascular Plant	Platanthera hookeri	Hooker Orchis		SX	037N009W 26	1897-06	
Vascular Plant	Platanthera hookeri	Hooker Orchis		SX	037N009W 36	1893-06	
Vascular Plant	Platanthera hyperborea	Leafy Northern Green Orchis		ST	037N009W 36	1978-01	
Vascular Plant	Platanthera hyperborea	Leafy Northern Green Orchis		ST	037N009W 23 SWQ SWQ	1994-06-30	
Vascular Plant	Platanthera psycodes	Small Purple-fringe Orchis		SR	037N009W 36	1928-08-04	
Vascular Plant	Polygonella articulata	Eastern Jointweed		SR	037N009W 36	1955-08-31	
Vascular Plant	Polygonella articulata	Eastern Jointweed		SR	036N008W 07	1952-09-21	
Vascular Plant	Potentilla anserina	Silverweed		ST	037N009W INDIANA HARBOR	1906-08	
Vascular Plant	Rhus aromatica var. arenaria	Beach Sumac		SR	037N008W 30 SWQ	1995-06-02	

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Vascular Plant	Rhus aromatica var. arenaria	Beach Sumac		SR	037N009W 25 SEQ	1991-08-13	
scular Plant	Rhus aromatica var. arenaria	Beach Sumac		SR	037N009W 36 NEQ	1923-07	
Vascular Plant	Rhus aromatica var. arenaria	Beach Sumac		SR	037N009W 23 SEQ	1994-06-30	
Vascular Plant	Rhus aromatica var. arenaria	Beach Sumac		SR	037N009W 26	2007-07-12	
Vascular Plant	Rhus aromatica var. arenaria	Beach Sumac		SR	037N009W 26	1904-06-04	
Vascular Plant	Rhus aromatica var. arenaria	Beach Sumac		SR	037N009W 23 SWQ SWQ	2001-08-06	
Vascular Plant	Rhus aromatica var. arenaria	Beach Sumac		SR	037N009W 26 SH NEQ & NEQ SEQ	1991-08-12	
Vascular Plant	Rhus aromatica var. arenaria	Beach Sumac		SR	037N009W 26 NWQ	1995-12-28	
Vascular Plant	Salix cordata	Heartleaf Willow		ST	037N009W NEAR IND. HARBOR	1908-07-26	
Vascular Plant	Satureja glabella var. angustifolia	Calamint		SE	037N009W 36	1895-06-28	
Vascular Plant	Satureja glabella var. angustifolia	Calamint		SE	037N009W 23 SWQ SWQ	2001-07-19	
Vascular Plant	Satureja glabella var. angustifolia	Calamint		SE	037N009W 26 SH NEQ & NEQ SEQ	1978-07	
Vascular Plant	Satureja glabella var. angustifolia	Calamint		SE	037N009W 25 SWQ NWQ	2001-07-19	
Vascular Plant	Satureja glabella var. angustifolia	Calamint		SE	037N009W NEAR INDIANA HARBOR	1907-07	
vascular Plant	Scirpus smithii	Smith's Bulrush		SE	037N009W BERRY LAKE AT WHITING	1897-08-18	
Vascular Plant	Selaginella apoda	Meadow Spike-moss		WL	037N009W 34 SH	1991	
Vascular Plant	Selaginella rupestris	Ledge Spike-moss		ST	036N008W 07	1952-09	
Vascular Plant	Sisyrinchium montanum	Strict Blue-eyed-grass		SE	037N009W 25 NWQ SWQ	1980-06	
Vascular Plant	Solidago ptarmicoides	Prairie Goldenrod		SR	037N009W 36 CTR NEQ	1991-08-29	
Vascular Plant	Solidago ptarmicoides	Prairie Goldenrod		SR	037N009W 34 SEQ NWQ SEQ	1992-08-22	
Vascular Plant	Solidago ptarmicoides	Prairie Goldenrod		SR	037N008W 30 SWQ	1995-07-26	
Vascular Plant	Solidago ptarmicoides	Prairie Goldenrod		SR	037N009W 26 SH NWQ + NH SWQ	1995-12-28	
Vascular Plant	Solidago ptarmicoides	Prairie Goldenrod		SR	037N009W 36 SWQ NEQ	1991-08-12	
Vascular Plant	Solidago ptarmicoides	Prairie Goldenrod		SR	037N009W 26 SH NEQ & NEQ SEQ	1991-08-12	
Vascular Plant	Solidago ptarmicoides	Prairie Goldenrod		SR	037N009W 23 SWQ SWQ	2001-08-06	
Vascular Plant	Solidago ptarmicoides	Prairie Goldenrod		SR	037N009W 25 CENTER OF WH OF SWQ	1991-08-29	
Vascular Plant	Solidago ptarmicoides	Prairie Goldenrod		SR	037N009W 26 SWQ	1995-12-28	
scular Plant	Solidago ptarmicoides	Prairie Goldenrod		SR	037N009W 23 NWQ SWQ	1987-12-31	

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TYPE	SPECIES NAME	COMMON NAME	FED	STATE	TRS	LASTOBS	COMMENTS
Vascular Plant	Solidago ptarmicoides	Prairie Goldenrod		SR	037N009W 25 SEQ	1991-08-13	
scular Plant	Solidago ptarmicoides	Prairie Goldenrod		SR	037N009W NEAR WHITING	1912-08-17	
Vascular Plant	Solidago simplex var. gillmanii	Sticky Goldenrod		ST	037N009W 1.25 MI E OF INDIANA HARBOR	1907-09-08	
Vascular Plant	Solidago simplex var. gillmanii	Sticky Goldenrod		ST	037N009W 36	1900-08-04	
Vascular Plant	Spiranthes lucida	Shining Ladies'-tresses		SR	037N009W 36	1934-06-09	
Vascular Plant	Spiranthes magnicamporum	Great Plains Ladies'-tresses		SE	037N008W 30 SWQ	1995-09-21	
Vascular Plant	Spiranthes magnicamporum	Great Plains Ladies'-tresses		SE	037N009W 25 SH SWQ	1991-08-29	
Vascular Plant	Spiranthes magnicamporum	Great Plains Ladies'-tresses		SE	037N009W 26 SEQ	1990-09-27	
Vascular Plant	Talinum rugospermum	Prairie Fame-flower		ST	037N009W 36	1915-08-22	
Vascular Plant	Thuja occidentalis	Northern White Cedar		SE	037N009W 26 SEQ	1978-07-12	
Vascular Plant	Thuja occidentalis	Northern White Cedar		SE	037N009W 26 SWQ NWQ	1978-07-12	
Vascular Plant	Tofieldia glutinosa	False Asphodel		SR	037N009W 2 MI E OF INDIANA HARBOR	1906-09-23	
Vascular Plant	Tofieldia glutinosa	False Asphodel		SR	037N009W 25 SEQ	1991-08-13	
Vascular Plant	Utricularia cornuta	Horned Bladderwort		ST	037N009W 36	1893-09-04	
Vascular Plant	Utricularia cornuta	Horned Bladderwort		ST	037N009W 26	1910-06-25	
Vascular Plant	Utricularia cornuta	Horned Bladderwort		ST	037N009W WHITING	1899-06-29	
ascular Plant	Utricularia minor	Lesser Bladderwort		ST	037N009W 36	1897-06	
Vascular Plant	Utricularia minor	Lesser Bladderwort		ST	037N009W 26	1889-08	
Vascular Plant	Utricularia purpurea	Purple Bladderwort		SR	037N009W 26	1907-09-08	
Vascular Plant	Utricularia resupinata	Northeastern Bladderwort		SE	037N009W 26	1890-08-29	
CLARK AND PINE NATURE PRESERVE							
	Agrotis vetusta	A Moth		SR	037N009W 36	2005	
	Ancylis semiovana			SR	037N009W 36	2005	
	Archanara laeta			ST	037N009W 36	2005	
	Crambus bidens			SR	037N009W 36	2002	
	Hesperotettix viridis pratensis	A Grasshopper		SR	037N009W 36	2005	
	Hypenodes caducus	Large Hypenodes		SR	037N009W 36	2005	
	Lemmeria digitalis	A Noctuid Moth		SR	037N009W 36	2005	
	Leucania linita			SR	037N009W 36	2005	
	Melanoplus fasciatus	Huckleberry Spur-throat Grasshopper		SR	037N009W 36	2005	
	Melanoplus keeleri luridus	Keeler's Spur-throated Grasshopper		SR	037N009W 36	2005	
	Melipotis jucunda	A Noctuid Moth		SR	037N009W 36	2005	
	Metanema determinata	Dark Metanema		SR	037N009W 36	2005	
	Oligia obtusa	A Noctuid Moth		SE	037N009W 36	2005	
	Paraphilaenus parallelus	A Spittle Bug		ST	037N009W 36	2005	
	Pardalophora phoenicoptera	Orange-winged Grasshopper		SR	037N009W 36	2005	
	Paroxya atlantica	A Grasshopper		ST	037N009W 36	2005	

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Endangered, Threatened and Rare Species, and High Quality Natural Communities Documented Within 4 Miles of the USS Lead Project Area, Lake County, Indiana

TYPE	SPECIES NAME	COMMON NAME	FED	STATE	TRS	LASTOBS	COMMENTS
	Phaneta olivaceana			SR	037N009W 36	2005	
	Phaneta umbrastriana			SR	037N009W 36	2005	
	Phoetaliotes nebrascensis	Large-headed Grasshopper		ST	037N009W 36	2005	
	Phytometra ernestinana	Ernestine's Moth		SE	037N009W 36	2005	
	Polyamia caperata			SR	037N009W 36	2005	
	Rhodoecia aurantiago	Aureolaria Seed Borer		ST	037N009W 36	2005	
	Semiothisa mellistrigata	A Geometrid Moth		SR	037N009W 36	2005	
Amphibian	Ambystoma laterale	Blue-spotted Salamander		SSC	037N009W 36	1978-08	
Bird	Botaurus lentiginosus	American Bittern		SE	037N009W 36	1978-07	
Bird	Ixobrychus exilis	Least Bittern		SE	037N009W 36	1990-SU	
Bird	Rallus elegans	King Rail		SE	037N009W 36	1978-08	
Bird	Rallus limicola	Virginia Rail		SE	037N009W 36	1978-07-11	
High Quality Natural Community	Prairie - sand dry	Dry Sand Prairie		SG	037N009W 36 NEQ	1978-07	
High Quality Natural Community	Prairie - sand dry-mesic	Dry-mesic Sand Prairie		SG	037N009W 36 NEQ	1978-07-11	
High Quality Natural Community	Prairie - sand wet-mesic	Wet-mesic Sand Prairie		SG	037N009W 36 NEQ	1980	
High Quality Natural Community	Wetland - marsh	Marsh		SG	037N009W 36 NEQ	1978-07	
High Quality Natural Community	Wetland - panne	Panne		SG	037N009W 36 NEQ	1984-12	
Insect Homoptera	Bruchomorpha extensa	The Long-nosed Elephant Hopper		SR	037N009W 36	2005	
Insect Homoptera	Flexamia pyrops	The Long-nose Three-awn Leafhopper		SR	037N009W 36	2005	
Insect Homoptera	Flexamia reflexus	Indiangrass Flexamia		ST	037N009W 36	2005	
Insect Homoptera	Philaenarcys killa	Great Lakes dune spittlebug		SR	037N009W 36	2005	
Insect Homoptera	Prairiana kansana	The Kansas Prairie Leafhopper		SE	037N009W 36	2005	
Insect Homoptera	Prosapia ignipectus	Red-legged Spittle Bug		SR	037N009W 36	2005	
Insect Lepidoptera	Anepia capsularis	The Starry Campion Capsule Moth		SR	037N009W 36	2005	
Insect Lepidoptera	Apamea burgessi	A Noctuid Moth		ST	037N009W 36	2005	
Insect Lepidoptera	Apamea nigrior	Black-dashed Apamea		SR	037N009W 36	2005	
Insect Lepidoptera	Atrytonopsis hianna	Dusted Skipper		ST	037N009W 36 NEQ	2005	
Insect Lepidoptera	Capis curvata	A Noctuid Moth		ST	037N009W 36	2005	
Insect Lepidoptera	Cycnia inopinatus	The Unexpected Milkweed Moth		SR	037N009W 36	2005	
Insect Lepidoptera	Eucoptocnemis fimbriaris	A Noctuid Moth		ST	037N009W 36	2002	
Insect Lepidoptera	Eucosma fulminana			SR	037N009W 36	2005	
Insect Lepidoptera	Euphyes dion	Sedge Skipper		SR	037N009W 36	2005	

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TYPE	SPECIES NAME	COMMON NAME	FED	STATE	TRS	LASTOBS	COMMENTS
Insect Lepidoptera	Faronta rubripennis	The Pine Streak		ST	037N009W 36	2005	
Insect pidoptera	Grammia figurata	The Figured Grammia		SR	037N009W 36	2005	
ıısect Lepidoptera	Grammia oithona	Oithona's Grammia		SR	037N009W 36	2005	
Insect Lepidoptera	Hesperia leonardus	Leonard's Skipper		SR	037N009W 36 NEQ	2005	
Insect Lepidoptera	Hesperia ottoe	Ottoe Skipper		SE	037N009W 36 NEQ	2005	
Insect Lepidoptera	Iodopepla u-album	A Noctuid Moth		SR	036N009W 36	2005	
Insect Lepidoptera	Lesmone detrahens	A Moth		SR	037N009W 36	2005	
Insect Lepidoptera	Leucania inermis	A Moth		SR	037N009W 36	2005	
Insect Lepidoptera	Loxagrotis grotei	Grote's Black-tipped Quaker		ST	037N009W 36	2002	
Insect Lepidoptera	Lycaena xanthoides	Great Copper		SE	037N009W 36 NEQ	2002	
Insect Lepidoptera	Macrochilo absorptalis	A Moth		SR	037N009W 36	2005	
Insect Lepidoptera	Macrochilo hypocritalis	A Noctuid Moth		SR	037N009W 36	2005	
Insect Lepidoptera	Macrochilo louisiana			ST	037N009W 36	2005	
Insect Lepidoptera	Melanomma auricinctaria	Huckleberry Eye-spot Moth		SR	037N009W 36	2002	
Insect epidoptera	Meropleon ambifuscum	Newman's Brocade		ST	037N009W 36	2005	
ect Lepidoptera	Papaipema beeriana	Beer's Blazing Star Borer Moth		ST	036N009W 36	2005	
Insect Lepidoptera	Papaipema leucostigma	Columbine Borer		ST	036N009W 36	2005	
Insect Lepidoptera	Papaipema pterisii	Bracken Borer Moth		WL	037N009W 36	2005	
Insect Lepidoptera	Papaipema speciosissima	The Royal Fern Borer Moth		ST	037N009W 36	2005	
Insect Lepidoptera	Problema byssus	Bunchgrass Skipper		ST	037N009W 36 NEQ	1985-06-29	
Insect Lepidoptera	Protorthodes incincta	Saturn quaker		SR	037N009W 36	2005	
Insect Lepidoptera	Pygarctia spraguei	Sprague's Pygartic		SR	037N009W 36	2005	
Insect Lepidoptera	Schinia sanguinea	Bleeding Flower Moth			037N009W 36 NEQ	1986	
Insect Lepidoptera	Thorybes pylades	Northern Cloudywing		SR	037N009W 36	2005	
Insect Lepidoptera	Trichosilia manifesta	The Record Keeper Moth		SR	037N009W 36	2002	
Insect Odonata	Sympetrum semicinctum	Band-winged Meadowhawk		SR	037N009W 36	2005	
Insect Orthoptera	Conocephalus saltans	Prairie Meadow Katydid		SR	037N009W 36	2005	
Insect Orthoptera	Orphulella pelidna	Green Desert Grasshopper		SR	037N009W 36	2005	
ect ıoptera	Psinidia fenestralis	Sand Locust		SR	037N009W 36	2005	

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Endangered, Threatened and Rare Species, and High Quality Natural Communities Documented Within 4 Miles of the USS Lead Project Area, Lake County, Indiana

TYPE	SPECIES NAME	COMMON NAME	FED	STATE	TRS	LASTOBS	COMMENTS
Mammal	Spermophilus franklinii	Franklin's Ground Squirrel		SE	037N009W 36 NEQ	1994-08-03	
ptile	Clemmys guttata	Spotted Turtle		SE	037N009W 36 NEQ	2000-04-22	
Reptile	Clemmys guttata	Spotted Turtle		SE	037N008W 31	2005-05-18	
Reptile	Clemmys guttata	Spotted Turtle		SE	037N009W 36	2005-05-18	
Reptile	Clemmys guttata	Spotted Turtle		SE	037N009W 25	2005-06-05	
Reptile	Clemmys guttata	Spotted Turtle		SE	037N008W 31	2005-05-18	
Reptile	Clemmys guttata	Spotted Turtle		SE	037N008W 31	2005-04-10	
Reptile	Clemmys guttata	Spotted Turtle		SE	037N008W 31	2005-05-18	
Reptile	Clemmys guttata	Spotted Turtle		SE	037N008W 31	2005-05-18	
Reptile	Emydoidea blandingii	Blanding's Turtle		SE	037N009W 36 NWQ NWQ	2000-04-07	
Reptile	Emydoidea blandingii	Blanding's Turtle		SE	037N009W 36	2005-05-18	
Reptile	Emydoidea blandingii	Blanding's Turtle		SE	037N009W 25	2005-06-05	
Reptile	Emydoidea blandingii	Blanding's Turtle		SE	037N009W 36 NEQ	2000-04-15	
Reptile	Emydoidea blandingii	Blanding's Turtle		SE	037N009W 25	2005-03-29	
Reptile	Ophisaurus attenuatus attenuatus	Western Slender Glass Lizard			037N009W 36 NEQ	1991-04-23	
Reptile	Thamnophis proximus proximus	Western Ribbon Snake		SSC	037N009W 36 NEQ	1987-06-06	
Vascular Plant	Agalinis skinneriana	Pale False Foxglove		ST	037N009W 36 NWQ NWQ NEQ & NEQ NEQ	1991-08-29	
Vascular Plant	Amelanchier humilis	Running Serviceberry		SE	037N009W 36 NEQ	1985	
Vascular Plant	Aralia hispida	Bristly Sarsaparilla		SE	037N009W 36	1880-06	
Vascular Plant	Arctostaphylos uva-ursi	Bearberry		SR	037N009W 36 NEQ	1985-07-11	
vascular Plant	Arenaria stricta	Michaux's Stitchwort		SR	037N009W 36 NEQ NEQ	1986-05-08	
Vascular Plant	Aristida intermedia	Slim-spike Three-awn Grass		SR	037N009W 36	1927-05-23	
Vascular Plant	Aster borealis	Rushlike Aster		SR	037N009W 36 NEQ	1985-07-11	
Vascular Plant	Buchnera americana	Bluehearts		SE	037N009W 36 NWQ NEQ	1991-08-29	
Vascular Plant	Carex aurea	Golden-fruited Sedge		SR	037N009W 36 NEQ	1986	
Vascular Plant	Carex crawei	Crawe Sedge		ST	037N009W 36 NEQ	1987	
Vascular Plant	Carex eburnea	Ebony Sedge		SR	037N009W 36 NEQ NEQ	1986-07-15	
Vascular Plant	Carex garberi	Elk Sedge		ST	037N009W 36 NEQ NEQ	1986-05	
Vascular Plant	Carex richardsonii	Richardson Sedge		ST	037N009W 36 NEQ	1986-04	
Vascular Plant	Cirsium hillii	Hill's Thistle		SE	037N009W 36 NEQ	1987-06-11	
Vascular Plant	Coeloglossum viride var. virescens	Long-bract Green Orchis		ST	037N009W 36	NO DATE	
Vascular Plant	Cornus canadensis	Bunchberry		SE	037N009W 36	1878-05	
Vascular Plant	Cypripedium calceolus var. parviflorum	Small Yellow Lady's-slipper		SR	037N009W 36 NEQ	1989-05-24	
Vascular Plant	Cypripedium candidum	Small White Lady's-slipper		WL	037N009W 36	1898-06	
Vascular Plant	Eleocharis geniculata	Capitate Spike-rush		ST	037N009W 36 SEQ NEQ NEQ	1986	

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TYPE	SPECIES NAME	COMMON NAME	FED	STATE	TRS	LASTOBS	COMMENTS
Vascular Plant	Equisetum variegatum	Variegated Horsetail		SE	037N009W 36	1955-08-31	
Vascular Plant	Eriophorum angustifolium	Narrow-leaved Cotton-grass		SR	037N009W 36 NEQ	1986	
·scular Plant	Eriophorum gracile	Slender Cotton-grass		ST	037N009W 36	1934-06	
Vascular Plant	Juncus balticus var. littoralis	Baltic Rush		SR	037N009W 36 NEQ	1985-07-11	
Vascular Plant	Juncus scirpoides	Scirpus-like Rush		ST	037N009W 36 NEQ	1985-07-11	
Vascular Plant	Linnaea borealis	Twinflower		SX	037N009W 36	1897-06-12	
Vascular Plant	Ludwigia sphaerocarpa	Globe-fruited False-loosestrife		SE	037N009W 36	1952-08-09	
Vascular Plant	Melampyrum lineare	American Cow-wheat		SR	037N009W 36	1907-07	
Vascular Plant	Orobanche fasciculata	Clustered Broomrape		SE	037N009W 36 NEQ NEQ	1986-06-24	
Vascular Plant	Pinus banksiana	Jack Pine		SR	037N009W 36 NEQ	1986	
Vascular Plant	Platanthera hyperborea	Leafy Northern Green Orchis		ST	037N009W 36 NEQ NEQ	1986-06	
Vascular Plant	Potamogeton pulcher	Spotted Pondweed		SE	037N009W 36	1897-06-21	
Vascular Plant	Rhus aromatica var. arenaria	Beach Sumac		SR	037N009W 36 NEQ NEQ	1986-06	
Vascular Plant	Salix cordata	Heartleaf Willow		ST	037N009W 36	1898-06	
Vascular Plant	Satureja glabella var. angustifolia	Calamint		SE	037N009W 36	1926-09	
Vascular Plant	Scirpus subterminalis	Water Bulrush		SR	037N009W 36	1878-07-02	
Vascular Plant	Shepherdia canadensis	Canada Buffalo-berry		SX	037N009W 36 NEQ	1997-07-22	
Vascular Plant	Sisyrinchium montanum	Strict Blue-eyed-grass		SE	037N009W 36 NEQ NEQ	1986	
·scular Plant	Solidago ptarmicoides	Prairie Goldenrod		SR	037N009W 36 NWQ NEQ	1991-08-29	
Vascular Plant	Spiranthes lucida	Shining Ladies'-tresses		SR	037N009W 36	1934-06	
Vascular Plant	Spiranthes magnicamporum	Great Plains Ladies'-tresses		SE	037N009W 36 NWQ NEQ	1991-08-29	
Vascular Plant	Thuja occidentalis	Northern White Cedar		SE	037N009W 36	1898-06-28	
Vascular Plant	Tofieldia glutinosa	False Asphodel		SR	037N009W 36 NEQ	1986-08-25	
Vascular Plant	Triglochin palustris	Marsh Arrow-grass		SR	037N009W 36	1896-08-28	
Vascular Plant	Utricularia cornuta	Horned Bladderwort		ST	037N009W 36	1916-08-26	
Vascular Plant	Utricularia minor	Lesser Bladderwort		ST	037N009W 36	1897-06	
Vascular Plant	Utricularia purpurea	Purple Bladderwort		SR	037N009W 36 NEQ	2002-09-23	
CLINE AVENUE NATURE PRESERVE							
High Quality Natural Community	Prairie - sand dry-mesic	Dry-mesic Sand Prairie		SG	036N009W 03 EH NEQ	1978-07	
High Quality Natural Community	Savanna - sand dry-mesic	Dry-mesic Sand Savanna		SG	036N009W 03 EH NEQ	1978-07-22	
High Quality Natural Community	Wetland - swamp shrub	Shrub Swamp		SG	036N009W 03 EH NEQ	1978-07	
Vascular Plant	Diervilla lonicera	Northern Bush-honeysuckle		SR	036N009W 03 NEQ NEQ	1978-07-22	
ISON WOODS NATURE PRESERVE							
·rd	Ixobrychus exilis	Least Bittern		SE	036N009W 03 SEQ	1985-07-02	

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TYPE	SPECIES NAME	COMMON NAME	FED	STATE	TRS	LASTOBS	COMMENTS
High Quality Natural Community	Forest - floodplain wet-mesic	Wet-mesic Floodplain Forest		SG	036N009W 03 SH	1978-07	
High Quality Natural Community	Prairie - sand dry-mesic	Dry-mesic Sand Prairie		SG	036N009W 03 SH	1978-07	
High Quality Natural Community	Prairie - sand wet-mesic	Wet-mesic Sand Prairie		SG	036N009W 03 SH	1978-07-21	
High Quality Natural Community	Savanna - sand dry-mesic	Dry-mesic Sand Savanna		SG	036N009W 03 SH	1978-07-21	
High Quality Natural Community	Wetland - marsh	Marsh		SG	036N009W 03 SH	1978-07	
High Quality Natural Community	Wetland - swamp shrub	Shrub Swamp		SG	036N009W 03 SH	1978-07	
Insect Lepidoptera	Euchloe olympia	Olympia Marble		ST	036N009W 03 NH SH	1990-04-25	
Insect Lepidoptera	Lycaeides melissa samuelis	Karner Blue	LE	SE	036N009W 04 SEQ	1992-07-09	
Insect Lepidoptera	Papaipema leucostigma	Columbine Borer		ST	036N009W 03 NH SH	1990-09-11	
Insect Lepidoptera	Papaipema pterisii	Bracken Borer Moth		WL	036N009W 03 NH SH	1992-07-09	
Insect Lepidoptera	Problema byssus	Bunchgrass Skipper		ST	036N009W 03 NH SH	1990	
Mammal	Spermophilus franklinii	Franklin's Ground Squirrel		SE	036N009W 03 SH	1994-07-27	
Reptile	Ophisaurus attenuatus attenuatus	Western Slender Glass Lizard			036N009W 03 NH SH	1981-	
Reptile	Ophisaurus attenuatus attenuatus	Western Slender Glass Lizard			036N009W 3	2005-06-03	
Reptile	Thamnophis proximus proximus	Western Ribbon Snake		SSC	036N009W 03 SH	1991	
Vascular Plant	Carex aurea	Golden-fruited Sedge		SR	036N009W 03 SWQ	1978-01-25	
Vascular Plant	Cypripedium calceolus var. parviflorum	Small Yellow Lady's-slipper		SR	036N009W 03 NH SH	1991-08-10	
Vascular Plant	Diervilla lonicera	Northern Bush-honeysuckle		SR	036N009W 03 NH SH	1991-08-10	
Vascular Plant	Juglans cinerea	Butternut		WL	036N009W 03 SH	1989	
Vascular Plant	Prunus pensylvanica	Fire Cherry		SR	036N009W 03 SWQ NEQ SEQ	1989-05-12	
Vascular Plant	Rhus aromatica var. arenaria	Beach Sumac		SR	036N009W 03 NH SH	1989	
Vascular Plant	Satureja glabella var. angustifolia	Calamint		SE	036N009W 02	1906-08	
IVANHOE DUNE AND SWALE NATURE PRESERVE							
Amphibian	Ambystoma laterale	Blue-spotted Salamander		SSC	036N009W 02 NEQ	1991-03-27	
Bird	Certhia americana	Brown Creeper			036N009W 02 NEQ	1991-05-01	
Bird	Rallus limicola	Virginia Rail		SE	036N009W 02 NEQ	1991-04-18	

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TYPE	SPECIES NAME	COMMON NAME	FED	STATE	TRS	LASTOBS	COMMENTS
High Quality Natural Community	Lake - pond	Pond		SG	036N009W 02 NEQ	1978-07-23	
High Quality Natural Community	Prairie - sand dry-mesic	Dry-mesic Sand Prairie		SG	036N009W 02 NEQ	1978-07	
High Quality Natural Community	Prairie - sand dry-mesic	Dry-mesic Sand Prairie		SG	036N009W 02 EH NEQ	1978-07-23	
High Quality Natural Community	Prairie - sand mesic	Mesic Sand Prairie		SG	036N009W 02 NEQ	1978-07-23	
High Quality Natural Community	Prairie - sand wet	Wet Sand Prairie		SG	036N009W 02 EH NEQ	1978-07-23	
High Quality Natural Community	Prairie - sand wet	Wet Sand Prairie		SG	036N009W 02 NEQ	1978-07	
High Quality Natural Community	Savanna - sand dry-mesic	Dry-mesic Sand Savanna		SG	036N009W 02 EH NEQ	1978-07-23	
High Quality Natural Community	Savanna - sand dry-mesic	Dry-mesic Sand Savanna		SG	036N009W 02 NEQ	1978-07-23	
High Quality Natural Community	Savanna - sand mesic	Mesic Sand Savanna		SG	036N009W 02 NEQ NEQ	1978-07-23	
High Quality Natural Community	Savanna - sand mesic	Mesic Sand Savanna		SG	036N009W 02 NEQ	1978-07-23	
High Quality Natural Community	Wetland - marsh	Marsh		SG	036N009W 02 EH NEQ	1978-07-23	
High Quality Natural Community	Wetland - marsh	Marsh		SG	036N009W 02 NEQ	1978-07	
High Quality Natural Community	Wetland - swamp shrub	Shrub Swamp		SG	036N009W 02 NEQ	1978-07	
High Quality Natural Community	Wetland - swamp shrub	Shrub Swamp		SG	036N009W 02 EH NEQ	1978-07-23	
Insect Lepidoptera	Atrytonopsis hianna	Dusted Skipper		ST	036N009W 02 NEQ	1994-06-03	
Insect Lepidoptera	Lycaeides melissa samuelis	Karner Blue	LE	SE	036N009W 02 NEQ	1994-07-29	
Insect Lepidoptera	Problema byssus	Bunchgrass Skipper		ST	036N009W 02 NEQ	1995-08-04	
Reptile	Emydoidea blandingii	Blanding's Turtle		SE	036N009W 02 SWQ SWQ NEQ	1991-11-01	
Reptile	Ophisaurus attenuatus attenuatus	Western Slender Glass Lizard			036N009W 02 NEQ	1990	
Vascular Plant	Diervilla lonicera	Northern Bush-honeysuckle		SR	036N009W 02 NEQ	1985	
Vascular Plant	Juncus balticus var. littoralis	Baltic Rush		SR	036N009W 02 NEQ	1985	
Vascular Plant	Platanthera hyperborea	Leafy Northern Green Orchis		ST	036N009W 02 NEQ	1985	

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Vascular Plant	Prunus pensylvanica	Fire Cherry		SR	036N009W 02 NEQ	1985	
scular Plant	Rhus aromatica var. arenaria	Beach Sumac		SR	036N009W 02 NEQ	1985	
IVANHOE SOUTH							
High Quality Natural Community	Savanna - sand dry-mesic	Dry-mesic Sand Savanna		SG	036N009W 02 SEQ	1978-07-10	
High Quality Natural Community	Savanna - sand mesic	Mesic Sand Savanna		SG	036N009W 02 NEQ	1978-07-10	
Insect Lepidoptera	Lycaeides melissa samuelis	Karner Blue	LE	SE	036N009W 02 SEQ	1993-06-12	
PINE STATION NATURE PRESERVE							
Bird	Cistothorus palustris	Marsh Wren		SE	037N008W 31 NWQ	1991-07-29	
Bird	Ixobrychus exilis	Least Bittern		SE	037N008W 31 NWQ	1991-06-08	
Bird	Rallus limicola	Virginia Rail		SE	037N008W 31 NWQ	1991-05-14	
Insect Lepidoptera	Atrytonopsis hianna	Dusted Skipper		ST	037N008W 31 NWQ	1986	
Insect Lepidoptera	Capis curvata	A Noctuid Moth		ST	037N008W 31 NWQ NWQ	1999	
Mammal	Spermophilus franklinii	Franklin's Ground Squirrel		SE	037N008W 31 SWQ & NWQ	1987-08	
Reptile	Clemmys guttata	Spotted Turtle		SE	037N008W 31 NWQ	2000-04-30	
eptile	Emydoidea blandingii	Blanding's Turtle		SE	037N009W 36	2007-06-16	
Reptile	Ophisaurus attenuatus attenuatus	Western Slender Glass Lizard			037N008W 31 NWQ	1990	
Reptile	Sistrurus catenatus catenatus	Eastern Massasauga	C	SE	037N008W 31 SWQ	1984	
Vascular Plant	Agalinis skinneriana	Pale False Foxglove		ST	037N008W 31 WH	1990	
Vascular Plant	Arctostaphylos uva-ursi	Bearberry		SR	037N008W 31 WH	1991-08-13	
Vascular Plant	Carex aurea	Golden-fruited Sedge		SR	037N008W 31 WH	1991-06-14	
Vascular Plant	Carex brunnescens	Brownish Sedge		SE	037N008W 31 WH	1991-08-08	
Vascular Plant	Carex crawei	Crawe Sedge		ST	037N008W 31 WH	1991-08-13	
Vascular Plant	Carex garberi	Elk Sedge		ST	037N008W 31 WH	1991-06-14	
Vascular Plant	Carex richardsonii	Richardson Sedge		ST	037N008W 31 WH	1956-05-19	
Vascular Plant	Cirsium hillii	Hill's Thistle		SE	037N008W 31 NWQ	1987	
Vascular Plant	Cypripedium calceolus var. parviflorum	Small Yellow Lady's-slipper		SR	037N008W 31 NWQ	1989-05-24	
Vascular Plant	Eleocharis geniculata	Capitate Spike-rush		ST	037N008W 31 WH	1991-08-13	
Vascular Plant	Juncus balticus var. littoralis	Baltic Rush		SR	037N008W 31 WH	1991-08-13	
ascular Plant	Melampyrum lineare	American Cow-wheat		SR	037N008W 31	1907-07-28	

Fed: LE = listed federal endangered; C = federal candidate species

State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SG = state significant; WL = watch list; no rank = not ranked but tracked to monitor status

TYPE	SPECIES NAME	COMMON NAME	FED	STATE	TRS	LASTOBS	COMMENTS
Vascular Plant	Solidago ptarmicoides	Prairie Goldenrod		SR	037N008W 31 WH	1991-08-13	
Vascular Plant	Tofieldia glutinosa	False Asphodel		SR	037N008W 31 WH	1991-08-13	
SEIDNER DUNE AND SWALE NATURE PRESERVE							
Bird	Ardea alba	Great Egret		SSC	037N009W 33 NEQ SEQ	1988-06-10	
Bird	Chlidonias niger	Black Tern		SE	037N009W 33 NH SEQ	1991-07-11	
Bird	Cistothorus palustris	Marsh Wren		SE	037N009W 33 SEQ	1987-06-06	
Insect Homoptera	Cosmotettix bilineatus	Two-lined cosmotettix		ST	037N009W 33	2003	
Insect Lepidoptera	Grammia phyllira	The Sand Barrens Grammia		SR	037N009W 33 SEQ	2001	
Insect Lepidoptera	Hesperia leonardus	Leonard's Skipper		SR	037N009W 33 SEQ	2001	
Insect Lepidoptera	Peoria gemmatella	Gemmed Cordgrass Borer		SR	037N009W 33 SEQ	2001	
Insect Lepidoptera	Semiothisa eremiata	The Goat's Rue Looper		SR	037N009W 33 SEQ	2001	
Vascular Plant	Juncus balticus var. littoralis	Baltic Rush		SR	037N009W 33 SWQ	2001	
TOLLESTON RIDGES NATURE PRESERVE							
Amphibian	Ambystoma laterale	Blue-spotted Salamander		SSC	036N009W 3	2005-05-23	
Bird	Botaurus lentiginosus	American Bittern		SE	036N009W 03 NH	1975	
Bird	Buteo lineatus	Red-shouldered Hawk		SSC	036N009W 03 NH SEQ	1978-08	
High Quality Natural Community	Prairie - sand mesic	Mesic Sand Prairie		SG	036N009W 03 N HALF N HALF SEQ	1978-07-21	
High Quality Natural Community	Savanna - sand dry-mesic	Dry-mesic Sand Savanna		SG	036N009W 03 NH SEQ	1978-07-21	
High Quality Natural Community	Wetland - marsh	Marsh		SG	036N009W 03 NH NH SEQ	1978-07	
High Quality Natural Community	Wetland - swamp shrub	Shrub Swamp		SG	036N009W 03 SEQ SWQ NEQ & SWQ SEQ NEQ & NWQ NEQ SEQ	1978-07-21	
Insect Lepidoptera	Lycaeides melissa samuelis	Karner Blue	LE	SE	036N009W 03 CTR NH	1994-07-29	
Mammal	Spermophilus franklinii	Franklin's Ground Squirrel		SE	036N009W 03 NWQ	1978	
Reptile	Emydoidea blandingii	Blanding's Turtle		SE	036N009W 03 SEQ NWQ	2007-06-10	
Vascular Plant	Carex aurea	Golden-fruited Sedge		SR	036N009W 03 SEQ NWQ & SWQ NEQ	1978-08-11	
Vascular Plant	Carex richardsonii	Richardson Sedge		ST	036N009W 03 SEQ NWQ & SWQ NEQ	1980	
Vascular Plant	Cypripedium calceolus var. parviflorum	Small Yellow Lady's-slipper		SR	036N009W 03 NEQ	1987-05-20	

Fed: LE = listed federal endangered; C = federal candidate species

State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SG = state significant; WL = watch list; no rank = not ranked but tracked to monitor status

Endangered, Threatened and Rare Species, and High Quality Natural Communities Documented Within 4 Miles of the USS Lead Project Area, Lake County, Indiana

TYPE	SPECIES NAME	COMMON NAME	FED	STATE	TRS	LASTOBS	COMMENTS
Vascular Plant	Diervilla lonicera	Northern Bush-honeysuckle		SR	036N009W 03 SEQ NWQ & SWQ NEQ	1991-08-10	
ascular Plant	Prunus pensylvanica	Fire Cherry		SR	036N009W 03 SEQ NWQ & SWQ NEQ	1978-08	
Vascular Plant	Solidago simplex var. gillmanii	Sticky Goldenrod		ST	036N009W 03 NWQ	1978-08-11	
Vascular Plant	Spiranthes lucida	Shining Ladies'-tresses		SR	036N009W 03 SEQ NWQ & SWQ NEQ	1989	

Fed: LE = listed federal endangered; C = federal candidate species

State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SG = state significant; WL = watch list; no rank = not ranked but tracked to monitor status

APPENDIX H
Chemical Analysis

ESAT Controlled Number: ESAT5.05.00357-pd 11Dec07

RECEIVED DEC 14 2007 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF LAND QUALITY

DATE: December 11, 2007

Indiana Dept of Environmental Management
ATTN: Mark Jaworski
100 N. Senate Avenue – Room N1255
Indianapolis, IN 46804-2222

SITE NAME: USS Lead (IN)

CASE #	LAB	SAMPLES	SDG	MATRIX
37004	ChemTech	19	ME2PD6	soil

Upon receipt of data, please check each package for completeness and note any missing deliverables below.

Send this form back to Sylvia Griffin, Data Management Coordinator after filling in the blanks below.

Data Received by:_____ Date:_____

PROBLEMS:

Please indicate if data is complete, and note if there are any deliverables missing from the cases noted above.

_____

_____

Received by Data Management Coordinator, CRL for file.

Signature:_____ Date:_____

FROM: **U.S. EPA - Region 5**
Sylvia Griffin
Central Regional Laboratory
536 S. Clark, 10th Floor
Chicago, IL 60605

Sent By: Pat Davis

Data Coordinator
ESAT Region 5 **TechLaw**

Controlled Document

ESAT5.03.00145
aCH
12-10-07

RECEIVED
DEC 14 2007
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF LAND QUALITY

Regional Transmittal Form

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 12/10/07

SUBJECT: **Review of Data**
Received for review on 11/30/07

FROM: **Stephen L. Ostrodka, Chief (SRT-4J)**
Superfund Field Services Section

TO: **Data User:** IDEM

We have assembled the CADRE data for the following case:

SITE NAME: USS Lead (IN)

CASE NUMBER: 37004 **SDG NUMBER:** ME2PD6

Number and Type of Samples: 19 soil samples

Sample Numbers: ME2PD6-D9, ME2PG6-G9, ME2PH0-H8, ME2PK0-K1

Laboratory: Chemtech **Hrs. for Review:** 1.5

Following are our findings:

THIS DATA CASE HAS NOT BEEN REVIEWED BY ESAT

CC: Howard Pham
Region 5 TOPO
Mail Code: SRT-4J

Below is a summary of the out-of-control audits and the possible effects on the data for this case:

NUMBER (##) MATRIX samples, numbered ##, were collected on DATE. The lab received the samples on DATE in good condition. All samples were analyzed for metals and cyanide. All samples were analyzed using the CLP SOW ILM05.4 analysis procedures.

Mercury analysis was performed using a Cold Vapor AA Technique. Cyanide analysis was performed using the MIDI Distillation procedure. The remaining inorganic analyses were performed using an Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES) procedure.

1. HOLDING TIME:

Qualification: Holding Time **Protocol: INORG**

DC-10 The following inorganic soil samples were reviewed for holding time violations using criteria developed for water samples.

ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PH8D, ME2PH8S, ME2PK0, ME2PK1

2. CALIBRATIONS:

Qualification: Calibrations **Protocol: INORG**

No defects found.

Qualification: CRDL/CRQL Standard **Protocol: INORG**

No defects found.

3. BLANKS:

Qualification: Laboratory Blanks **Protocol: INORG**

DC-1 The following inorganic samples have no associated preparation blank. Hits and non-detects are not flagged.

ME2PH5
Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc

ME2PH6
Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc

ME2PH7
Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc

ME2PH8
Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc

ME2PK0
Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc

ME2PK1
Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc

DC-15 The following inorganic samples are associated with an ICB concentration which is less than or equal to the CRQL. Detected sample result is also less than or equal to the CRQL. Hits are qualified "U". Sample result is raised to the CRQL if "Raise to detection limit" option is selected by the validator.

Beryllium
ME2PG9, ME2PH3, ME2PK0, ME2PK1

Potassium
ME2PD6, ME2PD7, ME2PG7, ME2PG9, ME2PH3, ME2PH5, ME2PH7, ME2PK0, ME2PK1

DC-16 The following inorganic samples are associated with an ICB concentration which is less than or equal to the CRQL. Sample result is greater than the CRQL. Use professional judgement to qualify data.

Beryllium
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PH0, ME2PH1, ME2PH2, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8

Cadmium
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Chromium
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Potassium
ME2PD8, ME2PD9, ME2PG6, ME2PG8, ME2PH0, ME2PH1, ME2PH2, ME2PH4, ME2PH6, ME2PH8

Zinc
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

DC-18 The following inorganic samples are associated with a CCB concentration which is less than or equal to the CRQL. Sample result is also less than or equal to the CRQL. Hits are qualified "U". Sample result is raised to the CRQL if "Raise to detection limit" option is selected by the validator.

Beryllium
ME2PG9, ME2PH3, ME2PK0, ME2PK1

Cobalt
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

DC-19 The following inorganic samples are associated with a CCB concentration which is less than or equal to the CRQL. Sample result is greater than the CRQL. Use professional judgement to qualify data.

Aluminum
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9

Barium
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Beryllium
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PH0, ME2PH1, ME2PH2, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8

Cadmium
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9

Chromium
ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Iron
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Lead
ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Manganese
ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Nickel
ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Zinc
ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

DC-22 The following inorganic samples are associated with a CCB analyte with negative concentration whose absolute value is greater than or equal to the method detection limit (MDL) but less than or equal to the CRQL. Use professional judgement to qualify sample data.

Copper
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9

Manganese
ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9

Sodium
ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Vanadium
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE AND LAB CONTROL SAMPLE:

Qualification: Laboratory Control Sample **Protocol: INORG**

No defects found.

Qualification: Matrix Spikes **Protocol: INORG**

No defects found.

5. LABORATORY AND FIELD DUPLICATE:

Qualification: Duplicates **Protocol: INORG**

DC-4 The following inorganic samples are not qualified for duplicates due to missing information. Hits and non-detects are not flagged.

Beryllium
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

6. ICP ANALYSIS:

Qualification: Interference Check Sample **Protocol: INORG**

DC-6 The following inorganic samples have elements other than Al, Ca, Fe, and Mg at concentrations higher than 10 mg/L that may cause potential interference. Use professional judgement to qualify sample data.

ME2PG6
Manganese

ME2PH1
Zinc

ME2PH2
Lead, Zinc

ME2PH4
Zinc

ME2PH7
Zinc

DC-10 The following inorganic samples have one or more interferents presentat concentrations more than true amounts added in the ICS solution. Use professional judgement to qualify sample data.

ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Qualification: Serial Dilution **Protocol: INORG**

DC-3 The following inorganic samples are associated with an ICP serial dilution percent difference which is not in criteria. The detected serial dilution result is less than the initial sample result. Hits are qualified "J" and non-detects are qualified "UJ".

Potassium
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

DC-4 The following inorganic samples are associated with an ICP serial dilution percent difference which is not in criteria. The serial dilution result is greater than the sample result, indicating a potential negative interference. The data must be qualified using professional judgement. Hits and non-detects are not flagged.

Antimony
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Beryllium
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Cadmium
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Calcium
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Chromium
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Cobalt
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Lead
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Manganese
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Nickel
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

Silver
ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PK0, ME2PK1

7. SAMPLE RESULTS:

Qualification: Percent Moisture **Protocol: INORG**

No defects found.

Qualification: Sample Result Verification **Protocol: INORG**

DC-5 The following inorganic samples have analyte concentrations reported below the quantitation limit (CRQL). All results below the CRQL are qualified"J".

ME2PD6
Cobalt, Potassium, Sodium

ME2PD7
Cobalt, Potassium, Sodium

ME2PD8
Cobalt, Sodium

ME2PD9
Cobalt, Sodium

ME2PG6
Cobalt, Sodium

ME2PG7
Cobalt, Potassium, Sodium

ME2PG8
Cobalt, Selenium, Sodium

ME2PG9
Antimony, Beryllium, Cobalt, Potassium, Silver, Sodium

ME2PH0
Cobalt

ME2PH1
Cobalt, Selenium, Sodium

ME2PH2
Cobalt

ME2PH3
Beryllium, Cobalt, Potassium, Sodium

ME2PH4
Cobalt

ME2PH5
Cobalt, Potassium, Selenium, Sodium

ME2PH6
Cobalt, Sodium

ME2PH7
Cobalt, Potassium

ME2PH8
Cobalt, Sodium

ME2PH8D
Cobalt, Sodium

ME2PK0
Cobalt, Potassium, Selenium, Sodium

ME2PK1
Beryllium, Cobalt, Potassium, Selenium, Sodium

Qualification: CADRE Reserved **Protocol: INORG**

DC-2 Verification of non-detected results and assignment of "U" qualifier when the reported value is less than detection limit.

ME2PD6, ME2PD7, ME2PD8, ME2PD9, ME2PG6, ME2PG7, ME2PG8, ME2PG9, ME2PH0, ME2PH1, ME2PH2, ME2PH3, ME2PH4, ME2PH5, ME2PH6, ME2PH7, ME2PH8, ME2PH8D, ME2PK0, ME2PK1, PBS

CADRE ILM05.4 Data Qualifier Sheet

Qualifiers	Data Qualifier Definitions
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Analytical Results (Qualified Data)

Case #: 37004 *SDG : ME2PD6*
Site : USS LEAD, EAST CHICAGO
Lab. : CHEM
Reviewer : PAL
Date : 12/10/2007

Number of Soil Samples : 19
Number of Water Samples : 0

Sample Number :	ME2PD6		ME2PD7		ME2PD8		ME2PD9		ME2PG6	
Sampling Location :	SS4		SS11		SS13		SS13A		SS2	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	11/13/2007		11/13/2007		11/13/2007		11/13/2007		11/13/2007	
Time Sampled :										
%Solids :	86.5		87.5		91.3		91.4		81.1	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	3350		3100		3090		3330		6390	
ANTIMONY	23.7		19.6		14.5		22.9		22.3	
ARSENIC	21.4		13.5		11.5		21.2		20.1	
BARIUM	117		200		120		179		162	
BERYLLIUM	0.58		0.69		0.67		0.72		0.99	
CADMIUM	3.1		3.0		3.3		4.8		2.9	
CALCIUM	10900		10600		21800		18100		16400	
CHROMIUM	31.4		17.8		18.6		29.5		94.4	
COBALT	3.0	UJ	3.4	UJ	2.9	UJ	4.5	UJ	5.4	UJ
COPPER	57.6		41.5		83.7		85.3		68.4	
IRON	12300		13500		15000		44700		31500	
LEAD	775		779		805		844		610	
MAGNESIUM	4400		4310		9210		7120		3690	
MANGANESE	364		322		457		665		1690	
NICKEL	11.7		11.4		21.5		17.5		18.4	
POTASSIUM	504	UJ	404	UJ	579	J	643	J	806	J
SELENIUM	4.0	U	3.9	U	3.8	U	3.8	U	4.3	U
SILVER	1.5		1.5		1.2		2.8		2.6	
SODIUM	381	J	445	J	471	J	425	J	459	J
THALLIUM	2.9	U	2.8	U	2.7	U	2.7	U	3.1	U
VANADIUM	15.8		12.0		11.3		14.5		57.6	
ZINC	623		755		516		694		913	

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Analytical Results (Qualified Data)

Case #: 37004 SDG : ME2PD6
Site : USS LEAD, EAST CHICAGO
Lab. : CHEM
Reviewer : PAL
Date : 12/10/2007

Sample Number :	ME2PG7		ME2PG8		ME2PG9		ME2PH0		ME2PH1	
Sampling Location :	SS7		SS9		SS10		SS15		SS17	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	11/13/2007		11/13/2007		11/13/2007		11/13/2007		11/13/2007	
Time Sampled :										
%Solids :	82.3		79.9		87.5		85.2		83.9	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	3340		4970		1850		5470		5430	
ANTIMONY	24.5		18.8		5.8	J	13.1		30.2	
ARSENIC	17.5		17.3		6.6		14.9		27.0	
BARIUM	112		110		59.5		135		138	
BERYLLIUM	1.4		0.69		0.53	UJ	0.64		0.81	
CADMIUM	2.6		2.7		1.8		2.8		3.6	
CALCIUM	11000		10200		13900		13400		19300	
CHROMIUM	18.5		22.6		11.8		30.9		25.7	
COBALT	4.6	UJ	3.9	UJ	2.6	UJ	4.2	UJ	4.2	UJ
COPPER	52.2		60.4		30.7		105		101	
IRON	19800		13500		11300		16600		15900	
LEAD	595		751		394		577		868	
MAGNESIUM	3820		3670		6430		6120		9180	
MANGANESE	271		362		231		487		510	
NICKEL	20.4		15.0		14.4		16.6		16.5	
POTASSIUM	584	UJ	627	J	285	UJ	728	J	809	J
SELENIUM	4.3	U	0.78	J	4.0	U	4.1	U	0.86	J
SILVER	1.6		1.4		0.86	J	1.9		2.7	
SODIUM	341	J	316	J	264	J	618		538	J
THALLIUM	3.0	U	3.1	U	2.9	U	2.9	U	3.0	U
VANADIUM	15.3		18.4		8.0		17.9		19.1	
ZINC	500		472		219		886		1230	

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Analytical Results (Qualified Data)

Case #: 37004 SDG : ME2PD6
Site : USS LEAD, EAST CHICAGO
Lab. : CHEM
Reviewer : PAL
Date : 12/10/2007

Sample Number :	ME2PH2		ME2PH3		ME2PH4		ME2PH5		ME2PH6	
Sampling Location :	SS19		SS20		SB6		SS22		SS23	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	11/13/2007		11/13/2007		11/13/2007		11/13/2007		11/14/2007	
Time Sampled :										
%Solids :	82.9		84.0		81.6		75.6		82.8	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	6680		4520		5120		5540		6920	
ANTIMONY	48.8		11.5		40.7		24.8		25.8	
ARSENIC	44.5		11.6		33.5		28.7		10.7	
BARIUM	258		98.7		307		148		95.9	
BERYLLIUM	1.3		0.47	UJ	0.96		0.95		0.82	
CADMIUM	4.1		1.2		3.6		5.0		1.1	
CALCIUM	22700		20400		20400		16500		4310	
CHROMIUM	23.3		24.6		29.5		29.9		28.7	
COBALT	5.7	UJ	3.4	UJ	4.6	UJ	4.1	UJ	4.0	UJ
COPPER	92.7		56.3		116		111		65.4	
IRON	20600		13900		17400		17800		20900	
LEAD	1680		535		1220		665		676	
MAGNESIUM	8390		9960		8490		6830		1620	
MANGANESE	539		428		578		602		242	
NICKEL	17.7		12.3		16.7		18.2		15.6	
POTASSIUM	907	J	498	UJ	741	J	480	UJ	779	J
SELENIUM	4.2	U	4.1	U	4.3	U	0.90	J	4.1	U
SILVER	3.5		1.3		3.1		2.3		3.3	
SODIUM	627		479	J	778		603	J	502	J
THALLIUM	3.0	U	2.9	U	3.1	U	3.3	U	3.0	U
VANADIUM	22.5		16.4		17.4		21.2		21.2	
ZINC	1360		613		1240		1240		360	

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Analytical Results (Qualified Data)

Case #: 37004 SDG : ME2PD6
Site : USS LEAD, EAST CHICAGO
Lab. : CHEM
Reviewer : PAL
Date : 12/10/2007

Sample Number :	ME2PH7		ME2PH8		ME2PK0		ME2PK1		ME2PH8D	
Sampling Location :	SS24		SS25		SD8		SD9		SS25	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	11/14/2007		11/14/2007		11/14/2007		11/14/2007		11/14/2007	
Time Sampled :										
%Solids :	84.3		80.6		43.6		39.9		80.2	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	5350		5450		4720		4250		5460	
ANTIMONY	17.4		13.8		176		92.8		13.7	
ARSENIC	14.9		16.5		117		51.6		16.0	
BARIUM	223		174		115		111		175	
BERYLLIUM	0.93		0.82		1.1	U	1.2	UJ	0.83	
CADMIUM	3.8		4.1		11.6		10.3		4.0	
CALCIUM	18300		18200		11600		13900		18300	
CHROMIUM	32.2		71.7		153		37.0		72.4	
COBALT	4.4	UJ	4.3	UJ	6.6	UJ	5.8	UJ	4.4	J
COPPER	111		113		154		96.5		112	
IRON	19500		18300		36800		25200		18400	
LEAD	697		671		1780		1550		672	
MAGNESIUM	9120		8500		2810		3620		8520	
MANGANESE	441		493		835		877		495	
NICKEL	17.9		17.2		30.0		20.2		17.1	
POTASSIUM	579	UJ	699	J	402	UJ	295	UJ	703	
SELENIUM	4.2	U	4.3	U	1.8	J	1.7	J	4.3	U
SILVER	2.3		2.4		4.8		3.8		2.5	
SODIUM	613		531	J	1050	J	1050	J	567	J
THALLIUM	3.0	U	3.1	U	5.7	U	6.3	U	3.1	U
VANADIUM	20.0		20.9		26.2		25.1		21.0	
ZINC	1220		897		1820		2120		902	

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Analytical Results (Qualified Data)

Case #: 37004 SDG : ME2PD6
Site : USS LEAD, EAST CHICAGO
Lab. : CHEM
Reviewer : PAL
Date : 12/10/2007

Sample Number :	ME2PH8S									
Sampling Location :	SS25									
Matrix :	Soil									
Units :	mg/Kg									
Date Sampled :	11/14/2007									
Time Sampled :										
%Solids :	80.6									
Dilution Factor :	1.0									
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM										
ANTIMONY	37.6									
ARSENIC	26.0									
BARIUM	713									
BERYLLIUM	12.8									
CADMIUM	16.5									
CALCIUM										
CHROMIUM	121									
COBALT	128									
COPPER	177									
IRON										
LEAD	669									
MAGNESIUM										
MANGANESE	604									
NICKEL	142									
POTASSIUM										
SELENIUM	11.4									
SILVER	11.7									
SODIUM										
THALLIUM	9.7									
VANADIUM	149									
ZINC	1010									

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USEPA Contract Laboratory Program
Generic Chain of Custody

Reference Case 37004
Client No:
SDG No: ME2PD6

L

Date Shipped:	11/15/2007
Carrier Name:	FedEx
Airbill:	811417071752
Shipped to:	ChemTech Consulting Group 284 Sheffield Street Mountainside NJ 07092 (908) 789-8900

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1 [illegible]	11/15/07 2:30	[illegible]	11/16/07 9:40
2			
3			
4			

Sampler Signature:

For Lab Use Only

Lab Contract No: EPW06047
Unit Price:
Transfer To:
Lab Contract No:
Unit Price:

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		FOR LAB USE ONLY Sample Condition On Receipt
ME2PD6	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099401 (Ice Only) (1)	SS4	S: 11/13/2007	10:09	
ME2PD7	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099402 (Ice Only) (1)	SS11	S: 11/13/2007	11:20	
ME2PD8	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099403 (Ice Only) (1)	SS13	S: 11/13/2007	11:42	
ME2PD9	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099404 (Ice Only) (1)	SS13A	S: 11/13/2007	11:42	
ME2PG6	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099405 (Ice Only) (1)	SS2	S: 11/13/2007	9:43	
ME2PG7	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099406 (Ice Only) (1)	SS7	S: 11/13/2007	10:40	
ME2PG8	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099407 (Ice Only) (1)	SS9	S: 11/13/2007	10:55	
ME2PG9	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099408 (Ice Only) (1)	SS10	S: 11/13/2007	11:05	
ME2PH0	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099409 (Ice Only) (1)	SS15	S: 11/13/2007	14:30	
ME2PH1	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099410 (Ice Only) (1)	SS17	S: 11/13/2007	14:50	

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt: 4°C	Chain of Custody Seal Number: 23832, 23833
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? Yes Shipment Iced? Yes

ICP Metals = ILM05.4 ICP-AES

Number: 5-551068049-111507-0001

LABORATORY COPY

PI provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax

USEPA Contract Laboratory Program
Generic Chain of Custody

Reference Case 37004
Client No:
SDG No: ME2PD6

L

Date Shipped:	11/15/2007
Carrier Name:	FedEx
Airbill:	811417071752
Shipped to:	ChemTech Consulting Group 284 Sheffield Street Mountainside NJ 07092 (908) 789-8900

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1 [illegible]	11/15/07 5:30pm	[illegible]	11/16/07 9:20
2			
3			
4			

Sampler Signature:

For Lab Use Only

Lab Contract No: EPW06047
Unit Price:
Transfer To:
Lab Contract No:
Unit Price:

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		FOR LAB USE ONLY Sample Condition On Receipt
ME2PH2	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099411 (Ice Only) (1)	SS19	S: 11/13/2007	15:00	
ME2PH3	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099412 (Ice Only) (1)	SS20	S: 11/13/2007	15:18	
ME2PH4	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099423 (Ice Only) (1)	SS6	S: 11/13/2007	10:30	
ME2PH5	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099413 (Ice Only) (1)	SS22	S: 11/13/2007	15:35	
ME2PH6	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099414 (Ice Only) (1)	SS23	S: 11/14/2007	9:40	
ME2PH7	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099415 (Ice Only) (1)	SS24	S: 11/14/2007	9:50	
ME2PH8	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099416 (Ice Only) (1)	SS25	S: 11/14/2007	10:00	

10

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt: 4°C	Chain of Custody Seal Number: 23832, 23833
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? Yes / Shipment Iced? Yes
Metals = ILM05.4 ICP-AES				

Number: **5-551068049-111507-0001**

LABORATORY COPY

Provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax

USEPA Contract Laboratory Program
Generic Chain of Custody

Reference Case 37004
Client No: ME2PD6
SDG No: ~~ME2PK0~~ L

Date Shipped:	11/19/2007
Carrier Name:	FedEx
Airbill:	811417071796
Shipped to:	ChemTech Consulting Group 284 Sheffield Street Mountainside NJ 07092 (908) 789-8900

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1 [illegible]	11-19-07 / 3:30	SNEHAL MEHTA	11/20/07 9:50
2			
3			
4			

Sampler Signature:

For Lab Use Only
Lab Contract No: EPW06047
Unit Price:
Transfer To:
Lab Contract No:
Unit Price:

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		FOR LAB USE ONLY Sample Condition On Receipt
ME2PK0	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099142 (Ice Only) (1)	SD8	S: 11/14/2007	8:55	
ME2PK1	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099144 (Ice Only) (1)	SD9	S: 11/14/2007	9:15	

Shipment for Case Complete? ~~N~~ Y	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s): Dan Chester	Cooler Temperature Upon Receipt: 3°C	Chain of Custody Seal Number: 23986 23942
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? YES / Shipment Iced? YES

ICP Metals = ILM05.4 ICP-AES

Case Number: **5-551068049-111907-0001**

LABORATORY COPY

Fax provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4602

CHEMTECH
284 Sheffield Street
Mountainside, NJ 07092

SDG NARRATIVE

USEPA
SDG # ME2PD6
CASE # 37004
CONTRACT # EPW06047
LAB NAME: CHEMTECH CONSULTING GROUP
LAB CODE: CHEM
CHEMTECH PROJECT #Y5348

A. Number of Samples and Date of Receipt

17 & 2 Soil Samples were delivered to the laboratory intact on 11/16/07 & 11/20/07.

B. Parameters

Test requested for Total Metals (by ICP-AES) only.

C. Cooler Temp

Indicator Bottle: **Presence**/Absence
Cooler: 4°C & 3°C

D. Detail Documentation (related to Sample Handling Shipping, Analytical Problem, Temp of Cooler etc):

E. Corrective Action taken for above:

F. Analytical Techniques:

All analyses were based on CLP Methodology by method ILM05.4

G. Calculation:

Conversion of results from mg/L to mg/kg (Dry Weight Basis):

Mg/Kg = (Result in mg/L) X 1000 X 100/ % Solid X Fraction of Sample Amount Taken in Prep.

CHEMTECH
284 Sheffield Street
Mountainside, NJ 07092

H. QA/ QC

Calibrations met requirements. Interference check met requirements. Blank analyses did not indicate any presence of contamination. Laboratory Control sample was within control limits. Spike sample did meet requirements. Duplicate sample did meet requirements. Serial Dilution did meet requirements except for Cadmium, Calcium, Chromium, Lead, Manganese, Nickel and Potassium.

I certify that the data package is in compliance with the terms and conditions of the contract both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Director or his designee, as verified by the following signature.

Signature_____ Name: Parveen Hasan

Date 12/3/07 Title: Project Manager

DEC 0 4 2007

USEPA - CLP

COVER PAGE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

SOW No.: ILM05.4

EPA Sample No.	Lab Sample ID
ME2PD6	Y5348-01
ME2PD7	Y5348-02
ME2PD8	Y5348-03
ME2PD9	Y5348-04
ME2PG6	Y5348-05
ME2PG7	Y5348-06
ME2PG8	Y5348-07
ME2PG9	Y5348-08
ME2PH0	Y5348-09
ME2PH1	Y5348-10
ME2PH2	Y5348-11
ME2PH3	Y5348-12
ME2PH4	Y5348-13
ME2PH5	Y5348-14
ME2PH6	Y5348-15
ME2PH7	Y5348-16
ME2PH8	Y5348-17
ME2PH8D	Y5348-18
ME2PH8S	Y5348-19
ME2PK0	Y5348-20
ME2PK1	Y5348-21

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	YES	
Were ICP-AES and ICP-MS background corrections applied?	(Yes/No)	YES	
If yes, were raw data generated before application of background corrections?	(Yes/No)	NO	

Comments:
THE "E" QUALIFIERS ON FORM I AND VIII FOR CADMIUM, CALCIUM, CHROMIUM, LEAD, MANGANESE, NICKEL AND POTASSIUM INDICATE CHEMICAL OR PHYSICAL INTERFERENCE EFFECTS, WHICH WERE SUSPECTED DURING THOSE

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette (or via an alternate means of electronic transmission, if approved in advance by USEPA) has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: PARVEEN HASAN

Date: 12/3/07 Title: EPA PROJECT MANAGER

USEPA - CLP

3-IN
BLANKS

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		
		C	1	C	2	C	3	C		C	M
Aluminum	200.000	U	28.785	J	56.765	J	93.610	J	9.783	J	P
Antimony	60.000	U	60.000	U	60.000	U	60.000	U	6.000	U	P
Arsenic	10.000	U	10.000	U	10.000	U	10.000	U	0.382	J	P
Barium	200.000	U	200.000	U	200.000	U	200.000	U	20.000	U	P
Beryllium	0.075	J	0.100	J	0.390	J	0.515	J	0.058	J	P
Cadmium	0.760	J	0.760	J	5.000	U	1.140	J	0.500	U	P
Calcium	5000.000	U	5000.000	U	5000.000	U	5000.000	U	500.000	U	P
Chromium	1.310	J	10.000	U	-0.875	J	10.000	U	1.000	U	P
Cobalt	50.000	U	50.000	U	50.000	U	50.000	U	5.000	U	P
Copper	25.000	U	25.000	U	25.000	U	-0.890	J	-0.089	J	P
Iron	100.000	U	100.000	U	35.230	J	26.035	J	3.860	J	P
Lead	10.000	U	10.000	U	10.000	U	10.000	U	1.000	U	P
Magnesium	5000.000	U	5000.000	U	5000.000	U	5000.000	U	500.000	U	P
Manganese	15.000	U	15.000	U	15.000	U	15.000	U	1.500	U	P
Mercury											NR
Nickel	40.000	U	40.000	U	40.000	U	40.000	U	4.000	U	P
Potassium	20.130	J	5000.000	U	5000.000	U	5000.000	U	500.000	U	P
Selenium	35.000	U	35.000	U	35.000	U	35.000	U	3.500	U	P
Silver	10.000	U	10.000	U	10.000	U	10.000	U	1.000	U	P
Sodium	5000.000	U	5000.000	U	5000.000	U	5000.000	U	500.000	U	P
Thallium	25.000	U	10.675	J	21.985	J	17.405	J	2.026	J	P
Vanadium	50.000	U	50.000	U	-4.950	J	-7.920	J	-0.792	J	P
Zinc	2.600	J	60.000	U	1.740	J	60.000	U	6.000	U	P
Cyanide											NR

USEPA - CLP

3-IN
BLANKS

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Preparation Blank Matrix (soil/water):_____

Preparation Blank Concentration Units (ug/L or mg/kg):_____

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		
		C	1	C	2	C	3	C		C	M
Aluminum			109.690	J	46.775	J	200.000	U			P
Antimony			60.000	U	60.000	U	60.000	U			P
Arsenic			10.000	U	10.000	U	10.000	U			P
Barium			0.465	J	200.000	U	200.000	U			P
Beryllium			0.730	J	0.465	J	0.150	J			P
Cadmium			1.140	J	0.710	J	5.000	U			P
Calcium			5000.000	U	5000.000	U	5000.000	U			P
Chromium			10.000	U	10.000	U	1.400	J			P
Cobalt			1.740	J	50.000	U	1.450	J			P
Copper			-0.890	J	25.000	U	25.000	U			P
Iron			31.060	J	100.000	U	100.000	U			P
Lead			10.000	U	10.000	U	10.000	U			P
Magnesium			5000.000	U	5000.000	U	5000.000	U			P
Manganese			15.000	U	-0.500	J	15.000	U			P
Mercury											NR
Nickel			40.000	U	40.000	U	40.000	U			P
Potassium			5000.000	U	5000.000	U	5000.000	U			P
Selenium			35.000	U	35.000	U	35.000	U			P
Silver			10.000	U	10.000	U	10.000	U			P
Sodium			5000.000	U	5000.000	U	5000.000	U			P
Thallium			17.610	J	25.000	U	25.000	U			P
Vanadium			-8.910	J	50.000	U	50.000	U			P
Zinc			60.000	U	60.000	U	1.740	J			P
Cyanide											NR

USEPA - CLP

3-IN
BLANKS

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Preparation Blank Matrix (soil/water):_____

Preparation Blank Concentration Units (ug/L or mg/kg):_____

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		
		C	1	C	2	C	3	C		C	M
Aluminum			200.000	U	200.000	U	40.305	J			P
Antimony			60.000	U	60.000	U	60.000	U			P
Arsenic			10.000	U	10.000	U	10.000	U			P
Barium			200.000	U	0.410	J	200.000	U			P
Beryllium			0.450	J	0.850	J	1.225	J			P
Cadmium			5.000	U	5.000	U	5.000	U			P
Calcium			5000.000	U	5000.000	U	5000.000	U			P
Chromium			10.000	U	0.560	J	0.560	J			P
Cobalt			50.000	U	2.095	J	50.000	U			P
Copper			25.000	U	25.000	U	-0.765	J			P
Iron			100.000	U	22.270	J	100.000	U			P
Lead			2.015	J	4.160	J	10.000	U			P
Magnesium			5000.000	U	5000.000	U	5000.000	U			P
Manganese			15.000	U	0.405	J	15.000	U			P
Mercury											NR
Nickel			40.000	U	2.775	J	40.000	U			P
Potassium			5000.000	U	5000.000	U	5000.000	U			P
Selenium			35.000	U	35.000	U	35.000	U			P
Silver			10.000	U	10.000	U	10.000	U			P
Sodium			-307.860	J	5000.000	U	-394.470	J			P
Thallium			25.000	U	25.000	U	25.000	U			P
Vanadium			50.000	U	-2.325	J	-3.250	J			P
Zinc			2.900	J	2.320	J	60.000	U			P
Cyanide											NR

USEPA - CLP

3-IN
BLANKS

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Preparation Blank Matrix (soil/water):_____

Preparation Blank Concentration Units (ug/L or mg/kg):_____

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		
		C	1	C	2	C	3	C		C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium	5.000	U	5.000	U	5.000	U	5.000	U			P
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

USEPA - CLP

3-IN
BLANKS

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Preparation Blank Matrix (soil/water):_____

Preparation Blank Concentration Units (ug/L or mg/kg):_____

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		
		C	1	C	2	C	3	C		C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium			5.000	U	5.000	U	5.000	U			P
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

USEPA - CLP

4A-IN
ICP-AES INTERFERENCE CHECK SAMPLE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

ICP-AES Instrument ID: P2 ICS Source: EPA0503-0203

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	244000	248000	239000	98	240000	97	226000	93	225000	91
Antimony	0	585	-5.8		606	104	-6.6		612	105
Arsenic	0	97.0	2.6		100	103	4.5		99.8	103
Barium	2.0	475	2.4	120	547	115	2.2	110	531	112
Beryllium	0	482	0.58		482	100	0.92		489	101
Cadmium	0	916	-1.1		985	108	-1.8		1010	110
Calcium	234000	234000	239000	102	238000	102	235000	100	233000	100
Chromium	36.0	506	39.6	110	530	105	39.0	108	518	102
Cobalt	3.0	455	2.6	87	494	109	1.9	63	490	108
Copper	15.0	537	17.2	115	564	105	15.9	106	520	97
Iron	94900	95100	96700	102	96700	102	97400	103	97200	102
Lead	5.0	51.0	8.4	168	59.9	117	6.4	128	56.3	110
Magnesium	249000	254000	255000	102	255000	100	244000	98	243000	96
Manganese	19.0	483	16.7	88	520	108	18.9	99	509	105
Nickel	10.0	930	13.7	137	1030	111	12.6	126	1030	111
Potassium	0	0	19.7		24.2		18.6		14.1	
Selenium	0	51.0	0.21		45.2	89	-6.1		41.3	81
Silver	0	210	3.7		181	86	4.4		182	87
Sodium	0	0	664		686		636		843	
Thallium	0	96.0	7.6		112	117	20.7		112	117
Vanadium	1.0	481	-4.2	-420	492	102	-9.6	-960	519	108
Zinc	39.0	975	45.1	116	1040	107	44.6	114	1010	104

USEPA - CLP

4A-IN
ICP-AES INTERFERENCE CHECK SAMPLE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

ICP-AES Instrument ID: P2 ICS Source: EPA0503-0203

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	244000	248000					237000	97	238000	96
Antimony	0	585					-1.9		599	102
Arsenic	0	97.0					1.8		103	106
Barium	2.0	475					2.2	110	550	116
Beryllium	0	482					0.79		471	98
Cadmium	0	916					-4.7		959	105
Calcium	234000	234000					228000	97	228000	97
Chromium	36.0	506					36.3	101	508	100
Cobalt	3.0	455					1.2	40	477	105
Copper	15.0	537					17.9	119	557	104
Iron	94900	95100					94800	100	95100	100
Lead	5.0	51.0					7.1	142	57.4	113
Magnesium	249000	254000					250000	100	250000	98
Manganese	19.0	483					17.6	93	499	103
Nickel	10.0	930					12.3	123	1000	108
Potassium	0	0					11.2		18.7	
Selenium	0	51.0					-4.6		44.1	86
Silver	0	210					6.0		178	85
Sodium	0	0					787		989	
Thallium	0	96.0					-3.5		98.8	103
Vanadium	1.0	481					-7.1	-710	499	104
Zinc	39.0	975					41.2	106	981	101

USEPA - CLP

4A-IN
ICP-AES INTERFERENCE CHECK SAMPLE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

ICP-AES Instrument ID: P2 ICS Source: EPA0503-0203

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	244000	248000					235000	96	237000	96
Antimony	0	585					-6.8		591	101
Arsenic	0	97.0					1.4		98.8	102
Barium	2.0	475					2.0	100	538	113
Beryllium	0	482					0.80		475	99
Cadmium	0	916					0.69		972	106
Calcium	234000	234000					234000	100	233000	100
Chromium	36.0	506					39.1	109	524	104
Cobalt	3.0	455					2.7	90	486	107
Copper	15.0	537					17.9	119	551	103
Iron	94900	95100					96100	101	95900	101
Lead	5.0	51.0					2.6	52	57.0	112
Magnesium	249000	254000					250000	100	252000	99
Manganese	19.0	483					18.6	98	507	105
Nickel	10.0	930					15.1	151	1010	109
Potassium	0	0					12.4		15.1	
Selenium	0	51.0					-4.6		42.4	83
Silver	0	210					8.3		174	83
Sodium	0	0					645		1170	
Thallium	0	96.0					-6.9		94.2	98
Vanadium	1.0	481					-0.93	-93	499	104
Zinc	39.0	975					45.2	116	1020	105

USEPA - CLP

4A-IN
ICP-AES INTERFERENCE CHECK SAMPLE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

ICP-AES Instrument ID: P2 ICS Source: EPA0503-0203

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	244000	248000					224000	92	224000	90
Antimony	0	585					-6.4		592	101
Arsenic	0	97.0					3.2		101	104
Barium	2.0	475					2.2	110	535	113
Beryllium	0	482					1.6		471	98
Cadmium	0	916					0.49		968	106
Calcium	234000	234000					225000	96	223000	95
Chromium	36.0	506					37.1	103	500	99
Cobalt	3.0	455					2.6	87	474	104
Copper	15.0	537					17.0	113	526	98
Iron	94900	95100					94700	100	94200	99
Lead	5.0	51.0					4.1	82	55.1	108
Magnesium	249000	254000					240000	96	239000	94
Manganese	19.0	483					19.2	101	483	100
Nickel	10.0	930					14.4	144	999	107
Potassium	0	0					16.4		5.5	
Selenium	0	51.0					-7.8		44.2	87
Silver	0	210					8.1		170	81
Sodium	0	0					638		760	
Thallium	0	96.0					3.4		99.8	104
Vanadium	1.0	481					-3.9	-390	480	100
Zinc	39.0	975					44.6	114	977	100

USEPA - CLP

4A-IN
ICP-AES INTERFERENCE CHECK SAMPLE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

ICP-AES Instrument ID: P4 ICS Source: EPA0503-0203

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	244000	248000	248000	102	229000	92	245000	100	225000	91
Antimony										
Arsenic										
Barium										
Beryllium	0	482	1.2		460	95	1.3		467	97
Cadmium										
Calcium	234000	234000	245000	105	227000	97	248000	106	227000	97
Chromium										
Cobalt										
Copper										
Iron	94900	95100	103000	109	95200	100	102000	107	94400	99
Lead										
Magnesium	249000	254000	261000	105	241000	95	261000	105	239000	94
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Vanadium										
Zinc										

USEPA - CLP

4A-IN
ICP-AES INTERFERENCE CHECK SAMPLE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

ICP-AES Instrument ID: P4 ICS Source: EPA0503-0203

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	244000	248000					258000	106	238000	96
Antimony										
Arsenic										
Barium										
Beryllium	0	482					1.3		460	95
Cadmium										
Calcium	234000	234000					246000	105	227000	97
Chromium										
Cobalt										
Copper										
Iron	94900	95100					106000	112	97300	102
Lead										
Magnesium	249000	254000					264000	106	242000	95
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Vanadium										
Zinc										

USEPA - CLP

4A-IN
ICP-AES INTERFERENCE CHECK SAMPLE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

ICP-AES Instrument ID: P4 ICS Source: EPA0503-0203

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	244000	248000					260000	107	235000	95
Antimony										
Arsenic										
Barium										
Beryllium	0	482					1.3		458	95
Cadmium										
Calcium	234000	234000					246000	105	227000	97
Chromium										
Cobalt										
Copper										
Iron	94900	95100					106000	112	98400	103
Lead										
Magnesium	249000	254000					266000	107	243000	96
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Vanadium										
Zinc										

USEPA - CLP

5A-IN
MATRIX SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

ME2PH8S

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Matrix: (soil/water) SOIL Level: (low/med) LOW

% Solids for Sample: 80.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	37.5757		13.8207		24.81	96		P
Arsenic	75-125	26.0310		16.4950		9.93	96		P
Barium	75-125	712.9225		174.0931		496.28	109		P
Beryllium	75-125	12.8412		0.8220		12.41	97		P
Cadmium	75-125	16.4516		4.1098		12.41	99		P
Calcium									NR
Chromium	75-125	120.7438		71.6663		49.63	99		P
Cobalt	75-125	128.2680		4.2667	J	124.07	100		P
Copper	75-125	177.3548		112.5403		62.03	104		P
Iron									NR
Lead		669.3989		671.1700		4.96	-36		P
Magnesium									NR
Manganese	75-125	604.1234		492.5124		124.07	90		P
Mercury									NR
Nickel	75-125	142.0682		17.1712		124.07	101		P
Potassium									NR
Selenium	75-125	11.4001		4.3424	U	12.41	92		P
Silver	75-125	11.7078		2.4479		12.41	75		P
Sodium									NR
Thallium	75-125	9.6811		3.1017	U	12.41	78		P
Vanadium	75-125	148.7984		20.8865		124.07	103		P
Zinc		1008.9913		896.5186		124.07	91		P
Cyanide									NR

Comments:

USEPA - CLP

5B-IN
POST-DIGESTION SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

ME2PH8A

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: SDG No.: ME2PD6

Matrix: (soil/water) SOIL Level: (low/med) LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

USEPA - CLP

6-IN
DUPLICATES

EPA SAMPLE NO.

ME2PH8D

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Matrix: (soil/water) SOIL Level: (low/med) LOW

% Solids for Sample: 80.6 % Solids for Duplicate: 80.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		5454.3635		5464.9181		0		P
Antimony	7.4	13.8207		13.7221		1		P
Arsenic		16.4950		16.0428		3		P
Barium		174.0931		174.5565		0		P
Beryllium	0.6	0.8220		0.8344		1		P
Cadmium		4.1098		4.0496		1		P
Calcium		18159.9820		18281.6867		1		P
Chromium		71.6663		72.3592		1		P
Cobalt		4.2667	J	4.3666	J	2		P
Copper		112.5403		112.4491		0		P
Iron		18322.0323		18438.1501		1		P
Lead		671.1700		672.4839		0		P
Magnesium		8499.2680		8515.6756		0		P
Manganese		492.5124		495.2258		1		P
Mercury								NR
Nickel	5.0	17.1712		17.1067		0		P
Potassium	620.3	698.9020		702.5602		1		P
Selenium		4.3424	U	4.3424	U			P
Silver	1.2	2.4479		2.5484		4		P
Sodium		530.7680	J	566.9752	J	7		P
Thallium		3.1017	U	3.1017	U			P
Vanadium	6.2	20.8865		21.0471		1		P
Zinc		896.5186		902.2754		1		P
Cyanide								NR

USEPA - CLP

8-IN
ICP-AES and ICP-MS SERIAL DILUTIONS

EPA SAMPLE NO.

ME2PH8L

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Matrix: (soil/water) SOIL Level: (low/med) LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	43962.17		44340.18		1		P
Antimony	111.40		135.85	J	22		P
Arsenic	132.95		133.95		1		P
Barium	1403.19		1478.20		5		P
Beryllium	6.63		10.33	J	56		P
Cadmium	33.13		36.83		11	E	P
Calcium	146369.46		164239.73		12	E	P
Chromium	577.63		642.13		11	E	P
Cobalt	34.39	J	49.05	J	43		P
Copper	907.08		863.20		5		P
Iron	147675.58		161353.05		9		P
Lead	5409.63		6018.30		11	E	P
Magnesium	68504.10		71055.55		4		P
Manganese	3969.65		4415.98		11	E	P
Nickel	138.40		155.40	J	12	E	P
Potassium	5633.15		4419.55	J	22	E	P
Selenium	35.00	U	175.00	U			P
Silver	19.73		24.83	J	26		P
Sodium	4277.99	J	4523.98	J	6		P
Thallium	25.00	U	125.00	U			P
Vanadium	168.35		176.63	J	5		P
Zinc	7225.94		7815.80		8		P

USEPA - CLP

9-IN
METHOD DETECTION LIMITS (ANNUALLY)

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Instrument Type: P Instrument ID: P2 Date: 01/15/2007

Preparation Method: HS1

Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Wavelength /Mass	CRQL	MDL
Aluminum	308.20	20	0.51
Antimony	206.80	6	1.1
Arsenic	189.00	1	0.37
Barium	493.40	20	0.049
Beryllium	313.00	0.5	0.016
Cadmium	226.50	0.5	0.049
Calcium	317.90	500	2.5
Chromium	267.70	1	0.072
Cobalt	228.60	5	0.12
Copper	324.70	2.5	0.073
Iron	271.40	10	1.8
Lead	220.40	1	0.24
Magnesium	279.00	500	1.4
Manganese	257.60	1.5	0.026
Mercury		0.1	
Nickel	231.60	4	0.22
Potassium	766.50	500	2.1
Selenium	196.00	3.5	0.46
Silver	328.00	1	0.16
Sodium	330.20	500	19.9
Thallium	190.90	2.5	1.1
Vanadium	292.40	5	0.22
Zinc	206.20	6	0.13
Cyanide		2.5	

Comments:

USEPA - CLP

9-IN
METHOD DETECTION LIMITS (ANNUALLY)

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Instrument Type: P Instrument ID: P2 Date: 01/15/2007

Preparation Method: NP1

Concentration Units (ug/L or mg/kg): UG/L

Analyte	Wavelength /Mass	CRQL	MDL
Aluminum	308.20	200	27.8
Antimony	206.80	60	8.4
Arsenic	189.00	10	4.8
Barium	493.40	200	0.39
Beryllium	313.00	5	0.075
Cadmium	226.50	5	0.65
Calcium	317.90	5000	33.7
Chromium	267.70	10	0.51
Cobalt	228.60	50	1.4
Copper	324.70	25	0.71
Iron	271.40	100	21.3
Lead	220.40	10	1.8
Magnesium	279.00	5000	27.4
Manganese	257.60	15	0.29
Mercury		0.2	
Nickel	231.60	40	2.7
Potassium	766.50	5000	19.6
Selenium	196.00	35	4.0
Silver	328.00	10	0.73
Sodium	330.20	5000	304
Thallium	190.90	25	6.5
Vanadium	292.40	50	2.2
Zinc	206.20	60	1.5
Cyanide		10	

Comments:

USEPA - CLP

9-IN
METHOD DETECTION LIMITS (ANNUALLY)

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Instrument Type: P Instrument ID: P4 Date: 11/06/2007

Preparation Method: HS1

Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Wavelength /Mass	CRQL	MDL
Aluminum		20	
Antimony		6	
Arsenic		1	
Barium		20	
Beryllium	234.80	0.5	0.020
Cadmium		0.5	
Calcium		500	
Chromium		1	
Cobalt		5	
Copper		2.5	
Iron		10	
Lead		1	
Magnesium		500	
Manganese		1.5	
Mercury		0.1	
Nickel		4	
Potassium		500	
Selenium		3.5	
Silver		1	
Sodium		500	
Thallium		2.5	
Vanadium		5	
Zinc		6	
Cyanide		2.5	

Comments:

USEPA - CLP

9-IN
METHOD DETECTION LIMITS (ANNUALLY)

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Instrument Type: P Instrument ID: P4 Date: 11/06/2007

Preparation Method: NP1

Concentration Units (ug/L or mg/kg): UG/L

Analyte	Wavelength /Mass	CRQL	MDL
Aluminum		200	
Antimony		60	
Arsenic		10	
Barium		200	
Beryllium	234.80	5	0.30
Cadmium		5	
Calcium		5000	
Chromium		10	
Cobalt		50	
Copper		25	
Iron		100	
Lead		10	
Magnesium		5000	
Manganese		15	
Mercury		0.2	
Nickel		40	
Potassium		5000	
Selenium		35	
Silver		10	
Sodium		5000	
Thallium		25	
Vanadium		50	
Zinc		60	
Cyanide		10	

Comments:

USEPA - CLP

12-IN
PREPARATION LOG

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Preparation Method: HS1

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
LCSS	11/23/2007	1.00	100
ME2PD6	11/23/2007	1.01	100
ME2PD7	11/23/2007	1.02	100
ME2PD8	11/23/2007	1.00	100
ME2PD9	11/23/2007	1.00	100
ME2PG6	11/23/2007	1.00	100
ME2PG7	11/23/2007	1.00	100
ME2PG8	11/23/2007	1.02	100
ME2PG9	11/23/2007	1.00	100
ME2PH0	11/23/2007	1.00	100
ME2PH1	11/23/2007	1.00	100
ME2PH2	11/23/2007	1.00	100
ME2PH3	11/23/2007	1.01	100
ME2PH4	11/23/2007	1.00	100
ME2PH5	11/23/2007	1.00	100
ME2PH6	11/23/2007	1.02	100
ME2PH7	11/23/2007	1.00	100
ME2PH8	11/23/2007	1.00	100
ME2PH8D	11/23/2007	1.00	100
ME2PH8S	11/23/2007	1.00	100
ME2PK0	11/23/2007	1.00	100
ME2PK1	11/23/2007	1.00	100
PBS	11/23/2007	1.00	100

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13-IN
ANALYSIS RUN LOG

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Instrument ID: P2 Analysis Method: P

Start Date: 11/28/2007 End Date: 11/28/2007

EPA Sample No.	D/F	Time	Analytes																								
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
S0	1.0	0951	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
S	1.0	0954	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICV	1.0	1003	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICB	1.0	1005	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CRI	1.0	1008		X	X		X	X		X	X	X		X		X		X		X	X		X	X	X			
ICSA	1.0	1012	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICSAB	1.0	1014	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1016	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1018	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ZZZZZZ	1.0	1020																										
ZZZZZZ	1.0	1048																										
ZZZZZZ	1.0	1050																										
ZZZZZZ	1.0	1052																										
ZZZZZZ	1.0	1055																										
ZZZZZZ	1.0	1057																										
ZZZZZZ	1.0	1100																										
ZZZZZZ	1.0	1102																										
ZZZZZZ	1.0	1105																										
ZZZZZZ	1.0	1107																										
CCV	1.0	1111	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1113	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ZZZZZZ	1.0	1115																										
ZZZZZZ	1.0	1118																										
ZZZZZZ	1.0	1120																										
ZZZZZZ	1.0	1122																										
ZZZZZZ	1.0	1125																										
ZZZZZZ	1.0	1127																										
ZZZZZZ	1.0	1130																										
CRI	1.0	1136		X	X		X	X		X	X	X		X		X		X		X	X		X	X	X			
ICSA	1.0	1139	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICSAB	1.0	1143	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1147	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1149	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			

FORM XIII-IN ILM05.4

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13-IN
ANALYSIS RUN LOG

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Instrument ID: P2 Analysis Method: P

Start Date: 11/28/2007 End Date: 11/28/2007

EPA Sample No.	D/F	Time	Analytes																									
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
ZZZZZZ	1.0	1151																										
ZZZZZZ	1.0	1154																										
ZZZZZZ	1.0	1156																										
ZZZZZZ	1.0	1158																										
ZZZZZZ	5.0	1201																										
ZZZZZZ	1.0	1203																										
ZZZZZZ	1.0	1206																										
PBS	1.0	1209	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
LCSS	1.0	1213	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PD6	1.0	1215	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1227	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1231	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PD7	1.0	1242	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PD8	1.0	1244	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PD9	1.0	1247	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PG6	1.0	1252	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PG7	1.0	1255	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PG8	1.0	1257	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PG9	1.0	1259	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CRI	1.0	1335		X	X		X	X		X	X	X		X		X		X		X	X		X	X	X			
ICSA	1.0	1339	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICSAB	1.0	1341	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1346	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1348	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ZZZZZZ	2.0	1441																										
ZZZZZZ	2.0	1443																										
ZZZZZZ	2.0	1448																										
ZZZZZZ	2.0	1450																										
ZZZZZZ	2.0	1452																										
ZZZZZZ	2.0	1455																										
ZZZZZZ	2.0	1457																										
ZZZZZZ	2.0	1500																										
ZZZZZZ	2.0	1502																										

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13-IN
ANALYSIS RUN LOG

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Instrument ID: P2 Analysis Method: P

Start Date: 11/28/2007 End Date: 11/28/2007

EPA Sample No.	D/F	Time	Analytes																									
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
ZZZZZZ	2.0	1504																										
CCV	1.0	1516	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1518	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ZZZZZZ	10	1520																										
ZZZZZZ	2.0	1523																										
ME2PH0	1.0	1525	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PH1	1.0	1527	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PH2	1.0	1530	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PH3	1.0	1532	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PH4	1.0	1535	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CRI	1.0	1537		X	X		X	X		X	X	X		X		X		X		X	X		X	X	X			
ICSA	1.0	1541	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICSAB	1.0	1544	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1546	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1549	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PH5	1.0	1551	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PH6	1.0	1554	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PH7	1.0	1559	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PH8	1.0	1602	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PH8D	1.0	1604	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PH8L	5.0	1607	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PH8S	1.0	1610		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X			
ME2PK0	1.0	1613	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PK1	1.0	1615	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1617	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1619	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CRI	1.0	1621		X	X		X	X		X	X	X		X		X		X		X	X		X	X	X			
ICSA	1.0	1624	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICSAB	1.0	1626	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1630	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1633	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			

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13-IN
ANALYSIS RUN LOG

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Instrument ID: P4 Analysis Method: P

Start Date: 11/29/2007 End Date: 11/29/2007

EPA Sample No.	D/F	Time	Analytes																									
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
S0	1.0	1849	X				X		X				X		X													
S	1.0	1852	X				X		X				X		X													
ICV	1.0	1855					X																					
ICB	1.0	1858					X																					
CRI	1.0	1909					X																					
ICSA	1.0	1911	X				X		X				X		X													
ICSAB	1.0	1919	X				X		X				X		X													
CCV	1.0	1921					X																					
CCB	1.0	1923					X																					
ZZZZZZ	1.0	1927																										
ZZZZZZ	1.0	1930																										
ZZZZZZ	1.0	1933																										
ZZZZZZ	1.0	1937																										
ZZZZZZ	1.0	1939																										
ZZZZZZ	1.0	1941																										
ZZZZZZ	1.0	1943																										
ZZZZZZ	1.0	1946																										
ZZZZZZ	5.0	1949																										
ZZZZZZ	1.0	1951																										
CCV	1.0	1953					X																					
CCB	1.0	1956					X																					
ZZZZZZ	1.0	1958																										
ZZZZZZ	1.0	2005																										
ZZZZZZ	1.0	2012																										
ZZZZZZ	1.0	2014																										
ZZZZZZ	1.0	2016																										
ZZZZZZ	1.0	2018																										
ZZZZZZ	1.0	2021																										
CRI	1.0	2036					X																					
ICSA	1.0	2038	X				X		X				X		X													
ICSAB	1.0	2041	X				X		X				X		X													
CCV	1.0	2048					X																					
CCB	1.0	2050					X																					

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13-IN
ANALYSIS RUN LOG

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PD6

Instrument ID: P4 Analysis Method: P

Start Date: 11/29/2007 End Date: 11/29/2007

EPA Sample No.	D/F	Time	Analytes																								
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
ZZZZZZ	1.0	2053																										
ZZZZZZ	1.0	2057																										
ZZZZZZ	1.0	2102																										
ZZZZZZ	1.0	2107																										
ZZZZZZ	1.0	2109																										
ZZZZZZ	1.0	2111																										
ZZZZZZ	1.0	2114																										
ZZZZZZ	1.0	2116																										
ZZZZZZ	5.0	2119																										
ME2PH5	1.0	2124																										
CCV	1.0	2127					X																					
CCB	1.0	2129					X																					
ME2PH6	1.0	2131																										
ME2PH7	1.0	2134																										
ME2PH8	1.0	2136																										
ME2PH8D	1.0	2138																										
ME2PH8S	1.0	2141																										
ME2PH8L	5.0	2144																										
ME2PK0	1.0	2146																										
CRI	1.0	2222					X																					
ICSA	1.0	2224	X				X		X				X		X													
ICSAB	1.0	2227	X				X		X				X		X													
CCV	1.0	2230					X																					
CCB	1.0	2232					X																					
ME2PK1	1.0	2235																										
CRI	1.0	2245					X																					
ICSA	1.0	2248	X				X		X				X		X													
ICSAB	1.0	2251	X				X		X				X		X													
CCV	1.0	2253					X																					
CCB	1.0	2255					X																					

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Sample Delivery Group: ME2PD4 CERCLIS No: IND 047030824

Case No: 37004 Site Name/Location: USS LEAD (IN)

Contractor or EPA Lab: ChemTech Data User: IDEM

No. of Samples: 19 Date Sampled or Date Received: 4 Dec 07

Have Chain-of-Custody records been received? Yes ✓ No ____
Have traffic reports or packing lists been received? Yes ✓ No ____
If no, are traffic report or packing list numbers written on the Chain-of-Custody Record?
Yes ____ No ____
If no, which traffic report or packing list numbers are missing?

Are basic data forms in? Yes ✓ No ____
No of samples claimed: 19 No. of samples received: ____

Received by: pdavis Date: 4 Dec 07

Received by LSSS: pdavis Date: 5 Dec 07

Review started: 12/10/07 Reviewer Signature: [illegible]

Total time spent on review: 1.5 Date review completed: 12/10/07

Copied by: A. C. Harvey Date: Dec 12, 2007

Mailed to user by: pdavis Date: 11 Dec 07

DATA USER:
Please fill in the blanks below and return this form to:
Sylvia Griffin, Data Mgmt. Coordinator, Region V, ML-10C

Data received by: ____ Date: ____

Data review received by: ____ Date: ____

Inorganic Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
Organic Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
Dioxin data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
SAS Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK

PROBLEMS: Please indicate reasons why data are not suitable for your uses.

Received by Data Mgmt. Coordinator for Files. Date: ____

ESAT Controlled Number: ESAT5 05-00358-pd 11 Dec 07

DATE: December 11, 2007

Indiana Dept of Environmental Management
ATTN: Mark Jaworski
100 N. Senate Avenue – Room N1255
Indianapolis, IN 46804-2222

SITE NAME: USS Lead (IN)

CASE #	LAB	SAMPLES	SDG	MATRIX
37004	ChemTech	17	ME2PE0	soil

Upon receipt of data, please check each package for completeness and note any missing deliverables below.

Send this form back to Sylvia Griffin, Data Management Coordinator after filling in the blanks below.

Data Received by:_____ Date:_____

PROBLEMS:

Please indicate if data is complete, and note if there are any deliverables missing from the cases noted above.

_____

_____

Received by Data Management Coordinator, CRL for file.

Signature:_____ Date:_____

FROM: **U.S. EPA - Region 5**
Sylvia Griffin
Central Regional Laboratory
536 S. Clark, 10th Floor
Chicago, IL 60605

Sent By: Pat Davis

Data Coordinator
ESAT Region 5 **TechLaw**

Controlled Document

ESAT5.03.00144
ach
12-10-07

Regional Transmittal Form

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 12/10/07

SUBJECT: Review of Data
Received for review on 11/30/07

FROM: Stephen L. Ostrodka, Chief (SRT-4J)
Superfund Field Services Section

TO: Data User: IDEM

We have assembled the CADRE data for the following case:

SITE NAME: USS Lead (IN)

CASE NUMBER: 37004 **SDG NUMBER:** ME2PE0

Number and Type of Samples: 17 soil samples

Sample Numbers: ME2PE0-E5, ME2PH9, ME2PJ0-J9

Laboratory: Chemtech **Hrs. for Review:** 1.5

Following are our findings:

THIS DATA CASE HAS NOT BEEN REVIEWED BY ESAT

CC: Howard Pham
Region 5 TOPO
Mail Code: SRT-4J

Below is a summary of the out-of-control audits and the possible effects on the data for this case:

NUMBER (##) MATRIX samples, numbered ##, were collected on DATE. The lab received the samples on DATE in good condition. All samples were analyzed for metals and cyanide. All samples were analyzed using the CLP SOW ILM05.4 analysis procedures.

Mercury analysis was performed using a Cold Vapor AA Technique. Cyanide analysis was performed using the MIDI Distillation procedure. The remaining inorganic analyses were performed using an Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES) procedure.

1. HOLDING TIME:

Qualification: Holding Time **Protocol: INORG**

DC-10 The following inorganic soil samples were reviewed for holding time violations using criteria developed for water samples.

ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9, ME2PJ9D, ME2PJ9S

2. CALIBRATIONS:

Qualification: Calibrations **Protocol: INORG**

No defects found.

Qualification: CRDL/CRQL Standard **Protocol: INORG**

No defects found.

3. BLANKS:

Qualification: Laboratory Blanks **Protocol: INORG**

DC-16 The following inorganic samples are associated with an ICB concentration which is less than or equal to the CRQL. Sample result is greater than the CRQL. Use professional judgement to qualify data.

Cadmium
ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Zinc
ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

DC-18 The following inorganic samples are associated with a CCB concentration which is less than or equal to the CRQL. Sample result is also less than or equal to the CRQL. Hits are qualified "U". Sample result is raised to the CRQL if "Raise to detection limit" option is selected by the validator.

Beryllium
ME2PE0, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Cobalt
ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Selenium
ME2PE1, ME2PE2, ME2PE3, ME2PE5, ME2PH9, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ9

Silver
ME2PE0, ME2PE2, ME2PE3, ME2PE4, ME2PJ1, ME2PJ4, ME2PJ6

DC-19 The following inorganic samples are associated with a CCB concentration which is less than or equal to the CRQL. Sample result is greater than the CRQL. Use professional judgement to qualify data.

Arsenic
ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Barium
ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Beryllium
ME2PE1, ME2PH9, ME2PJ3

Cadmium
ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Cobalt
ME2PJ3

Lead
ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Manganese
ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Nickel
ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Silver
ME2PE1, ME2PE5, ME2PH9, ME2PJ0, ME2PJ2, ME2PJ3, ME2PJ5, ME2PJ7, ME2PJ8, ME2PJ9

Vanadium
ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

DC-21 The following inorganic samples are associated with an ICB analyte with negative concentration whose absolute value is greater than or equal to the method detection limit (MDL) but less than or equal to the CRQL. Use professional judgement to qualify sample data.

Barium
ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

DC-22 The following inorganic samples are associated with a CCB analyte with negative concentration whose absolute value is greater than or equal to the method detection limit (MDL) but less than or equal to the CRQL. Use professional judgement to qualify sample data.

Aluminum
ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Chromium
ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Cobalt
ME2PE0, ME2PE1, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Sodium
ME2PE0, ME2PE1, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE AND LAB CONTROL SAMPLE:

Qualification: Laboratory Control Sample **Protocol: INORG**

DC-6 The following inorganic soil samples are associated with a solid laboratory control sample (LCS) with analyte found amounts above the upper control limit criteira. Hits are qualified "J+".

Sodium

ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Qualification: Matrix Spikes **Protocol: INORG**

DC-5 The following inorganic samples are associated with a matrix spike recovery which is outside primary low criteria. Post-digest spike sample was either not required or it was required but not analyzed. Hits are qualified "J-" and non-detects are qualified "UJ".

Silver

ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

5. LABORATORY AND FIELD DUPLICATE:

Qualification: Duplicates **Protocol: INORG**

No defects found.

6. ICP ANALYSIS:

Qualification: Interference Check Sample **Protocol: INORG**

DC-10 The following inorganic samples have one or more interferents present at concentrations more than true amounts added in the ICS solution. Use professional judgement to qualify sample data.

ME2PE0, ME2PE1, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Qualification: Serial Dilution **Protocol: INORG**

DC-3 The following inorganic samples are associated with an ICP serial dilution percent difference which is not in criteria. The detected serial dilution result is less than the initial sample result. Hits are qualified "J" and non-detects are qualified "UJ".

Potassium

ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

DC-4 The following inorganic samples are associated with an ICP serial dilution percent difference which is not in criteria. The serial dilution result is greater than the sample result, indicating a potential negative interference. The data must be qualified using professional judgement. Hits and non-detects are not flagged.

Beryllium

ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Cadmium

ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Cobalt

ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

Sodium

ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9

7. SAMPLE RESULTS:

Assembled by: Paul Little
Date: December 10, 2007

Qualification: Percent Moisture **Protocol: INORG**

No defects found.

Qualification: Sample Result Verification **Protocol: INORG**

DC-5 The following inorganic samples have analyte concentrations reported below the quantitation limit (CRQL). All results below the CRQL are qualified"J".

ME2PE0
Antimony, Beryllium, Cobalt, Potassium, Silver, Sodium

ME2PE1
Antimony, Cobalt, Selenium, Sodium

ME2PE2
Antimony, Beryllium, Cobalt, Potassium, Selenium, Silver, Sodium

ME2PE3
Antimony, Beryllium, Cobalt, Potassium, Selenium, Silver, Sodium

ME2PE4
Antimony, Beryllium, Cobalt, Potassium, Silver, Sodium

ME2PE5
Antimony, Beryllium, Cobalt, Selenium, Sodium

ME2PH9
Cobalt, Selenium, Sodium

ME2PJ0
Beryllium, Cobalt, Potassium, Sodium

ME2PJ1
Beryllium, Cobalt, Potassium, Selenium, Sodium

ME2PJ2
Beryllium, Cobalt, Potassium, Selenium, Sodium

ME2PJ3
Selenium, Sodium

ME2PJ4
Antimony, Beryllium, Cobalt, Selenium, Silver, Sodium

ME2PJ5
Beryllium, Cobalt, Potassium, Selenium, Sodium

ME2PJ6
Beryllium, Cobalt, Potassium, Silver, Sodium

ME2PJ7
Beryllium, Cobalt, Potassium, Sodium

ME2PJ8
Antimony, Beryllium, Cobalt, Potassium, Sodium

ME2PJ9
Antimony, Beryllium, Cobalt, Potassium, Selenium, Sodium

ME2PJ9D
Antimony, Beryllium, Cobalt, Potassium, Selenium, Sodium

Qualification: CADRE Reserved **Protocol: INORG**

DC-2 Verification of non-detected results and assignment of "U" qualifier when the reported value is less than detection limit.

ME2PE0, ME2PE1, ME2PE2, ME2PE3, ME2PE4, ME2PE5, ME2PH9, ME2PJ0, ME2PJ1, ME2PJ2, ME2PJ3, ME2PJ4, ME2PJ5, ME2PJ6, ME2PJ7, ME2PJ8, ME2PJ9, ME2PJ9D, PBS

CADRE ILM05.4 Data Qualifier Sheet

Qualifiers	Data Qualifier Definitions
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Analytical Results (Qualified Data)

Case #: 37004 SDG : ME2PE0
Site : USS LEAD, EAST CHICAGO
Lab. : CHEM
Reviewer : PAL
Date : 12/10/2007

Number of Soil Samples : 17
Number of Water Samples : 0

Sample Number :	ME2PE0		ME2PE1		ME2PE2		ME2PE3		ME2PE4	
Sampling Location :	BGSS3		BGSS4		BGSS5		BGSS6		BGSS7	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	11/13/2007		11/13/2007		11/13/2007		11/13/2007		11/13/2007	
Time Sampled :										
%Solids :	78.9		78.5		90.8		87.7		88.5	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	4570		8010		2590		3470		3500	
ANTIMONY	1.8	J	2.5	J	2.4	J	2.3	J	2.5	J
ARSENIC	6.1		7.6		4.4		4.9		5.8	
BARIUM	84.8		115		45.5		82.7		60.4	
BERYLLIUM	0.46	UJ	0.68		0.29	UJ	0.42	UJ	0.38	UJ
CADMIUM	1.4		1.5		0.83		1.2		1.6	
CALCIUM	5680		5270		2500		4260		4650	
CHROMIUM	71.1		27.4		13.7		22.2		13.8	
COBALT	4.1	J	5.8	J	1.9	UJ	2.8	UJ	4.3	UJ
COPPER	69.5		57.4		21.9		31.3		26.9	
IRON	13600		19400		7510		8500		9680	
LEAD	300		142		134		218		376	
MAGNESIUM	2210		2410		721		1200		2120	
MANGANESE	543		469		173		217		234	
NICKEL	11.6		16.2		5.1		8.4		9.3	
POTASSIUM	494	J	781	J	221	J	341	J	352	J
SELENIUM	4.4	U	0.62	UJ	0.75	UJ	0.92	UJ	3.9	U
SILVER	1.1	U	1.9	J-	0.47	U	0.71	U	0.68	U
SODIUM	576	J+	492	J+	447	J+	375	J+	490	J+
THALLIUM	3.2	U	3.2	U	2.8	U	2.8	U	2.8	U
VANADIUM	17.8		22.4		9.2		13.0		12.2	
ZINC	394		533		205		368		773	

DISCLAIMER: This package has been electronically assessed as an added service to our customer. It has not been either validated or approved by Region 5 and any subsequent use by the data user is strictly at the risk of the data user. Region 5 assumes no responsibility for use of unvalidated data.

Analytical Results (Qualified Data)

Case #: 37004 SDG : ME2PE0
Site : USS LEAD, EAST CHICAGO
Lab. : CHEM
Reviewer : PAL
Date : 12/10/2007

Sample Number :	ME2PE5		ME2PH9		ME2PJ0		ME2PJ1		ME2PJ2	
Sampling Location :	BGSS8		SS26		SS27		SS28		SS29	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	11/13/2007		11/14/2007		11/14/2007		11/14/2007		11/14/2007	
Time Sampled :										
%Solids :	76.2		72.9		81.5		80.0		80.2	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	5370		8360		3690		3650		5360	
ANTIMONY	2.2	J	16.5		12.6		13.0		15.6	
ARSENIC	11.4		19.0		15.8		19.9		18.0	
BARIUM	208		197		129		94.7		89.2	
BERYLLIUM	0.60	UJ	1.1		0.49	UJ	0.46	UJ	0.58	UJ
CADMIUM	2.1		4.5		3.9		2.5		2.5	
CALCIUM	6540		24400		23800		19100		14300	
CHROMIUM	24.6		41.2		28.1		103		21.8	
COBALT	4.7	UJ	5.0	UJ	3.3	UJ	3.2	UJ	4.1	UJ
COPPER	79.2		169		89.8		57.8		58.2	
IRON	20300		23200		16700		13200		16000	
LEAD	251		808		838		384		402	
MAGNESIUM	1780		6050		10100		8810		6940	
MANGANESE	282		991		554		394		426	
NICKEL	18.7		25.8		15.3		10.5		13.9	
POTASSIUM	729	J	714	J	581	J	474	J	376	J
SELENIUM	0.95	UJ	0.82	UJ	4.3	U	0.78	UJ	0.68	UJ
SILVER	2.5	J-	2.2	J-	1.7	J-	1.3	U	1.5	J-
SODIUM	354	J+	577	J+	472	J+	479	J+	406	J+
THALLIUM	3.3	U	3.4	U	3.1	U	3.1	U	3.1	U
VANADIUM	23.1		27.2		18.1		15.4		18.0	
ZINC	260		951		901		629		637	

DISCLAIMER: This package has been electronically assessed as an added service to our customer. It has not been either validated or approved by Region 5 and any subsequent use by the data user is strictly at the risk of the data user. Region 5 assumes no responsibility for use of unvalidated data.

Analytical Results (Qualified Data)

Case #: 37004 SDG : ME2PE0
Site : USS LEAD, EAST CHICAGO
Lab. : CHEM
Reviewer : PAL
Date : 12/10/2007

Sample Number :	ME2PJ3		ME2PJ4		ME2PJ5		ME2PJ6		ME2PJ7	
Sampling Location :	SS30		SS31		SS4A		SS20A		SS28A	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	11/14/2007		11/14/2007		11/13/2007		11/13/2007		11/14/2007	
Time Sampled :										
%Solids :	73.8		71.5		86.5		83.9		78.8	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	8930		7660		3460		3700		3570	
ANTIMONY	17.6		4.8	J	24.3		10.3		13.4	
ARSENIC	24.8		8.4		20.6		11.2		20.2	
BARIUM	393		76.0		122		81.6		91.2	
BERYLLIUM	2.6		0.61	UJ	0.48	UJ	0.40	UJ	0.46	UJ
CADMIUM	3.1		1.1		2.8		1.8		2.4	
CALCIUM	16200		7580		12000		20000		19000	
CHROMIUM	32.4		20.3		21.7		22.1		97.1	
COBALT	8.9		5.0	UJ	2.8	UJ	2.9	UJ	3.1	UJ
COPPER	97.5		33.9		63.3		53.1		56.4	
IRON	21400		14200		12700		11500		14600	
LEAD	754		182		826		530		379	
MAGNESIUM	6550		3620		4690		9600		8600	
MANGANESE	587		317		326		408		386	
NICKEL	23.1		16.5		13.8		10.9		11.6	
POTASSIUM	946	J	749	J	455	J	375	J	462	J
SELENIUM	0.65	UJ	1.0	UJ	0.59	UJ	4.1	U	4.4	U
SILVER	2.2	J-	0.96	U	1.7	J-	1.1	U	1.5	J-
SODIUM	645	J+	401	J+	525	J+	484	J+	401	J+
THALLIUM	3.4	U	3.5	U	2.9	U	2.9	U	3.2	U
VANADIUM	31.3		20.1		12.9		14.6		15.2	
ZINC	995		253		653		570		621	

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Analytical Results (Qualified Data)

Case #: 37004 SDG : ME2PE0
Site : USS LEAD, EAST CHICAGO
Lab. : CHEM
Reviewer : PAL
Date : 12/10/2007

Sample Number :	ME2PJ8		ME2PJ9		ME2PJ9D		ME2PJ9S			
Sampling Location :	BGSS1		BGSS2		BGSS2		BGSS2			
Matrix :	Soil		Soil		Soil		Soil			
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg			
Date Sampled :	11/13/2007		11/13/2007		11/13/2007		11/13/2007			
Time Sampled :										
%Solids :	77.2		77.8		77.3		77.8			
Dilution Factor :	1.0		1.0		1.0		1.0			
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	3850		3680		3640					
ANTIMONY	2.0	J	2.1	J	2.4	J	27.4			
ARSENIC	10.5		10.0		9.6		19.5			
BARIUM	123		134		132		662			
BERYLLIUM	0.42	UJ	0.40	UJ	0.42	J	12.9			
CADMIUM	2.1		2.3		2.3		14.9			
CALCIUM	21500		9440		9370					
CHROMIUM	51.6		97.6		97.4		144			
COBALT	3.3	UJ	3.2	UJ	3.4	J	132			
COPPER	64.4		76.4		75.9		139			
IRON	15800		15800		15700					
LEAD	192		231		231		225			
MAGNESIUM	9420		2430		2500					
MANGANESE	378		384		382		486			
NICKEL	8.9		9.5		9.7		138			
POTASSIUM	404	J	397	J	392	J				
SELENIUM	4.5	U	0.74	UJ	0.81	J	11.7			
SILVER	2.0	J-	2.3	J-	2.4		10.9			
SODIUM	440	J+	414	J+	453	J				
THALLIUM	3.2	U	3.2	U	3.2	U	13.0			
VANADIUM	12.9		14.2		14.3		140			
ZINC	492		491		489		589			

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USEPA Contract Laboratory Program
Generic Chain of Custody

Reference Case 37004
Client No:
SDG No: ME2PE0 **L**

Date Shipped:	11/15/2007
Carrier Name:	FedEx
Airbill:	811417071763
Shipped to:	ChemTech Consulting Group 284 Sheffield Street Mountainside NJ 07092 (908) 789-8900

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1 [illegible]	11-15-07 3:30	[illegible]	11/16/07 9:40
2			
3			
4			

Sampler Signature:

For Lab Use Only

Lab Contract No: EPW06047
Unit Price:
Transfer To:
Lab Contract No:
Unit Price:

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		FOR LAB USE ONLY Sample Condition On Receipt
ME2PE0	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099429 (Ice Only) (1)	BGSS3	S: 11/13/2007	11:00	
ME2PE1	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099430 (Ice Only) (1)	BGSS4	S: 11/13/2007	11:20	
ME2PE2	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099431 (Ice Only) (1)	BGSS5	S: 11/13/2007	11:30	
ME2PE3	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099432 (Ice Only) (1)	BGSS6	S: 11/13/2007	11:45	
ME2PE4	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099433 (Ice Only) (1)	BGSS7	S: 11/13/2007	12:00	
ME2PE5	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099434 (Ice Only) (1)	BGSS8	S: 11/13/2007	13:10	
ME2PH9	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099417 (Ice Only) (1)	SS26	S: 11/14/2007	10:15	
ME2PJ0	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099418 (Ice Only) (1)	SS27	S: 11/14/2007	10:25	
ME2PJ1	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099419 (Ice Only) (1)	SS28	S: 11/14/2007	10:35	
ME2PJ2	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099420 (Ice Only) (1)	SS29	S: 11/14/2007	10:40	

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s): [illegible]	Cooler Temperature Upon Receipt: 4C	Chain of Custody Seal Number: 23834, 23835
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? Yes / Shipment Iced? Yes

ICP Metals = ILM05.4 ICP-AES

TR Number: 5-551068049-111507-0002

LABORATORY COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax

USEPA Contract Laboratory Program
Generic Chain of Custody

Reference Case 37004
Client No:
SDG No: ME2PE0

L

Date Shipped:	11/15/2007
Carrier Name:	FedEx
Airbill:	811417071763
Shipped to:	ChemTech Consulting Group 284 Sheffield Street Mountainside NJ 07092 (908) 789-8900

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1 [illegible]	11-15-07 3:30	[illegible]	11/16/07 9:40
2			
3			
4			

Sampler Signature:

For Lab Use Only

Lab Contract No: EPW06047
Unit Price:
Transfer To:
Lab Contract No:
Unit Price:

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		FOR LAB USE ONLY Sample Condition On Receipt
ME2PJ3	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099421 (Ice Only) (1)	SS30	S: 11/14/2007	10:55	
ME2PJ4	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099422 (Ice Only) (1)	SS31	S: 11/14/2007	11:05	
ME2PJ5	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099424 (Ice Only) (1)	SS4A	S: 11/14/2007 13 DAF 11/15/07	10:07	
ME2PJ6	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099425 (Ice Only) (1)	SS20A	S: 11/13/2007	15:18	
ME2PJ7	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099426 (Ice Only) (1)	SS28A	S: 11/14/2007	10:35	
ME2PJ8	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099427 (Ice Only) (1)	BGSS1	S: 11/13/2007	10:40	
ME2PJ9	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099428 (Ice Only) (1)	BGSS2	S: 11/13/2007	10:50	

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s): [illegible]	Cooler Temperature Upon Receipt: 4°	Chain of Custody Seal Number: 23834, 23835
Analysis Key: ICP Metals = ILM05.4 ICP-AES	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? Y/N Shipment Iced? Y/N

TR Number: 5-551068049-111507-0002

LABORATORY COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax

CHEMTECH
284 Sheffield Street
Mountainside, NJ 07092

SDG NARRATIVE

USEPA
SDG # ME2PE0
CASE # 37004
CONTRACT # EPW06047
LAB NAME: CHEMTECH CONSULTING GROUP
LAB CODE: CHEM
CHEMTECH PROJECT #Y5347

A. Number of Samples and Date of Receipt

17 Soil Samples were delivered to the laboratory intact on 11/16/07.

B. Parameters

Test requested for Total Metals only.

C. Cooler Temp

Indicator Bottle: Presence/Absence
Cooler: 4°C

D. Detail Documentation (related to Sample Handling Shipping, Analytical Problem, Temp of Cooler etc):

E. Corrective Action taken for above:

F. Analytical Techniques:

All analyses were based on CLP Methodology by method ILM05.4

G. Calculation:

Conversion of results from mg/L to mg/kg (Dry Weight Basis):

Calculation for ICP-AES:

Mg/Kg = (Result in mg/L for ICP-AES) X 1000 X 100/ % Solid X Fraction of Sample Amount Taken in Prep.

CHEMTECH
284 Sheffield Street
Mountainside, NJ 07092

Calculation for Hg:

Mg/Kg = (Result in Ug/L-ppb for Hg) X 100/ % Solid X Fraction of Sample Amount Taken in Prep

Calculation for CN:

Mg/Kg = (Result in Ug/L-ppb for Hg) X 100/ % Solid X Fraction of Sample Amount Taken in Prep

H. QA/ QC

Calibrations met requirements. Interference check met requirements. Blank analyses did not indicate any presence of contamination. Laboratory Control sample was within control limits. Spike sample did meet requirements except for the Silver. Duplicate sample did meet requirements. Serial Dilution did meet requirements except for the Potassium.

I certify that the data package is in compliance with the terms and conditions of the contract both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Director or his designee, as verified by the following signature.

Signature_____ Name: Parveen Hasan

Date 11/29/07 Title: Project Manager

NOV 3 0 2007

USEPA - CLP

COVER PAGE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

SOW No.: ILM05.4

EPA Sample No.	Lab Sample ID
ME2PE0	Y5347-01
ME2PE1	Y5347-02
ME2PE2	Y5347-03
ME2PE3	Y5347-04
ME2PE4	Y5347-05
ME2PE5	Y5347-06
ME2PH9	Y5347-07
ME2PJ0	Y5347-08
ME2PJ1	Y5347-09
ME2PJ2	Y5347-10
ME2PJ3	Y5347-11
ME2PJ4	Y5347-12
ME2PJ5	Y5347-13
ME2PJ6	Y5347-14
ME2PJ7	Y5347-15
ME2PJ8	Y5347-16
ME2PJ9	Y5347-17
ME2PJ9D	Y5347-18
ME2PJ9S	Y5347-19

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	YES	
Were ICP-AES and ICP-MS background corrections applied?	(Yes/No)	YES	
If yes, were raw data generated before application of background corrections?	(Yes/No)	NO	

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette (or via an alternate means of electronic transmission, if approved in advance by USEPA) has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: PARVEEN HASAN

Date: 11/29/07 Title: EPA PROJECT MANAGER

USEPA - CLP

3-IN
BLANKS

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		
		C	1	C	2	C	3	C		C	M
Aluminum	200.000	U	200.000	U	200.000	U	200.000	U	-3.106	J	P
Antimony	60.000	U	60.000	U	60.000	U	60.000	U	6.000	U	P
Arsenic	10.000	U	10.000	U	10.000	U	10.000	U	1.000	U	P
Barium	-0.730	J	-0.800	J	-0.730	J	-1.000	J	0.061	J	P
Beryllium	5.000	U	5.000	U	0.190	J	0.215	J	0.500	U	P
Cadmium	1.120	J	5.000	U	5.000	U	0.930	J	0.500	U	P
Calcium	5000.000	U	5000.000	U	5000.000	U	5000.000	U	500.000	U	P
Chromium	10.000	U	-1.160	J	-1.165	J	10.000	U	-0.115	J	P
Cobalt	50.000	U	50.000	U	-1.630	J	50.000	U	5.000	U	P
Copper	25.000	U	25.000	U	-0.750	J	25.000	U	2.500	U	P
Iron	100.000	U	100.000	U	100.000	U	100.000	U	-3.354	J	P
Lead	10.000	U	-3.095	J	10.000	U	10.000	U	0.338	J	P
Magnesium	5000.000	U	5000.000	U	5000.000	U	5000.000	U	500.000	U	P
Manganese	15.000	U	15.000	U	0.485	J	0.330	J	0.040	J	P
Mercury											NR
Nickel	40.000	U	40.000	U	40.000	U	40.000	U	4.000	U	P
Potassium	5000.000	U	5000.000	U	-22.825	J	5000.000	U	500.000	U	P
Selenium	35.000	U	35.000	U	35.000	U	35.000	U	3.500	U	P
Silver	10.000	U	-1.400	J	-1.630	J	-1.315	J	1.000	U	P
Sodium	5000.000	U	-314.215	J	-641.860	J	-549.955	J	-28.990	J	P
Thallium	25.000	U	25.000	U	6.550	J	25.000	U	2.500	U	P
Vanadium	50.000	U	50.000	U	50.000	U	50.000	U	5.000	U	P
Zinc	1.810	J	3.610	J	60.000	U	1.810	J	-0.295	J	P
Cyanide											NR

USEPA - CLP

3-IN
BLANKS

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

Preparation Blank Matrix (soil/water):_____

Preparation Blank Concentration Units (ug/L or mg/kg):_____

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		
		C	1	C	2	C	3	C		C	M
Aluminum			-87.260	J	200.000	U	200.000	U			P
Antimony			60.000	U	60.000	U	60.000	U			P
Arsenic			10.000	U	10.000	U	10.000	U			P
Barium			1.345	J	200.000	U	0.860	J			P
Beryllium			-0.080	J	0.350	J	0.560	J			P
Cadmium			5.000	U	5.000	U	5.000	U			P
Calcium			5000.000	U	5000.000	U	5000.000	U			P
Chromium			1.325	J	-0.530	J	-1.600	J			P
Cobalt			50.000	U	50.000	U	-1.480	J			P
Copper			25.000	U	25.000	U	25.000	U			P
Iron			100.000	U	100.000	U	100.000	U			P
Lead			10.000	U	10.000	U	10.000	U			P
Magnesium			5000.000	U	5000.000	U	5000.000	U			P
Manganese			15.000	U	15.000	U	0.370	J			P
Mercury											NR
Nickel			40.000	U	40.000	U	40.000	U			P
Potassium			27.230	J	5000.000	U	5000.000	U			P
Selenium			35.000	U	35.000	U	35.000	U			P
Silver			2.325	J	10.000	U	0.905	J			P
Sodium			5000.000	U	-565.795	J	-493.400	J			P
Thallium			25.000	U	25.000	U	25.000	U			P
Vanadium			5.150	J	50.000	U	50.000	U			P
Zinc			60.000	U	60.000	U	60.000	U			P
Cyanide											NR

USEPA - CLP

3-IN
BLANKS

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

Preparation Blank Matrix (soil/water):_____

Preparation Blank Concentration Units (ug/L or mg/kg):_____

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		
		C	1	C	2	C	3	C		C	M
Aluminum			-31.195	J	-53.180	J	200.000	U			P
Antimony			60.000	U	60.000	U	60.000	U			P
Arsenic			10.000	U	5.535	J	10.000	U			P
Barium			4.650	J	5.475	J	3.080	J			P
Beryllium			0.240	J	0.340	J	0.130	J			P
Cadmium			1.375	J	1.570	J	5.000	U			P
Calcium			5000.000	U	5000.000	U	5000.000	U			P
Chromium			10.000	U	-1.445	J	-2.310	J			P
Cobalt			50.000	U	1.675	J	-1.670	J			P
Copper			25.000	U	25.000	U	25.000	U			P
Iron			100.000	U	100.000	U	100.000	U			P
Lead			3.965	J	3.630	J	2.900	J			P
Magnesium			5000.000	U	5000.000	U	5000.000	U			P
Manganese			1.830	J	2.250	J	0.605	J			P
Mercury											NR
Nickel			40.000	U	2.720	J	40.000	U			P
Potassium			5000.000	U	5000.000	U	5000.000	U			P
Selenium			6.835	J	4.310	J	6.870	J			P
Silver			0.765	J	1.115	J	10.000	U			P
Sodium			5000.000	U	5000.000	U	-403.145	J			P
Thallium			25.000	U	25.000	U	25.000	U			P
Vanadium			3.000	J	3.990	J	4.000	J			P
Zinc			60.000	U	60.000	U	60.000	U			P
Cyanide											NR

USEPA - CLP

3-IN
BLANKS

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

Preparation Blank Matrix (soil/water):_____

Preparation Blank Concentration Units (ug/L or mg/kg):_____

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		
		C	1	C	2	C	3	C		C	M
Aluminum			200.000	U	-43.160	J					P
Antimony			60.000	U	60.000	U					P
Arsenic			10.000	U	10.000	U					P
Barium			1.180	J	0.970	J					P
Beryllium			0.185	J	0.180	J					P
Cadmium			5.000	U	5.000	U					P
Calcium			5000.000	U	5000.000	U					P
Chromium			-1.730	J	10.000	U					P
Cobalt			50.000	U	50.000	U					P
Copper			25.000	U	25.000	U					P
Iron			100.000	U	100.000	U					P
Lead			2.370	J	-1.905	J					P
Magnesium			-27.510	J	5000.000	U					P
Manganese			15.000	U	15.000	U					P
Mercury											NR
Nickel			40.000	U	40.000	U					P
Potassium			5000.000	U	5000.000	U					P
Selenium			7.580	J	35.000	U					P
Silver			10.000	U	10.000	U					P
Sodium			5000.000	U	5000.000	U					P
Thallium			25.000	U	25.000	U					P
Vanadium			50.000	U	50.000	U					P
Zinc			60.000	U	-2.360	J					P
Cyanide											NR

USEPA - CLP

4A-IN
ICP-AES INTERFERENCE CHECK SAMPLE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

ICP-AES Instrument ID: P2 ICS Source: EPA0503-0203

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	244000	248000	245000	100	243000	98	230000	94	228000	92
Antimony	0	585	-4.5		607	104	0.56		603	103
Arsenic	0	97.0	2.1		99.2	102	-1.5		98.9	102
Barium	2.0	475	1.1	55	538	113	0.57	29	516	109
Beryllium	0	482	0.43		488	101	0.68		482	100
Cadmium	0	916	4.7		989	108	3.8		980	107
Calcium	234000	234000	246000	105	243000	104	238000	102	234000	100
Chromium	36.0	506	39.5	110	533	105	38.6	107	516	102
Cobalt	3.0	455	0.74	25	492	108	2.4	80	483	106
Copper	15.0	537	17.7	118	557	104	16.0	107	523	97
Iron	94900	95100	99100	104	98400	103	96900	102	96000	101
Lead	5.0	51.0	4.9	98	58.6	115	3.2	64	54.1	106
Magnesium	249000	254000	262000	105	259000	102	249000	100	248000	98
Manganese	19.0	483	19.6	103	527	109	20.6	108	504	104
Nickel	10.0	930	14.2	142	1020	110	15.2	152	1010	109
Potassium	0	0	59.9		26.1		29.6		19.6	
Selenium	0	51.0	-1.7		51.7	101	-5.1		52.9	104
Silver	0	210	4.8		228	109	4.9		223	106
Sodium	0	0	677		463		81.7		416	
Thallium	0	96.0	-2.9		97.2	101	-6.4		104	108
Vanadium	1.0	481	-0.79	-79	496	103	-2.9	-290	501	104
Zinc	39.0	975	53.6	137	1050	108	51.4	132	1010	104

USEPA - CLP

4A-IN
ICP-AES INTERFERENCE CHECK SAMPLE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

ICP-AES Instrument ID: P2 ICS Source: EPA0503-0203

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	244000	248000					244000	100	236000	95
Antimony	0	585					-10.6		602	103
Arsenic	0	97.0					1.9		114	118
Barium	2.0	475					3.0	150	541	114
Beryllium	0	482					0.72		496	103
Cadmium	0	916					3.9		1020	111
Calcium	234000	234000					251000	107	244000	104
Chromium	36.0	506					41.0	114	533	105
Cobalt	3.0	455					0.33	11	498	109
Copper	15.0	537					17.4	116	543	101
Iron	94900	95100					102000	107	99500	105
Lead	5.0	51.0					3.0	60	60.8	119
Magnesium	249000	254000					257000	103	249000	98
Manganese	19.0	483					18.5	97	520	108
Nickel	10.0	930					13.9	139	1040	112
Potassium	0	0					54.5		20.1	
Selenium	0	51.0					-4.5		46.1	90
Silver	0	210					8.0		233	111
Sodium	0	0					425		583	
Thallium	0	96.0					1.3		98.7	103
Vanadium	1.0	481					-5.3	-530	506	105
Zinc	39.0	975					49.8	128	1050	108

USEPA - CLP

4A-IN
ICP-AES INTERFERENCE CHECK SAMPLE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

ICP-AES Instrument ID: P2 ICS Source: EPA0503-0203

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	244000	248000					242000	99	235000	95
Antimony	0	585					-7.1		582	99
Arsenic	0	97.0					1.6		99.5	103
Barium	2.0	475					2.4	120	524	110
Beryllium	0	482					0.58		475	99
Cadmium	0	916					2.3		964	105
Calcium	234000	234000					243000	104	235000	100
Chromium	36.0	506					39.2	109	524	104
Cobalt	3.0	455					2.5	83	482	106
Copper	15.0	537					17.9	119	540	101
Iron	94900	95100					98200	103	95100	100
Lead	5.0	51.0					5.1	102	55.8	109
Magnesium	249000	254000					257000	103	249000	98
Manganese	19.0	483					18.7	98	508	105
Nickel	10.0	930					13.1	131	997	107
Potassium	0	0					36.0		10.7	
Selenium	0	51.0					-5.0		49.0	96
Silver	0	210					7.2		225	107
Sodium	0	0					802		1000	
Thallium	0	96.0					-8.0		91.7	96
Vanadium	1.0	481					-0.80	-80	485	101
Zinc	39.0	975					50.1	128	1030	106

USEPA - CLP

4A-IN
ICP-AES INTERFERENCE CHECK SAMPLE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

ICP-AES Instrument ID: P2 ICS Source: EPA0503-0203

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	244000	248000					228000	93	219000	88
Antimony	0	585					-7.6		567	97
Arsenic	0	97.0					1.8		96.4	99
Barium	2.0	475					3.1	155	496	104
Beryllium	0	482					0.50		467	97
Cadmium	0	916					1.5		950	104
Calcium	234000	234000					236000	101	228000	97
Chromium	36.0	506					38.9	108	505	100
Cobalt	3.0	455					-0.34	-11	467	103
Copper	15.0	537					16.4	109	499	93
Iron	94900	95100					95500	101	92100	97
Lead	5.0	51.0					5.1	102	48.1	94
Magnesium	249000	254000					245000	98	236000	93
Manganese	19.0	483					18.7	98	488	101
Nickel	10.0	930					11.3	113	973	105
Potassium	0	0					50.9		8.2	
Selenium	0	51.0					-0.29		45.4	89
Silver	0	210					7.6		218	104
Sodium	0	0					691		995	
Thallium	0	96.0					-6.7		94.2	98
Vanadium	1.0	481					-2.4	-240	477	99
Zinc	39.0	975					50.7	130	997	102

USEPA - CLP

4A-IN
ICP-AES INTERFERENCE CHECK SAMPLE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

ICP-AES Instrument ID: P2 ICS Source: EPA0503-0203

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	244000	248000					221000	91	212000	85
Antimony	0	585					-1.0		563	96
Arsenic	0	97.0					-3.6		94.8	98
Barium	2.0	475					3.3	165	487	103
Beryllium	0	482					0.64		456	95
Cadmium	0	916					1.6		928	101
Calcium	234000	234000					230000	98	220000	94
Chromium	36.0	506					36.3	101	488	96
Cobalt	3.0	455					0.84	28	457	100
Copper	15.0	537					16.5	110	483	90
Iron	94900	95100					93400	98	89700	94
Lead	5.0	51.0					-1.0	-20	51.0	100
Magnesium	249000	254000					239000	96	229000	90
Manganese	19.0	483					18.6	98	472	98
Nickel	10.0	930					11.8	118	949	102
Potassium	0	0					51.8		12.1	
Selenium	0	51.0					-1.4		44.2	87
Silver	0	210					7.7		215	102
Sodium	0	0					830		984	
Thallium	0	96.0					-2.6		98.1	102
Vanadium	1.0	481					-0.36	-36	465	97
Zinc	39.0	975					44.2	113	961	99

USEPA - CLP

5A-IN
MATRIX SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

ME2PJ9S

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

Matrix: (soil/water) SOIL Level: (low/med) LOW

% Solids for Sample: 77.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	27.4042		2.1163	J	25.71	98		P
Arsenic	75-125	19.5450		10.0186		10.28	93		P
Barium	75-125	662.4158		133.5032		514.14	103		P
Beryllium	75-125	12.9139		0.4042	J	12.85	97		P
Cadmium	75-125	14.9319		2.2596		12.85	99		P
Calcium									NR
Chromium	75-125	144.3117		97.5823		51.41	91		P
Cobalt	75-125	131.8548		3.1799	J	128.53	100		P
Copper	75-125	139.0328		76.3753		64.27	97		P
Iron									NR
Lead		224.8316		231.2898		5.14	-126		P
Magnesium									NR
Manganese	75-125	486.3213		384.5000		128.53	79		P
Mercury									NR
Nickel	75-125	138.1960		9.4512		128.53	100		P
Potassium									NR
Selenium	75-125	11.7384		0.7442	J	12.85	86		P
Silver	75-125	10.8895		2.3001		12.85	67	N	P
Sodium									NR
Thallium	75-125	13.0219		3.2134	U	12.85	101		P
Vanadium	75-125	140.3027		14.1774		128.53	98		P
Zinc	75-125	589.4518		491.4685		128.53	76		P
Cyanide									NR

Comments:

FORM VA-IN ILM05.4

USEPA - CLP

5B-IN
POST-DIGESTION SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

ME2PJ9A

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

Matrix: (soil/water) SOIL Level: (low/med) LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

USEPA - CLP

6-IN
DUPLICATES

EPA SAMPLE NO.

ME2PJ9D

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

Matrix: (soil/water) SOIL Level: (low/med) LOW

% Solids for Sample: 77.8 % Solids for Duplicate: 77.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		3675.2012		3641.3458		1		P
Antimony		2.1163	J	2.3593	J	11		P
Arsenic		10.0186		9.6073		4		P
Barium		133.5032		132.4132		1		P
Beryllium		0.4042	J	0.4177	J	3		P
Cadmium	0.6	2.2596		2.2719		1		P
Calcium		9436.8091		9374.5257		1		P
Chromium		97.5823		97.3599		0		P
Cobalt		3.1799	J	3.3522	J	5		P
Copper		76.3753		75.8605		1		P
Iron		15763.4222		15664.0096		1		P
Lead		231.2898		231.4396		0		P
Magnesium	642.7	2427.1767		2498.9749		3		P
Manganese		384.5000		382.2294		1		P
Mercury								NR
Nickel	5.1	9.4512		9.6613		2		P
Potassium		397.3419	J	392.2686	J	1		P
Selenium		0.7442	J	0.8104	J	9		P
Silver	1.3	2.3001		2.3772		3		P
Sodium		413.8181	J	452.9415	J	9		P
Thallium		3.2134	U	3.2134	U			P
Vanadium	6.4	14.1774		14.2551		1		P
Zinc		491.4685		488.6620		1		P
Cyanide								NR

USEPA - CLP

7-IN
LABORATORY CONTROL SAMPLE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

Solid LCS Source: EPA-LCS(0405-MM1308)

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L)			Solid (mg/kg)					
	True	Found	%R	True	Found	C	Limits		%R
Aluminum				115.0	94.7		54.7	175.0	82
Antimony				66.0	67.8		27.6	104.0	103
Arsenic				253.0	224.9		154.0	352.0	89
Barium				1.6	1.7	J	1.0	2.2	106
Beryllium				4.9	4.4		3.0	6.8	90
Cadmium				10.9	10.4		7.7	14.0	95
Calcium				44200.0	42363.9		30300.0	58200.0	96
Chromium				27.1	27.1		18.5	35.7	100
Cobalt				37.4	35.7		24.2	50.6	95
Copper				1770.0	1704.6		1320.0	2230.0	96
Iron				6470.0	6085.3		4280.0	8660.0	94
Lead				56.9	58.0		41.4	72.4	102
Magnesium				29200.0	28212.3		20500.0	37900.0	97
Manganese				61.0	57.7		41.6	80.5	95
Mercury									
Nickel				16.3	15.0		9.0	23.7	92
Potassium				39.7	26.6	J	0.0	85.3	67
Selenium				10.0	9.0		4.1	15.9	90
Silver				5.9	5.9		2.7	9.1	100
Sodium				72.5	484.3	J	0.0	216.0	668
Thallium				9.5	7.6		2.9	16.1	80
Vanadium				17.6	16.4		11.6	23.7	93
Zinc				47.5	45.8		20.5	74.4	96
Cyanide									

USEPA - CLP

8-IN
ICP-AES and ICP-MS SERIAL DILUTIONS

EPA SAMPLE NO.

ME2PJ9L

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

Matrix: (soil/water) SOIL Level: (low/med) LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	28593.07		27579.58		4		P
Antimony	16.47	J	300.00	U	100		P
Arsenic	77.95		74.28		5		P
Barium	1038.66		1050.60		1		P
Beryllium	3.15	J	3.93	J	25		P
Cadmium	17.58		20.75	J	18		P
Calcium	73418.38		76748.58		5		P
Chromium	759.19		798.58		5		P
Cobalt	24.74	J	28.43	J	15		P
Copper	594.20		549.40		8		P
Iron	122639.43		127087.15		4		P
Lead	1799.44		1907.53		6		P
Magnesium	18883.44		19435.63	J	3		P
Manganese	2991.41		3112.85		4		P
Nickel	73.53		70.80	J	4		P
Potassium	3091.32	J	2300.28	J	26	E	P
Selenium	5.79	J	175.00	U	100		P
Silver	17.90		16.05	J	10		P
Sodium	3219.51	J	3984.93	J	24		P
Thallium	25.00	U	125.00	U			P
Vanadium	110.30		113.38	J	3		P
Zinc	3823.63		3902.50		2		P

USEPA - CLP

9-IN
METHOD DETECTION LIMITS (ANNUALLY)

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

Instrument Type: P Instrument ID: P2 Date: 01/15/2007

Preparation Method: HS1

Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Wavelength /Mass	CRQL	MDL
Aluminum	308.20	20	0.51
Antimony	206.80	6	1.1
Arsenic	189.00	1	0.37
Barium	493.40	20	0.049
Beryllium	313.00	0.5	0.016
Cadmium	226.50	0.5	0.049
Calcium	317.90	500	2.5
Chromium	267.70	1	0.072
Cobalt	228.60	5	0.12
Copper	324.70	2.5	0.073
Iron	271.40	10	1.8
Lead	220.40	1	0.24
Magnesium	279.00	500	1.4
Manganese	257.60	1.5	0.026
Mercury		0.1	
Nickel	231.60	4	0.22
Potassium	766.50	500	2.1
Selenium	196.00	3.5	0.46
Silver	328.00	1	0.16
Sodium	330.20	500	19.9
Thallium	190.90	2.5	1.1
Vanadium	292.40	5	0.22
Zinc	206.20	6	0.13
Cyanide		2.5	

Comments:

USEPA - CLP

9-IN
METHOD DETECTION LIMITS (ANNUALLY)

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

Instrument Type: P Instrument ID: P2 Date: 01/15/2007

Preparation Method: NP1

Concentration Units (ug/L or mg/kg): UG/L

Analyte	Wavelength /Mass	CRQL	MDL
Aluminum	308.20	200	27.8
Antimony	206.80	60	8.4
Arsenic	189.00	10	4.8
Barium	493.40	200	0.39
Beryllium	313.00	5	0.075
Cadmium	226.50	5	0.65
Calcium	317.90	5000	33.7
Chromium	267.70	10	0.51
Cobalt	228.60	50	1.4
Copper	324.70	25	0.71
Iron	271.40	100	21.3
Lead	220.40	10	1.8
Magnesium	279.00	5000	27.4
Manganese	257.60	15	0.29
Mercury		0.2	
Nickel	231.60	40	2.7
Potassium	766.50	5000	19.6
Selenium	196.00	35	4.0
Silver	328.00	10	0.73
Sodium	330.20	5000	304
Thallium	190.90	25	6.5
Vanadium	292.40	50	2.2
Zinc	206.20	60	1.5
Cyanide		10	

Comments:

USEPA - CLP

12-IN
PREPARATION LOG

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

Preparation Method: HS1

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
LCSS	11/23/2007	1.00	100
ME2PE0	11/23/2007	1.00	100
ME2PE1	11/23/2007	1.00	100
ME2PE2	11/23/2007	1.00	100
ME2PE3	11/23/2007	1.01	100
ME2PE4	11/23/2007	1.01	100
ME2PE5	11/23/2007	1.00	100
ME2PH9	11/23/2007	1.00	100
ME2PJ0	11/23/2007	1.00	100
ME2PJ1	11/23/2007	1.00	100
ME2PJ2	11/23/2007	1.02	100
ME2PJ3	11/23/2007	1.00	100
ME2PJ4	11/23/2007	1.00	100
ME2PJ5	11/23/2007	1.00	100
ME2PJ6	11/23/2007	1.02	100
ME2PJ7	11/23/2007	1.00	100
ME2PJ8	11/23/2007	1.00	100
ME2PJ9	11/23/2007	1.00	100
ME2PJ9D	11/23/2007	1.00	100
ME2PJ9S	11/23/2007	1.00	100
PBS	11/23/2007	1.00	100

USEPA - CLP

13-IN
ANALYSIS RUN LOG

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

Instrument ID: P2 Analysis Method: P

Start Date: 11/27/2007 End Date: 11/27/2007

EPA Sample No.	D/F	Time	Analytes																									
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
S0	1.0	1025	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
S	1.0	1028	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICV	1.0	1031	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICB	1.0	1033	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CRI	1.0	1038		X	X		X	X		X	X	X		X		X		X		X	X		X	X	X			
ICSA	1.0	1041	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICSAB	1.0	1043	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1045	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1047	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ZZZZZZ	1.0	1049																										
ZZZZZZ	1.0	1051																										
ZZZZZZ	1.0	1056																										
ZZZZZZ	1.0	1059																										
ZZZZZZ	1.0	1101																										
ZZZZZZ	1.0	1103																										
ZZZZZZ	1.0	1106																										
ZZZZZZ	1.0	1108																										
ZZZZZZ	1.0	1110																										
ZZZZZZ	1.0	1112																										
CCV	1.0	1114	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1116	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ZZZZZZ	1.0	1118																										
ZZZZZZ	1.0	1119																										
ZZZZZZ	1.0	1121																										
ZZZZZZ	2.0	1123																										
ZZZZZZ	2.0	1125																										
ZZZZZZ	2.0	1127																										
ZZZZZZ	2.0	1129																										
CRI	1.0	1131		X	X		X	X		X	X	X		X		X		X		X	X		X	X	X			
ICSA	1.0	1133	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICSAB	1.0	1135	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1137	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1139	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			

USEPA - CLP

13-IN
ANALYSIS RUN LOG

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

Instrument ID: P2 Analysis Method: P

Start Date: 11/27/2007 End Date: 11/27/2007

EPA Sample No.	D/F	Time	Analytes																								
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
ZZZZZZ	1.0	1141																										
ZZZZZZ	1.0	1143																										
ZZZZZZ	5.0	1145																										
ZZZZZZ	1.0	1148																										
ZZZZZZ	1.0	1150																										
ZZZZZZ	1.0	1151																										
ZZZZZZ	1.0	1153																										
ZZZZZZ	1.0	1155																										
ZZZZZZ	1.0	1157																										
ZZZZZZ	1.0	1200																										
CCV	1.0	1216	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1218	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ZZZZZZ	1.0	1220																										
ZZZZZZ	1.0	1222																										
ZZZZZZ	2.0	1224																										
ZZZZZZ	2.0	1226																										
ZZZZZZ	10	1228																										
ZZZZZZ	2.0	1229																										
ZZZZZZ	2.0	1231																										
CRI	1.0	1248		X	X		X	X		X	X	X		X		X		X		X	X		X	X	X			
ICSA	1.0	1249	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICSAB	1.0	1251	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1253	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1255	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ZZZZZZ	2.0	1257																										
ZZZZZZ	2.0	1259																										
ZZZZZZ	2.0	1301																										
ZZZZZZ	1.0	1303																										
ZZZZZZ	1.0	1305																										
ZZZZZZ	1.0	1308																										
ZZZZZZ	1.0	1311																										
ZZZZZZ	1.0	1313																										
ZZZZZZ	5.0	1315																										

USEPA - CLP

13-IN
ANALYSIS RUN LOG

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

Instrument ID: P2 Analysis Method: P

Start Date: 11/27/2007 End Date: 11/27/2007

EPA Sample No.	D/F	Time	Analytes																									
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
ZZZZZZ	1.0	1316																										
CCV	1.0	1321	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1323	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ZZZZZZ	1.0	1325																										
ZZZZZZ	1.0	1329																										
ZZZZZZ	2.0	1331																										
PBS	1.0	1440	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
LCSS	1.0	1442	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PE0	1.0	1445	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PE1	1.0	1447	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CRI	1.0	1457		X	X		X	X		X	X	X		X		X		X		X	X		X	X	X			
ICSA	1.0	1459	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICSAB	1.0	1501	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1503	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1505	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PE2	1.0	1510	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PE3	1.0	1512	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PE4	1.0	1514	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PE5	1.0	1516	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PH9	1.0	1518	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PJ0	1.0	1521	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PJ1	1.0	1522	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PJ2	1.0	1524	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PJ3	1.0	1527	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PJ4	1.0	1530	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1532	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1534	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PJ5	1.0	1536	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PJ6	1.0	1538	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PJ7	1.0	1540	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PJ8	1.0	1542	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PJ9	1.0	1543	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PJ9D	1.0	1545	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			

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13-IN
ANALYSIS RUN LOG

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE0

Instrument ID: P2 Analysis Method: P

Start Date: 11/27/2007 End Date: 11/27/2007

EPA Sample No.	D/F	Time	Analytes																								
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
ME2PJ9S	1.0	1552		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X			
CRI	1.0	1604		X	X		X	X		X	X	X		X		X		X		X	X		X	X	X			
ICSA	1.0	1606	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICSAB	1.0	1608	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1613	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1615	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PJ9L	5.0	1617	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ZZZZZZ	1.0	1619																										
ZZZZZZ	1.0	1621																										
ZZZZZZ	1.0	1624																										
ZZZZZZ	1.0	1625																										
ZZZZZZ	1.0	1627																										
ZZZZZZ	5.0	1629																										
ZZZZZZ	1.0	1631																										
ZZZZZZ	1.0	1633																										
ZZZZZZ	1.0	1635																										
CCV	1.0	1637	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1639	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ZZZZZZ	1.0	1659																										
ZZZZZZ	1.0	1703																										
ZZZZZZ	1.0	1705																										
CRI	1.0	1711		X	X		X	X		X	X	X		X		X		X		X	X		X	X	X			
ICSA	1.0	1713	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICSAB	1.0	1715	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1719	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1723	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Sample Delivery Group: MEZPE0 CERCLIS No: IND047030226

Case No: 37004 Site Name/Location: USS LEAD (IN)

Contractor or EPA Lab: ChemTech Data User: IDEM

No. of Samples: 17 Date Sampled or Date Received: 30 NOV 07

Have Chain-of-Custody records been received? Yes ✓ No ____

Have traffic reports or packing lists been received? Yes ✓ No ____

If no, are traffic report or packing list numbers written on the Chain-of-Custody Record?

Yes ____ No ____

If no, which traffic report or packing list numbers are missing?

____ ____ ____ ____

____ ____ ____ ____

Are basic data forms in? Yes ✓ No ____

No of samples claimed: 17 No. of samples received: ____

Received by: pdavis Date: 30 NOV 07

Received by LSSS: pdavis Date: 3 Dec 07

Review started: 12/10/07 Reviewer Signature: [signature]

Total time spent on review: 1.5 Date review completed: 12/10/07

Copied by: A. C. Harvey Date: Dec 10, 2007

Mailed to user by: pdavis Date: 11 Dec 07

DATA USER:

Please fill in the blanks below and return this form to:

Sylvia Griffin, Data Mgmt. Coordinator, Region V, ML-10C

Data received by: ____ Date: ____

Data review received by: ____ Date: ____

Inorganic Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
Organic Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
Dioxin data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
SAS Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK

PROBLEMS: Please indicate reasons why data are not suitable for your uses.

____

____

Received by Data Mgmt. Coordinator for Files. Date: ____

ESAT Controlled Number: ESAT5.05.00359-pd 11 Dec 07

DATE: December 11, 2007

Indiana Dept of Environmental Management
ATTN: Mark Jaworski
100 N. Senate Avenue – Room N1255
Indianapolis, IN 46804-2222

SITE NAME: USS Lead (IN)

CASE #	LAB	SAMPLES	SDG	MATRIX
37004	ChemTech	16	ME2PE6	soil

Upon receipt of data, please check each package for completeness and note any missing deliverables below.

Send this form back to Sylvia Griffin, Data Management Coordinator after filling in the blanks below.

Data Received by:_____ Date:_____

PROBLEMS:

Please indicate if data is complete, and note if there are any deliverables missing from the cases noted above.

_____

_____

Received by Data Management Coordinator, CRL for file.

Signature:_____ Date:_____

FROM: **U.S. EPA - Region 5**
Sylvia Griffin
Central Regional Laboratory
536 S. Clark, 10th Floor
Chicago, IL 60605

Sent By: Pat Davis

Data Coordinator
ESAT Region 5 **TechLaw**

Controlled Document

ESAT5.03.00143
ack
12-10-07

Regional Transmittal Form

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 12/10/07

SUBJECT: Review of Data
Received for review on 11/30/07

FROM: Stephen L. Ostrodka, Chief (SRT-4J)
Superfund Field Services Section

TO: Data User: IDEM

We have assembled the CADRE data for the following case:

SITE NAME: USS Lead (IN)

CASE NUMBER: 37004 **SDG NUMBER:** ME2PE6

Number and Type of Samples: 16 soil samples

Sample Numbers: ME2PE6-E9, ME2PF0-F9, ME2PG0-G1

Laboratory: Chemtech **Hrs. for Review:** 15

Following are our findings:

THIS DATA CASE HAS NOT BEEN REVIEWED BY ESAT

CC: Howard Pham
Region 5 TOPO
Mail Code: SRT-4J

Below is a summary of the out-of-control audits and the possible effects on the data for this case:

NUMBER (##) MATRIX samples, numbered ##, were collected on DATE. The lab received the samples on DATE in good condition. All samples were analyzed for metals and cyanide. All samples were analyzed using the CLP SOW ILM05.3 analysis procedures.

Mercury analysis was performed using a Cold Vapor AA Technique. Cyanide analysis was performed using the MIDI Distillation procedure. The remaining inorganic analyses were performed using an Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES) procedure.

1. HOLDING TIME:

Qualification: Holding Time **Protocol: INORG**

DC-10 The following inorganic soil samples were reviewed for holding time violations using criteria developed for water samples.

ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1, ME2PG1D, ME2PG1S

2. CALIBRATIONS:

Qualification: Calibrations **Protocol: INORG**

No defects found.

Qualification: CRDL/CRQL Standard **Protocol: INORG**

No defects found.

3. BLANKS:

Qualification: Laboratory Blanks **Protocol: INORG**

DC-15 The following inorganic samples are associated with an ICB concentration which is less than or equal to the CRQL. Detected sample result is also less than or equal to the CRQL. Hits are qualified "U". Sample result is raised to the CRQL if "Raise to detection limit" option is selected by the validator.

Antimony
ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF6, ME2PF8

Sodium
ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1

DC-16 The following inorganic samples are associated with an ICB concentration which is less than or equal to the CRQL. Sample result is greater than the CRQL. Use professional judgement to qualify data.

Antimony
ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF7, ME2PF9, ME2PG0, ME2PG1

Manganese
ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1

DC-18 The following inorganic samples are associated with a CCB concentration which is less than or equal to the CRQL. Sample result is also less than or equal to the CRQL. Hits are qualified "U". Sample result is raised to the CRQL if "Raise to detection limit" option is selected by the validator.

Antimony
ME2PE6, ME2PE7, ME2PE8, ME2PE9

Barium
ME2PF1, ME2PF4

Sodium
ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1

DC-19 The following inorganic samples are associated with a CCB concentration which is less than or equal to the CRQL. Sample result is greater than the CRQL. Use professional judgement

to qualify data.

Antimony
ME2PF0, ME2PF1, ME2PF2, ME2PF3

Barium
ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF2, ME2PF3, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1

Calcium
ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0

Manganese
ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1

Zinc
ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1

DC-21 The following inorganic samples are associated with an ICB analyte with negative concentration whose absolute value is greater than or equal to the method detection limit (MDL) but less than or equal to the CRQL. Use professional judgement to qualify sample data.

Cadmium
ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1

Calcium
ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1

Cobalt
ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1

Magnesium
ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1

DC-22 The following inorganic samples are associated with a CCB analyte with negative concentration whose absolute value is greater than or equal to the method detection limit (MDL) but less than or equal to the CRQL. Use professional judgement to qualify sample data.

Cobalt
ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1

Nickel
ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1

4. MATRIX SPIKE/MATRIX SPIKE DUPLICATE AND LAB CONTROL SAMPLE:

Qualification: Laboratory Control Sample **Protocol: INORG**

No defects found.

Qualification: Matrix Spikes **Protocol: INORG**

DC-5 The following inorganic samples are associated with a matrix spike recovery which is outside primary low criteria. Post-digest spike sample was either not required or it was required but not analyzed. Hits are qualified "J-" and non-detects are qualified "UJ".

Silver

ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1

DC-10 The following inorganic samples are associated with a matrix spike recovery which is outside primary low criteria. Non-detects are flagged "UJ".

Thallium

ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1

5. LABORATORY AND FIELD DUPLICATE:

Qualification: Duplicates **Protocol: INORG**

No defects found.

6. ICP ANALYSIS:

Qualification: Interference Check Sample **Protocol: INORG**

DC-6 The following inorganic samples have elements other than Al, Ca, Fe, and Mg at concentrations higher than 10 mg/L that may cause potential interference. Use professional judgement to qualify sample data.

ME2PE6
Potassium

ME2PE8
Manganese

ME2PE9
Potassium

ME2PF2
Lead

ME2PF3
Lead

ME2PF5
Lead

ME2PF6
Zinc

ME2PF9
Lead

ME2PG0
Lead

ME2PG1
Lead

DC-10 The following inorganic samples have one or more interferents present at concentrations more than true amounts added in the ICS solution. Use professional judgement to qualify sample data.

ME2PE6, ME2PE8, ME2PE9, ME2PF0, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG1

Qualification: Serial Dilution ***Protocol: INORG***

DC-3 The following inorganic samples are associated with an ICP serial dilution percent difference which is not in criteria. The detected serial dilution result is less than the initial sample result. Hits are qualified "J" and non-detects are qualified "UJ".

Cobalt

ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1

DC-4 The following inorganic samples are associated with an ICP serial dilution percent difference which is not in criteria. The serial dilution result is greater than the sample result, indicating a potential negative interference. The data must be qualified using professional judgement. Hits and non-detects are not flagged.

Selenium

ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1

7. SAMPLE RESULTS:

Qualification: Percent Moisture **Protocol: INORG**

No defects found.

Qualification: Sample Result Verification **Protocol: INORG**

DC-5 The following inorganic samples have analyte concentrations reported below the quantitation limit (CRQL). All results below the CRQL are qualified"J".

ME2PE6
Antimony, Selenium, Sodium

ME2PE7
Antimony, Beryllium, Cadmium, Cobalt, Potassium, Selenium, Sodium

ME2PE8
Antimony, Cobalt, Selenium, Sodium

ME2PE9
Antimony, Selenium, Sodium

ME2PF0
Beryllium, Cobalt, Potassium, Sodium

ME2PF1
Barium, Beryllium, Cobalt, Magnesium, Potassium, Selenium, Silver, Sodium

ME2PF2
Beryllium, Cobalt, Magnesium, Potassium, Sodium

ME2PF3
Beryllium, Cobalt, Magnesium, Potassium, Sodium

ME2PF4
Barium, Beryllium, Cobalt, Magnesium, Potassium, Silver, Sodium, Vanadium

ME2PF5
Beryllium, Cobalt, Magnesium, Potassium, Silver, Sodium

ME2PF6
Antimony, Cobalt, Potassium, Silver, Sodium

ME2PF7
Beryllium, Cobalt, Potassium, Silver, Sodium

ME2PF8
Antimony, Beryllium, Cobalt, Potassium, Selenium, Sodium

ME2PF9
Beryllium, Cobalt, Magnesium, Potassium, Silver, Sodium

ME2PG0
Beryllium, Cobalt, Magnesium, Potassium, Silver, Sodium

ME2PG1
Beryllium, Cobalt, Potassium, Sodium

ME2PG1D

Beryllium, Cobalt, Potassium, Sodium

Qualification: CADRE Reserved **Protocol: INORG**

DC-2 Verification of non-detected results and assignment of "U" qualifier when the reported value is less than detection limit.

ME2PE6, ME2PE7, ME2PE8, ME2PE9, ME2PF0, ME2PF1, ME2PF2, ME2PF3, ME2PF4, ME2PF5, ME2PF6, ME2PF7, ME2PF8, ME2PF9, ME2PG0, ME2PG1, ME2PG1D, PBS

CADRE ILM05.4 Data Qualifier Sheet

Qualifiers	Data Qualifier Definitions
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Analytical Results (Qualified Data)

Case #: 37004 SDG : ME2PE6
Site : USS LEAD, EAST CHICAGO
Lab. : CHEM
Reviewer : PAL
Date : 12/10/2007

Number of Soil Samples : 16
Number of Water Samples : 0

Sample Number :	ME2PE6		ME2PE7		ME2PE8		ME2PE9		ME2PF0	
Sampling Location :	BGSS9		BGSS10		BGSS11		BGSS12		SD1	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	11/13/2007		11/13/2007		11/13/2007		11/13/2007		11/13/2007	
Time Sampled :										
%Solids :	84.7		90.3		92.3		78.8		28.1	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	8320		3410		12500		8700		6230	
ANTIMONY	1.7	UJ	1.5	UJ	3.9	UJ	2.3	UJ	102	
ARSENIC	5.0		1.9		3.4		7.5		250	
BARIUM	135		33.6		221		145		110	
BERYLLIUM	0.79		0.23	J	1.9		0.76		1.1	J
CADMIUM	0.72		0.30	J	1.2		1.3		14.5	
CALCIUM	22900		10300		50700		13400		12200	
CHROMIUM	19.5		8.2		62.6		31.6		415	
COBALT	7.8	J	2.6	J	3.5	J	6.2	J	7.6	J
COPPER	36.3		32.4		50.2		44.1		258	
IRON	17900		7420		25900		20300		96600	
LEAD	62.5		71.9		165		112		2150	
MAGNESIUM	5450		2000		11900		6180		2430	
MANGANESE	548		212		3100		351		1320	
NICKEL	22.6		7.2		12.0		22.0		56.4	
POTASSIUM	1320		424	J	1050		1330		586	J
SELENIUM	2.7	J	1.6	J	1.2	J	3.5	J	18.0	
SILVER	1.2	UJ	1.1	UJ	1.1	UJ	1.2	UJ	4.4	J
SODIUM	192	UJ	121	UJ	411	UJ	228	UJ	711	UJ
THALLIUM	3.0	UJ	2.8	UJ	2.7	UJ	3.1	UJ	8.9	UJ
VANADIUM	21.6		9.3		24.9		22.1		50.9	
ZINC	275		113		590		213		1900	

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Analytical Results (Qualified Data)

Case #: 37004 SDG : ME2PE6
Site : USS LEAD, EAST CHICAGO
Lab. : CHEM
Reviewer : PAL
Date : 12/10/2007

Sample Number :	ME2PF1		ME2PF2		ME2PF3		ME2PF4		ME2PF5	
Sampling Location :	SD2		SD3		SD3D		SD4		SD5	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	11/13/2007		11/13/2007		11/13/2007		11/13/2007		11/13/2007	
Time Sampled :										
%Solids :	18.5		32.3		32.1		13.0		27.9	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	5950		6910		6940		2550		2080	
ANTIMONY	331		136		160		730		525	
ARSENIC	916		201		190		2280		1020	
BARIUM	81.3	UJ	122		107		148	UJ	133	
BERYLLIUM	0.89	J	1.4	J	1.4	J	1.3	J	0.71	J
CADMIUM	15.9		30.2		31.5		8.3		2.8	
CALCIUM	7570		6900		7220		12100		3490	
CHROMIUM	139		787		679		313		157	
COBALT	5.3	J	6.3	J	7.1	J	2.8	J	1.1	J
COPPER	278		321		341		350		201	
IRON	26100		124000		118000		217000		99900	
LEAD	4770		4210		4350		6570		6440	
MAGNESIUM	1580	J	1460	J	1460	J	1390	J	639	J
MANGANESE	155		1430		1400		428		132	
NICKEL	47.7		69.1		60.8		66.1		17.8	
POTASSIUM	890	J	486	J	503	J	488	J	513	J
SELENIUM	16.7	J	21.2		21.0		41.1		24.4	
SILVER	3.8	J-	6.1	J-	6.2	J-	2.1	J-	3.0	J-
SODIUM	1100	UJ	517	UJ	420	UJ	2670	UJ	1120	UJ
THALLIUM	13.5	UJ	7.7	UJ	7.8	UJ	19.0	UJ	9.0	UJ
VANADIUM	53.4		56.3		62.0		33.0	J	24.8	
ZINC	1170		1930		2090		994		477	

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Analytical Results (Qualified Data)

Case #: 37004 SDG : ME2PE6
Site : USS LEAD, EAST CHICAGO
Lab. : CHEM
Reviewer : PAL
Date : 12/10/2007

Sample Number :	ME2PF6		ME2PF7		ME2PF8		ME2PF9		ME2PG0	
Sampling Location :	SD6		SD7		SD10		SD11		SDA	
Matrix :	Soil		Soil		Soil		Soil		Soil	
Units :	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	11/13/2007		11/13/2007		11/14/2007		11/14/2007		11/14/2007	
Time Sampled :										
%Solids :	40.8		49.3		62.3		24.5		18.2	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	11300		5640		3980		5170		4990	
ANTIMONY	13.1	UJ	19.6		8.0	UJ	208		407	
ARSENIC	46.5		26.6		17.5		538		854	
BARIUM	149		248		91.5		125		134	
BERYLLIUM	2.4		0.95	J	0.72	J	1.2	J	0.45	J
CADMIUM	11.0		5.5		2.1		13.0		14.9	
CALCIUM	21300		22300		25300		9550		8060	
CHROMIUM	460		183		79.1		371		126	
COBALT	11.8	J	6.5	J	4.3	J	3.7	J	3.3	J
COPPER	415		205		91.7		357		317	
IRON	169000		55800		37800		75800		22700	
LEAD	964		1270		332		4160		5620	
MAGNESIUM	8050		9600		8820		1630	J	1600	J
MANGANESE	1880		888		991		345		128	
NICKEL	99.2		42.3		21.0		42.0		33.4	
POTASSIUM	1050	J	813	J	437	J-	799	J	797	J
SELENIUM	16.8		8.4		5.3	J	19.9		23.3	
SILVER	1.5	J-	1.4	J-	1.6	UJ	3.7	J-	3.2	J-
SODIUM	552	UJ	478	UJ	585	UJ	783	UJ	1500	UJ
THALLIUM	6.1	UJ	5.1	UJ	4.0	UJ	10.2	UJ	13.7	UJ
VANADIUM	59.6		29.3		19.3		55.7		39.0	
ZINC	3210		1510		576		1100		929	

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Analytical Results (Qualified Data)

Case #: 37004 SDG : ME2PE6
Site : USS LEAD, EAST CHICAGO
Lab. : CHEM
Reviewer : PAL
Date : 12/10/2007

Sample Number :	ME2PG1		ME2PG1D		ME2PG1S					
Sampling Location :	SD8		SD8		SD8					
Matrix :	Soil		Soil		Soil					
Units :	mg/Kg		mg/Kg		mg/Kg					
Date Sampled :	11/14/2007		11/14/2007		11/14/2007					
Time Sampled :										
%Solids :	30.8		31.4		30.8					
Dilution Factor :	1.0		1.0		1.0					
ANALYTE	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	6510		6370							
ANTIMONY	382		419		484					
ARSENIC	1080		1150		1150					
BARIUM	98.2		101		1460					
BERYLLIUM	0.82	J	0.86	J	31.2					
CADMIUM	8.4		8.8		40.0					
CALCIUM	9290		8910							
CHROMIUM	179		179		315					
COBALT	5.1	J	5.1	J	316					
COPPER	249		250		420					
IRON	48200		50300							
LEAD	3740		3850		3960					
MAGNESIUM	2270		2180							
MANGANESE	559		548		947					
NICKEL	32.9		31.7		346					
POTASSIUM	903	J	883	J						
SELENIUM	17.2		17.2		43.8					
SILVER	3.8	J-	3.8		23.2					
SODIUM	558	UJ	551	J						
THALLIUM	8.1	UJ	8.1	U	19.9					
VANADIUM	44.2		46.4		358					
ZINC	702		693		1020					

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USEPA Contract Laboratory Program
Generic Chain of Custody

Reference Case 37004
Client No:
SDG No: ME2PE6 **L**

Date Shipped:	11/15/2007
Carrier Name:	FedEx
Airbill:	811417071774
Shipped to:	ChemTech Consulting Group 284 Sheffield Street Mountainside NJ 07092 (908) 789-8900

Chain of Custody Record

Relinquished By	(Date / Time)	Received By	(Date / Time)
1 [illegible]	11-15-07/3:30 PM	[illegible]	11/16/07 9:40
2			
3			
4			

Sampler Signature:

For Lab Use Only
Lab Contract No: EP006047
Unit Price:
Transfer To:
Lab Contract No:
Unit Price:

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		FOR LAB USE ONLY Sample Condition On Receipt
ME2PE6	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099435 (Ice Only) (1)	BGSS9	S: 11/13/2007	13:50	
ME2PE7	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099436 (Ice Only) (1)	BGSS10	S: 11/13/2007	14:15	
ME2PE8	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099437 (Ice Only) (1)	BGSS11	S: 11/13/2007	14:30	
ME2PE9	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099438 (Ice Only) (1)	BGSS12	S: 11/13/2007	15:00	
ME2PF0	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099601 (Ice Only) (1)	SD1	S: 11/13/2007	11:30	
ME2PF1	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099602 (Ice Only) (1)	SD2	S: 11/13/2007	11:56	
ME2PF2	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099603 (Ice Only) (1)	SD3	S: 11/13/2007	12:25	
ME2PF3	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099604 (Ice Only) (1)	SD3D	S: 11/13/2007	12:25	
ME2PF4	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099605 (Ice Only) (1)	SD4	S: 11/13/2007	13:20	
ME2PF5	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099606 (Ice Only) (1)	SD5	S: 11/13/2007	14:00	

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s): [illegible]	Cooler Temperature Upon Receipt: 4°	Chain of Custody Seal Number: 23836, 23837
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? Y/N Shipment Iced? Y/N

ICP Metals = ILM05.4 ICP-AES

TT Number: **5-551068049-111507-0003**

LABORATORY COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax

USEPA Contract Laboratory Program
Generic Chain of Custody

Reference Case 37004
Client No:
SDG No: ME2PE6 **L**

Date Shipped:	11/15/2007
Carrier Name:	FedEx
Airbill:	811417071774
Shipped to:	ChemTech Consulting Group 284 Sheffield Street Mountainside NJ 07092 (908) 789-8900

Chain of Custody Record

	Relinquished By	(Date / Time)	Received By	(Date / Time)
1	[illegible]	11-15-07/3:30pm	USPS AD	11/16/07 9:40
2				
3				
4				

Sampler Signature:

For Lab Use Only
Lab Contract No: EPW06047
Unit Price:
Transfer To:
Lab Contract No:
Unit Price:

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY Sample Condition On Receipt
ME2PF6	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099607 (Ice Only) (1)	SD6	S: 11/13/2007 16:10	
ME2PF7	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099608 (Ice Only) (1)	SD7	S: 11/13/2007 15:55	
ME2PF8	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099609 (Ice Only) (1)	SD10	S: 11/14/2007 12:15	
ME2PF9	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099610 (Ice Only) (1)	SD11	S: 11/14/2007 14:15	
ME2PG0	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099611 (Ice Only) (1)	SDA	S: 11/14/2007 14:22	
ME2PG1	Soil (0"-12")/ Mark Jaworski	H/G	ICP Metals (14)	5C099612 (Ice Only) (1)	SDB	S: 11/14/2007 15:00	

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s): [illegible]	Cooler Temperature Upon Receipt: 4°C	Chain of Custody Seal Number: 23836, 23837
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? Yes / Shipment Iced? Yes

ICP Metals = ILM05.4 ICP-AES

Case Number: 5-551068049-111507-0003

LABORATORY COPY

PC provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax

CHEMTECH
284 Sheffield Street
Mountainside, NJ 07092

SDG NARRATIVE

USEPA
SDG # ME2PE6
CASE # 37004
CONTRACT # EPW06047
LAB NAME: CHEMTECH CONSULTING GROUP
LAB CODE: CHEM
CHEMTECH PROJECT #5346

A. Number of Samples and Date of Receipt

16 Soil Samples were delivered to the laboratory intact on 11/16/07.

B. Parameters

Test requested for Total Metals only.

C. Cooler Temp

Indicator Bottle: **Presence**/Absence
Cooler: 4°C

D. Detail Documentation (related to Sample Handling Shipping, Analytical Problem, Temp of Cooler etc):

E. Corrective Action taken for above:

F. Analytical Techniques:

All analyses were based on CLP Methodology by method ILM05.4

G. Calculation:

Conversion of results from mg/L to mg/kg (Dry Weight Basis):

Calculation for ICP-AES:

Mg/Kg = (Result in mg/L for ICP-AES) X 1000 X 100/ % Solid X Fraction of Sample Amount Taken in Prep.

CHEMTECH
284 Sheffield Street
Mountainside, NJ 07092

Calculation for Hg:

Mg/Kg = (Result in Ug/L-ppb for Hg) X 100/ % Solid X Fraction of Sample Amount Taken in Prep

Calculation for CN:

Mg/Kg = (Result in Ug/L-ppb for Hg) X 100/ % Solid X Fraction of Sample Amount Taken in Prep

H. QA/ QC

Calibrations met requirements. Interference check met requirements. Blank analyses did not indicate any presence of contamination. Laboratory Control sample was within control limits. Spike sample did meet requirements except for the Silver & Thallium. Duplicate sample did meet requirements. Serial Dilution did meet requirements.

I certify that the data package is in compliance with the terms and conditions of the contract both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Director or his designee, as verified by the following signature.

Signature_____ Name: Parveen Hasan

Date 11/29/07 Title: Project Manager

NOV 3 0 2007

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COVER PAGE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE6

SOW No.: ILM05.4

EPA Sample No.	Lab Sample ID
ME2PE6	Y5346-01
ME2PE7	Y5346-02
ME2PE8	Y5346-03
ME2PE9	Y5346-04
ME2PF0	Y5346-05
ME2PF1	Y5346-06
ME2PF2	Y5346-07
ME2PF3	Y5346-08
ME2PF4	Y5346-09
ME2PF5	Y5346-10
ME2PF6	Y5346-11
ME2PF7	Y5346-12
ME2PF8	Y5346-13
ME2PF9	Y5346-14
ME2PG0	Y5346-15
ME2PG1	Y5346-16
ME2PG1D	Y5346-17
ME2PG1S	Y5346-18

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	YES	
Were ICP-AES and ICP-MS background corrections applied?	(Yes/No)	YES	
If yes, were raw data generated before application of background corrections?	(Yes/No)	NO	

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette (or via an alternate means of electronic transmission, if approved in advance by USEPA) has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: PARVEEN HASAN

Date: _____ Title: EPA PROJECT MANAGER

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3-IN
BLANKS

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE6

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		
		C	1	C	2	C	3	C		C	M
Aluminum	200.000	U	200.000	U	200.000	U	200.000	U	20.000	U	P
Antimony	3.325	J	5.120	J	60.000	U	60.000	U	6.000	U	P
Arsenic	10.000	U	10.000	U	10.000	U	10.000	U	1.000	U	P
Barium	200.000	U	5.855	J	5.280	J	1.050	J	20.000	U	P
Beryllium	5.000	U	5.000	U	5.000	U	5.000	U	0.500	U	P
Cadmium	-0.205	J	5.000	U	5.000	U	5.000	U	0.500	U	P
Calcium	-13.620	J	5000.000	U	13.760	J	5000.000	U	500.000	U	P
Chromium	10.000	U	10.000	U	10.000	U	10.000	U	1.000	U	P
Cobalt	-0.870	J	50.000	U	-0.515	J	-0.475	J	5.000	U	P
Copper	25.000	U	25.000	U	25.000	U	25.000	U	2.500	U	P
Iron	100.000	U	100.000	U	100.000	U	100.000	U	10.000	U	P
Lead	10.000	U	10.000	U	10.000	U	10.000	U	1.000	U	P
Magnesium	-30.305	J	5000.000	U	5000.000	U	5000.000	U	500.000	U	P
Manganese	0.655	J	1.760	J	1.005	J	15.000	U	0.058	J	P
Mercury											NR
Nickel	40.000	U	-0.440	J	-1.310	J	40.000	U	-0.108	J	P
Potassium	5000.000	U	5000.000	U	5000.000	U	5000.000	U	-3.120	J	P
Selenium	35.000	U	35.000	U	35.000	U	35.000	U	3.500	U	P
Silver	10.000	U	10.000	U	10.000	U	10.000	U	1.000	U	P
Sodium	14.850	J	19.235	J	29.140	J	5000.000	U	500.000	U	P
Thallium	4.560	J	4.000	J	2.380	J	25.000	U	0.177	J	P
Vanadium	50.000	U	50.000	U	50.000	U	50.000	U	5.000	U	P
Zinc	60.000	U	0.545	J	1.110	J	0.490	J	0.097	J	P
Cyanide											NR

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3-IN
BLANKS

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: SDG No.: ME2PE6

Preparation Blank Matrix (soil/water):

Preparation Blank Concentration Units (ug/L or mg/kg):

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		
		C	1	C	2	C	3	C		C	M
Aluminum			200.000	U							P
Antimony			60.000	U							P
Arsenic			10.000	U							P
Barium			1.435	J							P
Beryllium			5.000	U							P
Cadmium			5.000	U							P
Calcium			5000.000	U							P
Chromium			10.000	U							P
Cobalt			50.000	U							P
Copper			25.000	U							P
Iron			100.000	U							P
Lead			10.000	U							P
Magnesium			5000.000	U							P
Manganese			0.650	J							P
Mercury											NR
Nickel			-0.715	J							P
Potassium			5000.000	U							P
Selenium			35.000	U							P
Silver			10.000	U							P
Sodium			22.320	J							P
Thallium			2.835	J							P
Vanadium			50.000	U							P
Zinc			0.360	J							P
Cyanide											NR

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4A-IN
ICP-AES INTERFERENCE CHECK SAMPLE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE6

ICP-AES Instrument ID: P4 ICS Source: EPA0503-0203

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	244000	248000	251000	103	239000	96	255000	105	242000	98
Antimony	0	585	5.6		585	100	5.6		579	99
Arsenic	0	97.0	1.8		99.1	102	4.7		96.6	100
Barium	2.0	475	2.9	145	487	103	2.1	105	497	105
Beryllium	0	482	0.88		475	99	0.85		469	97
Cadmium	0	916	-0.70		944	103	-0.78		929	101
Calcium	234000	234000	248000	106	235000	100	246000	105	234000	100
Chromium	36.0	506	39.6	110	506	100	38.2	106	495	98
Cobalt	3.0	455	1.4	47	471	104	2.3	77	468	103
Copper	15.0	537	36.9	246	507	94	34.9	233	498	93
Iron	94900	95100	103000	109	98200	103	102000	107	97900	103
Lead	5.0	51.0	6.8	136	56.6	111	7.7	154	54.4	107
Magnesium	249000	254000	257000	103	244000	96	255000	102	242000	95
Manganese	19.0	483	19.8	104	492	102	20.8	109	492	102
Nickel	10.0	930	14.7	147	979	105	15.0	150	965	104
Potassium	0	0	29.4		-22.4		2.9		-23.5	
Selenium	0	51.0	13.5		60.4	118	13.1		60.9	119
Silver	0	210	-0.52		214	102	-0.96		217	103
Sodium	0	0	644		620		675		634	
Thallium	0	96.0	-0.28		99.8	104	5.4		99.2	103
Vanadium	1.0	481	-1.3	-130	480	100	-0.99	-99	474	99
Zinc	39.0	975	45.2	116	966	99	44.6	114	939	96

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4A-IN
ICP-AES INTERFERENCE CHECK SAMPLE

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE6

ICP-AES Instrument ID: P4 ICS Source: EPA0503-0203

Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	244000	248000					251000	103	241000	97
Antimony	0	585					8.6		575	98
Arsenic	0	97.0					3.4		99.4	102
Barium	2.0	475					2.3	115	484	102
Beryllium	0	482					1.1		453	94
Cadmium	0	916					0.13		923	101
Calcium	234000	234000					243000	104	231000	99
Chromium	36.0	506					37.8	105	489	97
Cobalt	3.0	455					2.6	87	462	102
Copper	15.0	537					31.9	213	489	91
Iron	94900	95100					101000	106	97500	103
Lead	5.0	51.0					8.2	164	55.5	109
Magnesium	249000	254000					251000	101	241000	95
Manganese	19.0	483					19.8	104	489	101
Nickel	10.0	930					15.1	151	949	102
Potassium	0	0					2.8		5.5	
Selenium	0	51.0					13.7		59.0	116
Silver	0	210					-0.17		216	103
Sodium	0	0					652		625	
Thallium	0	96.0					-3.5		96.2	100
Vanadium	1.0	481					-0.98	-98	465	97
Zinc	39.0	975					43.1	111	910	93

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5A-IN
MATRIX SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

ME2PG1S

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: SDG No.: ME2PE6

Matrix: (soil/water) SOIL Level: (low/med) LOW

% Solids for Sample: 30.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony		483.6364		382.4351		64.94	156		P
Arsenic		1146.1201		1083.5227		25.97	241		P
Barium	75-125	1455.0000		98.2110		1298.70	104		P
Beryllium	75-125	31.1656		0.8231	J	32.47	93		P
Cadmium	75-125	39.9724		8.4026		32.47	97		P
Calcium									NR
Chromium	75-125	315.0114		178.6266		129.87	105		P
Cobalt	75-125	315.8263		5.0990	J	324.68	96		P
Copper	75-125	419.9351		249.2549		162.34	105		P
Iron									NR
Lead		3961.2013		3739.2857		12.99	1708		P
Magnesium									NR
Manganese	75-125	946.9156		559.1558		324.68	119		P
Mercury									NR
Nickel	75-125	345.8929		32.8506		324.68	96		P
Potassium									NR
Selenium	75-125	43.8036		17.1607		32.47	82		P
Silver	75-125	23.1867		3.7792		32.47	60	N	P
Sodium									NR
Thallium	75-125	19.8653		8.1169	U	32.47	61	N	P
Vanadium	75-125	357.9708		44.1575		324.68	97		P
Zinc	75-125	1020.8766		701.5260		324.68	98		P
Cyanide									NR

Comments:

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5B-IN
POST-DIGESTION SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

ME2PG1A

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE6

Matrix: (soil/water) SOIL Level: (low/med) LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium		17.00	J	25.00	U	50.0	34		P
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

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6-IN
DUPLICATES

EPA SAMPLE NO.

ME2PG1D

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE6

Matrix: (soil/water) SOIL Level: (low/med) LOW

% Solids for Sample: 30.8 % Solids for Duplicate: 31.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		6512.9870		6367.5325		2		P
Antimony		382.4351		419.1234		9		P
Arsenic		1083.5227		1151.8831		6		P
Barium	64.9	98.2110		101.0666		3		P
Beryllium		0.8231	J	0.8604	J	4		P
Cadmium		8.4026		8.8117		5		P
Calcium		9288.1494		8910.8766		4		P
Chromium		178.6266		179.4075		0		P
Cobalt		5.0990	J	5.0617	J	1		P
Copper		249.2549		250.1899		0		P
Iron		48237.0130		50344.1558		4		P
Lead		3739.2857		3847.4026		3		P
Magnesium	1623.4	2268.4903		2184.9351		4		P
Manganese		559.1558		548.0844		2		P
Mercury								NR
Nickel	13.0	32.8506		31.6786		4		P
Potassium		902.7273	J	883.4091	J	2		P
Selenium	11.4	17.1607		17.1997		0		P
Silver	3.2	3.7792		3.7662		0		P
Sodium		558.1006	J	550.8766	J	1		P
Thallium		8.1169	U	8.1169	U			P
Vanadium	16.2	44.1575		46.4432		5		P
Zinc		701.5260		692.9221		1		P
Cyanide								NR

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8-IN
ICP-AES and ICP-MS SERIAL DILUTIONS

EPA SAMPLE NO.

ME2PG1L

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE6

Matrix: (soil/water) SOIL Level: (low/med) LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	20060.00		20091.00		0		P
Antimony	1177.90		1248.93		6		P
Arsenic	3337.25		3534.00		6		P
Barium	302.49		309.45	J	2		P
Beryllium	2.54	J	2.50	J	2		P
Cadmium	25.88		25.18		3		P
Calcium	28607.50		29367.50		3		P
Chromium	550.17		570.38		4		P
Cobalt	15.71	J	13.88	J	12		P
Copper	767.71		774.33		1		P
Iron	148570.00		162575.00		9		P
Lead	11517.00		11805.25		3		P
Magnesium	6986.95		7398.00	J	6		P
Manganese	1722.20		1771.25		3		P
Nickel	101.18		96.43	J	5		P
Potassium	2780.40	J	2769.23	J	0		P
Selenium	52.86		62.68	J	19		P
Silver	11.64		12.15	J	4		P
Sodium	1718.95	J	1737.93	J	1		P
Thallium	25.00	U	125.00	U			P
Vanadium	136.01		140.35	J	3		P
Zinc	2160.70		2310.13		7		P

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9-IN
METHOD DETECTION LIMITS (ANNUALLY)

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE6

Instrument Type: P Instrument ID: P4 Date: 11/06/2007

Preparation Method: HS1

Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Wavelength /Mass	CRQL	MDL
Aluminum	308.20	20	3.1
Antimony	206.80	6	0.19
Arsenic	193.70	1	0.41
Barium	493.40	20	0.090
Beryllium	234.80	0.5	0.020
Cadmium	226.50	0.5	0.010
Calcium	373.60	500	1.2
Chromium	267.70	1	0.25
Cobalt	228.60	5	0.040
Copper	224.70	2.5	0.050
Iron	259.80	10	0.43
Lead	220.30	1	0.15
Magnesium	279.00	500	1.6
Manganese	257.60	1.5	0.030
Mercury		0.1	
Nickel	231.60	4	0.040
Potassium	766.40	500	2.9
Selenium	196.00	3.5	0.45
Silver	328.00	1	0.22
Sodium	589.50	500	1.6
Thallium	190.80	2.5	0.16
Vanadium	292.40	5	0.18
Zinc	206.20	6	0.030
Cyanide		2.5	

Comments:

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9-IN
METHOD DETECTION LIMITS (ANNUALLY)

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE6

Instrument Type: P Instrument ID: P4 Date: 11/06/2007

Preparation Method: NP1

Concentration Units (ug/L or mg/kg): UG/L

Analyte	Wavelength /Mass	CRQL	MDL
Aluminum	308.20	200	29.7
Antimony	206.80	60	2.0
Arsenic	193.70	10	3.0
Barium	493.40	200	0.51
Beryllium	234.80	5	0.30
Cadmium	226.50	5	0.10
Calcium	373.60	5000	9.4
Chromium	267.70	10	1.6
Cobalt	228.60	50	0.32
Copper	224.70	25	0.60
Iron	259.80	100	7.0
Lead	220.30	10	2.0
Magnesium	279.00	5000	21.2
Manganese	257.60	15	0.22
Mercury		0.2	
Nickel	231.60	40	0.41
Potassium	766.40	5000	49.2
Selenium	196.00	35	4.4
Silver	328.00	10	3.8
Sodium	589.50	5000	13.5
Thallium	190.80	25	1.5
Vanadium	292.40	50	3.5
Zinc	206.20	60	0.19
Cyanide		10	

Comments:

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10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (QUARTERLY)

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE6

ICP-AES Instrument ID: P4 Date: 11/06/2007

Analyte	Wave-length (nm)	Interelement Correction Factors for: Sb	Se	Tl	V	Zn
Aluminum	308.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.70	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	373.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.70	0.0085450	0.0000000	0.0003660	-0.0093600	-0.0009980
Cobalt	228.60	0.0000000	-0.0004020	0.0091400	0.0000000	0.0000000
Copper	224.70	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	259.80	0.0000000	-0.0001870	0.0000000	0.0000300	0.0000000
Lead	220.30	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.00	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.60	0.0000000	0.0012580	0.0028900	-0.0011520	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.00	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.00	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.50	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	-0.0579060	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

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12-IN
PREPARATION LOG

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: _____ SDG No.: ME2PE6

Preparation Method: HS1

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
LCSS	11/23/2007	1.00	100
ME2PE6	11/23/2007	1.00	100
ME2PE7	11/23/2007	1.00	100
ME2PE8	11/23/2007	1.01	100
ME2PE9	11/23/2007	1.02	100
ME2PF0	11/23/2007	1.00	100
ME2PF1	11/23/2007	1.00	100
ME2PF2	11/23/2007	1.00	100
ME2PF3	11/23/2007	1.00	100
ME2PF4	11/23/2007	1.01	100
ME2PF5	11/23/2007	1.00	100
ME2PF6	11/23/2007	1.00	100
ME2PF7	11/23/2007	1.00	100
ME2PF8	11/23/2007	1.01	100
ME2PF9	11/23/2007	1.00	100
ME2PG0	11/23/2007	1.00	100
ME2PG1	11/23/2007	1.00	100
ME2PG1D	11/23/2007	1.00	100
ME2PG1S	11/23/2007	1.00	100
PBS	11/23/2007	1.00	100

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13-IN
ANALYSIS RUN LOG

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: SDG No.: ME2PE6

Instrument ID: P4 Analysis Method: P

Start Date: 11/27/2007 End Date: 11/27/2007

EPA Sample No.	D/F	Time	Analytes																									
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
S0	1.0	1248	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
S	1.0	1254	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICV	1.0	1257	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICB	1.0	1300	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CRI	1.0	1305		X	X		X	X		X	X	X		X		X		X		X	X		X	X	X			
ICSA	1.0	1308	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICSAB	1.0	1319	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1322	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1324	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
PBS	1.0	1329	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
LCSS	1.0	1346	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PE6	1.0	1349	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PE7	1.0	1351	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PE8	1.0	1353	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PE9	1.0	1355	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PF0	1.0	1358	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PF1	1.0	1400	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PF2	1.0	1402	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PF3	1.0	1404	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1407	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1409	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PF4	1.0	1412	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PF5	1.0	1415	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PF6	1.0	1417	X	X	X	X	X	X	X	X	X	X		X	X	X		X	X	X	X	X	X	X	X			
ME2PF7	1.0	1420	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PF8	1.0	1422	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PF9	1.0	1424	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PG0	1.0	1426	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CRI	1.0	1430		X	X		X	X		X	X	X		X		X		X		X	X		X	X	X			
ICSA	1.0	1433	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICSAB	1.0	1437	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1440	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1442	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			

USEPA - CLP

13-IN
ANALYSIS RUN LOG

Lab Name CHEMTECH CONSULTING GROUP Contract: EPW06047

Lab Code: CHEM Case No.: 37004 NRAS No.: - SDG No.: ME2PE6

Instrument ID: P4 Analysis Method: P

Start Date: 11/27/2007 End Date: 11/27/2007

EPA Sample No.	D/F	Time	Analytes																									
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
ME2PG1	1.0	1445	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PG1D	1.0	1447	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PG1S	1.0	1450		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X			
ME2PG1L	5.0	1452	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ME2PF6	2.0	1455											X															
ME2PG1A	1.0	1528																					X					
CRI	1.0	1532		X	X		X	X		X	X	X		X		X		X		X	X		X	X	X			
ICSA	1.0	1534	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICSAB	1.0	1537	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV	1.0	1539	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB	1.0	1542	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Sample Delivery Group: MEZPE4 CERCLIS No: IND047030224

Case No: 37004 Site Name/Location: USS Lead (IN)

Contractor or EPA Lab: Chemtech Data User: IDEM

No. of Samples: 14 Date Sampled or Date Received: 30 Nov 07

Have Chain-of-Custody records been received? Yes ✓ No ____
Have traffic reports or packing lists been received? Yes ✓ No ____
If no, are traffic report or packing list numbers written on the Chain-of-Custody Record?
Yes ____ No ____
If no, which traffic report or packing list numbers are missing?

____ ____ ____ ____
____ ____ ____ ____

Are basic data forms in? Yes ✓ No ____
No of samples claimed: 14 No. of samples received: ____

Received by: pdavis Date: 30 Nov 07

Received by LSSS: pdavis Date: 5 Dec 07

Review started: 12/10/07 Reviewer Signature: [signature]

Total time spent on review: 1.5 Date review completed: 12/12/07

Copied by: A. C. Harvey Date: Dec 10, 2007

Mailed to user by: pdavis Date: 11 Dec 07

DATA USER:
Please fill in the blanks below and return this form to:
Sylvia Griffin, Data Mgmt. Coordinator, Region V, ML-10C

Data received by: ____ Date: ____

Data review received by: ____ Date: ____

Inorganic Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK
Organic Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK
Dioxin data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK
SAS Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK

PROBLEMS: Please indicate reasons why data are not suitable for your uses.

____

____

Received by Data Mgmt. Coordinator for Files. Date: ____

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: NOV 30 2007

Subject: Review of Region 5 Data for **US Smelter and Lead Refinery, Inc.**

From: **Linda J. Moore, Chemist, TechLaw Inc. / ESAT**
Contractor to Region 5 Central Regional Laboratory
Submitted to CRL on 11/29/07 lm

To: MARK JAWORSKI, IDEM

Attached are the results for: **US Smelter and Lead Refinery, Inc.**

CRL data set number(s): **E711001**

Samples analyzed for: **Soil TOC, Percent Solids, Percent Volatile Solids**

Results are reported for sample designations: **E711001-01 thru -12**

RECEIVED
DEC 05 2007
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF LAND QUALITY

William Sayers Jr NOV 30/2007

Data Management Coordinator and Date Received

Date Transmitted: NOV 30/2007

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at 3-7444 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML-10C

_____ / /

Received by and Date

Comments:

Attached are the results for: **US Smelter and Lead Refinery, Inc.**

CRL data set number(s): **E711001**

Samples analyzed for: **Soil TOC, Percent Solids, Percent Volatile Solids**

Results are reported for sample designations: **E711001-01 thru -12**

Rev. 4/10/02

SOP: AIG009 (TOC Soil)
Site: US Smelter and Lead Refinery, Inc.
Date: November 28, 2007
Prepared by: Linda Moore

TDF: R5-01-065
TechLaw Job #: 03037.1.01.02.01.053J.000.065
Task Order #: R5-0-01
Data Set: E711001

NARRATIVE

Twelve (12) soil samples from the US Smelter and Lead Refinery, Inc. site were collected November 13-14, 2007 and were received at CRL in good condition on November 16, 2007. The samples were submitted to ESAT for analysis of TOC, percent solids (TS) and total volatile solids (TVS). The sample point identifications are on the first page of the LIMS report following this narrative.

Holding time limits have not been established for soil samples; for TOC analysis, the water holding time limit of 28 days was used for soil sample evaluation. All TOC analysis was completed within hold time. Percent solids were started for all samples within the 7 day holding time limit.

Solids:
The samples were batched in LIMS concurrently for solids and TOC, with the same LIMS IDs used for all the analytes. TS and TVS were performed November 19-21, 2007 according to CRL SOP AIG019 (Rev. 2, June 2005). All TS results are acceptable. All QC audits were within limits.

TOC:
All samples were dried at 60°C prior to being digested (pretreated) following according to CRL SOP AIG009 (Rev. 4, June 2005) on November 20, 2007. Samples analysis for TOC was completed on November 21, 2007 using the LECO SC 444. QC limits used are CRL default limits. The calculated value for the matrix spike recovery is not correct on the LIMS report. The correct values are included as Excel spreadsheets in the Analytical/Matrix QC Summary Report and the TOC calculation spreadsheets provided in the data package. All TOC QC audits were within limits. All TOC sample results are acceptable.

Field duplicates:
E711001-03/-04 were identified as field duplicates and show good correlation for all analyses. Determinations of correlation were made using laboratory duplicate criteria.

QC reports which include analytical QC are provided as Excel spreadsheets. It has been observed that, due to differences in the significant figures used for calculation and rounding of reported values, RPD values calculated by LIMS may not be correct.

Linda J Moore 11/29/07

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Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: US Smelter and Lead Refinery, Inc. Project Number: 37004 Project Manager: Warren Layne	**Reported:** Nov-29-07 11:15

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SD1 2007IND/S01	E711001-01	Soil	Nov-13-07 11:30	Nov-16-07 10:30
SD2 2007IND/S02	E711001-02	Soil	Nov-13-07 11:56	Nov-16-07 10:30
SD3 2007IND/S03	E711001-03	Soil	Nov-13-07 12:25	Nov-16-07 10:30
SD3D 2007IND/S04	E711001-04	Soil	Nov-13-07 12:25	Nov-16-07 10:30
SD4 2007IND/S05	E711001-05	Soil	Nov-13-07 13:20	Nov-16-07 10:30
SD5 2007IND/S06	E711001-06	Soil	Nov-13-07 14:00	Nov-16-07 10:30
SD6 2007IND/S07	E711001-07	Soil	Nov-13-07 15:10	Nov-16-07 10:30
SD7 2007IND/S08	E711001-08	Soil	Nov-13-07 15:55	Nov-16-07 10:30
SD10 2007IND/S09	E711001-09	Soil	Nov-14-07 12:15	Nov-16-07 10:30
SD11 2007IND/S10	E711001-10	Soil	Nov-14-07 14:15	Nov-16-07 10:30
SDA 2007IND/S11	E711001-11	Soil	Nov-14-07 14:22	Nov-16-07 10:30
SDB 2007IND/S12	E711001-12	Soil	Nov-14-07 15:00	Nov-16-07 10:30

Linda J Moore 11/29/07
Linda Moore, Chemist

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Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: US Smelter and Lead Refinery, Inc. Project Number: 37004 Project Manager: Warren Layne	**Reported:** Nov-29-07 11:15

Combustion IR Analyses
TechLaw - ESAT Contract

SD1 2007IND/S01 (E711001-01) Soil Sampled: Nov-13-07 11:30 Received: Nov-16-07 10:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
% Solids	**27.0**		0.001	1.00	%	1	EK71901	Nov-19-07	Nov-20-07	ASA-SSSA
Total Organic Carbon	**27.6**		0.10	1.00	"	"	"	"	Nov-21-07	ASA-SSSA
Total Volatile Solids	**48.9**		0.001	1.00	"	"	"	"	Nov-21-07	ASA-SSSA

SD2 2007IND/S02 (E711001-02) Soil Sampled: Nov-13-07 11:56 Received: Nov-16-07 10:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
% Solids	**18.5**		0.001	1.00	%	1	EK71901	Nov-19-07	Nov-20-07	ASA-SSSA
Total Organic Carbon	**35.2**		0.10	1.00	"	"	"	"	Nov-21-07	ASA-SSSA
Total Volatile Solids	**57.9**		0.001	1.00	"	"	"	"	Nov-21-07	ASA-SSSA

SD3 2007IND/S03 (E711001-03) Soil Sampled: Nov-13-07 12:25 Received: Nov-16-07 10:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
% Solids	**31.2**		0.001	1.00	%	1	EK71901	Nov-19-07	Nov-20-07	ASA-SSSA
Total Organic Carbon	**24.3**		0.10	1.00	"	"	"	"	Nov-21-07	ASA-SSSA
Total Volatile Solids	**44.0**		0.001	1.00	"	"	"	"	Nov-21-07	ASA-SSSA

SD3D 2007IND/S04 (E711001-04) Soil Sampled: Nov-13-07 12:25 Received: Nov-16-07 10:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
% Solids	**30.7**		0.001	1.00	%	1	EK71901	Nov-19-07	Nov-20-07	ASA-SSSA
Total Organic Carbon	**29.4**		0.10	1.00	"	"	"	"	Nov-21-07	ASA-SSSA
Total Volatile Solids	**44.6**		0.001	1.00	"	"	"	"	Nov-21-07	ASA-SSSA

SD4 2007IND/S05 (E711001-05) Soil Sampled: Nov-13-07 13:20 Received: Nov-16-07 10:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
% Solids	**14.8**		0.001	1.00	%	1	EK71901	Nov-19-07	Nov-20-07	ASA-SSSA
Total Organic Carbon	**22.7**		0.10	1.00	"	"	"	"	Nov-21-07	ASA-SSSA
Total Volatile Solids	**43.1**		0.001	1.00	"	"	"	"	Nov-21-07	ASA-SSSA

SD5 2007IND/S06 (E711001-06) Soil Sampled: Nov-13-07 14:00 Received: Nov-16-07 10:30

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Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: US Smelter and Lead Refinery, Inc. Project Number: 37004 Project Manager: Warren Layne	**Reported:** Nov-29-07 11:15

Combustion IR Analyses
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SD5 2007IND/S06 (E711001-06) Soil Sampled: Nov-13-07 14:00 Received: Nov-16-07 10:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
% Solids	**16.2**		0.001	1.00	%	1	EK71901	Nov-19-07	Nov-20-07	ASA-SSSA
Total Organic Carbon	**31.1**		0.10	1.00	"	"	"	"	Nov-21-07	ASA-SSSA
Total Volatile Solids	**55.7**		0.001	1.00	"	"	"	"	Nov-21-07	ASA-SSSA

SD6 2007IND/S07 (E711001-07) Soil Sampled: Nov-13-07 15:10 Received: Nov-16-07 10:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
% Solids	**36.9**		0.001	1.00	%	1	EK71901	Nov-19-07	Nov-20-07	ASA-SSSA
Total Organic Carbon	**20.8**		0.10	1.00	"	"	"	"	Nov-21-07	ASA-SSSA
Total Volatile Solids	**35.8**		0.001	1.00	"	"	"	"	Nov-21-07	ASA-SSSA

SD7 2007IND/S08 (E711001-08) Soil Sampled: Nov-13-07 15:55 Received: Nov-16-07 10:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
% Solids	**53.2**		0.001	1.00	%	1	EK71901	Nov-19-07	Nov-20-07	ASA-SSSA
Total Organic Carbon	**8.56**		0.10	1.00	"	"	"	"	Nov-21-07	ASA-SSSA
Total Volatile Solids	**17.3**		0.001	1.00	"	"	"	"	Nov-21-07	ASA-SSSA

SD10 2007IND/S09 (E711001-09) Soil Sampled: Nov-14-07 12:15 Received: Nov-16-07 10:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
% Solids	**63.0**		0.001	1.00	%	1	EK71901	Nov-19-07	Nov-20-07	ASA-SSSA
Total Organic Carbon	**4.93**		0.10	1.00	"	"	"	"	Nov-21-07	ASA-SSSA
Total Volatile Solids	**10.1**		0.001	1.00	"	"	"	"	Nov-21-07	ASA-SSSA

SD11 2007IND/S10 (E711001-10) Soil Sampled: Nov-14-07 14:15 Received: Nov-16-07 10:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
% Solids	**23.3**		0.001	1.00	%	1	EK71901	Nov-19-07	Nov-20-07	ASA-SSSA
Total Organic Carbon	**31.6**		0.10	1.00	"	"	"	"	Nov-21-07	ASA-SSSA
Total Volatile Solids	**52.3**		0.001	1.00	"	"	"	"	Nov-21-07	ASA-SSSA

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Superfund, US EPA Region 5	Project: US Smelter and Lead Refinery, Inc.	
77 West Jackson Boulevard	Project Number: 37004	**Reported:**
Chicago IL, 60604	Project Manager: Warren Layne	Nov-29-07 11:15

Combustion IR Analyses
TechLaw - ESAT Contract

SDA 2007IND/S11 (E711001-11) Soil Sampled: Nov-14-07 14:22 Received: Nov-16-07 10:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
% Solids	**18.6**		0.001	1.00	%	1	EK71901	Nov-19-07	Nov-20-07	ASA-SSSA
Total Organic Carbon	**28.4**		0.10	1.00	"	"	"	"	Nov-21-07	ASA-SSSA
Total Volatile Solids	**53.6**		0.001	1.00	"	"	"	"	Nov-21-07	ASA-SSSA

SDB 2007IND/S12 (E711001-12) Soil Sampled: Nov-14-07 15:00 Received: Nov-16-07 10:30

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
% Solids	**31.4**		0.001	1.00	%	1	EK71901	Nov-19-07	Nov-20-07	ASA-SSSA
Total Organic Carbon	**24.3**		0.10	1.00	"	"	"	"	Nov-21-07	ASA-SSSA
Total Volatile Solids	**43.1**		0.001	1.00	"	"	"	"	Nov-21-07	ASA-SSSA

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Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: US Smelter and Lead Refinery, Inc. Project Number: 37004 Project Manager: Warren Layne	**Reported:** Nov-29-07 11:15

Notes and Definitions

U	Not Detected
NR	Not Reported

Linda Moore 11/29/2007
Linda Moore, Chemist

SOLIDS

D/S #.....: E711001 **PARAMETER:.....:** Total Organic Carbon (TOC)

ANALYST:.....: LM/ PL **DATE OF ANALYSIS:.....:** 11/21/2007

DISH I.D No.	ESAT Sample I.D Number	DRIED DISH (g) LM 11-19	WEIGHT OF DISH & SAMPLE: WET SAMPLE (g) LM 11-19	DRIED AT: 60 Deg (g) LM 11-20	DRIED AT: 105 Deg (g) PL 11-21	DRIED AT: 550 Deg (g) LM 11-21	TOTAL SOLIDS: 60 Deg (%Solids)	TOTAL SOLIDS: 105 Deg (%Solids)	Total Volatile Solids 550 Deg (%Solids)
CODE							(B)	(C)	(D)
Z01	EK71901-BLK1	21.5757	NA	21.5764	21.5761	21.5752	-0.0007	-0.0004	0.0005
E28	E711001-03	25.2759	43.0772	31.0158	30.8254	28.3812	32.244	31.175	44.044
E76	EK71901-DUP1	24.0318	42.0081	29.8396	29.6411	27.1564	32.308	31.204	44.296
E39	E711001-01	24.2285	42.2828	29.2545	29.0995	26.7159	27.838	26.980	48.935
E54	E711001-02	22.4613	42.9727	26.3626	26.2574	24.0576	19.020	18.507	57.949
E7	E711001-04	25.7180	42.4694	31.0336	30.8680	28.5702	31.732	30.744	44.617
W	E711001-05	21.4058	42.5646	24.6451	24.5285	23.1823	15.309	14.758	43.110
17	E711001-06	23.7878	44.0060	27.1750	27.0691	25.2400	16.753	16.229	55.743
E100	E711001-07	23.3720	40.0612	29.6801	29.5375	27.3331	37.797	36.943	35.754
E84	E711001-08	24.9383	44.7945	35.6445	35.5102	33.6835	53.919	53.242	17.279
E64	E711001-09	24.2439	44.2702	39.9382	36.8582	35.5899	78.368	62.989	10.054
E90	E711001-10	23.3166	43.6719	28.2082	28.0644	25.5836	24.031	23.325	52.252
E10	E711001-11	25.6423	47.8718	29.8929	29.7833	27.5625	19.121	18.628	53.630
E9	E711001-12	23.9887	40.0630	29.1831	29.0312	26.8578	32.315	31.370	43.102

Linda J Moore 11/29/07

000022 159

FINAL

D/S #.....: E711001 **PARAMETER:.....:** Total Organic Carbon (TOC)

ANALYST:.....: LM/PL **DATE OF ANALYSIS:.....:** 11/21/2007

ESAT Sample I.D Number	TOC Total Sample Dry Weight 60 deg (%C)	Moisture Content (Mc) (%Solids)	Moisture Correction Factor (Mk)	Calculated TOC (%) Moisture Corrected Weight (%C)
E711001-03	24.5579	1.0696	0.9893	24.2952
EK71901-DUP1	24.7314	1.1042	0.9890	24.4583
E711001-01	27.8043	0.8585	0.9914	27.5656
E711001-02	35.3888	0.5129	0.9949	35.2073
E711001-04	29.6883	0.9886	0.9901	29.3948
E711001-05	22.7845	0.5511	0.9945	22.6590
E711001-06	31.2472	0.5238	0.9948	31.0835
E711001-07	20.9308	0.8544	0.9915	20.7519
E711001-08	8.6168	0.6764	0.9932	8.5585
E711001-09	5.8291	15.3798	0.8462	4.9326
E711001-10	31.8400	0.7064	0.9929	31.6151
E711001-11	28.5572	0.4930	0.9951	28.4164
E711001-12	24.4906	0.9450	0.9906	24.2591

(Calculated Moisture Corrected values are reported in LIMS)

Moisture Content (Mc) =
(%Total Solids at 60 degrees C -
%Total Solids at 105 degrees C)

Moisture Correction Factor (Mk) =
(100 - Mc) * (1/100) *

Calculated TOC(%) Moisture corrected weight =
(Mk * %C)

linda j moore 11/29/07

000025 200

TOC

D/S #.....: E711001 **PARAMETER:.....:** Total Organic Carbon (TOC)

ANALYST:.....: LM/PL **DATE OF ANALYSIS:.....:** 11/21/2007

DISH I.D No.	ESAT Sample I.D Number	TOC Samples (%TOC) Treated Sample Results	----SOIL TOC PRETREATMENT---- (Dried at 105 degree) Weight of Crucible (g) PL 11-20	Crucible & Sample (g) PL 11-20	Crucible & Treated Sample (g) LM 11-21	Correction Factor	TOC Total Sample Dry Weight 60 deg (%C)	QC Instrument Treated Sample Results	QC % C Results
CODE		**(S)**				**(CF)**			
E97	EK71901-BLK	0.0638	21.9305	21.9305	22.0886				0.0638
E131	EK71901-BS1	29.5	23.3591	23.6054	23.7485	0.6325116	46.6395	Recovery =	99.23
B57	E711001-03	16.3	23.5697	23.8115	23.9340	0.6637387	24.5579	Dup RPD =	Dup RPD =
E127	EK71901-DUP1	16.6	26.3761	26.6272	26.7502	0.6712109	24.7314	1.8	0.7
E37	EK71901-MS1*	26.9	23.2218	23.7298	23.8240	0.8435736	31.8881	Recovery =	88.99
P58	E711001-01	18.3	20.8822	21.1379	21.2707	0.6581725	27.8043		
E101	E711001-02	23.9	24.8947	25.1564	25.2822	0.6753548	35.3888		
E191	E711001-04	19.8	22.1125	22.3670	22.4941	0.6669287	29.6883		
O42	E711001-05	16.0	20.9322	21.2060	21.3221	0.7022313	22.7845		
E73	E711001-06	20.5	23.8044	24.0518	24.1815	0.6560594	31.2472		
B54	E711001-07	14.3	25.1783	25.4427	25.5653	0.6832041	20.9308		
B56	E711001-08	5.97	22.1649	22.4482	22.5738	0.6928344	8.6168		
E66	E711001-09	3.87	25.3221	25.5795	25.7098	0.6639154	5.8291		
E5	E711001-10	21.0	26.2107	26.4670	26.5993	0.6595471	31.8400		
O15	E711001-11	18.8	25.1293	25.3819	25.5130	0.6583268	28.5572		
E146	E711001-12	16.2	22.8217	23.0810	23.2137	0.6614796	24.4906		
E119	IDOC 1	30.0	25.0517	25.3121	25.4541	0.6471173	46.3594	Recovery =	98.64
P11	IDOC 2	30.9	26.3108	26.5622	26.7060	0.6361336	48.5747	Recovery =	103.35
B98	IDOC 3	25.9	27.0523	27.2615	27.4056	0.5921313	43.7403	Recovery =	93.06

TOC Intermediate Calculations

Kmcdaymoore 11/29/07

000026 201

FINAL

D/S #.....: E711001 PARAMETER:.....: Total Organic Carbon (TOC)

ANALYST:.....: LM/PL DATE OF ANALYSIS:.....: 11/21/2007

	ESAT Sample I.D Number	TOC Total Sample Dry Weight 60 deg (%C)	Moisture Content (Mc) (%Solids)	Moisture Correction Factor (Mk)	Calculated TOC (%) Moisture Corrected Weight (%C)
	E711001-03	24.5579	1.0696	0.9893	24.2952
	EK71901-DUP1	24.7314	1.1042	0.9890	24.4583
	E711001-01	27.8043	0.8585	0.9914	27.5656
	E711001-02	35.3888	0.5129	0.9949	35.2073
	E711001-04	29.6883	0.9886	0.9901	29.3948
	E711001-05	22.7845	0.5511	0.9945	22.6590
	E711001-06	31.2472	0.5238	0.9948	31.0835
	E711001-07	20.9308	0.8544	0.9915	20.7519
	E711001-08	8.6168	0.6764	0.9932	8.5585
	E711001-09	5.8291	15.3798	0.8462	4.9326
	E711001-10	31.8400	0.7064	0.9929	31.6151
	E711001-11	28.5572	0.4930	0.9951	28.4164
	E711001-12	24.4906	0.9450	0.9906	24.2591

(Calculated Moisture Corrected values are reported in LIMS)

Moisture Content (Mc) =
(%Total Solids at 60 degrees C -
%Total Solids at 105 degrees C)

Moisture Correction Factor (Mk) =
(100 - Mc) * (1/100) *

Calculated TOC(%) Moisture corrected weight =
(Mk * %C)

Linda Moore 11/29/07

301A

000025

Sandy Moore 11/29/07

SPK

D/S #.....: E711001 **PARAMETER:.....:** Total Organic Carbon (TOC)

ANALYST:.....: LM/PL **DATE OF ANALYSIS:.....:** 11/21/2007

	ESAT Sample I.D Number			TOC Samples Dried 60 (%TOC)	----SOIL TOC PRETREATMENT---- (Dried at 105 degree) ---------- Weight of ---------- Crucible (g)	Crucible & Sample (g)	Crucible & Treated Sample (g)	Correction Factor	TOC Total Sample Dry Weight 60 deg (%C)
				(S)				**(CF)**	**(d)**
Spike Audit									
E711001-03			(corrected)	24.5579					
EK71901-MS1*			(treated)	26.9	23.2218	23.7298	23.8240	0.8435736	31.8881
								Amount (g)	
Sample added					23.2218	23.4746		0.2528	
Spike added					23.4746	23.7298		0.2552	
Sample and spike total weight					23.2218		23.8240	0.6022	
Sample weight x Sample %C/Total weight = A			10.3092	(A)					
Spike weight x Spike %C(47)/Total weight = B			19.9176	(B)					
A + B = Spike Target			30.2269						
Spike Actual			26.9						
RECOVERY %			89.0	%					

TOC Matrix Spike Calculation

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: December 3, 2007

Subject: Review of Region 5 Data for **US Smelter and Lead Refinery, Inc.**

From: **Lora Buco, Chemist, TechLaw Inc. / ESAT**
Contractor to Region 5 Central Regional Laboratory
Submitted to CRL on 12/5/07

To: Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604

Attached are the results for: **US Smelter and Lead Refinery, Inc.**

CRL data set number(s): **E711002**

Samples analyzed for: **Soil TOC, Percent Solids, Percent Volatile Solids**

Results are reported for sample designations: **E711002-01 thru -02**

RECEIVED
DEC 12 2007
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF LAND QUALITY

Sylvia Griffin DEC 07 2007

Data Management Coordinator and Date Received

DEC 07 2007

Date Transmitted: ____/____/

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at 3-7444 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML-10C

_____/ /

Received by and Date

Comments:

Attached are the results for: **US Smelter and Lead Refinery, Inc.**

CRL data set number(s): **E711002**

Samples analyzed for: **Soil TOC, Percent Solids, Percent Volatile Solids**

Results are reported for sample designations: **E711002-01 thru -02**

Rev. 4/10/02

SOP: AIG009 (TOC Soil)
Site: US Smelter and Lead Refinery, Inc.
Date: December 3, 2007
Prepared by: Lora Buco

TDF: R5-01-066
TechLaw Job #: 03037.1.01.02.01.053J.000.066
Task Order #: R5-0-01
Data Set: E711002

NARRATIVE

Two (2) soil samples from the US Smelter and Lead Refinery, Inc. site were collected on November 14, 2007 and were received at CRL on November 20, 2007. The samples were submitted to ESAT for analysis of TOC, percent solids (TS) and total volatile solids (TVS). Samples E711002-01 thru -02 were received at 7.8°C, which is outside the acceptance criteria. All results are considered estimated and flagged "J" in LIMS. The sample point identifications are on the first page of the LIMS report following this narrative.

Holding time limits have not been established for soil samples for TOC analysis. The water holding time limit of 28 days was used for soil sample evaluation. All TOC analysis was completed within hold time. Percent solids were started for all samples within the 7 day holding time limit.

The samples were batched in LIMS concurrently for solids and TOC, with the same LIMS IDs used for all the analytes. TS and TVS were performed November 20-27, 2007 according to CRL SOP AIG019 (Rev. 2, June 2005). There was a problem with the blank results. Samples were rerun on November 28-30, 2007 to verify results. Sample results matched, therefore no results were qualified. All TS/TVS sample results are acceptable.

All samples were dried at 60°C prior to being digested (pretreated) according to CRL SOP AIG009 (Rev. 4, June 2005) on November 20, 2007. Samples analysis for TOC was completed on November 28, 2007 using the LECO SC 444. QC limits used are CRL default limits. All TOC QC audits were within limits. All TOC sample results are acceptable.

QC reports which include analytical QC are provided as Excel spreadsheets. It has been observed that, due to differences in the significant figures used for calculation and rounding of reported values, RPD values calculated by LIMS may not be correct.

12/3/07

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Chicago, IL 60602
(312) 345-8990
(312) 345-8979 (Fax)
www.techlawinc.com

Superfund, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: US Smelter and Lead Refinery, Inc. Project Number: 37004 Project Manager: Warren Layne	**Reported:** Dec-04-07 09:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SD8 2007IND/S13	E711002-01	Soil	Nov-14-07 08:55	Nov-20-07 10:59
SD9 2007IND/S14	E711002-02	Soil	Nov-14-07 09:15	Nov-20-07 10:59

Lora Buco, Chemist 12/4/07

Report Name: E711002 FINAL Dec 04 07 0957

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(312) 345-8979 (Fax)
www.techlawinc.com

Superfund, US EPA Region 5	Project: US Smelter and Lead Refinery, Inc.	
77 West Jackson Boulevard	Project Number: 37004	**Reported:**
Chicago IL, 60604	Project Manager: Warren Layne	Dec-04-07 09:57

Combustion IR Analyses
TechLaw - ESAT Contract

SD8 2007IND/S13 (E711002-01) Soil Sampled: Nov-14-07 08:55 Received: Nov-20-07 10:59

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Total Organic Carbon	**18.9**	J	0.10	1.00	%	1	EK72001	Nov-20-07	Nov-28-07	ASA-SSSA
Total Volatile Solids	**27.3**	J	0.001	1.00	"	"	"	"	Nov-27-07	ASA-SSSA
% Solids	**43.2**	J	0.001	1.00	"	"	"	"	"	ASA-SSSA

SD9 2007IND/S14 (E711002-02) Soil Sampled: Nov-14-07 09:15 Received: Nov-20-07 10:59

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Total Organic Carbon	**17.2**	J	0.10	1.00	%	1	EK72001	Nov-20-07	Nov-28-07	ASA-SSSA
Total Volatile Solids	**26.5**	J	0.001	1.00	"	"	"	"	Nov-27-07	ASA-SSSA
% Solids	**38.6**	J	0.001	1.00	"	"	"	"	"	ASA-SSSA

12/4/07
Lora Buco, Chemist

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Superfund, US EPA Region 5	Project: US Smelter and Lead Refinery, Inc.	
77 West Jackson Boulevard	Project Number: 37004	**Reported:**
Chicago IL, 60604	Project Manager: Warren Layne	Dec-04-07 09:57

Notes and Definitions

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Not Detected
NR	Not Reported

12/4/07
Lora Buco, Chemist

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: December 3, 2007

Subject: Review of Region 5 Data for **US Smelter and Lead Refinery, Inc.**

From: **Lora Buco, Chemist, TechLaw Inc. / ESAT**
Contractor to Region 5 Central Regional Laboratory
Submitted to CRL on 12/5/07

To: Superfund, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604

Attached are the results for: **US Smelter and Lead Refinery, Inc.**

CRL data set number(s): **E711002**

Samples analyzed for: **Soil TOC, Percent Solids, Percent Volatile Solids**

Results are reported for sample designations: **E711002-01 thru -02**

Sylvia Griffin DEC 07 2007

Data Management Coordinator and Date Received

DEC 07 2007

Date Transmitted: ____/____/

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at 3-7444 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
ML-10C

_____ / /

Received by and Date

Comments:

Attached are the results for: **US Smelter and Lead Refinery, Inc.**

CRL data set number(s): **E711002**

Samples analyzed for: **Soil TOC, Percent Solids, Percent Volatile Solids**

Results are reported for sample designations: **E711002-01 thru -02**

Rev. 4/10/02

SOP: AIG009 (TOC Soil)
Site: US Smelter and Lead Refinery, Inc.
Date: December 3, 2007
Prepared by: Lora Buco

TDF: R5-01-066
TechLaw Job #: 03037.1.01.02.01.053J.000.066
Task Order #: R5-0-01
Data Set: E711002

NARRATIVE

Two (2) soil samples from the US Smelter and Lead Refinery, Inc. site were collected on November 14, 2007 and were received at CRL on November 20, 2007. The samples were submitted to ESAT for analysis of TOC, percent solids (TS) and total volatile solids (TVS). Samples E711002-01 thru -02 were received at 7.8°C, which is outside the acceptance criteria. All results are considered estimated and flagged "J" in LIMS. The sample point identifications are on the first page of the LIMS report following this narrative.

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All samples were dried at 60°C prior to being digested (pretreated) according to CRL SOP AIG009 (Rev. 4, June 2005) on November 20, 2007. Samples analysis for TOC was completed on November 28, 2007 using the LECO SC 444. QC limits used are CRL default limits. All TOC QC audits were within limits. All TOC sample results are acceptable.

QC reports which include analytical QC are provided as Excel spreadsheets. It has been observed that, due to differences in the significant figures used for calculation and rounding of reported values, RPD values calculated by LIMS may not be correct.

12/3/07

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Superfund, US EPA Region 5	Project: US Smelter and Lead Refinery, Inc.	
77 West Jackson Boulevard	Project Number: 37004	**Reported:**
Chicago IL, 60604	Project Manager: Warren Layne	Dec-04-07 09:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SD8 2007IND/S13	E711002-01	Soil	Nov-14-07 08:55	Nov-20-07 10:59
SD9 2007IND/S14	E711002-02	Soil	Nov-14-07 09:15	Nov-20-07 10:59

Lora Buco 12/4/07
Lora Buco, Chemist

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77 West Jackson Boulevard	Project Number: 37004	**Reported:**
Chicago IL, 60604	Project Manager: Warren Layne	Dec-04-07 09:57

Combustion IR Analyses
TechLaw - ESAT Contract

SD8 2007IND/S13 (E711002-01) Soil Sampled: Nov-14-07 08:55 Received: Nov-20-07 10:59

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Total Organic Carbon	**18.9**	J	0.10	1.00	%	1	EK72001	Nov-20-07	Nov-28-07	ASA-SSSA
Total Volatile Solids	**27.3**	J	0.001	1.00	"	"	"	"	Nov-27-07	ASA-SSSA
% Solids	**43.2**	J	0.001	1.00	"	"	"	"	"	ASA-SSSA

SD9 2007IND/S14 (E711002-02) Soil Sampled: Nov-14-07 09:15 Received: Nov-20-07 10:59

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Total Organic Carbon	**17.2**	J	0.10	1.00	%	1	EK72001	Nov-20-07	Nov-28-07	ASA-SSSA
Total Volatile Solids	**26.5**	J	0.001	1.00	"	"	"	"	Nov-27-07	ASA-SSSA
% Solids	**38.6**	J	0.001	1.00	"	"	"	"	"	ASA-SSSA

12/4/07
Lora Buco, Chemist

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Chicago IL, 60604	Project Manager: Warren Layne	Dec-04-07 09:57

Notes and Definitions

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Not Detected
NR	Not Reported

12/4/07
Lora Buco, Chemist

APPENDIX I
Photographs

APPENDIX I: PHOTOGRAPHS

HAS BEEN REDACTED – THIRTY-NINE PAGES

CONTAINS POTENTIAL PERSONALLY-IDENTIFYING INFORMATION